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Should you have any enquiries regarding INTE conference, please do not hesitate to contact with us for any additional information you may require.

Finally, we would like to wish you all a pleasant stay in Prague and safe return back home. I hope that INTE-2013 will be a meeting you will pleasantly remember.

We hope we will meet again at the International Conference of New Horizons in Education 2013 in Rome/Italy.

Thank you…

Prof. Dr. Aytekin İŞMAN
General Coordinator, INTE
5 June 2012

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ACADEMICIANS COMING TO TURKEY BETWEEN 1933-1945 OPENED AND THEIR EFFECTS ON TODAY'S MUSIC LIFE

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Abstract

Turkey became a homeland for the asylum seekers who were denationalized and declared stateless 'heimatlos' and came to Turkey as refugees from the Nazi Government during the World War II by including them in the country development. During the same period, one of the basic training problems in the agenda of Turkey was 'the University Reform'. Darulfunun, which Abdulhamid II founded in 1900, was insufficient to achieve the objectives of the republic. Ataturk invited Professor of Pedagogy Albert Malche from Geneva University to Turkey to prepare a report.When Prof. Malche, presented the detailed assessment report he prepared after his observations, Ataturk had the report, which included the closure of Darulfunun, the elimination of academicians far from the contemporary science and art, the establishment of a disciplined education system with the academicians imported from abroad and educating academic members, approved and it was carried into practice. Professor Malche communicated with some academicians in order to be assigned in the n Among these scholars who were assigned in the construction of Turkish music institutions by being reformed , Licco Amar, (music lecturer at Ankara State Conservatory), Carl Ebert (director at Ankara State Conservatory and State Theatre), Paul Hindemith (violinist and composer, Founder of Ankara State Conservatory), Eduard Zuckmayer (employed first at Music Teacher Training School, then at Music Department in Gazi Teacher Training Institute) were important musicians.n Those academicians were assigned in all areas.

Keywords: the world war II; Turkish University reforms; Turkish republic music reforms.

1. Ataturk and the Ottoman University (darulfunun) in Turkey before the reform

From 1922 till 1933 the unique university in Turkey was Darulfunun (Science House-Science Gate).It was re-established in the name of Darulfunun-u Osman during the period of Abdulhamıt. Darulfunun had three madrasas related to theology, literature and natural sciences. The government didn't comment on the education and training of the university until 1932, but waited for the developments from the university. However, Darulfunun didn't give any support to the revolutions made in the first 10 years of the Republic. On the contrary, it supported antirevolutionary movements (Ozata, 2005, p.109-112).

1.1 University reform

After the republic was established, the university called 'Darulfunun-u Osman' was named 'Istanbul Darulfununu' with the law numbered 493 in 1933. However, Darulfunun, which didn't meet the expectations in the first years of the Republic, was abolished with the law numbered 2252 in 1933. Two items come fore in Darülfunun's being criticized: The university didn't participate sufficiently in the settlement of the Turkish Revolution, opposed or showed passive resistance to the reforms. There was no scientific study at the university (Zengin,2010,p.117). Along with the reform made in 1933, present concepts such as faculty, dean, rector were adopted and scientific activities were put into an effective audit. The innovations which the university reform brought:Raising new generations who adopted the revolutions of Atatürk, constituting civilized man power to reach the level of contemporary civilization.

- Eradicating fusty thoughts and beliefs from the university.

- Providing a more effective function and scientific study in contrast with Darülfunun, and introducing an effective audit (Zengin,2010,p.117-119)

Upon seeing no contemporary progresses in Darulfunun, Ataturk started the university revolution, which would last two years, in 1931. Proffessor Albert Malche from Switzerland was invited to Turkey and asked to make an investigation into Darulfunun. Malche was in the Pedagogy Department of Gelf University in Switzerland (Ozata, 2005, p.127). Jewish descent Malche, who came from Switzerland, a constant neutral country, was appointed to work in the public reform business in Darülfunun with the Council of Ministers Decree numbered 12032 and dated 12 December 1931 (Simsir, 2010,p.95). On 31 May 1933, the law of İstanbul University was introduced. The law numbered 2252 was enacted on 1 June 1933. (Simsir, 2010, p.101)

In Malche's report, there were 5 sections and 34 items:

- The purpose of Darulfunun, the budget and the organization

- The training staff

- The administrative organization

- The students

- The annual training program of Darulfunun

The purpose of this report was to show how İstanbul Darulfunun could be developed into a higher authority for national culture and modern science. In his report, Malche pointed out that it was necessary to think in a way to reveal the scientific thought and Darulfunun was responsible for managing the scientific mindset (Ozata, 2005,p.137).

Malche's report had three parts:

- The content of the report

- The current structure of Darulfunun

- The innovations to be made

Malche's report revealed the legitimacy of the criticism directed to Darulfunun. Malche emphasized the students' being active and enterprising at the end of his report. (Binbaşıoglu, 2009, p.527). Malche's report was accepted as the university reform program (Yalcın, 2011, p.69). On 31 May 1933, the law numbered 2252, on the university reform, was adopted in the parliament. According to this decree:

Istanbul Darulfunun was eliminated along with all the institutions connected to it, the faculty members and its matrix on 31 July 1933.

- The Board of Education was in charge to found an institution named Istanbul Universiy as of the date of 1 August 1933.

The Resources of the Teaching Staff of the University were specified as follows:

- Those appointed as the staff of Darulfunun

- Foreign scientists brought from abroad

- Those who completed their education and expertise in European universities and returned home (Yalcın, 2011, p.72).

2. Racism coming the fore in Germany and the state of the Jewish descent scientists

The university reform in the newly established Turkish Republic coincided with the Nazi Party's coming into power. As a result of the rising racial understanding, a lot of Jewish descent professors, who were not of the pure race origin, were dismissed. During this period, the scientists who were able to flee from the Nazis to Switzerland established a small "Academic Refugee Colony" (Yalcın, 2011, p.75). Prof. Schawrtz came to Zurich in 1933 resigning from the University of Frankfurt and leaving Germany. In the meantime, scientists began to take refuge in foreign countries in order to save their lives and futures from the danger. An association called "Philanthropic Association of German Scientists Abroad" was founded under the chairmanship of Schawartz. Prof. Malche, informed about the association which wasn't an extension of a political branch or party, told Resit Galip, the Deputy Minister of Education, the developments. Malche was given the authority to contact with the association by Galip (Yalcın, 2011,p. 76).

2.1. The agreement made between the deputy minister of education Resit Galip and the association (Ankara protocol)

Ataturk aimed at the culture of the Turkish Nation being fed with certain values and forging ahead. One of the most important areas of the reform that required to be reviewed was music, which played a crucial role in shaping the society. While Ataturk was contemporizing Turkey, firstly the national culture came out and Turkish enlightenment was fed with neo-nationalist culture (Meydan, 2012,p.137). Turning to the base of the Republican revolutions, the requirement to make institutional and contextual innovations in the field of music, which was foremost of the dynamics of art and basic education shaping the society emerged. Ataturk stated the idea of founding a conservatory in the country in the opening speech of the parliament in 1934 and afterwards it was observed that he frequently referred to the subjects related to art (Sun&Katoğlu, 1993, p.74). Thus, the Ministry of Education asked Cevat Dursunoglu, who was a school inspector in Berlin in 1934, to find an expert for the organization of the conservatory. As a result of the investigations, Dursunoglu invited German Paul Hindemith to Turkey, and after signing the contract on 27 March 1935, Hindemith started his studies. Hindemith was asked to consider our music works nationwide and to prepare his reports in this direction. (Alaner, 2004,p.22)

3. Ataturk and the reflections of the university on musical institutions during the republic period reform

Ataturk aimed at the culture of the Turkish Nation being fed with certain values and forging ahead. One of the most important areas of the reform that required to be reviewed was music, which played a crucial role in shaping the society. While Ataturk was contemporizing Turkey, firstly the national culture came out and Turkish enlightenment was fed with neo-nationalist culture. (Meydan, 2012, p.137). Turning to the base of the Republican revolutions, the requirement to make institutional and contextual innovations in the field of music, which was foremost of the dynamics of art and basic education shaping the society emerged. Ataturk stated the idea of founding a conservatory in the country in the opening speech of the parliament in 1934 and afterwards it was observed that he frequently referred to the subjects related to art. (Sun& Katoğlu, 1993, p.74).

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4. Jewish Descent Artists And Educators In Turkish Music Institutions

Scientists who came to Turkey couldn't contribute to the university life at once because of language problem, but in the forthcoming process, they gained great importance in meeting the demand for the teaching staff and

structuring a university in western-style. They constituted the scientific bases of various fields in almost all subjects. Within the framework of the university reform, German musicians in the musical institutions in Turkey and their effects on institutional structuring reveal themselves on the bases of present musical institutions.

4.1. Lico Amar

Prof. Amar, a very famous violin teacher, born in Hungary, came to Turkey via Berlin and France in 1934 because of Nazi rule while he was training in Frankfurt. First, he worked as a music professor in Istanbul. When the State Conservatory of Ankara was founded, he moved to Ankara to work as a violin teacher at conservatory and returned to Germany in 1957. World-renowned Turkish violin players such as Suna Kan and Ayla Erduran were Lico Amar's students. (Şimşir,2010,p. 209). Hungarian descent violinist, Lico Amar realised the first performances of the masterpieces of chamber music repertoire, especially all the violin-piano sonatas of Beethoven with Rozsi Venetianer Szabo in Ankara Community Centre, in Ankara State Conservatory Hall, on Ankara Radio, in L'Union Française Hall in İstanbul, in Casa d'Italia Hall in Tepebaşı and in Galatasaray High School Hall.(Ali,????)

4.2. Gilbert Back

Ankara State Conservatory, which started education within the structure of the School of Music Teacher Training (Musıki Muallim Mektebi) in 1935-36 academic year, added theatrical and opera education to its curriculum in addition to musical art branches. Australian Jewish descent Back was one of the first lecturers of Ankara State Conservatory and one of the members of the Presidential Philharmonic Orchestra. He came to Ankara from Vienna in 1937 and survived the Nazi persecution. He trained at conservatory between the years 1937 and 1946. (Şimşir, 2010, p.210) He went to America in 1947.

4.3. Ludwig Czaczkes

Prof. Czaczkes, who taught piano at Ankara State Conservatory between 1938 and 1945, was an Austrian Jew. Upon Austria's joining Germany, he took refuge in Turkey and contributed to the conservatory training between the aforementioned years. (Simsir, 2010,p.213-214).

4.4. George Markowitz

The professor, who taught piano at Ankara State Conservatory, was a German Jew. Upon Austria's joining Germany, he came to Turkey and contributed to the conservatory training in the field of piano art. (Simsir, 2010,p.213-214).

4.5. Ernst Praetorius

Praetorius, who worked as the Musical Director of the German National Theatres in 1933, was about to be promoted to the Directorate of Berlin Philharmonic. When Nazis came to power, he was discharged and was invited by the Turkish Government at the recommendation of Hindemith, and coming to Turkey in October 1935, he became the conductor of the Presidential Philharmonic Orchestra. He was one of the first foreign musicians who came to Ankara (Simsir, 2010, p.217). He came to Turkey before the Republic Day and was assigned to conduct the Presidential Philharmonic Orchestra. He founded Ankara State Conservatory, worked as a musical instrument (bassoon) teacher at conservatory, conducted the student orchestra and made an effort to raise composers and musicians. Praetorius was asked to restructure the Presidential Philharmonic Orchestra (Aydın, 2003,p. 21). After this successful period, which lasted 15 years, upon seeing the destruction of Hitler's Regime, he died at the age of 66 in Ankara leaving memorable marks behind (Yalcın, 2011, p.268).

4.6. Eduard Zuckmayer

In a letter to Dursunoglu, Hindemith explained the future of music education of the country as follows: "My most serious concern is the opening of the new teacher training school which is inarguably interdependent with the beginning of a well-planned firm order. How deeply Turkey is attached to music or whether it is attached or not depends on these young music teachers' next generation." Eduard Zuckmayer, who came to Ankara with Hindemith's proposal and founded the Music Department of Gazi Training Institute and managed it until his death, raised the aforementioned young music teachers and supported and witnessed their selfless efforts (Ali, 2012). In accordance with Hindemith's plans, Zuckmayer, who was put in charge of Gazi Training Institute, which raised music teachers in 1938, was a pianist, a conductor and an effective educator. The future music teachers studied European Music History, learnt to play the piano, violin, cello, viola, contrabass as the main instruments and sang German and French songs in voice training courses there. However, German School had intense effects on several areas of Turkish Music, especially on education music. In recent years, in order for Turkish school music to be able to take its authentic place in the union of European nations, melodies has been formed in Turkish folk series and Turkish folk instruments entered into institutions which especially gave music teacher training (Aydın, 2003, p.21).

5. Paul Hindemith and his Proposals to Save Turkish Music Life

As of 1933, music held an important place in the structuring works carried out in social, scientific and artistic fields. The government, which decided to make reforms on music education as well, needed experts for the establishment and development of symphony, opera, conservatory and theatre and German artists and men of culture who were discharged by Nazi Germany were appealed to (Yalcın, 2011, p.269). The restructuring of music education, which was the basis of the structuring in all these institutions, and opening schools to train music teachers constituted the government's agenda.

Dursunoglu, the school inspector of Berlin, invited Hindemith by command of Ataturk. The contract dated 19 January 1937, included the phrases; " Hindemith will work for the philharmonic orchestra, at Music Teacher Training School under the service of Turkish Republic Ministry of Culture, will occupy himself with training music teachers and will consult the Ministry of Culture on the affairs related to music art". As is evident, Hindemith was asked to consider the music works nationwide and report his studies accordingly. Hindemith devoted an important place to conservatory in his article "Proposals to Save Turkish Music Life" in 1936. He separated the music schools into three groups as free music schools (conservatories), music teacher training schools and theatres (Alaner, 2004, p.23). The first proposals dated 1935 and the two reports submitted in school 1936 and 1937 constituted the bases of Hindemith's reports. Hindemith's reports included the first proposals dated 1935, and the bases of the two reports submitted in 1936 and 1937. These first proposals translated into our language by Oransay consisted of five parts:

- Orchestra: The composer determined the situation of the Presidential Symphony (then called Philharmonic) Orchestra in this part, and he mentioned that the members were trained insufficiently but talented individuals. He touched on issues such as a good orchestra conductor, inadequacy of concert halls, and convenience of broadcasting concerts on the radio. (Birkan, 2002,p.378)

- Music Academy: He pointed out that these schools were far from enthusiasm in terms of ideal. He mentioned about the impossibility of acquisition of that feeling and its reflection on students as long as an official who didn't understand music was in the management of the school although the conditions were not convenient. Therefore, by saying "Management determines the spirit of the school", he emphasized the importance of organisational climate in a sense.

- Public Music Structure: Under this heading, the issues such as the establishment of an opera house, a concert hall, a (music) broadcasting company, a concert organization organ in Ankara, reorganization of music education at schools, folk music's being compiled and treated took place. In this report, Hindemith provided detailed information on what kind of acoustics a concert hall required. Also, mentioning the

bureaucratic obstacles which impeded the development of music, he emphasized the need to repeal the legal regulations brought to musical events managed with public allowances. (Birkan,2002,p.379)

- İzmir, İstanbul: He brought forward proposals by examining the music lives in these two big cities of the period. He pointed out the need to improve the music lives of these two cities. He mentioned about structuring of orchestra and music schools.

- Formation of Turkish Classical Music: He mentioned about the things to be done to constitute Turkish Opera and Contemporary Turkish Classical Music benefiting from Turkish Folk Music. He stated that Turkish composers would find what they looked for in the village music of their countries.

6. Hindemith regulations and its reflections on today's musical institution

The realization level of Hindemith's proposals constituted the basis of the point the current music education has reached. However, the existing proposals keep up-to-date to a certain extent to solve the problems of our present music life. Basic foundations of conservatory regulations in force today existed in Hindemith regulations. Heindemith devoted an important place to conservatory in his article "Proposals to Save Turkish Music Life" in 1936. He separated the music schools into three groups as free music schools (conservatories), music teacher training schools and theatres. The main elements of this regulation could be summarized as follows: The purpose of the conservatory, academic and administrative structuring, instructional periods, students' readiness state required for the exams, the amount of the school fee, conditions of dropping out of the conservatory, study rooms, students' not being able to participate in music studies without administrative permission, courses to be taught, weekly course hours, etc. It was divided into six groups which belonged to the courses put in the program which took place in the regulation. Generally, the first proposals dated 1935, the two reports submitted in school 1936 and 1937 constituted the bases of Hindemith's reports.

- Theory class (composition, instruments, tone knowledge, music history)

- Piano and chamber music with piano accompaniment

- Stringed and wind instruments and their chamber music

- The school orchestra, choir and violin choir

- Vocal training

- Pedagogy class (only for the music teacher training department)

Final exams and graduation exams at the end of the school year and their implementations and the students' exam program also existed in the regulation (Alaner, 2004,p.23) As is seen, all the content of Hinemith's abovementioned report was fully utilized and it constituted the basic foundation of the current structuring. (Alaner, 2004, p.23).

Conclusion

It is obvious that Jewish descent scientists who came to Turkey provided a major contribution to the establishment of a university based on scientific, contemporary and democratic principles. As a result of the studies of these scholars who took charge in the renewal of the musical institutions in the Republic Period, musical institutions of young Turkish Republic were innovated and the bases of the current musical structuring were laid. As of 1933, among German or Australian musicians who served short or long term in Turkey, violinist Lico Amar, Theory expert Gilbert Back, pianist Ludwig Czaczkes, composer Teodor Fuchs, violinist Walter Gerhard, composer Paul Hindemith, composer and violinist Heinrich Jacoby, music educator Max Klein, singing artist Steffi Klein, pianist H.Markowitz, conductor Ernst Praetorius, pianist Frederich Schlösenger,

musicologist Frederich Schönfeld, violinist Adolf Winkler, violinist Walter Wunsch, music educator Eduard Zuckmayer can be counted. The outstanding names in the study were primarily dealt with. A staff of well-known European musicians being met with respect and love in Turkey created a broad response all over the world and caused other musicians to come to Turkey. Among the other names which can be counted are Bela Bartok, Carl Ebert, Hans Kuchenbuch, Paul Lohmann, P.Savarosh, Hermann Ritter von Schmeidel, Otto Matzerath, Hans Hörner, Elvira dev Hidalgo, Max Klein, Frieda Böhm, Johanna Seidler, Alfred Braun, Elizabeth Adler, Hans Rey, Martin Bochhmann, Peter Weiss, Eva Klein Franke,etc (Say,1998,p.279). In this study, the functions of the scholars who survived Nazi Regime have been examined in the contemporary

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AÇIK KAYNAK KODLU ÖĞRENİM YÖNETİM SİSTEMLERİNDE YAZILIM KALİTESİNİN SINIF UYUMUNUN(COHESİON) YAZILIM METRİKLERİ KULLANILARAK İNCELENMESİ

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Özet

Örgün eğitimin sunulamayacağı durumlarda veya farklı lokasyonlarda ki insanlara eğitim verilmesi hedeflendiğinde uzaktan eğitim sistemi öne çıkmaktadır. Son yıllardaki bilişim teknolojisindeki gelişime paralel olarak uzaktan eğitim teknolojileri de gelişmiştir. Bunun için birçok öğrenim yönetim sistemleri (LMS) geliştirilmiştir. Bu kapsamda web tabanlı olarak geliştirilen uzaktan eğitim sistemi yazılımı ile üniversitelerin eğitim-öğretim süreçlerinin tanımlı, şeffaf ve sürekli geliştirilebilir bir çerçeveye taşınması hedeflenmektedir. İstenilen bu çerçeve yazılımının başarımı yazılım kalitesi standartlarına uygun tasarım yapılması ön koşuluyla mümkün hale getirilebilir. Sınıf uyumu (Cohesion)yazılım kalitesinin değerlendirilmesinde son yıllarda oldukça sık kullanılan bir yöntemdir. Bu çalışmada Açık kaynak kodlu öğrenim yönetim sistemlerinde sınıf uyumu, yazılım metrikleri kullanılarak incelenmiştir. Yapılan inceleme sonucunda Açık kaynak kodlu projelerde sınıf uyumluluk haritaları çıkarılarak öz-ilişkisel değerlendirilmeleri yapılmıştır.

Keywords: Öğrenim Yönetim Sistemleri; ÖYS; Sakai; cohesion; yazılım metrikleri;

1. Giriş

Gelişen teknoloji ile birlikte uzaktan eğitimin sunduğu olanaklar, buna paralel olarak da uygulama alanları artmıştır. İnternetle birlikte uzaktan etkileşimli hale gelmiştir. İnternet üzerinden uzaktan eğitim sunumu için geliştirilen bir çok yazılım bulunmaktadır. Bu yazılımlara genel olarak Öğrenim Yönetim Sistemleri "ÖYS" (Learning Management System, LMS) adı verilmektedir. Birinci önceliği ticari kaygı olmayan bir çok kuruluş çok sayıda açık kaynak kodlu öğrenim yönetim sistemi geliştirmiştir. Açık kaynak kodlu projeler ücretsiz olması, çok sayıda gönüllü programcı tarafından geliştirilmesi, çok fazla kişi tarafından test edilmesi kuruma özel modifiye edilebilme özellikleri ile öne çıkmaktadır. Fakat bu özellikler yazılımın, yazılım kalite standartlarına uygun olarak geliştirilmemesi durumunda avantajdan çok dezavantaj da olabilir. Bu dezavantaj yazılım kalite standartlarını uygulayarak aşılabilir.

Farklı yerlerdeki gönüllü geliştiriciler tarafından geliştirilen yazılımların yazılım kalite standartlarına uygun olarak geliştirilmesi zor bir iştir. Aynı ortamda bulunmayan geliştiricilerin ortak bir dil kullanması ve geliştirilen farklı modüllerin uyumunun sağlanması, herhangi bir modülün tekrar geliştirilebilir bir yapıda kodlanması önem arz etmektedir. Bu da yazılımın geliştirilmesi sürecinde sürekli ölçme, değerlendirme ve test etme gibi kavramları karşımıza çıkarmaktadır. Geliştirilen bir yazılımın değerlendirme ve ölçme işlemi yazılım metrikleriyle yapılmaktadır.

Bu çalışmada Açık kaynak kodlu öğrenim yönetim sistemlerinden biri olan Sakai projesinde sınıf uyumu, yazılım metrikleri kullanılarak incelenmiştir. Yapılan inceleme sonucunda Açık kaynak kodlu projelerde sınıf uyumluluk haritaları çıkarılarak öz-ilişkisel değerlendirilmeleri yapılmıştır.

2. Uzaktan Eğitim Ve LMS

Farklı lokasyonlardaki insanlara eğitim verme ihtiyacı uzaktan eğitim uygulamalarını doğurmuştur. Geçmişte mektupla öğrenim şeklinde gerçekleştirilen uzaktan eğitim, teknolojinin de gelişmesiyle birlikte sırasıyla radyo

ve televizyonla kapsamını genişletmiş, bilgisayar ile gelişmiş ve en sonunda internetin kullanılmaya başlanmasıyla etkileşimli hale gelmiştir. 1970 li yıllarda çeşitli veri taşıma cihazları ile taşınan programlar ile offline olarak bilgisayar tabanlı uygulamalar ile uzaktan eğitim sağlanmaya başla. 1990 lı yıllar ile birlikte internetin hayatımıza aktif olarak girmesi ile uzaktan eğitim internet üzerinden sunum imkanına kavuştu (Özkul,2003)

Günümüzde sunulan internet destekli uzaktan eğitimin başlıca avantajlarını sayacak olursak

- Günlük yaşamındaki faaliyetleri aksatmadan, daha uygun maliyet ile eğitim alınmasını sağlar.

- Kişi zaman ve mekândan bağımsız olarak kendisi için en uygun zaman ve mekânda konuyu öğrenebilir. Bu da öğrenim faaliyetinin daha zevkli ve rahat olmasını sağlar.

- İnternet üzerinden referans gösterilen kaynaklara erişim kolay ve kısa sürede sağlanır.

- Gerektiğinde ders içerikleri kısa sürede güncellenebilir.

- Kişinin tüm öğrenim faaliyetleri izlenebilir, analiz edilebilir, eğitimin başarımı raporlanabilir.

- Çok sayıda insana aynı ders içeriğini, aynı sunumla, aynı kalitede ulaştırarak eğitimde standardizasyon sağlanabilir. (Duran vd,2006)

- Bireyler ve/veya gruplar örgün eğitimde ulaşmaları ciddi bir maliyet ve uğraşı gerektiren farklı grup ve bireylere ulaşma imkânını sağlayarak veri paylaşımını gerçekleştirilebilir.

- Teknoloji ve iş dünyasında hızlı gelişmeler olmaktadır. İş dünyasındaki rekabet ortamı, bu gelişmelere ayak uydurmayı, sürekli kendini geliştirmeyi gerektirmektedir. Başarıyı hedefleyen bireyler ve kurumlar çalışma hayatını aksatmadan kendini geliştirmek, yeniliklere ayak uydurmak için uzaktan eğitimden yararlanmak zorundadırlar. (Pantazis ,2002) Çünkü uzaktan eğitim ile hizmet içi eğitimde ve sertifika eğitimlerinde çok sayıda kişiye uygun maliyetle ve zaman mekan kısıtlaması olmadan eğitim sunmak mümkündür.

- Sadece eğitim yaşında olan bireylerin ve kayıtlı öğrenci grubunun değil farklı yaş grupları ve kesimlerdeki insanlarında öğrenme sürecine katılmasını sağlayarak yaşam boyu öğrenmeye olanak sağlar (Altıparmak vd ,2011).

İnternet üzerinden uzaktan eğitim sunumu için geliştirilen bir çok yazılım bulunmaktadır. Bu yazılımlara genel olarak Öğrenim Yönetim Sistemleri "ÖYS" (Learning Management System, LMS) adı verilmektedir. Bu sistemler ders materyali sunumu ve paylaşımı, video konferans ile canlı ders, sınıf oluşturulup yönetilmesi, ödev ve sınav yönetimi ve bunların geribildirimi, öğrenci, öğretmen, not ve ders bilgisi takibi ve raporlama gibi işlevleri sağlarlar (Paulsen,2008).

3. Açık Kaynak Kod ve Sakai

Yazılımcılar yazılımları geliştirirken kullandıkları programlama dilleriyle çalıştırılabilir dosyaları oluşturulur. Eğer istenirse sadece programı çalıştırmak için gerekli çalıştırılabilir dosyaları dağıtılır. Açık kaynaklı yazılımlarda ise kaynak kodu ürünle birlikte dağıtılır. Böylece ürünü kullanan kişi veya kurum kendi ihtiyaçlarına göre programı değiştirebilir, geliştirebilir, dünyanın çeşitli yerlerinden gönüllülerin katılımlarıyla ürünün geliştirilmesi ve yaygınlaşmasına olanak sağlanır. Açık kaynak kodlu yazılımlar insanlığın ortak malıdır. Açık kaynak kodlu yazılımların başlıca avantajları:

- Kullanıcılar tarafından değiştirilebilmesi

- Uyarlanabilir olması,

- Çok fazla kişi tarafından test edilmesi,

- Üretici firma desteğinin mecburi olmaması

- Genellikle ücretsiz veya uygun ücretli olması

Uzaktan eğitimde açık kaynak kodlu yazılımların kullanılması maliyeti önemli ölçüde azaltır. Uzaktan eğitimde kullanılan çok sayıda açık kaynak kodlu yazılım vardır. Bunlardan bir tanesi de sakai'dir.

Sakai, daha çok yüksek öğrenime özelleşmiş ve dünya üzerinde yaygın kullanıma sahip açık kaynak kodlu bir öğrenme yönetim sistemidir. Indiana Üniversitesi, Massachusetts Teknoloji Enstitüsü, Stanford Üniversitesi, Michigan Üniversitesi ve Valencia Polytechnic Üniversitesi önderliğin de oluşturulan "Sakai Foundation" organizasyon yapısı altında akademik, ticari ve bireysel katılımlarla geliştirilen işbirliği ve öğrenme ortamıdır (Collaboration and Learning Environment CLE).

Sakai ücretsiz ve eğitimi destekleyen birçok özelliği ile web tabanlı, platform bağımsız bir uygulamadır. Araştırmacıların ve proje gruplarının kullanımına uygundur. Uygulama, ders yönetim sistemlerinin sahip olduğu birçok ortak özelliğin yanında bilgi\belge dağıtımı, ödev aktarma, çevrimiçi ölçme değerlendirme ve not defteri ve canlı sohbet modüllerini içermektedir.(sakai 2012)

4. Yazılım Kalitesi ve Metrikler

Kullanıcıların veya tüketicinin istek ve gereksinimlerine amaç dersek kısaca "Kalite amaçlara uygunluk derecesi" olarak tanımlanabilir. Kalite sınırları ihtiyaçlara ve teknolojideki gelişmelere paralel olarak sürekli genişler.

Kaliteli yazılımlar; kabul edilebilir seviyede hata ile, öngörülen maliyet ve sürede geliştirilen, gereksinimleri ve beklentileri karşılayabilen ve bakımı ve güncellenmesi kolay yazılımlardır.

Yazılım kalitesi çeşitli kurumlar tarafından tanımlanmış standartların uygulanması, ölçülmesi, değerlendirilmesi ve belgelendirilmesi ile sağlanır.

Değerlendirilebilme ölçülebilme imkânına bağlıdır. Ölçülebilme kalite ile ilgili ölçüm çalışmaları kapsamına girmekte ve çeşitli test ve incelemeleri içermektedir.

Yazılım gözden geçirmeleri sırasında yazılımın neye göre inceleneceği çok önemlidir. Yanlış değerlendirmeler maliyet ve yazılım kalitesindeki düşüş olarak yazılım şirketlerine geri döner. Bu yüzden yazılım gözden geçirmelerinde yazılım metriklerini kullanmak yazılım kalitesi yönetiminde objektif bir bakış açısı sağlar. (Alptekin 2008)

5. Sınıf Uyumu (Cohesion)

Ölçülebilir ve değerlendirilebilir yazılımların geliştirilmesinde sınıf uyumluluğu(cohesion) önemli bir kavramdır. Belli bir işleyişi gerçekleştiren bir sınıfın sahip olduğu metod ve özelliklerin birbirleriyle ilgili ve uyumlu olduğunu ölçen metrik kümelerine sınıf uyumu(cohesion) metrikleri denir.

Yazılım kalitesi literatüründe yüksek uyum sınıflar için zaruri bir özellik olarak görülmektedir. Geliştirilen yazılımın bakım ve devamlılığı sistemin yapıtaşları olan sınıfların uyumluluğu ile doğru orantılıdır.(Kurubaş vd,2010)

Sınıf uyumu metrikleri sınıf uyumunu ölçerek düşük uyumlu sınıfların uyumsuz metod ve özelliklerinin çıkarılarak uyumlu olan başka bir sınıfa eklenmesi veya uyumlu bir sınıf yoksa yeni bir sınıfta yeniden tanımlanması gibi durumlar için geliştiriciye yol gösterir.

Bir sınıfın uyumu yerel metotların yerel değişkenlere olan yakınlığı ile karakterize edilir. S.R Chidamber ve C.F Kemerer, LCOM ölçütünü ilk kez 1991 yılında tanımlamışlardır ve 1993 yılında geliştirmişlerdir. O zamandan bu zamana daha fazla tanım önerilmiştir ve halen bu alan içerisinde araştırmalar yapılmaktadır.

6. Sınıf Uyumunun Test Edilmesi

Sakai projesinin Sınıf uyumu test edilirken Visual JArchitect test programı kullanılmıştır. Visual JArchitec yazılım metriklerini ölçmek için özelleşmiş, gelişmiş bir programdır. Program çok çeşitli grafikler ve çıktılar vermektedir.

Bu çalışmada JArchitec in sınıf uyumunu gösteren sınıf uyum haritaları kullanılmıştır.

Grafikte sınıfların gösterimi:

Fig. 1. Sınıf Gösterimi

Sınıfların birleşmesi ile oluşan paketlerin gösterimi:
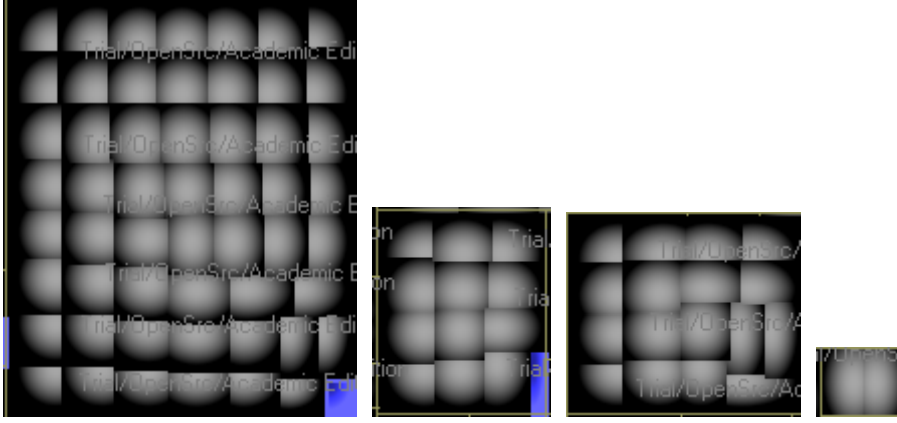
Fig. 2. Paket Gösterimi

Uyumu düşük sınıfların gösterimi mavi ile aşağıdaki gibidir.
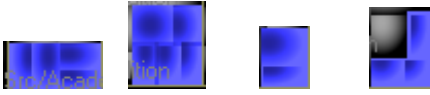
Fig. 3. Düşük uyumlu sınıf gösterimi
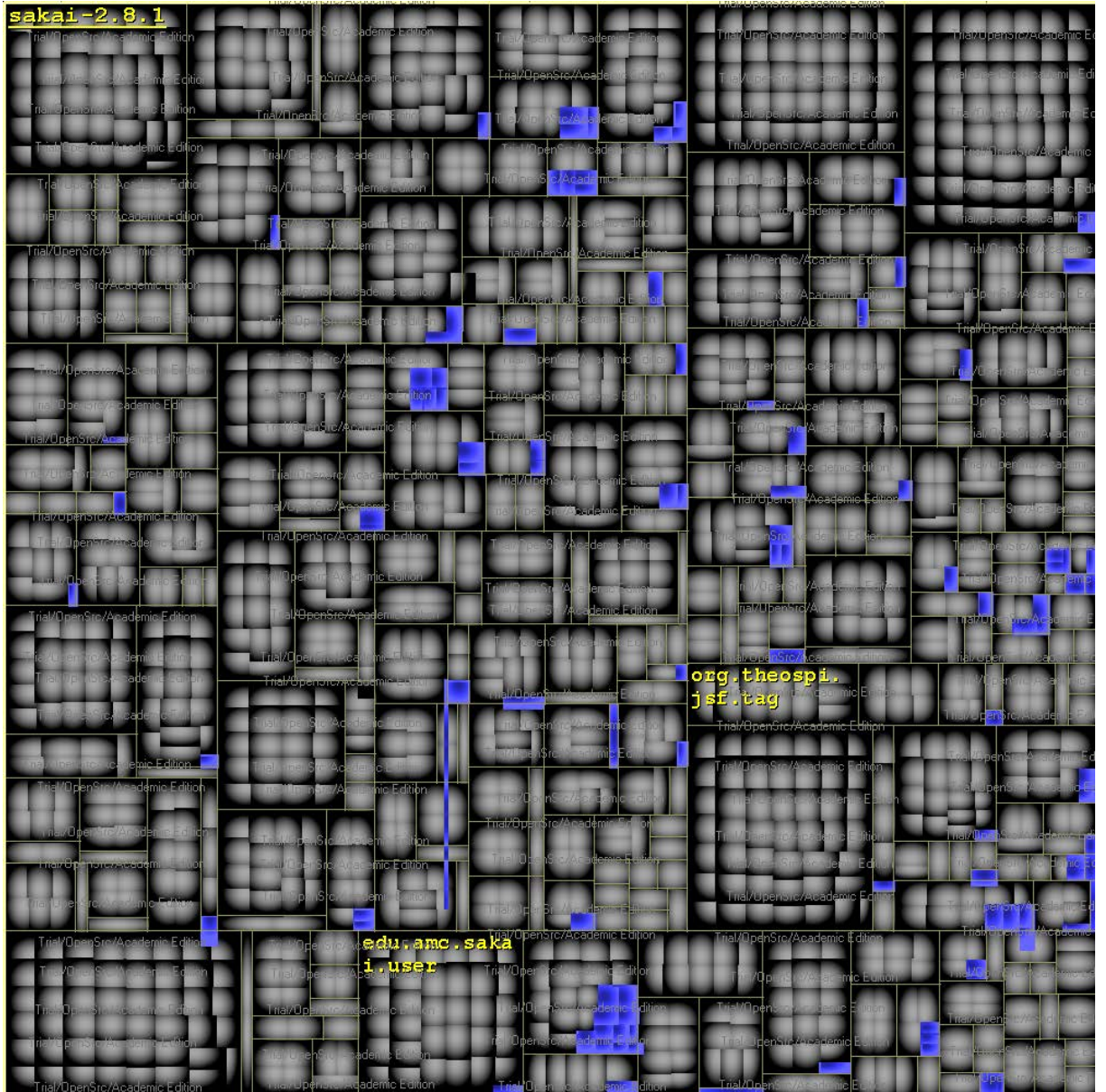
Fig. 4. Test Sonucu

Şekilde her bir sınıfın uyum grafiği çıkarılmış, düşük uyumlu sınıflar mavi ile gösterilmiştir. Görüldüğü gibi yazılımda bazı sınıf kümeleri toplu olarak yüksek uyumlu, bazı kümeler toplu olarak düşük uyumludur. Grafik birbirine yakın sınıfların aynı geliştirici/geliştirici gurubu tarafından yazıldığını düşündürmüştür. Bazı sınıflarının uyumunun yüksek olması uyumu düşük gurupların bir sonraki versiyonda yazılım uyumunu arttırarak geliştirmesi tavsiye edilebilir.

7. Sonuç

Bu çalışmada Açık kaynak kodlu öğrenim yönetim sistemlerinden biri olan Sakai projesinde sınıf uyumu, yazılım metrikleri kullanılarak incelenmiştir. Yapılan inceleme sonucunda Açık kaynak kodlu projelerde sınıf uyumluluk haritaları çıkarılarak öz-ilişkisel değerlendirilmeleri yapılmıştır.

Sakai projesinin bazı modüllerinin Sınıf uyumu gözetilerek tekrar yazılması gerktiği sonucu öıkartılmıştır.

Bu çalışmada sadece Yazılım kalitesi sınıf uyumu ile incelenmiştir. Sonraki çalışmalarda diğer metrikler ilede ölçüm yapılabilir.

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AGE FACTOR IN FOREIGN LANGUAGE EDUCATION AT PRESCHOOL LEVEL

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Abstract

The aim of this paper is to find out preschool teacher educators' opinions on foreign language education at preschool. The opinions of a preschool teacher educator at a state university and a teacher at a preschool in a private institution were obtained through structured and semi structured interviews. The opinions were then coded and categorized. The emerging categories were the effects of foreign language education on children's mental development, the age to start foreign language education, teachers of foreign language, and ways of teaching foreign language to preschoolers. The participants agreed on the beneficial effects of foreign language education at early ages, methods of teaching, and the qualities of teachers. However, they differed in the appropriate age to start foreign language education.

Keywords: Preschool education, foreign language education, opinions of preschool teacher educators.

1. Main Text

The introduction of foreign language education in preschool educational institutions in Turkey has fuelled discussions on its rationale. Those who have welcomed the development claim that starting foreign language education as early as possible – preferably before the age of seven – enables learners to reach higher levels of language proficiency and improves their awareness of their mother tongue. The opposition front has viewed the change in policy as a threat to children's mastery of their mother tongue as well as to their overall cognitive skills (Celebi 2006; Demircan 2006). In the very centre of the discussions are the best age to start foreign language education, its effects of the mental and linguistic development of children, and the way foreign language education should be given.

Children, their parents, teachers, and teacher educators are the main stakeholders in this policy change, as in other educational policies, a fact that makes their opinions on the issue important. Recent research has looked into opinions of teachers as the implementers of the policy. Equally as important is what opinions teacher educators at universities hold as they educate the teachers in preschool educational institutions.

In her study with 20 English teachers, 34 preschool teachers, and 274 families in Seyhan district, Adana, Kucuk (2006) found that most members of the sample group were in favour of foreign language education in preschool. English teachers believed early it is both beneficial and necessary for children's foreign language development. They said that they used songs, games, art, and drama as principle techniques of teaching, and reported that children developed a positive attitude toward foreign language and tried to use it outside the class. A majority of the English teachers reported that children did not mix their mother tongue Turkish and English. Preschool teachers reported similar support for foreign language education in preschool. 85 percent of the teachers reported a variety of reasons ranging from age factor to the European Union process. Most believed that foreign language education developed the children's linguistic, conceptual, cognitive, social, and emotional development. The greatest support for foreign language education in preschool came from families (93%) who found it necessary to have foreign language education in preschool.

Another study by Aytar and Öğretir (2008) found somewhat similar results in a larger sample in Çankaya, Ankara. Of the 350 parents interviewed for the study, 94% said that foreign language education would have a positive impact on the cognitive and linguistic development of their preschool children. However, 66% acknowledged that foreign language education was not a factor for their choosing that particular institution. Of the 33% percent of the parents who reported that foreign language education at preschool was not as much as it should be and should be incorporated in all the activities. Similarly, a vast majority of the teachers believed that foreign language education is necessary at preschool level because children learn better at an early age and would have an easier life in school in succeeding years. 57% of the teachers believed that 5-6 were optimal ages to learn a foreign language and others thought 3-4 could be even better (35%).

2. Method

This section gives detail about the participants, research instruments, and data analysis methods.

2.1 Participants:

The first participant was a preschool teacher educator at a Turkish state university. The second participant was a teacher of English at a preschool institution. The first participant has been working as an assistant professor in a state university at the preschool teaching department. The second participant has been working in a private school as an English teacher and she is an experienced and only teacher working at all levels of the preschool.

2.2 Data collection:

In this study data were collected through structured interviews. Data from the first participant were obtained through a video interview and a written interview, while those from only the second participant were obtained from a written interview. The video interview from the first participant was transcribed, and then all three data sources were analyzed through pattern-coding, which revealed four categories. The beliefs of the participants as emerged in the four categories were underlined in the original tapescripts and then translated into English. The participants' ideas that are not directly related to the emerging categories were also included but in complementary roles.

3. Findings

The emerging four categories involved the positive effects of foreign language education in children, the age to start language education, the staff to teach language courses, and ways of teaching foreign languages. The participants agreed on the positive outcomes of language study for children, but their opinions differed in when to start it. The first participant had somewhat ambiguous views about it, referring to research studies and current examples from European countries that showed the effects of foreign language learning for children as young as three and then advocating for delaying it until after preschool years. Unlike the first participant who put the optimal age as seven, the second participant believed ages five and six are late enough because children's first language development is almost complete by then. The participants had differing opinions about who should teach language classes. The first participant expressed that either preschool teachers or language teachers should teach it only if they obtain a certificate for the other. That is, preschool teachers can teach language classes if they have a language teaching certificate and vice versa. The second participant firmly voiced her choice of English teachers who can use the language effectively, without mentioning a reservation for lack of preschool teaching certificate. As to the best way of teaching, both participants agreed that teaching should be appropriate for children's level and include game-based activities.

3.1 Foreign language education at preschool and children's mental development:

Children are equipped to learn several languages, and learning a second language contributes to their mental development.

The first participant is of the opinion that children are endowed with the capacity to learn several languages at once and that this process will contribute to children's mental development. The following excerpts reflect this opinion:

"We know that children are cognitively, physiologically, and biologically ready for foreign language learning-teaching after they are born."

"... we know that children can learn not just one but several languages and that this has significant contribution to their mental development."

In the structured interview the first participant added better reasoning skills and mental functioning as the positive outcome of foreign language learning in children. The following excerpt reveals this view:

"Reasoning and problem solving behavior develops more in children who receive a bilingual education. A second language will prove useful for the stimulation and proper processing of mental functions."

The first participant reiterated his opinion in the structured interview, adding that learning foreign languages will contribute to the child's social as well as mental development and improve his problem solving abilities.

"Learning foreign languages develops an individual's mental capacity. It helps improve the individual's social development. It develops the individual's ability to solve problems."

When asked how learning a foreign language would affect children, the first participant explained that it would affect children's mental development positively. In the education process that starts even before birth, he emphasized, learning another language and sometimes several languages will always affect children's intelligence in a positive way. The following excerpt supports this view:

"Language learning starts well before birth. Research confirms that it is in the mother's womb that the child starts hearing his parents' voice, hearing the words (of the language), making sense of them, and after birth he is able to learn several languages ... However, the child loses this ability later."

Referring to previous research studies, the first participant pointed to the child's prolonged presence in the same environment during mental process as the reason for the child to lose his ability to distinguish languages.

The first participant stated in the structured interview that besides its contribution to mental abilities learning a second language early also ensures that the language is learned quickly and effectively. However, mother tongue education should never be neglected. The following excerpt reflects this view:

"Starting foreign language education at early ages will not lead to any negative development for the child if education is given in the first language ... The first language should not be neglected."

The first participant gave examples from European countries such as England, France, and Italy, where these studies were carried out, and concluded that a bilingual education does not harm the development of the mother tongue.

However, the first participant stated in the structured interview that foreign language learning is not healthy in some circumstances, one of which concerns families in foreign countries. Children of these families learn another language at school and outside in addition to the one they use at home. The following excerpt shows this view:

"Parents who work in foreign countries ... send their children to schools in these countries. For this reason these children – willingly or not – learn the foreign language spoken at home and outside in addition to the language used in the home. But it is hard to say that such learning is healthy at all."

The second participant agreed to the first participant's views about the positive effects of foreign language education, and stated that it is important for children's mental development. She also added that learning a foreign language in addition to their mother tongue will keep the children's minds active. The following excerpt reflects her view:

I think learning languages is important for (children's) mental development. The fact that the child is learning a (foreign language) will maintain that his mind is active."

3.2 When to start foreign language education:

The earlier the age of foreign language education, the better.

Referring to research studies, the first participant stated his opinion that children aged three can successfully start learning a foreign language. The following excerpt from the interview reveals his perspective:

"There are a number of research studies into how well children who start schooling at three years of age can learn their mother tongue and foreign languages afterwards."

On the other hand, the first participant provides examples from Italy and France, where foreign language education starts at 8-11 and 7, respectively, but he was observed to be hesitant to pinpoint a certain optimal age for the commencement of foreign language education, mentioning the fact that it is a controversial issue. The following excerpt reveals the participant's indecision:

"But there is a controversy about (the optimal) age (for foreign language learning). I mean ... should we start it at primary school, or should we start it earlier... It requires scientific studies to decide whether we can antedate the foreign language education (that starts at ages seven and eight at present)."

While stating that foreign language education should start as early as possible and giving research studies that showed its effectiveness at the age of three, the first participant claimed in the structured interview that foreign language education should start at primary school because the child should first acquire the syntax of his first language. The following excerpt shows this conviction:

"Foreign language education should be one that should start after the fundamental grammatical structures of the first language are acquired. ... In my opinion, foreign language education should be started in Grade 1."

The first participant maintained that foreign language education should be avoided in preschool years because mother tongue plays a crucial role in a period when the foundations of personality and mental development are laid. Children should understand the world through their mother tongue for healthy mental development. The following excerpt shows this perspective:

"I do not think that foreign language is necessary in preschool institutions because ages 0-6 are a period when children get to know the world and acquire vital behaviour. Especially the foundations of personality development and mental development are laid during this period. Getting to know the world through their mother tongue will positively affect children's mental development."

While the first participant implied that the best age to start foreign language education was seven and above, It could also be inferred from his remarks that foreign language learning should not start later because he denounced the change in Turkish education system that deferred intensive language education until after grade 8.

Unlike the first participant who suggested age seven, or grade 1, as the ideal time for starting foreign language learning, the second participant argued that children can start learning at the age of five. She believed that children were cognitively ready to learn another language readily. The following excerpt shows her stance:

"I think children aged five and six are perceptive enough to learn a foreign language. At these ages children can easily learn a foreign language because they are ready cognitively."

"In early ages children's memory works at full throttle. They can recall what they hear or see for longer periods than an adult can. "

3.3 Who should teach foreign language to preschoolers:

Preschool language teachers should be trained specifically for this age group.

The first participant expressed the view that qualified people should teach foreign language classes, by which he meant that these teachers should have a degree in preschool education as well as a certificate for teaching English.

"I believe that (foreign language education at preschool) should be provided by teachers trained in teaching at preschool and the foreign language and having a language teaching certificate."

The first participant said the opposite is also advisable, that is, teachers with a degree in teaching English can obtain a preschool teaching certificate to be able teach preschoolers. He confirmed his view in the structured interview, but this time he favoured language teachers with preschool certificate over preschool teachers with language certificates. The following excerpt reveals this preference when asked which of the two should teach foreign language classes:

(16) "None. Because a foreign language teacher cannot administer activities appropriate for the children's level since they cannot know children's developmental characteristics. However, if the foreign language teacher is trained in preschool education, it will be healthier."

The first participant expressed his concerns for the present situation where foreign language teachers without preschool teaching certificates are employed rampantly in private preschool institutions. Small as it might be, an educational mistake made at these ages, he argued, may affect the entire life of the child, advocating for the importance of training in preschool teaching. The following excerpt mirrors these concerns:

"This is the greatest danger because mistakes made during preschool education years are mistakes that are difficult to undo. I mean if we fail to lay a sound foundation in preschool years a mistake we make – in the child's mental development, psychomotor development, socio-emotional development – may cause them to acquire wrong behaviour, and it becomes very difficult to correct it in adulthood."

The second participant, on the other hand, clearly expressed the view that foreign language teachers should teach preschool foreign language classes and did not mention vice versa, i.e. preschool teachers teaching language classes. Only the ability to use the language effectively, she argued, is required by the language teachers. The following excerpt reflects this view:

"(Preschool foreign language education) should be provided by foreign language teachers. Teachers who are trained in foreign language education, who can use the language effectively should teach (it)."

3.4 How to teach foreign language to preschoolers:

Game-based activities aimed at introducing children to the new language should be implemented.

The first participant viewed preschool foreign language education as a preparation for primary school years as is done some European countries but also expressed his uncertainty as to how a foreign language education should be. The following excerpt shows his doubts:

"Through what kind of programs, what kind of education should we give (foreign language education? Nobody knows the correct answer to this question. … (in successful programs in Europe) there are preparatory activities for primary education"

The participant spoke highly of Italian and French schools in Turkey that implemented such successful programs, where one or two foreign languages are taught through games. In these games, the participant marked, children are taught new vocabulary items through pictures, improving their phonological skills and increasing their sensitivity to the language.

The second participant emphasized the difference between state and private schools, resulting from the availability and use of technology. The following excerpt shows her views:

"There are great differences between state and private institutions (with respect to foreign language education). Since private schools are technologically better equipped, a wider array of activities can be implemented."

According to the second participant, this array involves audiovisual and game-based activities, stories that develop around specific topics, and other exciting activities. Here is an excerpt that shows how she believes games can be integrated in foreign language classrooms:

The child can be taught plenty of words through game activities. For example, when children first watch a video and then asked to dramatize the events in it, I believe they will learn permanently because they have both seen and applied it.

The first participant pronounced his anxiety about foreign language education across the country, the effects of which were present in preschool education as well. Foreign language education, he argued, is a complete failure that requires overhauling the present system and replacing it with programs that zero in on lifelike activities. The following excerpt expresses this suggestion:

"We should (both start teaching foreign languages at an earlier age and) develop a teaching program that is based on real life situations."

"(We failed) because we could not teach foreign languages through a program based on real life situations. Languages are learned by living them."

4. Discussion

The views of both participants generally converge with research findings. The first line of agreement lies in the positive effects of foreign language education on children. Support for its positive effects mostly comes from bilingualism studies that research children learning the language of the society as a second language, for example, a Turkish child learning English in Britain or the USA. Still, these research findings are applicable to foreign language environments such as studying English in Turkey. In their review of such bilingual programs, Bournot-Trites and Tellowitz (2002) conclude that the general result is positive in all: children have better metalinguistic knowledge that has a positive impact of their mother tongue and they do not fall behind their monolingual peers in the long run. In their study into the effects of the newly introduced foreign language course in the early childhood curriculum, Eichmann and Fori (1977) found that foreign language education has potential beneficial effects such as greater readiness for school work in general, greater creative abilities, higher general intelligence, and superior vocabulary knowledge. Preschool language education is also found to enable preschoolers to be aware of different cultures and languages and develop positive attitudes toward a second

language. (Sığırtmaç and Özbek 2009). However, some research studies (e.g. Chang 1986) concluded that teaching foreign languages along with their mother tongue caused difficulties for preschoolers.

The related literature also confirms what the participants think about the starting point of foreign language learning. "Preschool years are vital years so during this period and especially the first three years of life, the foundations for thinking, language, vision, attitudes, aptitudes, and other characteristics are laid down," says Kotulak (1997). Consequently, it would be a waste not to use a child's natural ability to learn during his or her most vital years, when learning a second language is as easy as learning the first. Long before Kotulak, Bloom (1964) asserted that people develop half their ability to learn in the first few years of their life, nearly one third of it by the age of eight, and the remaining one-fifth during the rest of their lives. Children form their basic learning abilities through sight, sound, taste, touch, smell, and doing (Dryden & Vos, 1997). What children learn during these years lays the foundations of their future learning. Nicholas and Lightbown (2008) claim second language acquisition begins as early as age three and after age seven language acquisition can be viewed as adult language acquisition. They also support the idea that the five year period between ages 2 and 7 are critical in reaching ultimate proficiency; starting foreign language learning later will decrease children's chances of learning the language better. In their study with preschoolers Sığırtmaç and Özbek (2009) found that Turkish children age 4-6 learning English as a foreign language were eager to learn a foreign language and use the words they learn in their daily life, but four year olds were less successful than five and six year olds.

As child language learning up to the age of seven is totally different from language learning in later years, foreign language teachers at preschool institutions should be equipped with the necessary skills to address preschoolers. Foreign language teachers at preschool should know the age-appropriate activities that would provide scaffolding to facilitate the acquisition of language for children's developing minds (Mhathuna 1995). In cases when the teacher is not proficient enough in the foreign language, plenty of tape recordings can be exploited (Dryden and Vos 1997).

Educational literature abounds in examples of methods of teaching to young children, which support the participants' opinions. Dryden and Vos (1997) argue that any method of teaching a foreign language to preschoolers should involve talking to them from the start. Rhymes, songs, games, and counting in a second or third language should be introduced so that they can listen, see, imitate, and practice. Allowing children to learn through imaginative play such as imitating the voices of their popular heroes can help them learn a foreign language without affecting their identity negatively (Orallena 1992).

5. Conclusion

Especially in recent years parents in Turkey have been striving to send their children to schools where their children can have a better foreign language education. In fact, this desire is consistent with much research which confirms that earlier foreign language education will ensure higher proficiency in children together with developed mental abilities. The participants in this study, however, disagreed with the proper age of language learning. The first participant believed that foreign language education should start at the age of seven when children have fully acquired their mother language, whereas the second participant said ages five and six were a good time to start. Despite their disagreement as to the starting point of language education, they both agreed to the beneficial effects of language study and to the ways of teaching to preschoolers. As for who to teach children, the second participant said the answer should be teachers of English, while the first participant was more lenient in that it could be either teachers of English holding a preschool teaching certificate or preschool teachers proficient in the foreign language.

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ANALYTICAL THEORY OF MONOTONE COMMODITY STATE DEVELOPMENT WITH INFLEXION

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Abstract

A method of modelling commodity depreciation, based on the methodology of theoretical physics, is used to derive a deterministic linear motion equation of the second order to describe the degressive and progressive development of the instantaneous relative depreciation and price of a commodity over time in a model of market structure with perfect competition. The same approach is used to derive a non-linear motion equation of the second order for instantaneous relative depreciation with degressive/progressive development over time.

Keywords: Depreciation, differential equation, econophysics, equation of motion, perfect competition.

1. Introduction

Let us assume that instantaneous commodity depreciation w at every time t throughout the entire lifetime of the commodity is composed of the instantaneous commodity physical depreciation w_{PD} and the instantaneous commodity external depreciation w_{ED}. The law of internal composition of both types of depreciation is designated as Δ, so the instantaneous commodity depreciation w is $w = w_{PD} \Delta w_{ED}$. The law of composition of magnitudes of instantaneous commodity physical and external depreciation is also designated by the symbol Δ, so that $w(t) = w_{PD}(t) \Delta w_{ED}(t)$. In further considerations we presume (in linear approximation) that the law of composition of magnitudes of instantaneous commodity physical and external depreciation is algebraic addition, thus $w(t) = w_{PD}(t) + w_{ED}(t)$, so that the law of internal composition Δ of instantaneous commodity physical and external depreciation is designated „+" and so $w = w_{PD} \Delta w_{ED} = w_{PD} + w_{ED}$. For simplicity, we assume that the law of internal composition Δ, or law of composition of magnitudes Δ respectively, does not change over time for both kinds of depreciation. We further assume in the linear approximation that the instantaneous commodity depreciation w, the instantaneous commodity physical depreciation w_{PD} and the instantaneous commodity external depreciation w_{ED} are continuous real functions at interval $\langle t_0, t_e \rangle$ (t_0 is the initial time of monitoring of the instantaneous commodity state and t_e is the time at which we cease monitoring the instantaneous commodity state i.e. level of the instantaneous commodity depreciation). The instantaneous commodity physical depreciation w_{PD} is defined as the permanent adverse change in the surface or dimensions of bodies of various states, induced by the interaction of functional surfaces or a functional surface and medium which causes wear (Pošta, Veselý, & Dvořák, 2002). The instantaneous commodity external depreciation w_{ED} is defined as a supplement to the instantaneous commodity physical depreciation i.e. the instantaneous commodity external depreciation is the permanent adverse or favorable change in market value of a commodity, which is not caused by instantaneous commodity physical depreciation (damage).

In a market structure with perfect competition[1], the instantaneous commodity relative depreciation RD is defined by the magnitudes of instantaneous commodity relative depreciation in accordance with relation (Drozen, 2008; Zeithamer, 2011 b)

$$RD(t) = \frac{w(t) - w(t_0)}{w(t_0)}, \qquad (1)$$

where $w(t_0) = w_0$ is the magnitude of instantaneous commodity depreciation at the initial time t_0 and $w(t)$ is the magnitude of instantaneous commodity depreciation at time $t (t \geq t_0)$. In addition to instantaneous commodity relative depreciation RD, the instantaneous commodity relative price RP is also defined under the condition of perfect competition by the magnitudes $RP(t)$ at time t in accordance with the relationship (Drozen, 2008; Zeithamer, 2011 b)

$$RP(t) = \frac{p(t_0) - p(t)}{p(t_0)}, \qquad (2)$$

where $p(t_0) = p_0$ is the magnitude of instantaneous commodity price p at the initial time t_0 of monitoring the instantaneous commodity price on a select model market and $p(t)$ is the magnitude of instantaneous commodity price at time $t \geq t_0$.

2. Linear motion equation of commodity state without inflexion

Instantaneous commodity depreciation w is a real composite function of time, i.e. $w(t) = w(p(t))$, where $w(p)$ is the continuous decreasing real function of instantaneous commodity price p and instantaneous commodity price p is a continuous decreasing real function of time t. If we monitor the development of instantaneous commodity depreciation at time interval $\langle t_0, t_e \rangle$, then for the first derivation of functions $w(p)$ and $p(t)$ it holds that $\frac{dw}{dp}(p) < 0$ for $p \in \langle p(t_e), p(t_0) \rangle$ and $\frac{dp}{dt}(t) < 0$ for $t \in \langle t_0, t_e \rangle$. It directly follows from these relationships that for the interval $\langle t_0, t_e \rangle$, $\frac{dw}{dt}(t) = \frac{dw}{dp}(p(t)) \cdot \frac{dp}{dt}(t) > 0$. This means that instantaneous commodity depreciation w is a continuous increasing real function of time t, which corresponds to trends for common commodities over time. Then, instantaneous commodity relative depreciation RD is also a continuous real function at interval $\langle t_0, t_e \rangle$ and $\frac{dRD}{dt}(t) > 0$ for every time $t \in (t_0, t_e)$.

The magnitude of instantaneous commodity relative depreciation RD over time t increases with acceleration and the acceleration of instantaneous commodity relative depreciation increases in direct proportion to the instantaneous speed of change of instantaneous commodity relative depreciation at time t. The motion equation of instantaneous commodity relative depreciation is thus (Zeithamer, 2011 b)

$$\frac{d^2 RD}{dt^2}(t) = B \frac{dRD}{dt}(t), \qquad (3)$$

where B is the constant of proportionality, $B > 0$. In addition, let initial conditions be met where $RD(t_0) = RD_0 > 0, \frac{dRD}{dt}(t_0) = v_0 > 0$, so that the solution of differential equation (3) at interval $\langle t_0, t_e \rangle$ is then

$$RD(t) = RD_0 - \frac{v_0}{B} + \frac{v_0}{B} e^{B(t - t_0)}. \qquad (4)$$

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[1] In the model of a market structure with perfect competition we assume the following conditions are met: a) in each market there are a large number of buyers and sellers, none of which are strong enough to influence the price or output of a sector; b) all goods are homogeneous; c) there is free entry to and exit from all markets; d) all manufacturers and consumers have perfect information about prices and quantities traded on the market; e) companies attempt to maximize profit and consumers attempt to maximize utility; f) companies have free access to information about technologies (Goodwin, Nelson, Ackerman & Weisskopf, 2009; Nicholson & Snyder, 2008).

From here it directly follows that instantaneous commodity relative depreciation RD is a purely convex function at interval $\langle t_0, t_e \rangle$. This means that the increase in instantaneous commodity relative depreciation at interval $\langle t_0, t_e \rangle$ is progressive.

Instantaneous commodity relative depreciation RD increases with acceleration at time t again and the acceleration of instantaneous commodity relative depreciation increases in direct proportion to the speed of change of relative depreciation at time t while the constant of proportionality is negative. The motion equation of instantaneous commodity relative depreciation is then (Zeithamer, 2011 a; Zeithamer, 2011 b)

$$\frac{d^2 RD}{dt^2}(t) = -B \frac{dRD}{dt}(t) \,, \tag{5}$$

where $(-B)$ is the constant of proportionality, $B > 0$. In addition, let initial conditions be met

where $RD(t_0) = RD_0 > 0$, $\frac{dRD}{dt}(t_0) = v_0 > 0$, so that the solution of the differential equation (5) at interval $\langle t_0, t_e \rangle$ is then

$$RD(t) = RD_0 + \frac{v_0}{B} - \frac{v_0}{B} e^{-B(t-t_0)}. \tag{6}$$

From here it directly follows that instantaneous commodity relative depreciation RD is a purely concave function at interval $\langle t_0, t_e \rangle$. This means that the increase in instantaneous commodity relative depreciation at interval $\langle t_0, t_e \rangle$ is degressive. The progressive increase of instantaneous commodity relative depreciation is characteristic, for example, of certain types of food goods, while degressive increase of relative depreciation may be seen in certain commodities in the automotive industry.

Specific types of commodities are not listed here as the breakdown of all commodities under the condition of perfect competition into individual disjoint classes of commodities is the subject of a separate investigation.

Motion equations (3) and (5) for instantaneous commodity relative depreciation RD yield a deterministic differential equation for instantaneous commodity price p while a commodity is an element of one of the disjoint classes of the set of all commodities. For each commodity class found, it will be necessary to determine the functional relationship between instantaneous commodity depreciation w and the instantaneous commodity price p at interval $\langle t_0, t_e \rangle$. Assume that we have selected a single specific class of commodity from the set of all commodities. For each commodity of this particular class let $w(t) = D\big(p(t_0) - p(t)\big)$, so that, in accordance with equation (1), $RD(t) = \frac{[D(p_0 - p(t)) - w_0]}{w_0}$ at interval $\langle t_0, t_e \rangle$. A constant D ($D > 0$) is given in such units to ensure that the same units are found on both sides of the equation $w(t) = D(p(t_0) - p(t))$. Directly following from deterministic differential equation (3) for instantaneous commodity relative depreciation RD is the deterministic differential equation for instantaneous commodity price p at interval $\langle t_0, t_e \rangle$, which is $\frac{d^2 p}{dt^2}(t) = B \frac{dp}{dt}(t)$ with initial conditions $p(t_0) = p_0 > 0$, $\frac{dp}{dt}(t_0) = r_0 < 0$, where $\frac{dp}{dt}(t) < 0$ for $t \in (t_0, t_e)$. The solution of this differential equation for a purely concave drop in the instantaneous commodity price may be written as $p(t) = p_0 - \frac{r_0}{B}(1 - e^{B(t-t_0)})$. Deterministic differential equation (5) for instantaneous commodity relative depreciation RD yields a deterministic differential equation for instantaneous commodity price p at interval $\langle t_0, t_e \rangle$ which is $\frac{d^2 p}{dt^2}(t) = -B \frac{dp}{dt}(t)$ with initial conditions $p(t_0) = p_0 > 0$, $\frac{dp}{dt}(t_0) = r_0 < 0$, where $\frac{dp}{dt}(t) < 0$ for $t \in (t_0, t_e)$. The solution of this differential equation for a purely convex drop in the instantaneous commodity price may be written as $p(t) = p_0 + \frac{r_0}{B}(1 - e^{-B(t-t_0)})$.

3. Non-linear motion equation of commodity state with inflexion

In this section of our work we again presume the following conditions to be met: (1) the commodity is on one of the markets of the model of market structure with perfect competition at initial time t_0; (2) at time t_0 the

commodity is found in its initial state, which is uniquely determined by the magnitude of instantaneous commodity depreciation $w(t_0) = w_0$.

Let the acceleration of $\frac{d^2RD}{dt^2}$ of the instantaneous commodity relative decreciation be the sum of two components, i.e.

$$\frac{d^2RD}{dt^2} = \left(\frac{d^2RD}{dt^2}\right)_1 + \left(\frac{d^2RD}{dt^2}\right)_2. \qquad (7)$$

The first component of acceleration is a consequence of physical and chemical processes (including also social/psychological processes in physico-chemical approximation), which cause the first component of the instantaneous acceleration to increase in direct proportion to the magnitudes of rate of change of the instantaneous commodity relative depreciation, i.e.

$$\left(\frac{d^2RD}{dt^2}(t)\right)_1 = B\frac{dRD}{dt}(t), \qquad (8)$$

where B is the proportionality constant, $B > 0$ and $t \in \langle t_0, t_e\rangle$. The second component of acceleration results from physical and chemical processes (including also social/psychological processes in physico-chemical approximation), which cause the second component of the instantaneous acceleration to be directly proportional to the product of the magnitude of rate of change of the instantaneous commodity relative depreciation $\frac{dRD}{dt}(t)$ and the magnitude of instantaneous commodity relative depreciation $RD(t)$, while the proportionality constant is negative, thus

$$\left(\frac{d^2RD}{dt^2}(t)\right)_2 = -A\frac{dRD}{dt}(t)RD(t), \qquad (9)$$

where $(-A)$ is the proportionality constant, $A > 0$, $t \in \langle t_0, t_e\rangle$.

By substituting relations (8) and (9) into equation (7), we obtain the following motion equation for the acceleration of instantaneous commodity relative depreciation

$$\frac{d^2RD}{dt^2}(t) = B\frac{dRD}{dt}(t) - A\frac{dRD}{dt}(t)RD(t), \qquad (10)$$

where $A > 0, B > 0, t \in \langle t_0, t_e\rangle$.

One of the subsets of the set of solutions for motion equation (10) is given by

$$RD(t) = \frac{y_2 + y_1 e^{\sqrt{D}(t+C_2)}}{1 + e^{\sqrt{D}(t+C_2)}},$$

where for constants D, y_1, y_2, C_2 it follows that $D = B^2 + 2AC_1$, $y_1 = \frac{B+\sqrt{D}}{A}$, $y_2 = \frac{B-\sqrt{D}}{A}$, $0 < |y_2| < y_1, y_2 < 0$, $-\frac{B^2}{2A} < C_1 < 0$, $C_2 = \frac{1}{\sqrt{D}}\ln\left(\left|\frac{y_2}{y_1}\right|\right) - t_P$. At time $|t_P|$ the value of instantaneous commodity relative depreciation is zero. The given subset of the solutions of motion equation (10) shows the progressive – degressive increase of instantaneous commodity relative depreciation with an inflexion point at time $t = -C_2$ and a limit at $\lim_{t\to+\infty} RD(t) = y_1$.

4. Conclusions

Assuming that the market value of the commodity at time t is fully determined exclusively by the value of the instantaneous commodity price $p(t)$, methodological procedures taken from theoretical physics were used to construct motion equations for instantaneous commodity relative depreciation RD. Motion equations (3) and (5) for the progressive and degressive increase of instantaneous commodity relative depreciation are linear differential equations of the second order with constant coefficients assuming market structures with perfect

competition. Motion equation (10) of instantaneous commodity relative depreciation for the progressive/degressive growth of depreciation is a non-linear differential equation of the second order with constant coefficients. Motion equation (10) was also derived for instantaneous commodity relative depreciation on a market with perfect competition. In the solutions set for motion equation (10), there is the subset of solutions which model progressive/degressive growth of the magnitudes of instantaneous commodity relative depreciation with a single inflexion point.

Acknowledgement

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AN ANALYSIS OF THE RELATIONSHIP BETWEEN THE LIVES OF THE PRIMARY – SECONDARY SCHOOL STUDENTS REGARDING DOMESTIC VIOLENCE AT HOME AND THEIR ACADEMIC SUCCESS

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Abstract

The aim of this research is to analyze the relationship between domestic violence in the lives of 7th and 8th grade students and their academic success at school. This research was conducted at the Azmi Ertugrul Primary School in Pursaklar, Ankara/Turkey. Two questionnares, "Personal Information Form" and "Family Life Scale", developed by the reseacher were used in this study. A total of 137 parents answered the questionnares and the academic success of the students was evaluated based on the 2011 National Exam Results (SBS). As the level of violence of mothers directed against their husbands increases, the level of their children's academic success was found to decrease. This finding suggests that the violent behaviours directed from fathers to mothers may be more socially acceptable and the children are psychologically affected negatively as a result of their mothers' violent behaviors against their fathers more than their fathers' violence against their mothers'.

Key words: domestic violence; academic success; violent behaviours; students, parents

Introduction

Domestic violence has recently become a focus of research in Turkey and is a type of violence that manifestes itself in a group of people referring to themselves as family unit in order to bully, to humaliate, to punish, to show power, to relieve rage and tension from one adult to another adult or adults, from adults to children, from children to adults, or from a child or children to another child or children.

Domestic violence negatively affects not only the victims but also those who witness the violence. Children who witness domestic violence have more physical and psychological problems compared to children who do not experience that type of violence in the home.

Pfutts's (1978) similarly investigated the effects of domestic violence on children's psychology as victims or witnesses. Children witnessing violence at home can also have serious school problems such as poor attentance, low academic achievements, dropping out of school, and difficulty obeying school rules at school (Pfutts1977).

Academic success is defined as the level of the target behaviours that the students are expected to achieve at school (Silah,2003,p:103).The academic success of the students can be measured in many ways such as oral or written exams, group studies, projects, etc. In this study, the results of the National Exam (SBS) the criteria to measure the level of academic succes of the 7th and 8th grade students in primary schools.

Materials and Methods

The aim of this study is to analyze the relationship between the family lives of the 7th and 8th grade students concerning domestic violence and their academic success at school.

In this study, the questions below are asked:

- What is the level of violence that the parents commit against their children?

- What is the level of violence that the parents commit against each other?

- Are there any other reasons that affect the family members's violent behaviours against each other?

- Is there a relationship between dometic violence and the academic success of the students?

Sampling

This research was conducted in Pursaklar-Ankara/Turkey in the Education Year of 2010-2011 and is entitled "A School Project with Effective School Management by Teachers and a Non-violent Communicative Approach". During the Project, the teachers' and managers' attitues towards students, their perception of violence were investigated and the effects of the family violence on the academic success of the students was measured.

The sampling group was comprised of 7th and 8th grade students and 137 parents.

Gathering Data

1. Personal Information Form: this form was used to assess the personal traits of study participants.

2. Domestic Life violence Form: This questionnare was designed to access domestic violence. It has 4 sub-sections and 28 entries. In the questionnare, there are questions about the violent behaviours that the parents of the students encountered during their childhoods; violence committed by the parents against their own children, and violent behaviours of the spouses against each other.

3. National Exam Results (SBS): To evaluate the academic success of the students, the 2010-2011 National exam results for primary schools in Turkey were taken into consideration.

Tools for Gathering Data

The scale for 'Domestic Violence' given to the parents was developed by the researchers.

Analyzing Data

1. Arithmetic mean, standard deviation, and frequency-percentanges tests are used to analyze violence in family life,

2. Pearson product-moment coefficient tests are used to analyze the relationship between the sub-dimensions of domestic violence,

3. Pearson product-moment coefficient tests are used to analyze the relationship between domestic violence and the academic success of the students.

Findings

When I was a child,	No		Sometimes		Yes			Total	
	f	%	f	%	f	%		f	%
My mother used bad words to me and humaliated me.	79	60,3	31	23,7	21	16,0		131	100,0
My father used bad words to humaliated me.	82	62,6	31	23,7	18	13,7		131	100,0
My mother was always angry and shouting.	40	30,3	52	39,4	40	30,3		132	100,0
My father was always angry and shouting.	48	36,4	48	36,4	36	27,3		132	100,0
My mother used to say threatening words to me.	109	83,8	9	6.9	12	9,2		130	100,0
My father used to say threatening words to me.	106	83,5	12	9,4	9	7,1		127	100,0
My mother used to give me physical punishment (beating etc.)	97	73,5	26	19,7	9	6,8		132	100,0
My father used to give me physical punishment (beating etc.)	97	77,6	14	11,2	14	11,2		125	100,0
My mother punished me by prohibiting me from doıng things that I liked (i.e.watching TV, playing games etc.).	74	56,9	30	23,1	26	20,0		130	100,0
My father punished me by prohibiting me from doıng things that I liked (i.e.watching TV, playing games etc.).	75	60,0	22	17,6	28	22,4		125	100,0

Table 5: Distribution of Violent Behaviours that the parents of the students encountered during their childhoods.

The results presented in Tables 5 indicate that the parents of the students repeat similar violent behaviours against their children. The most common violent behaviour is 'being angry and shouting', followed by forbidding the child to do the things that he/she likes, saying bad words or insults, corporal punishment, and threats.

I sometimes	No		Sometimes		Yes		Total	
	f	%	f	%	f	%	f	%
say bad words, humaliate them.	71	54,6	41	31,5	18	13,8	130	100,0
get angry and shout at them.	21	15,7	65	48,5	48	35,8	134	100,0
say threatening words to them.	86	66,2	30	23,1	14	10,8	130	100,0
tell them that I do not love them.	105	66,2	30	23,1	14	10,8	130	100,0
give corporal punishment	98	77,8	23	18,3	5	4,0	126	100,0
punish them by prohibiting them to do things that they like (i.e. watching TV,playing games,etc,)	49	36,8	36	27,1	48	36,1	133	100,0

Table 6: The distribution of the violent behaviours of the parents against their children

The results presented in Table 6 indicates thatthe most common violent behaviour of the parents is 'getting angry and shouting at their children' (x=1,2015) followed by prohibiting them from the activities they like, saying bad words and humaliating them, saying threating words, telling them that she/he does not love them, and corporal punishment.

My husband/wife	No		Sometimes		Yes		Total	
	f	%	f	%	f	%	f	%
says bad words and humiliates me.	87	67,4	30	23,3	12	9,3	129	100,0
gets angry and shouts at me.	37	28,2	60	45,8	34	26,0	131	100,0
sometimes says threatening words to me.	108	84,4	11	8,6	9	7,0	128	100,0
sometimes says that he/she does not love me.	112	88,2	5	3,9	10	7,9	127	100,0
sometimes punishes me physically	114	89,1	9	7,0	5	3,9	128	100,0

Table 7: The Distribution of the violent behaviours committed by spouses against each other

sometimes prohibits me from social activities (i.e. going out, meeting friends, etc.)	95	73,6	23	17,8	11	8,5	129	100,0

The results presented in Tables 7 indicates that the spouses of participiants mainly gets angry and shouts at them (x=,9771) followed by saying bad words and humaliating them, prohibiting social activities, saying threating words, saying that she/he does not love them, and lastly physical punishment.

Table 8: The Distribution of violent behaviour that spouses commit against each other.								
I sometimes	Yes		Sometimes		Yes		Total	
	f	%	f	%	f	%	f	%
say bad words, and humaliate him/her	103	79,8	17	13,2	9	7,0	129	100,0
get angry and shout at her/him	50	37,6	57	42,9	26	19,5	133	100,0
say threatening words to him/her	111	86,7	10	7,8	7	5,5	128	100,0
say that I do not love her/him	106	82,8	10	7,8	12	9,4	128	100,0
beat my husband/wife	121	95,3	4	3,1	2	1,6	127	100,0
Prohibit my husband/wife from social activities (i.e. going out, visiting friends,etc.)	111	86,7	13	10,2	4	3,1	128	100,0

The result of Table 8 indicate that the most common violent behaviour is 'getting angry and shouting at the partner'(x=81,95) followed by saying bad and humaliating words to the partner, telling the partner that they do not love them, saying threatening words to them, prohibiting their partners from social activities, and lastly giving corporal punishment.

Table 9: The relationship of violent behaviours among the family members.

	n	x	ss	r	p
Violent behaviours that the parents experienced in their childhood	135	,5720	,50139	,610	,000
Violent behaviours that the parents commited against their children	135	,6641	,49910		
Violent behaviours that the parents experienced in their childhood	132	,5517	,47474	,484	,000
Violent behaviours coming from partners	132	,3989	,40082		
Violent behaviours that the parents experienced during their childhood.	133	,5626	,48933	,553	,000
Violent behaviours committed against partners	133	,3156	,32123		
Violent behaviours that the parents commit against their children	132	,6464	,47581	,422	,000
Violent behaviours coming from partners	132	,3989	,40082		

Violent behaviours that the parents committed against their children	133	,6565	,48832	,569	,000
Violent behaviours committed against partners	133	,3156	,32123		
Violent behaviours coming from partners	132	,3989	,40082	,593	,000
Violent behaviours committed against partners	132	,3104	,31682		

Table 9 summarizes violent behaviors committed by family members against each other. There is a positive relationship between the violence that the parents experienced from their parents in their childhood and the violence they commit against their children, and the violence that they commit against their spouses.

Table 10: The violence that parents commit against their children and their children's academic success.

	n	x	ss	r	p
Averages at the end of the Education Year	135	69,3947	12,36912	,075	,390
The violence that the parents commit against their children	135	,6641	,49910		
National Exam	135	294,6254	73,60394	,009	,922
The violence that the parents commit against their children	135	,6641	,49910		
Points on National Exam	135	314,3932	69,47298		
The violence that the parents commit against their children	135	,6641	,49910	,018	,840
Turkish Language class	135	62,5301	15,32612		
The violence that the parents commit against their children	135	,6641	,49910	,001	,992
Mathmetics class	135	59,3861	18,45419		
The violence that the parents commit against their children	135	,6641	,49910	,061	,485
Science class	135	62,2793	13,83312		
The violence that the parents commit against their children	135	,6641	,49910	,086	,320
Social Science class	132	69,0791	13,52075	,053	,550
The violence that the parents commit against their children	132	,6691	,50351		
Foreign language class	135	64,2230	16,46892		
The violence that the parents commit against their children	135	,6641	,49910	,093	,283

The result in Table 10 indicates that there is no meaningful relationship between the violence of the parents committed against their children and the academic success of the children at school.

Table 11: The relationship between the violence coming from the spouses and the academic success of their children.

	n	x	ss	r	p
Averages at the end of the Education Year	132	69,4994	12,35063	,057	,517
The violence coming from the partner	132	,3989	,40082		
Natıonal Exam	132	295,2473	73,87822	,050	,570
The violence coming from the partner	132	,3989	,40082		
Points on National exam	132	315,0370	69,60035	,061	,485
The violence coming from the partner	132	,3989	,40082		
Turkish class	132	62,7775	15,19109	,033	,706
The violence coming from the partner	132	,3989	,40082		
Mathmetics class	132	59,3548	18,44604	,084	,337
The violence coming from the partner	132	,3989	,40082		
Science class	132	62,4033	13,85445	,092	,291
The violence coming from the partner	132	,3989	,4008		
Social science class	129	69,1360	13,59722	,004	,965
The violence coming from the partner	129	,4005	,40535		
Foreign language class	132	64,3951	16,35580	,047	,595
The violence coming from the partner	132	,3989	,40082		

According to the data in Table 11, there is no meaningful relationship between the violence coming from the partners and the academic success of their children at school. As most of the participants are the women, it can be assumed that the violent behaviours originate from the husbands.

In the Table 12, it is shown that there is a negative relationship of 0.5 between the violent behavior of the partners committed against each other and the academic success of the students: It is an interesting result because the participants are mostly women and they are the partners who commit violence against their husbands. The data in Tables 11 and Table 12 can be interpreted to mean that while violence coming from the husband has no measureable effect on the children's academic success, violence coming from the wife affects the academic success of the students negatively.

Discussion and Results

The participants joining the survey indicate that the most common violent behavior of their partners is getting angry and shouting at them (x=,9771) followed by saying bad and humiliating words, prohibiting their social

activities, saying threating words, saying that they do not love their partners, and lastly administering corporal punishment.

When the details of the results of violence coming from the partners are analyzed, it is indicated that 71.8 % of the participants express that his/her partner gets angry and shouts at them, 32,6 % of the participants say bad and humiliating words, 26,3 % of the participants are prohibited from social activities by their partners, 15,6 % of the participants are verbally threatened, and 11,8 % of the participants are told that they are not loved by their partners.

Approximately 10,9 % of the participants indicate that they receive corporal punishment from their partners. This result shows that approximately one out of every ten participants are physically beaten by their partners. Given that the survey participants are mostly woman, it can be assumed that mostly women are exposed to physical punishment.

The relationship between the domestic violence and the academic success of the students

The result obtained from the data is not consistent with expectations. Normally, the academic success of the child is expected to decrease if there is domestic violence at home, but the data can be interpreted with the limitations of the group. In other words, the different attributes of the group life, such as love at home, can balance the negative effects of domestic violence on the academic success of the child.

It is a matter of fact that adult males are the ones who commit most of the violence against women more so than women committing violence against men. The data indicate a decrease in children's academic success when their mothers are violent against their fathers. This can be interpreted with the psychological differentiation in the children's values for violence and the threshold of their perception of violence. In this sense, the violence coming from the father seems to be something "normal" but the violent behaviors originating from the mothers against the father can be considered more 'negatively' by their children. As a result, it can be determined that the perception of the violence against women possibly seems to be a socially "acceptable" behavior or has been normalized by society.

Suggestions

Some suggestions based on the survey results are given below;

1. During the academic year, there should be seminars and workshops at regular intervals to educate the parents and increase awareness about the negative impacts of violence and how it affects the students' success at school.

2. To organize some activities to change the cultural that normalizes violence against women.

3. Additional research with a larger sampling group.

4. Employ school counseling services to rehabilitate the students that are victims of violence and try to prevent the violence in which the victims are raised.

5. Encourage cooperation with the other instructions concerning domestic violence.

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AN EDUCATIONAL MANAGEMENT INFORMATION SYSTEM TO SUPPORT INSTITUTIONAL PLANNING AT THE UNIVERSITY OF COLIMA

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Abstract

This research work present an Education Management Information System designed for the Department of Institutional Planning and Development at the University of Colima, this system allows the gathering of relevant information related to the institutional management indicators with a suitable interface to its users in order to simplify and reduce the time needed for management the University information. Usability testing of our system showed high user satisfaction.

Keywords: Educational planning; EMIS, Educational management, Software engineering.

1. Introduction

Educational planning, which is responsible for establishing the goals and objectives of education, had growth rapidly in Latin America. This is because in the early 90's started the interest in the systematization of indicators that encourage decision making, this information is gathered from an Education Management Information System (EMIS).

There are evidences that the education planning allows a solid structure to expedite the establishment of goals and priorities, facilitates the creation of guidelines for the expansion of the educational system and prevents the neglect or misuse of resources (International Institute for Educational Planning, 2010).

The work presented in this paper aims to develop an EMIS called e-Planea, which will perform the gathering of relevant information related to the institutional management indicators at the University of Colima.

2. Background

Efforts to optimize the quality of data and available information to improve the educational system and support decision-making have occurred for a long time. The EMIS began with the rise of systems programming in the 80's with projects in many countries to compute the annual school census and other administrative routines (Cassidy, 2005).

An EMIS has as a function to collect and analyze management indicators related to the education sector, and aims to support the processes of strategic planning, resource assignation, monitoring, policy formulation and decision making in Institutions of Higher Education (IHE). (International Institute for Educational Planning, 2010).

Currently, the University of Colima also makes the collection of information relevant to the indicators of educational management.

To accomplish this, the University of Colima uses the annual reports as one of its instruments for data collecting and monitoring, this for high schools, colleges, research centers and departments that constitutes it.

This process is performed by the Department of Institutional Planning and Development (DGPDI for its acronym in Spanish) through the distribution between dependencies of files in word processor format to be filled with the required information and then the collection of such files is done through e-mail, which are analyzed manually to formalize the information.

Organize all these files and keep them updated is a big problem. Is a must to take proper coordination between the planning advisors (who are employees of the DGPDI) and the various dependencies and schools (both higher and middle level) with which the University has.

After gathering all this information a review must be conducted in order to make decisions to guide the educational planning. This step is very complex and time consuming due to the enormous amount of data collected in multiple files, which usually have several versions.

Carry out the processes of data collection, management and analysis is becoming a complex task to perform, because is a not systematized process, so it becomes an open problem within our institution. This situation is optimal for the development of an EMIS.

The development of an EMIS will benefit the DGPDI, allowing information visualization quickly and organized, because this department is responsible for the educational planning process of our University.

3. Related work

The EMIS have been widely used in Latin America (eg Colombia, Chile and Mexico) of which have been experiences of successes and failures. Here are some of these cases (Cassidy, 2005).

Colombia (1999 - 2003) The use of information technology enabled them to bring significant financial savings and open 240,000 places in schools, of which 120,000 were the result of efficiency, and did not require hiring more teachers.

Also the website of Mexico City provides geographic information, but it is not easy to use, besides that the help and information are very limited.

Chile in the 80s developed a system that facilitates the presentation and analysis of results allowed the comparison between schools in the municipalities. Provides detailed reports to compare the performance between schools within the community, region or nation. It is also possible to compare schools based on the socio-economic state of the community receiving the service.

Additionally, some states in Mexico have developed and maintained their own systems for educational planning. A particular case is the state of Aguascalientes (Aguascalientes State Government, 2012). This site provides very easy access to a complete set of information for education by status and educational level. Also includes statistics, analysis, and the availability of 6 years of historical data.

4. System development

e-Planea is a cloud web application developed and implemented in a LAMP platform (Dougherty, 2001). As the application resides in the cloud, the users (planning advisors, head of departments and administrators) can access the system from any computer with a web browser and Internet connection.

4.1. Analysis

Use cases represent a typical interaction between a user and a computer system (Fowler & Kendall, 1999). Such diagrams are a primary element of software development, and part of the Unified Modeling Language (UML). For the e-Planea platform the actors are the user previously defined: planning advisors, head of departments and administrators. The Fig. 1 shows the use case diagram for the proposed EMIS.
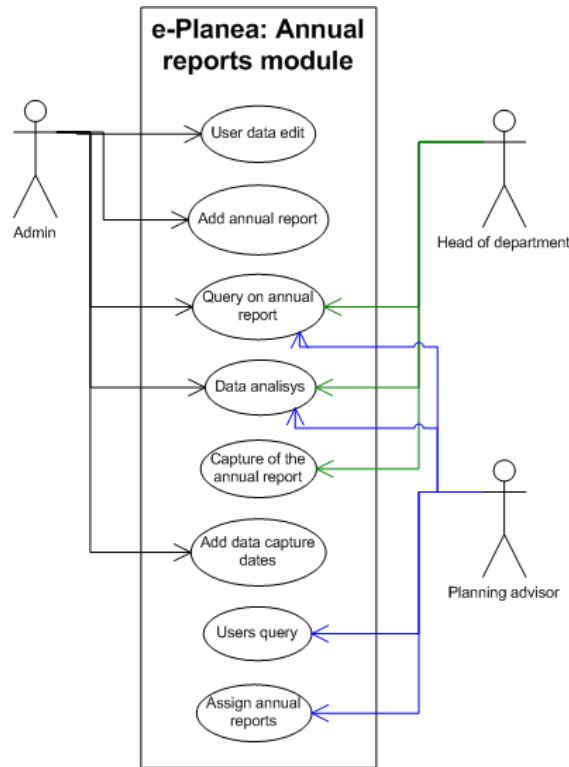
Fig 1. Use-case Diagram

4.2. Software design

As illustrated in Fig. 2 for the development of the e-Planea platform a cloud web configuration is used, in order to allow Access to the users from a web browser (eg Firefox, Chrome or Safari).
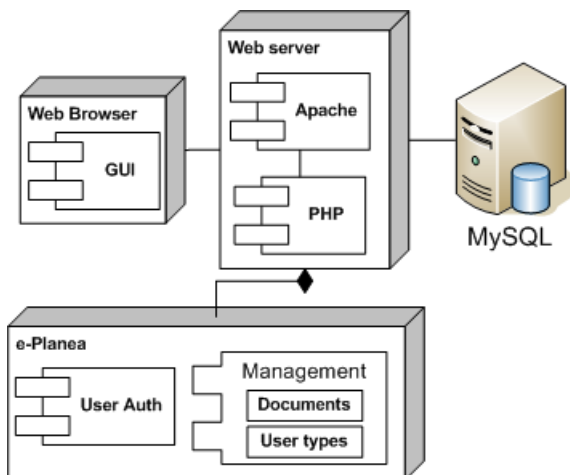
Fig. 2. System architecture

4.3. Implementation

The next step is the software implementation; which should provide a user friendly interface. We develop a fully-functional system, where each user of the application should fill identification requirements in order to login in its personalized interface and use the system (see Fig. 3).
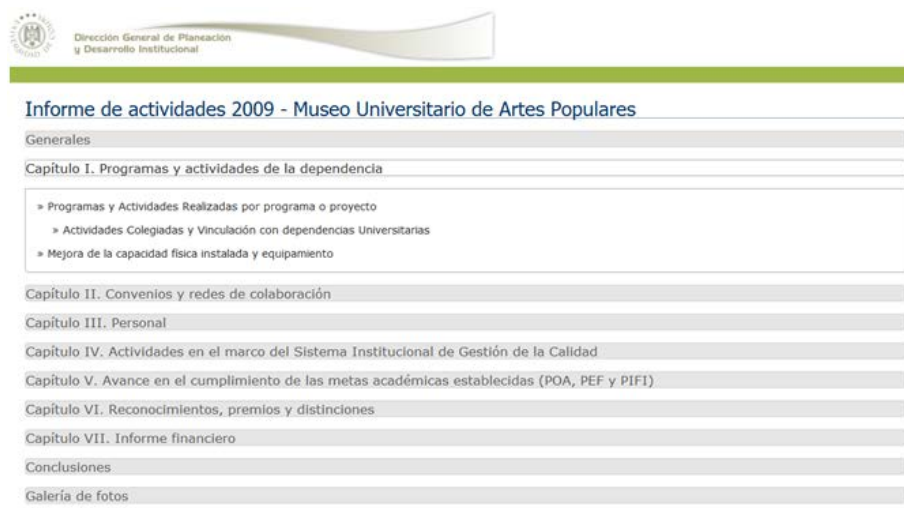
Fig. 3. Home interface.

5. Evaluation

To measure the acceptance of the platform the Technology Acceptance Model (TAM) was used. Developed by (Davis, 1989), because it is a highly effective model tested on predicting the use of the technology. The purpose of TAM is to explain the causes of the acceptation of the technology by the users. Proposes that perceptions of usefulness and ease of use by an individual in an information system are conclusive in determining their intention to use the system. The TAM evaluation was performed with a group of 13 users of type "Planning advisors", which means 100% of the DGPDI's staff of advising. We used this group since they are the direct links between DGPDI and all the departments and schools of the University, besides being who reviews the annual reports and trains the directors in order to use the EMIS. Taking into account the "Strongly agree" and "Totally agree" answers, the TAM generated the following results.

For the perception of ease of use, 100% believe that the system is easy to use, 100% think it is easy to learn, while 85% think that is clear and understandable, and finally by 85% believe that is easy to find information on it (see Fig. 4).
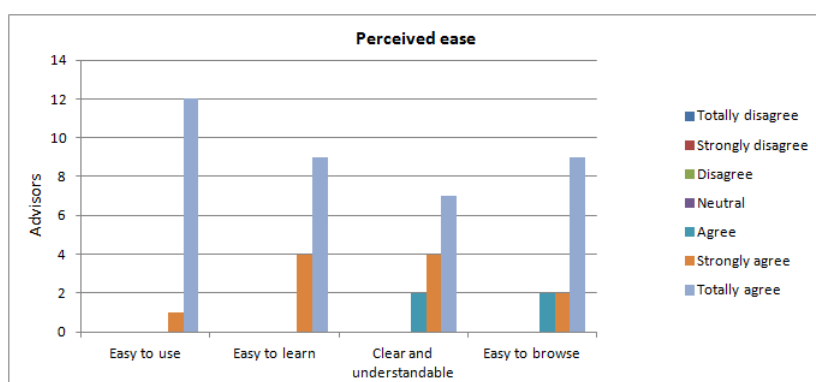
Fig. 4. Results about the perception of the easy to use of the platform.

In the area of the utility perception, of the responders, 85% believe that the system is efficient, 85% said it improved their performance, while 77% said it improved their productivity, and 92% believe that was useful (see Fig. 5).
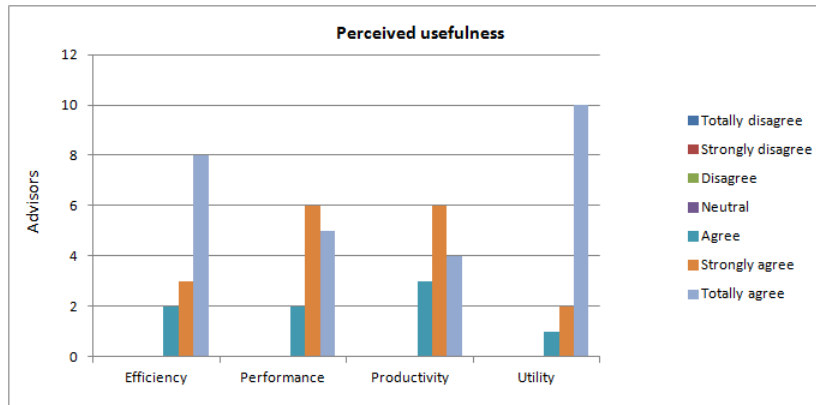
Fig. 5. Results about the perception of the utility of the platform.

Regarding the attitude towards the use, a positive response was obtained for the system: 92% agree that it seems a good idea it software (see Figure 6).
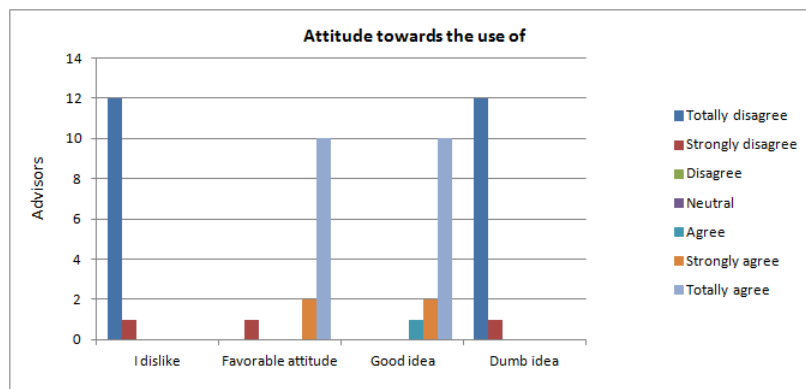
Fig. 6. Results about the attitude toward the use of the platform.

Finally the answer on the intended use, 100% of the users said they would use the system in their work, use it again and have the intention of use it (see Figure 7).
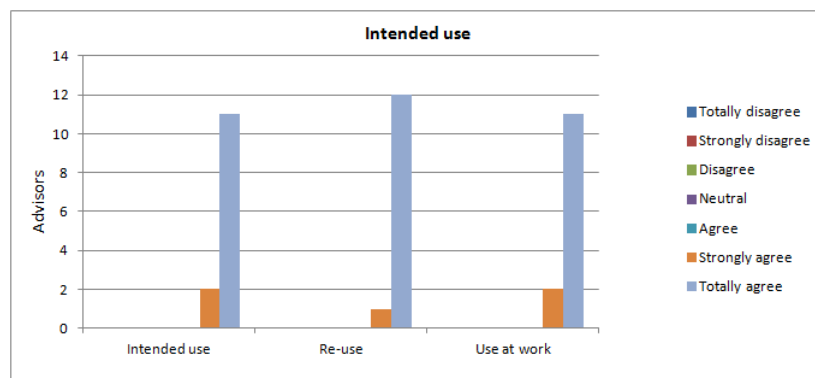
Fig. 7. Results about the intention of use of the platform.

6. Conclusions

This work presents the creation of an EMIS called e-Planea at the University of Colima, that supports the elaboration of annual reports of the University schools and departments. The features developed are: a) Systematization of annual reports, b) Capture of reports by the heads of the various schools and departments, c) Reviewing of reports by the planning advisors and d) Automatic generation of reports in the required formats.

The evaluation of this platform gave as a result that the platform is useful and allows a greater performance and efficiency, and it is also considered a good idea. Thus, this created good intentions in the users of using it again.

Acknowledgements

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AN EVALUATION OF ELEMENTARY TEACHER CANDIDATES' ENVIRONMENTAL APPROACHES, ENVIRONMENTAL RISK PERCEPTIONS AND ENVIRONMENTAL BEHAVIOURS

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Abstract

The purpose of this research is to determine elementary teacher candidates' environmental approaches (environmental-based or human-based), environmental risk perceptions and environmental behaviours. Furthermore this research intend to determine if there is a significant difference in elementary teacher candidates' environment-centered or human-centered approaches, environmental risk perceptions and environmental behaviours according to the variables of gender and class, or not. The research was carried out with a total of 243 teacher candidates (131male and 112 female) from Elementary Department of Faculty of Education at Siirt University in Turkey. It was used the "*New Environmental Paradigms Scale*", which was first time developed by Dunlap and Van Liere (1978) and revised by Dunlap et.al. (2000) and adapted into Turkish by Furman (1998), to determine the environmental approaches of the teacher candidates, the "*Environmental Risk Perceptions Scale*", which was developed by Slimak and Dietz (2006) and adapted into Turkish by Altunoğlu and Atav (2009), was used to determine the teacher candidates' perceptions of environmental risk and it was used "*Environmental Behaviour Scale*", which was developed by Uzun and Sağlam (2006), to determine their environmental behaviours. At the analysis of data; it was consulted from descriptive statistical techniques and Pearson Moment Correlation coefficient. In our research, it was calculated that the Cronbach alpha reliability coefficient of environmental approaches scale as .65 , the scale of environmental risk perceptions as .93 and the scale of environmental behavior as .85. As a result of this research, it was found that the teachers candidates' environmental-centered approach mean score (M=4.21) is higher than human-centered approach mean score (M=3.35). Moreover, it was found that there is a significant and positive relation between the elementary teacher candidates' human-centered approaches, environmental risk perceptions (r= .41; p<0.01) and environmental behaviours (r= .20; p< 0.01).

Keywords: Environmental paradigms, environmental risk perceptions, environmental behaviors, elementary teacher candidates.

1. Introduction

It requires the individuals to be aware of the environment and environmental problems, in order to understand the features of the environment and its problems, to bring suggestions of solution and to live in peace with nature and the other living. It is presumed that the first creature in our world existed approximately a billion years ago, as the first members of the human family was started to be seen 5 million years ago. Fossils show that "Homo Sapiens" exist in this world only for 40.000 years, and this time covers only a very small period of the of 4-5 billion years of our world's existence time. Humanity has experienced two great cultural changes during this development progress of 40.000 years. First of these was the agricultural revolution , which started 9.000-11.000 years ago and second one is the industrial revolution 250 years ago. Since the first days of its appearance in the nature to our day, humanity continued its life with hunting and salvaging and lived on without causing any serious environmental problems. However the damage of last two centuries caused by humanity to our 5 Billion years old planet has recently reached to such a treating dimension that it can extinct hundreds of plant and animal

species. Global warming, ozone layer depletion, acidic rains, drains of the lakes and rivers and deforestation is only a couple of our problems. In parallel with the cover of the environmental problems and the increase of their efficiency, the political, economical, scientific and artistic concern on environmental problems also increase. As new branches like environment philosophy, environmental ethics, environmental education, environmental psychology, environmental sociology improve, social subjects; ecologic culture, ecologic agriculture, ecologic tourism and ecologic society is being discussed more often by media and science societies. The way of individuals' thinking about the outer world surrounding them is important from the aspect of validating their environmental manners, behaviours and values and for bringing an explanation to their role in this structure (Ponting, 2000). One of the in all societies existing basic research subject is the relation between the humanity and the outer world (nature). Views "If the human is different from or even superior to the nature" (anthropoentrism) or "If the human is an integral part of the nature" (ecocentrism) bear a significant importance in formation of the environmental values and manners (Tuna, 2006). On the other hand, recent studies show that the individuals are aware of and worried about the environmental problems and risks (Riechard and Peterson, 1998; Wals-Daneshmandii and Maclachlan, 2000; 2006; Slimak and Dietz 2006; Gürsoy et. al., 2008). Humans are reacting against to themselves threat posing environmental problems in direction with their perceptions. Lowness of the environmental risk perceptions of the individuals causes to low or misresulting of their endeavour for preserving the society and environment. According to Baldasarre and Katz (1992), environmental risk perceptions of individuals play a significant role in forming and strengthening environmental problems sensitive manners. Additionally environmental problems are waiting upon global solutions in the use of the natural sources, social, financial and political, flora and fauna, climatic, natural and anthropogenic diseases dimensions. The first step to prevent the environmental problems is indicates as, to understand the nature-human interaction, to perceive the contribution of the humanity in formation of the environmental problems, shortly to reach the "environmental conscience" and "environmental sensitivity". Şahin, Cerrah and Saka (2004) have stated that growing environment-sensitive individuals for securing the next generations and more healthy and safe environment became an obligation. Providing this will be possible only with environmental training. In other words, environmental training besides general education seems one of the best ways to make people aware of their responsibilities and to secure their contribution to the solutions for the environmental problems they caused. Being effective significantly in environmental training, in this step revealing teachers' approaches for environment and environmental problems, environmental risk perception and behaviours against the environment is important.

The purpose of this study is to show the environmental approaches (anthropocentric and ecocentric), environmental perceptions and environmental behaviours of teacher candidates. In accordance with this, answers for the following questions we sought:

How are the environmental approaches (anthropocentric and ecocentric), environmental risk perception and environmental behaviours of teacher candidates?

Are there any differences between the environmental approaches (anthropocentric and ecocentric), environmental risk perception and environmental behaviours and gender variability of teacher candidates?

Are there any differences between the environmental approaches (anthropocentric and ecocentric), environmental risk perception and environmental behaviours and class variability of teacher candidates?

How are the environmental approaches (anthropocentric and ecocentric), environmental risk perception and environmental behaviours of teacher candidates and what kind of relation lies between them?

2. Method

2.1. Participants

The study was conducted in the spring of 2009-2010 academic year at Siirt University in Turkey. Participants were 243 teacher candidates who were attending at Elementary Departments in Faculty of Education. Samples of the study is consisted by total 243 teacher candidates divided as 112 female and 131 male with random sample method.

2.2. Data Collection

The data in this study was gathered with a questionnaire, which consists of four parts. Personal fact sheet prepared by the researcher takes place in first part, in second part new environmental paradigm example for identifying the environmental approaches of teacher candidates, in third part environmental risk perception scale and finally in fourth part environmental behaviour scale takes part.

New environmental paradigm scale; the foundation on which the New Environmental Paradigm Scale that gives the opportunity to make a division between ecocentric and anthropocentric approaches based is the fact, that the humans are no different than other elements forming the nature and the humanity is also subject to the laws of the nature. New Environmental Paradigm Scale is consisted by 15 items in 5 point likert scale type. Scale questions consist from two sub-questions group, which measure the ecocentric and anthropocentric approaches. 1st, 3rd, 5th, 7th, 9th, 13th and 15th questions are the ones that measure ecocentric approaches, as 2nd, 4th, 6th, 8th, 10th, 12th, 14th questions measure anthropocentric approaches. High values obtained from the scale show that while there is an increase of environmental conscience in questions measuring anthropocentric approaches, the environmental conscience in questions measuring the ecocentric approaches have not improved sufficiently. This scale was first developed by Dunlap and Liere (1978), revised by Dunlap et. al. (2000), and adapted to Turkish by Furlan (1998). In this study made by us the Cronbach alpha coefficient of reliability of the scale was calculates as 54.

Environmental Risk Perception Scale: This scale was developed by Slimak and Dietz (2006) and adapted to Turkish by Altunoğlu and Atav (2009); it consists of 23 items in 5 points likert type. In study of Altunoğlu and

Atav (2009) it was determined that four factors form the scale and the Cronbach alpha coefficient of reliability of the scale was calculates as 0,89. In our study, the coefficient of reliability was calculated as 93.

Environmental Behaviour Scale: This is a scale, developed by Uzun and Sağlam (2006) and consists of 13 items in 5point likert type. Cronbach alpha coefficient of the scale was indicated as .88. In our study, the Cronbach alpha coefficient of reliability of Environmental Behaviour Scale was found as .85.

2.3. Data Analysis

The analysis of the points obtained from the environmental approaches, environmental risk perceptions and environmental behaviours, arithmetic mean, standard deviation t-test and ANOVA and Pearson Moment Correlation Coefficient was used. The data obtain was analysed in SPSS 16.00 software.

3. Results

Findings of the study that aims to determine the environmental approaches, environmental risk perceptions and environmental behaviours are given below.

Table-1. Arithmetic mean and standard deviation of teacher candidates' environmental approaches, environmental risk perceptions and environmental behaviours

	N	$\overline{X}$	SD
Ecocentric approach	243	4.21	.48
Anthropocentric approach	243	3.35	.90
Environmental risk perceptions	243	4.32	.61
Environmental behaviours	243	3.03	.69

As seen in Table-1, the mean of the teacher candidates' ecocentric approaches = 4.21; mean of the anthropocentric approaches = 4.32 and environmental behaviours = 3.03. Accordingly, it is seen that the mean of teacher candidates' ecocentric approaches are higher than anthropocentric approaches. Additionally, mean of the teacher candidates' environmental risk perceptions are high, while their mean of environmental behaviours is at medium level.

Table-2. t-test results about the ecocentric and anthropocentric approaches, environmental risk perceptions and environmental behaviours that are obtained after examination in regard to gender.

	Gender	N	$\overline{X}$	SS	t	p
	Male	131	4.23	.53		
Ecocentric approach					.607	.544**
	Female	112	4.19	.40		

	Gender	N	$\overline{X}$	SS	t	p
Anthropocentric approach	Male	131	3.30	1.04	-.801	.424**
	Female	112	3.40	.70		
Environmental risk perceptions	Male	131	4.25	.72	-1.78	.076**
	Female	112	4.39	.44		
Environmental behaviours	Male	131	2.93	.78	-2.40	.017*
	Female	112	3.15	.55		

* p< 0.05; **p>0.05

As seen in Table-2, the mean of male teacher candidates' ecocentric approaches ($\overline{X}$=4.23) was higher than female teacher candidates ($\overline{X}$=4.19). The mean of female teacher candidates' anthropocentric approaches ($\overline{X}$=3.40), mean of environmental risk perceptions ($\overline{X}$=4.39) and mean of environmental behaviours ($\overline{X}$=3.15); the mean of male teacher candidates' anthropocentric approaches ($\overline{X}$=3.30), mean of environmental risk perceptions ($\overline{X}$=4.25) and mean of environmental behaviours ($\overline{X}$=2.93). It was determined that the ecocentric and anthropocentric approaches, environmental risk perceptions of the teacher candidates show no meaningful difference in the dimension of gender (p>0.05). In contrary to this, there was a meaningful difference between teacher candidate's environmental behaviours and their gender (p<0.05).

Table-3. Table-2. ANOVA-test results about the ecocentric and anthropocentric approaches, environmental risk perceptions and environmental behaviours that are obtained after examination in regard to teacher candidates' classes where they study.

	Gender	N	$\overline{X}$	SS	F	p
Ecocentric approach	2nd Grade	43	4.17	.53	.717	.489**
	3rd Grade	161	4.24	.46		
	4th Grade	39	4.15	.48		
	Total	243	4.21	.48		
Anthropocentric approach	2nd Grade	43	3.03	.92	3.506	.032*
	3rd Grade	161	3.39	.90		

	4th Grade	39	3.51	.79		
	Total	243	3.35	.90		
	2nd Grade	43	4.30	.52		
	3rd Grade	161	4.31	.66		
Environmental risk perceptions					.185	.831**
	4th Grade	39	4.37	.46		
	Total	243	4.32	.61		
	2nd Grade	43	3.09	.75		
	3rd Grade	161	2.99	.69		
Environmental behaviours					1.077	3.42**
	4th Grade	39	3.15	.63		
	Total	243	3.03	.69		

* p< 0.05; **p>0.05

As it is seen in Table-3, there is no meaningful difference between teacher candidates' ecocentric approaches, environmental risk perceptions and environmental behaviours in regards to their classes, where they study (p>0.05). However the teacher candidates with anthropocentric approach, show a meaningful difference in regards to their classes (p<0.05).

Table-4. Pearson Moment Correlation Coefficient results about the ecocentric and anthropocentric approaches, environmental risk perceptions and environmental behaviours of teacher candidates.

	Ecocentric approach	Anthropocentric approach	Environmental risk perceptions
Anthropocentric approach	.118*		
Environmental risk perceptions	264*	.410*	
Environmental behaviours	.101**	202*	.343*

* p<0.05; **p>0.05

66

As seen in Table-4, it is determined that there is a meaningful low-rate relation in positive direction between the ecocentric and anthropocentric approaches (r=.118, p<0.05), and a meaningful mid-rate relation in positive direction between the environmental risk perceptions and anthropocentric approaches (r=.410, p<0.05) and a meaningful relation low rate relation in positive direction between environmental behaviours and anthropocentric approach of the teacher candidates (r=.202, p<0.05). While a meaningful low-rate relation in positive direction was found between ecocentric approach and environmental risk perceptions (r=.264, p<0.05), a low-rate but meaningless relation was determined between environmental behaviours (r=.101, p>0.05). A mid-rate relation in positive direction was also found between the environmental risk perceptions and environmental behaviours (r=.343, p< 0.01).

4. Conclusion and Discussion

In this study of ours, it was determined that the mean of the teachers candidates' ecocentric approaches was higher than anthropocentric approaches, and the risk perceptions of the teacher candidates was high, while their environmental behaviours was on mid-rate. In similar studies, Sam, Gürsakal and Sam (2010) indicated that the environmental risk perception level of the university students was high and there was a strong relation in positive direction between environmental risk perception and environmental manner. Altunoğlu and Atav (2009) stated that that the environmental awareness level of the secondary education students was high. In this study of ours it was determined that the female teacher candidates' anthropocentric approaches, environmental risk perceptions and environmental behaviour rates were higher than male teacher candidates. Also male teacher candidates' ecocentric approaches were higher than female teacher candidates. In respect of the gender, there was no meaningful difference between the ecocentric and anthropocentric approaches and environmental risk perceptions of the teacher candidates; in contrary to this there was a meaningful difference between the environmental behaviours. Similarly, Sam, Sam and Öngen (2010) indicated in their study, that there was no meaningful difference between ecocentric and anthropocentric approaches and gender, as the study of Silmak and Dietz (2006) shows there was no difference between the environmental risk perceptions and gender. In our study it was determined that there was no meaningful difference between teacher candidates' ecocentric and anthropocentric approaches, environmental risk perception and environmental behaviours in respect of their class variables, where they study. According to the results obtained, while lecturing the teacher candidates about environmental training, considering their environmental approaches, environmental risk perceptions and environmental behaviours will help them to improve a environmental conscience and sensitivity. Thus, it is important to make the students to gain a behaviour change, who is going to be effective on preserving and managing the environment.

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AN EVALUATION OF SCHOOL EXPERIENCE COURSES: THE DEVELOPMENT OF OBSERVATION AND REFLECTION COMPETENCES OF PROSPECTIVE TEACHERS

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Abstract

Developing observation and reflection competences within school experience process is crucial in order to gain teaching profession. In fact, in merging practical and theoretical knowledge through teaching practice requires in-depth observation and reflection competences. Teaching practicum and school experience courses have aims to develop field knowledge, plan and preparation, teaching methods and techniques, communication, classroom management, evaluation, professionalism by developing observation and reflection competences. Significantly, portfolio is a kind of progress tool to make prospective teachers to report on teaching practicum. In this respect, this study aims to evaluate the development of observation and reflection competences of prospective teachers on school experience courses. The qualitative research design was employed in this study that case study approach was implemented within an inductive process. Self-reports of 65 prospective teachers helped to gather qualitative data that were analyzed based on thematic analysis. This research process yielded how observation and reflection, self-determination competences are significant and are developed through teaching practicum.

Keywords: competence, quality in teaching, observation, reflection, teaching practicum

1. Introduction

Reflection is a key term for the roots of teacher education programs that is gained from school experiences courses. It becomes a bridge to merge cognitive, procedure domains. It is a key activity for teacher development (Zhu, 2011). In this respect, the study of Van Manen (1991) states the levels of reflection that are technical rationality, practical action, critical reflection, reflection on reflection. Therefore, school experiences courses are modes of active learning within the practical process. It is important to be in an action-based approach for the development of teaching skills in higher education based on peer observation and collaborative reflection (Martin, Double, 1998).

As teacher reflection means examining 'one's own interpretations, looking at one's own perspectives from another perspective, and turning a self-critical eye onto one's own authority as interpreter and author's (Husu, Toom, Patrikainen, 2008), it is crucial stressing the importance of reflective practice through school experience courses for establishing deepen reflection for the deconstruction of knowledge.

Learning through reflection and observation are the rationale stances of school experience process in constructing knowledge. Teaching practicum and school experiences are opportunities for professional knowledge based on reflective practice. In this respect, reflection supports professional practice that continuing learning through practices makes the development of observation and reflection skills (Samuels, Betts 2007).

This study aims to reveal the role of synergy among the components of teaching practicum for the development of self-determination, observation and reflection skills throughout the school experience courses. As the teaching practicum covers field knowledge, plan and program, methods of teaching, communication, classroom management, evaluation and professional development activities; self-determination, observation,

reflection skills need to be developed for transferring these skills to the professional life. The following figure summarized the synergy of teaching practicum components and targeted transferrable skills for the work life.

Self-determination, Observation and Reflection Skills
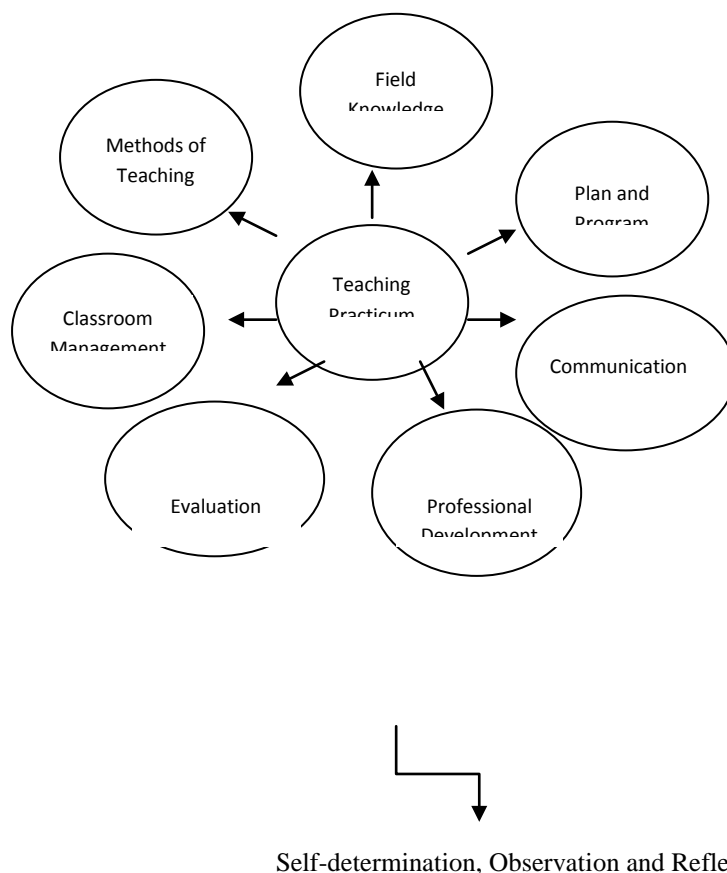
Figure1. Components of Teaching
Practicum

Teaching practicum is significant process for the prospective teachers to gain basic skills to transfer into the work place. Teaching profession is the harmony of field knowledge, plan and program, methods of teaching, communication, classroom management, evaluation and professional development activities which those foster self-determination, observation and reflection skills within knowledge management (Kuter, Gazi A., Aksal A., 2012). In this respect, this study aims to evaluate the perceptions of prospective teachers on the experience of teaching practicum. Regarding the aim of the research, the following research questions need to be answered:

- How do prospective teachers perceive teaching practicum components?

- To what extend, prospective teachers develop self-determination, observation and reflection skills?

2. Method

2.1. Research Design

The study is grounded on the nature of qualitative research. The socially constructed meaning, experiences and perceptions are crucial elements to understand, explain the nature of the problem. As Creswell (2009) points out that qualitative research design is interpretive and inductive process to understand the meanings, perceptions and human experiences; this study focuses on inductive process with evaluating the perceptions of prospective teachers on the teaching practicum experience in school experience courses.

2.2 Research Approach and Participants

Single case study approach was employed in this study to report on the experiences and perceptions of prospective teachers based on detailed documentation. Although the research approach is single case approach as it is the limitation of this study, the detailed documentation, report on inductive process yields valuable examination, exploration (Yin, 1994). Sixty five prospective teachers from Classroom Teacher Education and History Teacher Education programmes in one of the higher education institution became part of the qualitative research who enrol school experience course. The purposive sampling strategy was implemented.

2.3 Data Collection Technique and Analysis

Training was done to prospective teachers that teaching practicum and its components were explained for forty five minutes. Then, self-report was employed to collect in-depth reflections, experiences of prospective teachers. Conceptual analysis was done to set themes based on classification and verification (Altinay, Paraskevas, 2008).

3. Research Findings

The research findings provides experiences and perceptions on develop field knowledge, plan and preparation, teaching methods and techniques, communication, classroom management, evaluation, professionalism within the frame of teaching practicum. As prospective teachers agreed that training session as part of the course has vital process for the teaching profession, they highlighted that teaching practice in schools and during the courses help them develop field knowledge, plan and preparation, teaching methods and techniques, communication, classroom management, evaluation, professionalism. Further to this, prospective teachers underlined that preparing a portfolio for teaching practicum provide developing self-determination, observation and reflection skills.

Field knowledge

Field knowledge is the significant component of teaching practicum. Almost all prospective teachers (N=54) reported that school experience courses foster developing field knowledge. In this respect, prospective teachers (N=59) highlighted the contributions of school experience course to the field knowledge in many ways:

'Teaching practice and school experience course help us enhance field knowledge and be aware of other disciplines'

'School experience course fosters development on field knowledge and help internalize teaching practice'

'School experience course provides confidence of field knowledge to transfer real life experience'

'School experience course is the bridge between theory and practice to do self-evaluation of teaching performance and field knowledge'

Plan and Program

In addition to field knowledge, preparation to the teaching practice, being well prepared to the teaching practicum is the crucial process on teaching profession. Significantly, it is the base line for further steps. Prospective teachers agreed that preparation to the teaching practicum is the prerequisite for the success in teaching profession. Almost all prospective teachers highlighted that plan and program is difficult part of the teaching practicum. However, it is ground for effective instruction.

Teaching Methods and Techniques

The way of teaching and the internalizing principles of teaching methods, techniques are the critical success factors for the teaching profession. Within the teaching practice process, implementing theory into practice can be succeed if prospective teachers can internalize the right choice of the teaching methods and techniques. Almost all prospective teachers reported that school experience course provides in dense experience to evaluate using the appropriate teaching methods and techniques. Significantly, prospective teachers remarked that videotaped simulated instruction within teaching practice and drama, role playing method in micro-teaching help them have in-depth internalization and real life experience about the advantages and disadvantages of contemporary methods and technique for further profession life.

Communication

The personal abilities and skills in teaching profession is the also significant component. According to other components, almost all prospective teachers reported that school experience course enhance their communication, empathy skills. Significantly, all prospective teachers highlighted that communication component is the most developed skill during the school experience course.

Classroom management

For effective teaching and learning process, classroom management is the critical component for teaching profession. When prospective teachers evaluate classroom management, they reported that they gained insights how to manage attention of students, how to arrange classroom atmosphere.

Evaluation

Prospective teachers made reflection on the evaluation that they have learned to summarize the learning of students through exercises and activities at the end of the courses. Most of them stressed the importance of evaluation for transferring knowledge in to new knowledge.

Professional Development

Professional development is the outcome and success of the effective teaching practicum. Almost all participants agreed that school experience course and teaching practicum help them enhance collegial activities and peer support thereby they enhance profession. Prospective teachers stated their perceptions on professional development in many ways:

"It is ongoing activity"

"This course help us experience peer support and development"

"Life long learning is together with professional development"

"Active learning and experiential learning through observation and reflection support professional development"

"Reflection is crucial for professional development"

"School experience courses is the first step for professional development"

"Portfolio is beneficial for learning and development"

"Observing other works provides evidence of development"

"Looking in different angles helps develop professionalism"

"Micro teaching supports professional development"

In this respect, prospective teachers became consciousness on professional development while learning and teaching through school experiences courses.

Self-determination, Observation and Reflection Skills

Reflective portfolio, teaching practicum process helps prospective teachers develop self-determination, observation and reflection skills. As the self-determination, observation and reflection skills are crucial for the outcome of academic programme regarding to European University Association standards, the experience and reflection of the prospective teachers highlighted how this specific course reached out this success.

Self-determination competence of prospective teachers was developed through reflective portfolio and teaching practicum that prospective teachers stated as following:

"I gained to prioritizes actions for observations and reflection"

"I managed huge of knowledge"

"I control myself not be anxiety in teaching practicum"

"We are in knowledge management, this course help me to manage knowledge and my learning"

Further to this, observation skills of prospective teachers are developed that they stated in many ways:

"I learned how to see and look in detail"

"Gaining different views and looking in different angles"

"I learned to compare different activities"

"The way of looking is changed through observation"

In addition, reflection skills of prospective teachers were developed in the teaching practicum. Prospective teachers developed their reflection skills through portfolio and teaching practicum. They reported that they gained knowledge how to be reflective.

4. Conclusion and Recommendations

Reflective practice is a social interchange of experiences from the practices. Student teachers' professional tasks in observations and teaching practices, reflection is a bridge that is a way of expanding social, cultural and political views through way of acting and thinking. Teacher reflection is a key for developing professional knowledge that is supported from observation skills and teaching practices. It is essential to have meaning making process within intellectual and personal growth (Husu, Toom, Patrikainen, 2008; Kleinberg, Stark 1998, Zhu, 2011).

In this research study, it can be seen that prospective teachers developed skills of self-determination, observation and reflection through teaching practicum. They reported that reflective portfolio, teaching practicum support their professional development from school experiences course. In addition, they experience inductive process in order to manage knowledge and they have been the roots of action learning and experiential learning in order to reconstruct knowledge. Further to this, the study remarked that school experience course and real life experience with teaching practicum provide self-determination, observation and reflection skills as they are the transferable skills to the profession. According to the framework of European University Association (EUA) and bologna process, program and courses need to provide transferable skills for the graduates in order to make them well prepared to the work life. Based on this statement, this study confirmed the skills development process of the prospective teachers for the future real life experience regarding the EUA standards. In addition, the reflective portfolio become effective assessment strategy and progress report as part of the internal quality assurance in higher education programme (Aksal A., Gazi A., De Rossi, V., 2012).

In further studies, mixed approach can be conducted in order to evaluate self determination of prospective teachers in knowledge management. Further to this, multi method can be conducted to evaluate deepen perceptions of prospective teachers.

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AN IMPLEMENTATION OF DISTANCE EDUCATION PROGRAM FOR TEACHING COMMON NECESSARY COURSES IN FORMAL EDUCATION: KARABUK UNIVERSITY SAMPLE

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Abstract

Increase of student numbers by higher education institution in post-secondary educational institutions causes various problems in the sense of teacher and learner. It is known that the quality of education given in crowded classes by single instructor decreases. It is thought that improving this situation with developing technology and common internet usage is possible. From this point, distance learning program has been applied in the education of compulsory common courses determined by Higher Education Institution throughout Karabük University since fall semester of 2011-2012 academic year. In the process of application it is aimed to discuss experiences of students and instructors, the sufficiency of technological infrastructure of program, advantages and disadvantages of the program with end of term assessment reports for Safranbolu Fethi Toker, Faculty of Fine Arts and Design, Department of Architecture.

Keywords: Distance Education, Undergraduate Education, Technology, Rapid Life, Using Technology in Education

1. Introduction

There have been many changes in Turkish education system recently. The main reason of these changes is thought to be the rate of literacy which is expected to increase and the rate of unemployment which is not expected to increase due to increasing population of the country. With the changes of education and exam in elementary schools and high-schools; similar changes are done in universities as well, this change is rather thought to have the aim of increasing the number of students. While all these changes were done, a system in which the quality is not given much importance but things were determined through quantity has begun to take place in education. It is possible to assert these both for undergraduate and for associate and postgraduate education. The thought of enabling occupation for everyone is naturally favorable. However taking such step without any infrastructure causes insubstantial growth and expansion. In fact it is more important to be an individual who can improve himself in every way and completely comprehended critical thinking and inquisition for this aim. All these actions are regarded important for self-discovery. Providing these to students must be one of the primary aims of education.

Within the scope of this subject it is aimed to determine whether these attainments – critical thinking, inquisition, designing – can be achieved within the frame of distance learning which is a relatively new education system for Turkey and to analyze the issue through the instance of Karabuk University. Evaluation of reciprocal views of students and instructors after one year process has importance at this point.

As it is briefly mentioned above, the number of students accepted in universities has been increasing day by day. Measures taken for this problem and the infrastructure of schools are most of time insufficient. This insufficiency in the infrastructure can be due to specific technological deficiencies, being primarily instructors.

The importance of technology cannot be denied in present period. In recent months when fast developing technology gathers societies together and intercommunal interaction becomes indispensable, reconstruction of education system in harmony with changes experienced have been discussed nearly by all the nations.

The approach of unconditioned truths leaves its palace to more sensible and intuitive approaches; having belief in the necessity of nature integrity, people began to adopt a life style which compatible with all the living species and nature (Yaşar, 2001, 1). In this frame it is important for the students to participate "actively" in the education and produce technology as well as to have the skill of using technology. The way of using technology should be discussed and it must be provided to students sufficiently within the process of education. This usage can be during courses and it is possible to support with various education strategies.

It is thought that participation of such a process, in other words usage of newly developed technologies is quite important for education. However when there is no infrastructure, there would be specific problems soon and then these problems would get bigger. In this sense innovations should be included in the system after inquisition and discussed within the scope of a specific strategy. Cases which are thought to have solved the problem for short term may rather make the situation worse and this in turn may result in unsolvable problems in the future.

In the education system which is called distance learning, students can participate in the education from their houses or from the places where they want or where they are at that moment. Electronic learning (E-learning) or distance learning can be defined as web-based education system which is provided through internet/intranet or a platform on a computer network. Although the greatest difference of e-learning from traditional education seems to be the technology it included, in fact it predicts a radical change. This approach is a student-centered model which motivates students in attaining knowledge and gives them priority. In e-learning, education is conducted with training activities where the student and instructor do not have to be in the same place simultaneously. E-learning occurs in two ways: a. Individual's receiving education on their own from computer. b. a group of students and course instructor synchronously meeting in a class in a live computer environment.

In fact this system is regarded positive for making use of technological opportunities of today, and making use of educational opportunities rapidly within the conditions of daily life. However, it must be questioned whether providing education only as knowledge would be sufficient for an undergraduate student. What kind of an educational environment is expected for an undergraduate student? These are the questions which forms the complications within the system and which are ignored. Through which approach the distance learning can be more efficient?

Output of the process in the case of Karabük University can be evaluated in negative and positive terms. It can be regarded as positive side that such a recent university has been able to adopt such a system and has taken a distinctive place in recent years. Students can program their time thanks to distance learning; create himself a studying environment at home. Moreover it prevents the loss of time in transportation from campus to residential area, students feel free about time. The negative side is the matter of infrastructure/strategy which is generally discussed in this study. Although it is regarded positive for the universities to be open to new ideas, there are many problems when adapting this to education strategy. The process brings along many problems such the problem of instructor, environment, computer etc. Since the system is not comprehensible in the computer environment and students are not interested in computer adequately causes the system to be an environment in which only the instructor talks to himself rather making the process of distance learning a mutual, active one. However as it is mentioned, it is important and is getting important everyday for students to participate in the education process actively and make a process in which students and instructors mutually share and acquire information. This mentioned process is valid not only for distance learning but also for formal education.

In parallel to all these thoughts, students were interviewed in order to mutually evaluate positive/negative sides of distance learning carried out within a year.

2. Distance Learning

Application of distance learning in education started towards the end of 18th century. In the definition made by California Distance Learning Project (CDLP, 2006) it is stated that distance learning is a kind of education system which is carried out through connection with student and educational tools, and it is underlined that the fact that distance learning programs provide education opportunity even for those who are not registered to any educational institution is a case which increase education opportunities provided for students in recent years. Another side of distance learning is that it has to follow developing technology closely by making use of current resources adequately (CDLP, 2006).

According to United States Distance Learning Association (USDLA, 2005) distance learning means providing education to students with the help of tools such as satellite, video, audio, graphic, computer, multimedia technology. USDLA states that student and instructor is geographically far from each other and electronic devices or written or printed materials should be used in this education program. Distance learning is composed of two basic parts, teaching which includes teachers and learning which includes students (USDLA, 2005).

Opportunities provided through developing technology and increase of computer literacy made it possible for web-based distance learning applications to increase. Distance learning which is a kind of student-centered education is an education model which is prepared considering student's inclination towards technology, functional literacy, visual literacy and learning styles.

2.1. Distance Education Application in Turkey

Since there was no widespread usage of internet until the beginning of 1990's in turkey, Open Education University, Open high school and open elementary school used to provide distance education through TRT 4 and books prepared for this aim served as resources for students.

As internet usage became widespread, IDEA (Web-Based Asynchronous Education, http://idea.metu.edu.tr) sustained E-learning studies which are completely carried out on internet environment and asynchronously. Today, E-MBA program organized many intercampus courses, education of foreign language and certificate programs. (E-MBA: an online post-graduate program in which course will totally be given web-based) (Çallı, Bayram, Karaağaç, 2002).

For the course of Informatics which is taken commonly by 1800 students in ITU, students arrive at computer laboratories in the campus and have their exam in virtual exam environment with the questions chosen randomly from question bank which includes 10.000 questions (Çallı, Bayram, Karaağaç, 2002).

Istanbul Bilgi University initiated the first electronic management program which is named Bilgi E-MBA and approved by YÖK. This interactive program provides accomplishments about marketing, entrepreneurship, finance, human resources etc. MBA diploma will be given as a result of the program which can be followed through internet all around the world (www.bilgiemba.net).

2.2. Karabuk University Distance Education Applicaitons

With the developing technology it has become a necessity to remove time and place restriction of higher-education and make the information produced in higher education independent from time and place.

In the process of transition towards information society, scientific and technological studies should be done and recommended in order to make quality education which assists improvement and development of Turkey widespread through e-learning.

In parallel to these necessities, Distance Learning Application and Research Center was founded in Karabuk University in order to conduct plan, program, coordination and applications within the scope of undergraduate, associate and postgraduate distance education program and activities which are carried out in the basis of information and technology technologies of the university.

Karabuk University which aims to increase its success in education with opportunities of interactive media and multimedia presented by the university provides distance education in 5 associate programs, 9 undergraduate and 2 postgraduate programs.

2.3. Application of Distance Education Program for Common Compulsory Courses within Formal Education

Increase of student numbers by higher education institution in post-secondary educational institutions causes various problems in the sense of teacher and learner. It is known that the quality of education given in crowded classes by single instructor decreases. It is thought that improving this situation with developing technology and common internet usage is possible. Considering the age, computer literacy, technology inclination, functional literacy, interests and learning motivations of individuals, distance education program has been applied in the education of common compulsory courses determined by Higher Education Institution throughout Karabük University since fall semester of 2011-2012 academic year.

2.4. Introduction to Distance Education Program

Login of students who completed preparatory education and are to start 1st grade education was defined before the fall semester begins. The student can log in with students number and the password he created. The home page that occurs when system is logged in is shown in Figure 1.

There are videos with lecturing and lecture notes for every course in the system. Students can access these information whenever they want. In addition to these, days and hours were determined in course programs for common compulsory courses of each department. Students who log in at these determined days and hours can access the coordinator of this course on-line, watch the lecture live and ask question to the coordinator (Figure 2). With LMS (Learning Management System) software coordinator can apply quiz, exam or survey to the students and can make assessment.

Log in and log out of students are recorded by the software and their attendance can be monitored in this way.

When the student logs in, he can create his own calendar from his personal page and access forum of the courses he receives, introductory video of the courses and course resources (Figure 3, 4).
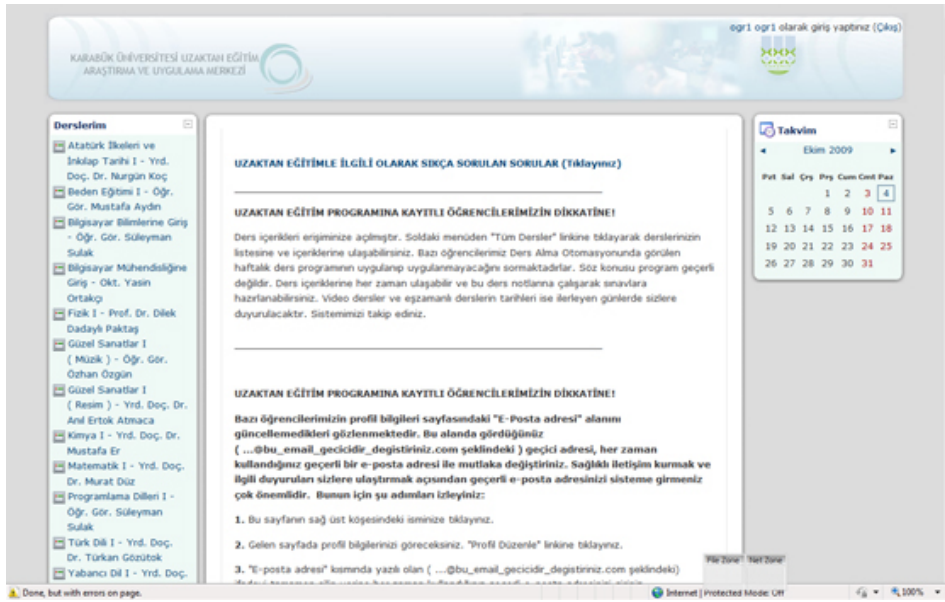
Figure 1. View of distance education home page

Figure 2. Video page including lecture

There are two forums for each course in the system. One of them can be defined as the area in which coordinator of the course makes announcements about the course (Figure 5). Students cannot intervene in this area. The second one is the course forum. Coordinator shares his opinions when he expects feedback from students. Students can share their opinions and questions with the coordinator. The interaction between coordinator and students is visible for every student. Students who are active in the system can see other active students and share information (Figure 6).
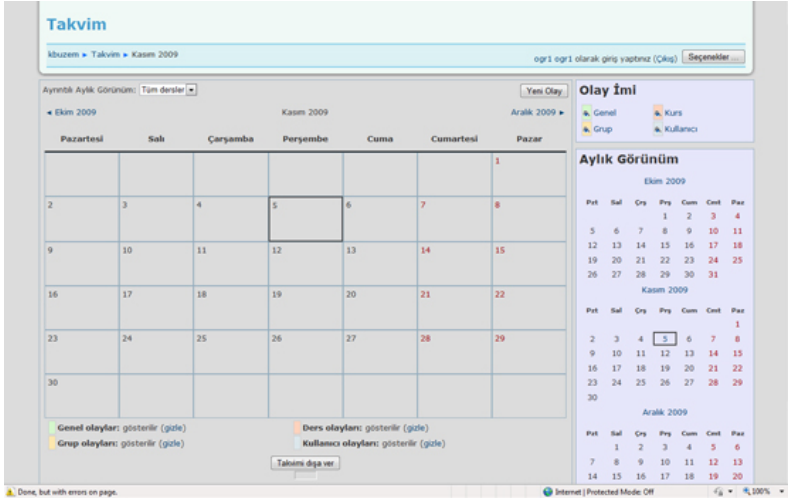
Figure 3. Calendar page of student
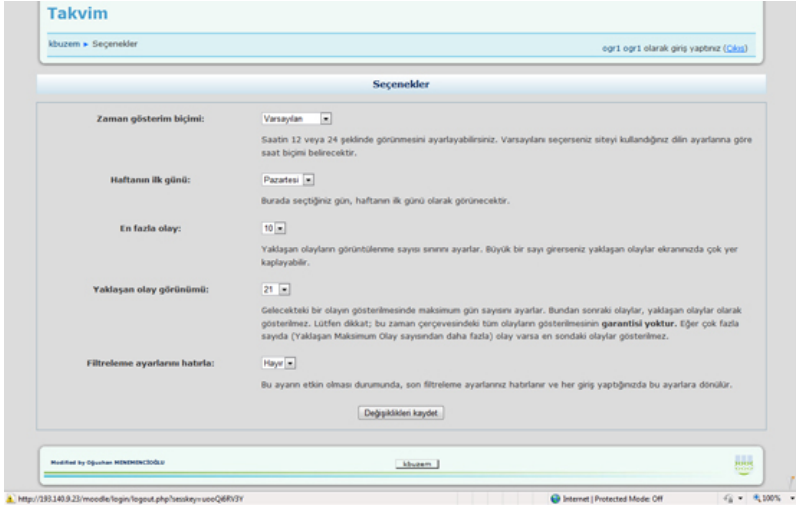
Figure 4. Calendar personalization page of student
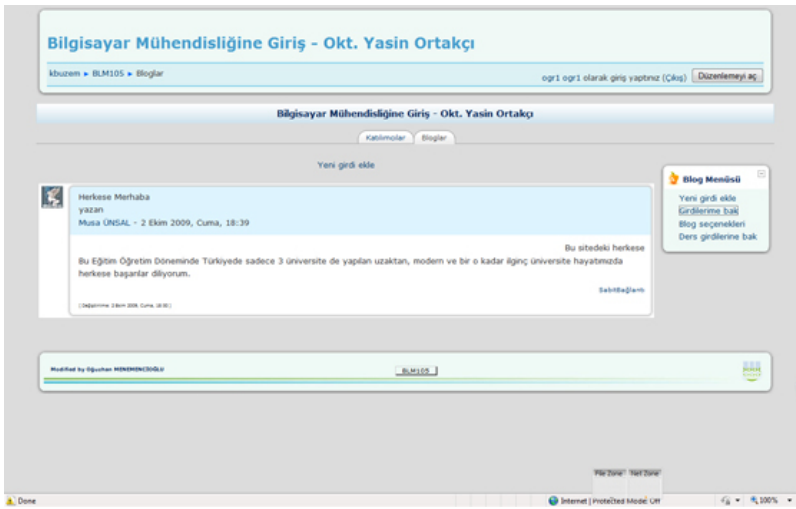
Figure 5. Coordinator forum page
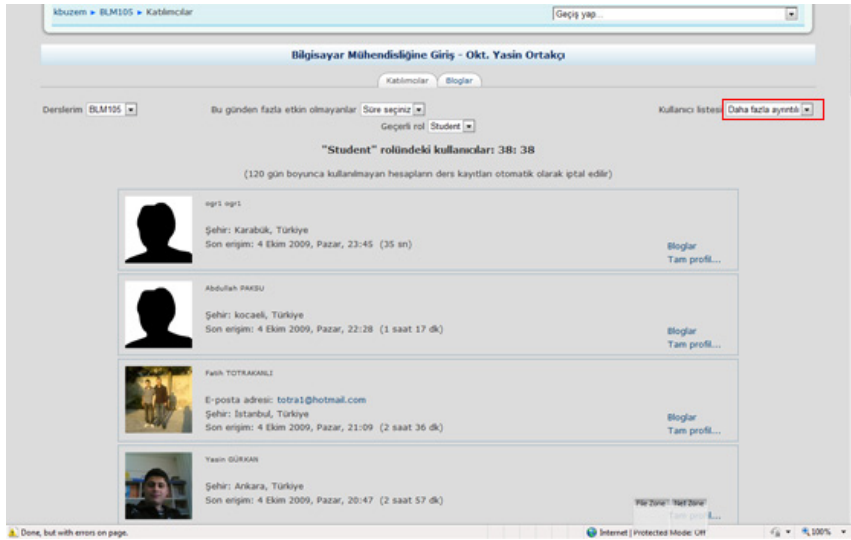
Figure 6. Active student page

2.5. Evaluation of Distance Education Application in Karabuk University, Safranbolu Fethi Toker, Faculty of Fine Arts and Design, Department of Architecture

Architecture is an occupation which is dynamic, open to innovation and constantly modifies. The greatest change is thought to happen in current time. In our day where modernism and latter movements are discussed and technology lives its golden age, it must be questioned that whether current architectural education programs can keep up with the times or not (Lökçe, 2002). With the development of construction technologies, due to improvement of various representation tools, many choices which can be the interface of architecture are provided every passing day simultaneously. Due to the change of way of seeing and thinking; perspective towards art and philosophy, perspective towards life, architecture can fulfill the entire demand of people and society in this plentifulness. This situation makes it possible to carry out every kind of architectural study in interdisciplinary and transdisciplinary basis. Architecture education must be kept up-to-date in line with daily life and conditions of the day in order to create up-to-date environment of architecture education; interrogator, critical student-instructor environment. It is observed that architecture students at first grade gain familiarity with the usage of computer and technology through distance education program applied within the scope of university.

Since common compulsory courses are provide through distance education system, students who have intensive design study in the courses of architectural project and construction can both prevent the loss of time during going to school and back and also continue their project studies after on-line course without changing environment.

3. Conclusion

Within the scope of distance education application, an architecture student at first grade was interviewed, and it was concluded that thanks to the application of distance education program in teaching common compulsory courses students can easily follow the courses since they can access the coordinator of the course face to face; they access the information whenever they want thanks to lecture notes and videos with lecturing; they can determine their learning deficiencies through exams whenever they want. It was determined that problems about the system are rather related with technical/infrastructure basis. Since the system has not been seated very well in the first semester, there have been problems for about one month at the beginning of the term.

Acquisition in the sense of time is especially important for architecture students. In this sense, students who learn to schedule themselves had rather comfortable term in the sense of course intensity. Since the courses

provided with distance education program are not department courses but those with which students are familiar from high-school, there has not been any problem in the sense of conveying information – efficiency.

Technological opportunities of the present day should be certainly evaluated. In this sense distance education is a system which relieves the burden of education system. Yet, it must be discussed whether a proper education environment could be enabled or not.

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AN INVESTIGATION OF PROSPECTIVE TEACHERS' REFLECTIVE THINKING TENDENCY

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Abstract

The basic objective of this study is to examine the reflective thinking tendencies of prospective teachers. The descriptive survey model has been adopted in the study. The universe of the study consists of prospective teachers attending the 4th grade of the Elementary Teacher Education Department at Balıkesir University in the 2011-2012 academic year. Sampling was conducted with a total of 278 prospective teachers in the departments of Elementary Mathematics, Social Sciences, Elementary Teacher Education and Science Education Departments by means of the random sampling method among probability sampling techniques. In line with the objective of the study, for the purpose of determining the reflective thinking tendencies of prospective teachers, the "Reflective Thinking Tendency" scale was utilized. Obtained data, was analyzed through arithmetic mean and standard deviation values, one way analysis of variance (ANOVA), and the Bonferroni test. As a result of the study it was determined that prospective teachers studying at the Elementary Teacher Education Department had the highest and the prospective teachers studying at the Social Sciences Teaching Department had the lowest reflective thinking tendency score means. Furthermore, it was concluded that the reflective thinking tendencies of prospective teachers differed according to the variable of the department they are studying in.

Ketwords; Reflective teaching, prospective teachers, prospective teachers' reflective thinking ability.

1. Introduction

The capacity of thinking in an individual acquires qualification with the individual discovering correct manners of thinking. Accordingly, there is a need for teachers, who can guide students, direct students in utilizing the knowledge they have acquired in an effective manner, and contribute to them in problem solving and being successful both in their school life and daily life. Studies on teachers, who are the most important element of education in the world, and their training, are increasing day by day. One of these is the studies conducted in the field of reflective thinking. Reflective thinking is an essential element of the education process of teachers and students. So much so that, many institutions in the field of education and teacher development in Europe and America have determined reflection as a standard that needs to be complied with by teachers and students. This standard is expressed as; the teacher must contemplate on their practices in a systematic manner and must benefit from the experience they have acquired. They should be able to examine their practice from a critical perspective, consult the views of others, conduct studies with educational quality in order to deepen their knowledge, concretize his/her judgments, and adapt the method of teaching according to new findings and thoughts" (NCTAF, 1996; cited by: Rodgers, 2002). In this context, it would be appropriate to underline the definition of reflection and reflective thinking.

Dewey (1991) defines reflection as "the active, consistent, and careful thought on any belief or form of knowledge in light of reasons that support it and take it to the next conclusion". The concept of reflection has acquired its place in education in the form of "reflective teaching, reflective research, and reflecting on practice". Furthermore, it has become an important building block in the field of teacher training in becoming an effective teacher (Day, 2000). This is because, in the process of reflecting, teachers are able to develop their

personal and professional knowledge. At the same time, together with reflective thinking, teachers are able to guide students in finding realistic solutions to problems and making sound decisions. In this context, reflection and reflective thinking are perceived to be important elements in teacher training.

Şahin (2011) expresses the reflective teacher as a teacher, who "constantly has a hold of control and is constantly open to education in the formation of school culture, directing and restructuring classroom practice processes, controlling and directing behavior and feelings, making inferences on alternative practices and events".

Norton (1997) lists the basic characteristics and behaviors that a reflective thinking teacher needs to have as: "a teacher who constantly evaluates the teaching process, can make effective decisions by reviewing the methods and instruments they use, is broad minded, can produce alternative solutions by considering criticism, is sincere, can take all sorts of short term and long term consequences of decisions made into consideration and organize planning accordingly, pays attention to reflection, is foresighted, and educates his/her students accordingly (cited by. Duban and Yelken. 2010).

In the training of teachers, it is important to determine the extent to which reflective teacher characteristics are acquired at faculties of education. In line with this, the basic purpose of the study is to examine the reflective thinking tendencies of prospective teachers. For this purpose, answers to the following research questions have been sought.

1. What are the reflective thinking tendency levels of prospective teachers?

2. Does the reflective thinking tendency levels of prospective teachers differ according to the variable of the department they are studying in?

2. Methodology

2.1 Model of the Study

The descriptive survey model, which aims to demonstrate the existing circumstance as it is, has been adopted in the study. This model was selected as it attempts to describe the existing case with regards to reflective thinking tendencies of prospective teachers within the framework of the purpose of the study.

2.2. Study group

The universe of the study consists of prospective teachers studying in the 4th year of the Elementary Teacher Education Department at Balıkesir University during the spring semester of the 2011-2012 academic year. A total of 278 prospective teachers consisting of 76 from the Mathematics Teaching Department, 65 from the Social Sciences Teaching Department, 73 from the Elementary Teacher Education Department, and 64 from the Science Teaching Department were included in the study through the random sampling method under probability sampling techniques. A proportion of 35.97% (n=100) of the prospective teachers selected from the said departments as samples were males and 64.03% (n=175) were females.

2.3 Collection and Analysis of Data

In line with the purpose of study, for the purpose of determining the reflective thinking tendencies of prospective teachers, the "Reflective Thinking Tendency" scale developed by Semerci (2007) was used. The scale consists of 35 items, of which 15 are positive and 20 are negative. According to the applied factor analysis as a result of the reliability and validity works of the study, the KMO values were determined as 0.909 and Bartlett value was determined as 6811.461 ($p<0.05$). Furthermore, according to the result of the conducted item

analysis, it was determined that the total item correlations varied between 0.308 and 0.607, test retest correlation is 0.742 (p<0.01), the correlation coefficient between two half points is 0.77 (p<0.01), and the Cronbach Alpha coefficient of the scale is 0.908. (Semerci. 2007: 1351). The themes of the seven factors obtained in the scale prepared as a 5 point likert scale have been determined as constant and purposeful thinking (reliability coefficient 0.794), open-mindedness (reliability coefficient 0.712), inquisitive and effective teaching (reliability coefficient 0.747), teaching responsibility and being scientific (reliability coefficient 0.776), investigative (reliability coefficient 0.742), being visionary and candidness (reliability coefficient 0.668), view towards the profession (reliability coefficient 0.357).

With regards to the data obtained through the implementation of the scale on prospective teachers, the SPSS 17.0 was used to find answers for the questions of the study. For this purpose, arithmetic mean and standard deviation of the data were analyzed through the one way variance analysis (ANOVA) and the Bonferroni test.

3. Findings and Interpretation

3.1. Findings on the Reflective Thinking Tendency levels of prospective teachers

Distribution of arithmetic mean and standard deviation according to the department studied in, with regards to the themes of the seven factors in the scale in accordance with the data obtained from the application of the "Reflective Thinking Tendency" Scale to prospective teachers in the sample under the scope of the first problem of the study, have been provided in Table 1.

Table 1. Average and standard deviation values in relation to the reflective thinking tendency levels of prospective teachers

Subdimensions (Factors)	Departments											
	Elem.. School Teaching			Elem. School Maths Teaching			Social Sciences Teaching			Science Teaching			General		
	n	$\overline{X}$	ss	n	$\overline{X}$	ss	n	$\overline{X}$	ss	n	$\overline{X}$	ss	n	$\overline{X}$	ss
Constant and Purposeful Thinking		4.19	.819		3.82	.658		4.18	.478		4.26	.607		4.11	.677
Open-mindedness		4.65	.482		4.26	.708		4.58	.377		4.45	.629		4.48	.585
Inquisitive and Effective Teaching		4.66	.375		4.25	.751		4.46	.590		4.41	.853		4.45	.676
Teaching Responsibility and Being Scientific	73	4.32	.666	76	3.94	.668	65	2.72	2.048	64	4.30	.615	278	3.85	1.287
Investigative		4.29	.600		3.95	.630		2.76	2.041		4.33	.671		3.86	1.269
Visionary and Candidness		4.46	.514		4.10	.593		2.80	2.095		4.41	.644		3.97	1.289
View Towards Profession		4.39	.759		4.11	.690		2.67	2.034		4.38	.740		3.93	1.342
Total		4.42	.396		4.06	.497		3.45	1.180		4.36	.528		4.09	.790

When Table 1 is examined, it has been determined that prospective elementary teachers have the level of reflective thinking tendency at the rate of 4.42, elementary school prospective mathematics teachers at the rate of 4.06, social sciences teachers at the rate of 3.45, and prospective science teachers at the rate of 4.36. When the answers given within the scope of seven factors in the scale are examined, considering the items measuring the subdimension of the "Constant and Purposeful Thinking", prospective science teachers (X=4.26) mostly prefer the topics of "Valuing students' views, critical thinking in the light of teaching objectives, helping other teachers with teaching, assessing the effectiveness of their own teaching, encouraging debates in the classroom, encouraging students to discover while giving the lesson whereas elementary school prospective mathematics teachers (X=3.82) prefer less. When the items measuring the subdimension of "open-mindedness" are examined, it has been determined that elementary school prospective teachers (X=4.65) are more sensitive to the topics of "Reviewing teaching acquisitions, being open to criticisms regarding teaching practice, looking at the practice in learning-teaching process in a multi directional manner, feeling responsibility in students' individual needs and cognitive behaviors, caring for the educational activities" and that they mostly selected the options of "Completely Agree" whereas elementary school prospective mathematics teachers (X=4.26) prefer less. When the items measuring the subdimension of " Inquisitive and Effective Teaching" are examined, it has been determined that prospective elementary school teachers (X=4.66) are more sensitive to the topics of "Using new materials, introducing the concept maps in the theoretical part of the lesson, valuing students' dreams, giving importance to cooperative learning and having a critical perspective" and that they mostly prefer the options of "Completely Agree" whereas prospective elementary school mathematics teachers (X=4.25) prefer less. When the items measuring the subdimension of "Teaching Responsibility and Being Scientific" are examined, it has been determined that prospective elementary school teachers (X=4.32) are more sensitive to the topics of "Knowing who, what, when, why, and how to teach in education, establishing effective communication with students, presenting suitable teaching materials, paying attention to the expectations of the students, recognizing and explaining a new subject skillfully" and that they mostly prefer the options of "Completely Agree and Partly Agree" but prospective social sciences teachers prefer less (X=2.72).

When the items measuring the subdimension of "researcher" are examined, it has been determined that prospective science teachers (X=4.39) are more sensitive to the topics of "percepting the problems regarding the learning environment and evaluating them in career development, having the spirit of research, evaluating their

teaching objectively, being open for progress," and that they mostly prefer the options of "Completely Agree" whereas prospective social sciences teachers (X=2.76) prefer less. When the items measuring the subdimension of "Visionary and Candidness" are examined, it has been determined that prospective elementary school teachers (X=4.46) mostly give importance to the topics of "Helping the students see beyond the classroom, exchanging views on teaching practice, being open to criticisms, and developing empathy with students" and that they mostly prefer the option of "Completely Agree" whereas prospective social sciences teachers (X=2.80) prefer less. When the items measuring the subdimension of "View Towards Profession" are examined, it was observed that on the subject of behaving more honestly in caring for teaching and self – assessment elementary school prospective teachers had the highest average (X=4.39) but prospective social sciences teachers had the lowest average (X=2.67).

When examined in general, it was determined that the score means of prospective teachers were mostly in the subdimension of "open-mindedness" (X=4.48) and in the subdimension of "Teaching Responsibility and Being Scientific" minimally (X=3.85). In addition, it was determined that reflective thinking scores of prospective teachers were high (144.07).

Findings Concerning the Reflective Thinking Tendencies According to the Variable of Department, in which They Studies.

In order to look for an answer for the second problem of the study one-way variance analysis (ANOVA) was performed to determine the state of difference of reflective thinking tendencies of prospective teachers according to the Variable of Department. The findings obtained are provided in Table 2.

Table 2. The scores of reflective thinking tendencies of prospective teachers according to the variable of department, in which they received education

Department	n	$\overline{X}$	ss	F	p*
Elem. School Teaching	73	4.42	.396		
Elem. School Maths Teaching	76	4.06	.497		
Social Sciences Teaching	65	3.45	1.180	26.34	.000
Science Teaching	64	4.36	.528		
Total	278	4.09	.790		

p*<.05

When Table 2 was examined, it was determined that there was a significant difference between the scores of reflective thinking tendency of prospective teachers according to the variable of department [F(3-275)=26,34, p<.05]. That is, it was found that the scores of reflective thinking tendency of prospective teachers were associated with their departments. In order to specify the source of this difference the homogeneity of the variances were examined and as Leven was (p<.05), Bonferonni test was performed. The data obtained is provided in Table 3.

Table 3. The results of Bonferonni test regarding the significance of differences between the scores of reflective thinking tendency of prospective teachers

Departments		Average Difference (I-J)
(I)	(J)	
Elem. School Teaching	Social Sciences Teaching	.975*
	Elem. School Maths Teaching	.358*
	Science Teaching	.057
Science Teaching	Elem. School Maths Teaching	.617*
	Social Sciences Teaching	-.918*
Elem. School Maths Teaching	Social Sciences Teaching	-.301

*p<.05

According to the results of the Bonferroni test, it is observed that the difference of reflective thinking tendency of prospective teachers is significant in favor of Elementary School Teaching between Elementary School Teaching (X=4.42) and Social Sciences Teaching (X=3.45), Elementary School Teaching and Elementary School Mathematics Teaching (X=4.06), Elementary School Teaching and Science Teaching (X=4.36) and in favor of Science Teaching between Science Teaching and Elementary School Mathematics Teaching, Science Teaching and Social Sciences Teaching, and in favor of Elementary School Mathematics Teaching between Elementary School Mathematics Teaching and Social Sciences Teaching (p<.05).

4. Result and Suggestions

The following results have been obtained in this study aiming to examine the reflective thinking tendencies of prospective teachers.

1. It has been concluded that the score averages of the reflective thinking tendencies of prospective teachers are high. These results obtained demonstrate similarities to the results of some researches performed (Duban, Yelken, 2010; Lee, 2000; Şahin, 2011; Semerci and Kılınç, 2010; Good and Whang, 2002). When seven subdimensions in the scale of reflective thinking tendency were examined, it was determined that the score averages of prospective teachers were mostly in the subdimension of "open-mindedness" and in the

subdimension of "Teaching Responsibility and Being Scientific" minimally. In addition, it was determined that mostly prospective Elementary School teachers had the score averages of the reflective thinking tendencies and prospective Social Sciences teachers had the score averages of the reflective thinking tendencies minimally.

2. It was found that the reflective thinking tendencies the prospective teachers possessed changed according to the variable of department, in which they studied. Also, the results of the study performed by Duban and Yelken (2010) have similar characteristics. It was determined that this difference so as to be in favor of elementary school teaching, science teaching, and elementary school mathematics teaching occurred between the prospective teachers that receive education in elementary school -science, elementary school- elementary school mathematics, elementary school-social sciences and sciences - elementary school mathematics, sciences- social sciences, and elementary school mathematics-social sciences.

In the study it was observed that the reflective thinking tendencies of elementary school and prospective science teachers were high but the average scores of reflective thinking tendencies of prospective social science teachers were below the average. In this sense, in order to remove this difference among the departments teaching practice that may develop the reflective thinking tendencies may be conducted in faculties of education. Studies conducted abroad indicate that training reflective teachers is emphasized relatively in faculties of education. Within this scope the gap regarding this subject may be closed by removing this deficiency in our country, training teaching staff that may teach reflective thinking, and adding reflective thinking and reflective educational courses to faculty of education programs. This research with a quantitative characteristic may be widened and thus, reflective thinking processes of prospective teachers may be examined extensively and to what extent the prospective teachers that are trained in this direction use their skills may be researched when they start to execute their professions.

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APPLICATION DE LA LOGIQUE FLOUE POUR NOTER LES RAPPORTS TECHNIQUES ET LES EXPOSES ORAUX

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Abstract

La littérature critique et le nombre considérable de chercheurs qui se penchent sur le problème de l'évaluation des étudiants témoignent de l'intérêt que cette question suscite constamment dans le milieu scolaire et universitaire. Afin de remédier quelque peu à cette situation, le présent article vise à présenter une méthode de notation appelée le système d'aide à la décision qui est basé sur la logique floue. Grâce à sa flexibilité, la logique floue devrait, à notre avis, permettre de perfectionner le processus d'évaluation. Ainsi, dans un premier temps, le texte présente une esquisse de diverses approches du problème d'évaluation. Ensuite, il explique les principes théoriques de la logique floue et le fonctionnement du système d'aide à la décision. Finalement, la partie suivante de l'article comprend la description des trois exemples de l'application du système. Le premier concerne l'évaluation des étudiants de l'École polytechnique de Montréal lors de leurs exposés oraux notés par une équipe de professeurs. Les deux autres constituent la proposition de l'application du système d'aide à la décision lors du briefing technique ainsi que dans l'apprentissage des langues, notamment pendant le cours de l'expression orale.

Mots-clés : logique floue; notation; éducation

Introduction

Selon le syllabus proposé par E. F. Cravley (Cravley E. F., 2005), de l'initiative : Imaginer-Concevoir-Réaliser-Exploiter (ICRE), Conceive-Design-Implement-Operate (CDIO), deux objectifs primordiaux dans la formation contemporaine en ingénierie restent apparemment en contradiction. Tandis que le premier consiste à former les étudiants dans un grand spectre de technologies, le deuxième vise à développer leurs habiletés personnelles et interpersonnelles, et tout cela, afin de réaliser des systèmes complexes d'ingénierie. Les ingénieurs diplômés devraient être en mesure d'Imaginer-Concevoir-Réaliser-Exploiter des systèmes complexes d'ingénierie à valeur ajoutée dans un environnement moderne de travail en équipe.

L'approche ICRE demande, non seulement d'adapter, pour ce nouveau défi, les méthodes d'enseignement adéquates mais aussi les méthodes d'évaluation. Par exemple, dans le chapitre 7 du livre « Rethinking Engineering Education » (Cravley et al, 2007), son auteur P. J. Gray propose que les connaissances acquises par les étudiants soient évaluées avant, pendant et après l'apprentissage. Le résultat de ces évaluations permet aux étudiants de prendre conscience de leur progrès et, donne en même temps aux enseignants, l'information sur la qualité de l'enseignement ainsi que sur les points à améliorer ou à changer. Il existe une variété de méthodes d'évaluation qui dépendent du programme d'enseignement et des méthodes d'apprentissage. On peut citer ici, par exemple : examens écrits et oraux (réponses aux questions), évaluation des performances, évaluation et analyse des résultats, évaluation des cahiers de projet des portfolios et de la rédaction technique des exposés oraux, etc. Par contre, l'évaluation de l'apprentissage des étudiants n'est pas complète si les résultats de cette évaluation ne sont pas utilisés pour améliorer leur apprentissage.

Traditionnellement, l'évaluation est considérée comme un processus indépendant d'apprentissage, effectué à l'extérieur du temps consacré pour l'enseignement. En plus, les étudiants regardent souvent leurs évaluations

avec peur et intimidation. Une nouvelle approche a été présentée par Doris R. Brodeur (Brodeur, D. R. 2006) pendant un CDIO workshop à l'École polytechnique de Montréal, le 13 novembre 2006. Elle est fondée sur six principes de base :

- L'évaluation nécessite une attention concernant les résultats recherchés.
- Divers types d'apprentissage demande différentes méthodes d'évaluation.
- L'enseignement et les évaluations sont jumelés.
- Chaque évaluation est un échantillon seulement.
- Les évaluations sont plus représentatives quand elles sont régulières et continues, pas seulement finales.
- Il y a un compromis entre authenticité et efficacité, les tâches proches de réalité demandent plus de ressources et de temps.

Dans sa présentation, Doris R. Brodeur discute aussi en détails les différentes méthodes d'évaluation.

L'analyse de la littérature critique, dont une brève esquisse vient d'être présentée, permet de remarquer qu'un effort relativement grand est consacré à la réflexion aux méthodes d'évaluation, mais le processus de notation n'éveille pas le même intérêt chez les chercheurs. D'habitude, la notation consiste, d'abord, à accorder les notes en chiffres (parfois, avec un poids) pour chaque tâche accomplie, et ensuite, à calculer la moyenne finale. Prenons comme exemple un étudiant qui a reçu, des trois contrôles consécutifs, les notes suivantes : 2, 2, 20 ce qui donne la moyenne 8. La note moyenne de cet étudiant est-elle comparable au résultat d'un autre étudiant qui a obtenu aux trois épreuves les notes : 8, 8, 8 ce qui donne la même moyenne? Nous visons donc dans le présent article à remédier à cette situation en proposant d'appliquer la logique floue pour l'action d'accorder les notes. À notre avis, la logique floue, grâce à sa flexibilité, devrait permettre de perfectionner ce processus. De plus, le recours à la logique floue rend possible le développement de la stratégie commune de notation pour plusieurs professeurs afin de rendre homogène l'évaluation finale. Le système d'aide à la décision (SAD) Fuzzy Flou, développé à l'École polytechnique de Montréal, permet aussi de réagir comme expert puisqu'il accumule les expertises et les expériences de plusieurs enseignants.

Principes de la logique floue

La logique floue a été développée dans les années soixante par L. A. Zadeh (1965, 1973), professeur de l'Université de Californie à Berkeley. Depuis cette époque, la logique floue a eu beaucoup de succès et elle a été appliquée dans une gamme de domaines très large, c'est-à-dire à partir du design de l'électroménager, en passant par l'automobile, jusqu'au contrôle des systèmes très complexes comme par exemple l'hélicoptère.

Le nom de la « logique floue » éveille souvent un doute, voire un sourire d'incrédulité parce qu'elle fait penser à une imprécision au niveau du calcul ce qui est complètement faux parce que la théorie des ensembles flous s'appuie entièrement sur les rigueurs des mathématiques. Par contre, la logique floue permet de traiter les problèmes de décision qui sont flous et imprécis de sa nature.

Le mérite de la logique floue consiste dans la possibilité d'utiliser un éventail plus large de notions. Tandis que la logique classique ne se limite qu'aux notions « oui » ou « non », la logique floue permet d'utiliser les notions telles que « non », « un peu », « à peu près », « un peu plus », « tout à fait », etc.

Le système d'aide à la décision (SAD) fondé sur la logique floue est composé de quatre éléments, notamment les prémisses, les conclusions, les ensembles des règles et le moteur d'inférence. Cette méthode utilise donc l'information définie sous forme d'un ensemble de règles en forme linguistique qui constitue les liens entre les prémisses et les conclusions.

Dans le SAD Fuzzy Flou, les fonctions d'appartenance des sous-ensembles flous des prémisses, des conclusions ainsi que les observations sont définies sous la forme de trapèzes par un quintuple (m_1, m_2, am, bm, hm), où (Fig.1):

- m1 : valeur modale gauche,

- m2 : valeur modale droite,

- am : écart gauche,

- bm : écart droit

- hm : appartenance maximale de la fonction (1,0).

Cette définition générale de l'ensemble flou permet d'exprimer des observations comme les valeurs exactes (m1=m2, am=bm=0, hm), l'intervalle des valeurs (m1, m2, am=bm=0, hm), la valeur approximative (m1=m2, am, bm, hm) et l'intervalle approximatif (m1, m2, am, bm, hm).

La préparation de l'ensemble de règles est une tâche très importante qui peut être effectuée par un groupe d'experts qui peuvent, dans ce but, puiser aussi dans un savoir général : livres, graphiques, etc. Résultat du travail et de l'analyse des experts, la base de règles peut ensuite être rapidement mise en œuvre et utilisée par le système d'aide à la décision. Au fur et à mesure de l'utilisation du système, la base de règles peut être pourtant facilement modifiée pour répondre aux exigences des utilisateurs.
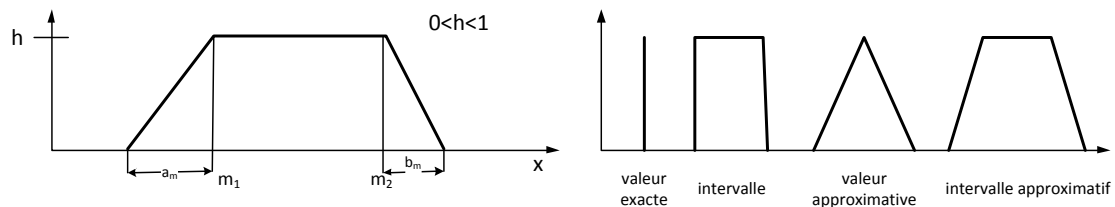
Figure 1. Définition de la fonction d'appartenance dans le SAD Fuzzy-Flou

Base théorique du système d'aide à la décision Fuzzy Flou (SAD)

Dans cette section, nous présentons la méthode de raisonnement fondée sur la règle d'inférence composée (RIC), une approche basée sur les règles qui émulent le processus de raisonnement.

La règle d'inférence composée peut être écrite sous la forme suivante :

$$U' = (C' x .... x B' x A') \text{ O } R \qquad (1)$$

(1)

où R représente la relation globale qui est un agrégat de toutes les règles (base de connaissance), (A', B',...,C') représentant les entrées (observations) et U' représente la sortie (conclusion). Le symbole O représente l'opérateur de la règle d'inférence composée. Dans le langage courant, on peut lire cette équation de la manière suivante : la conclusion d'une décision U' peut être déduite de la base des règles R à partir des observations (A', B',...,C') à l'aide d'un opérateur de la règle d'inférence composée (RIC). Les résultats obtenus sont en forme floue et, si nécessaire, les trois méthodes de défuzzification sont disponibles dans le SAD Fuzzy Flou : centre de gravité (CDG), moyenne des maximums (MOM) et centre de gravité modifié (CDGM).

Basé sur la formule présentée ci-haut, le système d'aide à la décision appelé FUZZY-FLOU (v1.0) a été développé à l'École Polytechnique de Montréal (Canada) et à l'Université Technique de Silésie à Gliwice (Pologne). Le système fonctionne sous DOS, Windows et UNIX.

La base de connaissance contient un nombre fini de règles linguistiques. Chaque règle contient un nombre fini de prémisses combinées avec l'expression conjonctive «et» et un nombre fini de conclusions indépendants. La description détaillée de SAD Fuzzy-Flou est présentée dans l'article de Balazinski et al. (1993).

Exemples de l'application du système d'aide à la décision dans la notation des étudiants

Exposés oraux

Pour illustrer les avantages de l'utilisation du système dans le processus de notation, nous présenterons trois exemples. Le premier concerne le cours *Méthodologie des projets d'ingénierie et communication*. La spécificité de ce cours consiste dans le fait qu'il a été assuré par plusieurs professeurs dans plusieurs groupes pendant de nombreuses années ce qui a contribué à récolter une grande quantité d'informations et a permis de faire une analyse approfondie du problème ce qui n'est pas nécessairement le cas dans d'autres exemples présentés.

Les exposés finals de ce cours ont été toujours évalués par plusieurs équipes de professeurs, chacune de trois personnes. Après avoir évalué individuellement chaque groupe d'étudiants, les trois enseignants devaient arriver à un consensus pour accorder une note finale à chaque groupe d'étudiants. Nous avons constaté qu'à l'issue de ces discussions, les consensus produisaient toujours un élargissement des premières notes accordées par les professeurs. D'habitude, la note au-dessus de la moyenne a été bonifiée en moyenne de 0,7 points, par contre, la note au-dessous de la moyenne a été diminuée de 0,85 points.

Une autre analyse des premières notes a également relevé la différence relative dans la notation effectuée par les trois professeurs. Ainsi la concordance idéale entre les professeurs (15, 15, 15) a-t-elle amené à bonifier la note finale de 0,5 points, par contre, le manque de concordance (10, 15, 20) a été pénalisé de 0,5 points sur la note finale.

Les résultats de cette analyse ont permis de modéliser la base de données qui reflétait ainsi tout le processus d'accorder les notes finales par plusieurs professeurs pour plusieurs groupes d'étudiants. La création, et par la suite l'application du SAD Fuzzy-Flou a permis d'économiser le temps dans la phase des discussions entre les professeurs et a rendu la notation plus homogène.

La figure 2 présente un exemple d'évaluation complète de la note finale : d'une part pour le cas de concordance entre les professeurs et de l'autre, pour le cas de la non-concordance. L'explication détaillée de cet exemple se trouve dans Balazinski et al. (1996)

(a)   (b)   (c)
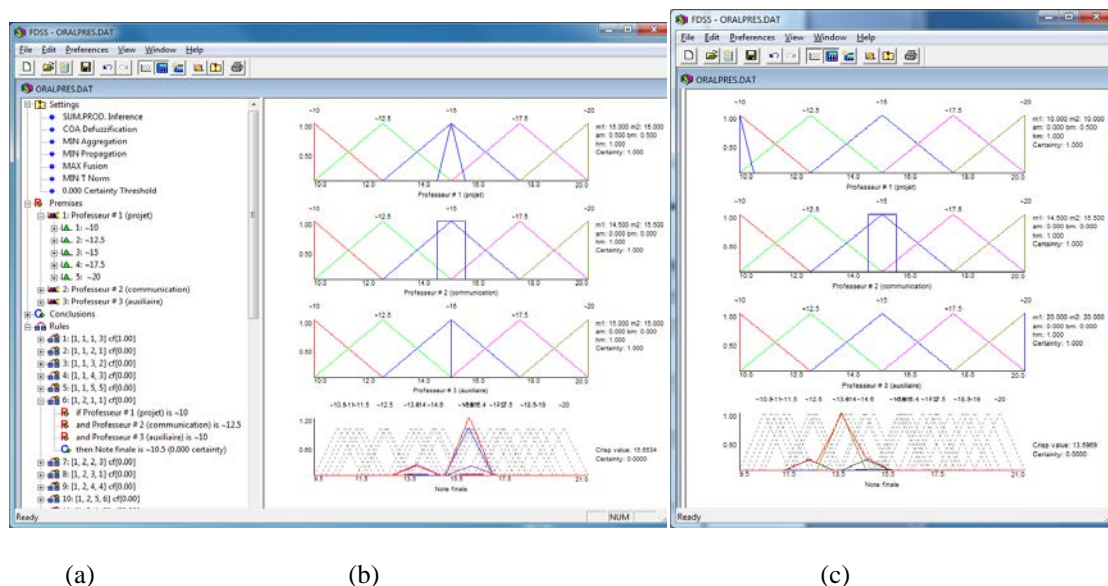
Fig. 2. Écran du logiciel Fuzzy-Flou avec les évaluations complètes de la note finale. (a) structure de la base de connaissance, (b) le cas de la concordance entre les professeurs; (c) le cas de la non-concordance entre les professeurs.

Comme on peut voir dans la figure 2, pour les notes partielles : 15±0,5, de 14,5 à 15,5 et 15, la note finale est 15,65 et pour les notes :10±0,5, de 14,5 à 15,5 et de 20 la note finale est 13,59. Pourtant la note moyenne est

dans les deux cas égale à 15. Dans le premier cas, les étudiants sont bonifiés grâce à la concordance des notes, et dans le deuxième, pénalisés à cause de la disparité des notes attribuées par les professeurs.

Les deux exemples, qui seront décrits par la suite, ne constitue que les cas montrant la facilité relative de l'application du SAD Fuzzy-Flou. Le premier se référera à l'évaluation du briefing technique et le deuxième épuisera un domaine humaniste et fera recours à l'évaluation de l'expression orale dans l'apprentissage des langues étrangères. Dans tous les deux cas, les données ne sont pas disponibles ou elles sont insuffisantes pour effectuer une analyse. Les professeurs, eux-mêmes, peuvent créer la base de donnée fonctionnelle à partir de leurs expériences et leurs connaissances qui peut être, par la suite, modifiée et améliorée au cours des années en fonction des exigence du cours.

Briefing technique

Pendant le briefing technique, il est nécessaire d'évaluer plusieurs compétences qui se divisent en deux groupes : la qualité de la présentation et le contenu technique. Dans le premier, l'évaluation concerne plusieurs aspects tels que la clarté de la présentation, la qualité de langue, la manière de s'exprimer, le contact visuel avec le public, le professionnalisme et ainsi de suite. Par contre, le contenu technique comprend les aspects suivants :

Le contenu technique est-il exacte et important ?

Les points principaux de l'exposé sont-ils suffisamment mis en relief et la cohérence des idées présentées est-elle respectée ?

La présentation graphique est-elle satisfaisante ?

Les solutions alternatives sont-elles proposées ?

Les questions et les réponses sont-elles exactes et cohérentes ?

La figure 3 présente l'exemple décrit pour montrer les principes de la préparation de la base de données. L'écran présente, à droite, deux prémisses avec trois ensembles flous, une prémisse avec deux ensembles flous, une conclusion ainsi que les ensembles de règles linguistiques à gauche. Cette base de connaissance floue peut être facilement transformée, par exemple, par la modification des nombres de prémisses, des ensembles flous, des conclusions et en conséquence, par l'ajustement des règles flous.
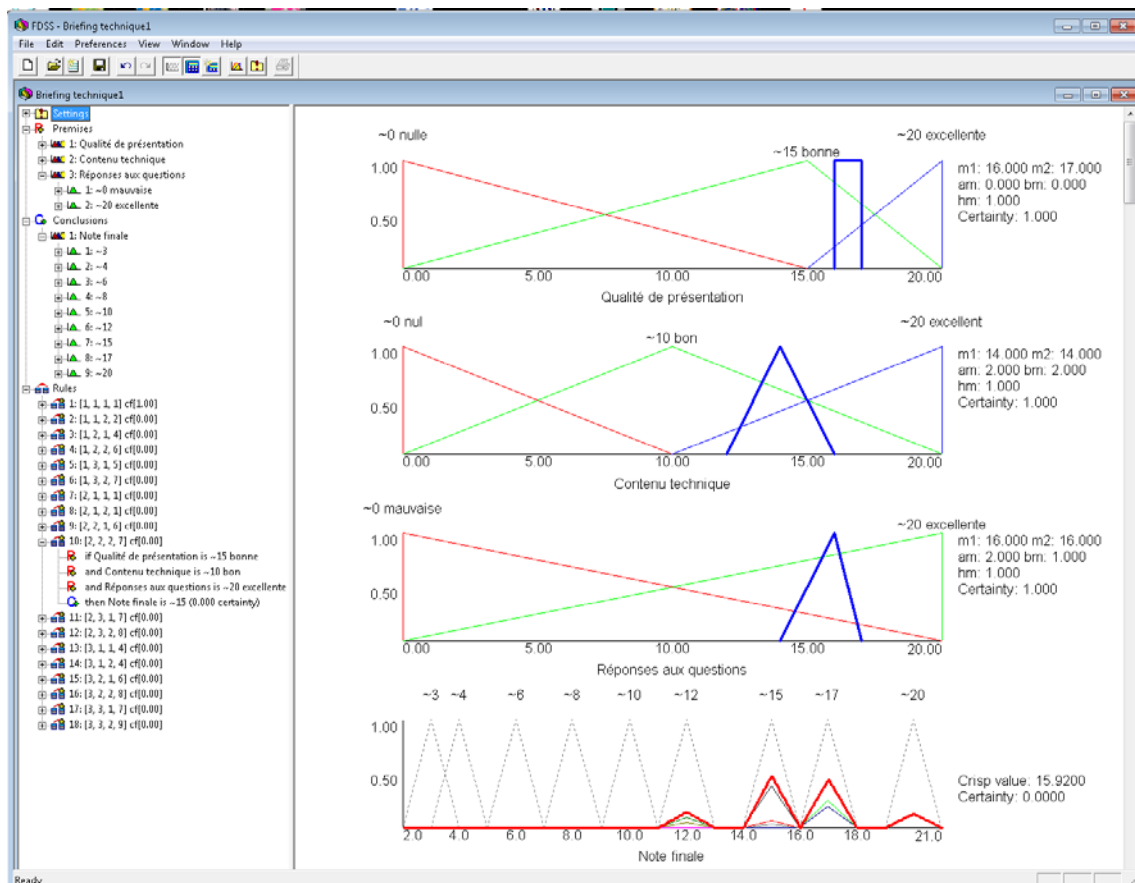
(a)	(b)

Fig. 3. Écran du logiciel Fuzzy-Flou avec les évaluations complètes de la note finale. (a) structure de la base de connaissance, (b) évaluation de briefing technique

Comme on peut voir dans la figure 3, l'évaluateur a utilisé pour son évaluation les notions floues. Il a donné respectivement les notes de 16 à 17 (intervalle) pour la qualité de la présentation, 14 ±2 (valeur approximative) pour le contenu technique et 16 −2+1 (aussi valeur approximative) pour réponses aux questions. La note finale est 15,9. La base de connaissance contient 18 règles floues.

Par exemple, la règle floue no 10 est comme suit :

Si Qualité de présentation est **bonne**

et Contenu technique est **bon**

et Réponses aux questions sont **excellentes**

alors la note finale est **15**.

Expression orale dans l'apprentissage des langues étrangères

L'application du système d'aide à la décision basé sur la logique floue paraît efficace aussi dans les domaines humanistes. Prises en compte la spécificité des sciences et la précision des résultats qu'elles exigent, l'évaluation des matières scientifiques pose peut-être moins de problèmes que dans le cas des élèves en littérature, histoire ou bien linguistique.

Le SAD pourrait ainsi constituer un instrument qui faciliterait le travail de l'enseignant en matières humanistes quant à la notation. Il paraît être particulièrement utile dans l'apprentissage des langues, entre autres

dans le perfectionnement de l'une des compétences langagières, notamment de l'expression orale. Durant le cours, mais aussi pendant l'examen qui est toujours à l'oral, le professeur exige que chacun des participants, en s'exprimant le plus correctement possible, prenne parole et donne son avis à propos d'un sujet proposé. Deux éléments sont donc pris en compte : le contenu du propos et la manière dont il est communiqué, c'est-à-dire la maîtrise de la langue étrangère au niveau de la grammaire (dans le sens large : morphologie, phonétique, syntaxe), de la richesse du vocabulaire, de la fluidité, du style, etc. Vu le caractère non calculable de cet exercice, la note ne dépend que de l'expérience du professeur et ne reflète pas toujours les compétences réelles de l'étudiant.

Le problème devient encore plus difficile lorsque le niveau des élèves est très varié. Le professeur de la langue française, par exemple, se pose des questions à savoir : qui sort vainqueur de la confrontation entre un étudiant qui est né en France ou qui y a vécu pendant des années et qui s'exprime avec une fluidité appréciable, mais ne maîtrise pas de règles de grammaire et un autre étudiant qui a appris le français à l'école et parle avec plus de difficultés, mais correctement en utilisant le vocabulaire bien riche et en se déplaçant consciemment entre les registres de langue ? Comment donc noter ces étudiants ? Le SAD pourrait venir en aide au professeur et donner en même temps l'information à l'étudiant quant à ses compétences acquises, mais aussi à propos de ses points faibles. L'enseignant peut, lui-même, préparer la base de données qui lui servira, par la suite, à évaluer chacun de ses étudiants.

À titre d'exemple, nous proposons de préparer quatre prémisses (qui prennent en compte aussi bien le contenu que la qualité de la langue) pour noter les étudiants du cours de l'expression orale : la première se référant à la fluidité de l'expression, la deuxième à la richesse du vocabulaire, la troisième à la structure et au contenu du propos et la dernière concernant la grammaire. Chacune des prémisses opère avec les notions linguistiques telles que « peu fluide, fluide », « pauvre, assez riche, très riche », « incohérent, assez logique, logique », « incorrect, correct », celles-ci peuvent être évidemment modifiées en fonction des besoins et de l'expérience du professeur avec le groupe.

La figure 4 présente l'exemple d'un étudiant qui s'exprime de manière fluide (18), son vocabulaire est assez riche, mais répétitif (de 12 à 15), pourtant la structure du propos peu logique (11±1) et il fait des fautes de grammaire (12). Il recevra comme note finale 16,0719. Le SAD a permis de noter chaque compétence linguistique séparément et de bonifier celle dans laquelle l'élève excellait. Le résultat final calculé par le système reflète peut-être mieux l'état réel des compétences langagières de l'étudiant. L'avantage de cet instrument de notation a consisté aussi dans le fait que l'hésitation du professeur avait pu être exprimée de manière imprécise, par exemple de 9 à 11, ce qui n'a pas empêché que le calcul final soit précis.
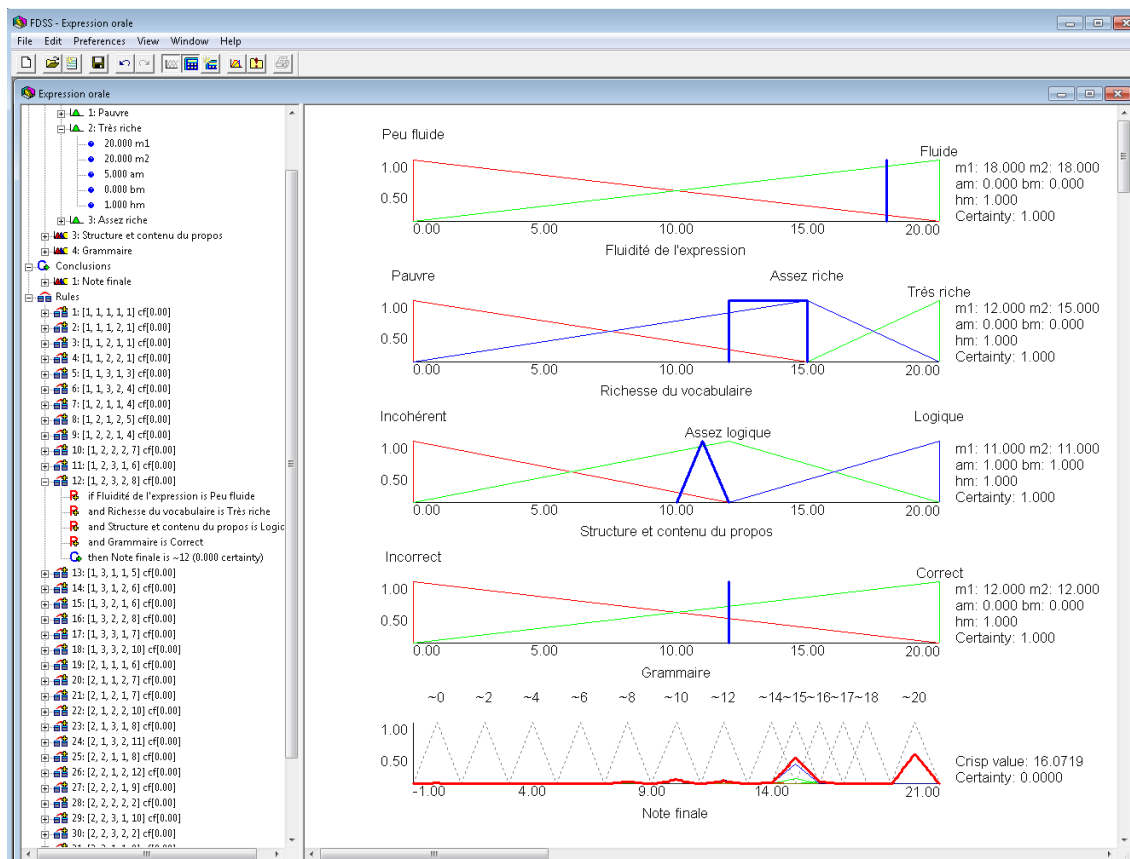
Fig. 4. Écran du logiciel Fuzzy-Flou avec les évaluations complètes de la note finale. (a) structure de la base de connaissance, (b) évaluation de l'expression orale

Le processus d'évaluation devient de plus en plus facile parce que le professeur peut se concentrer seulement sur la notation des points précédemment définis et l'évaluation globale (la note finale) sera issue des réflexions antérieures comprises dans la base de données. On évite ainsi de se laisser influencer par les qualités autres que la valeur scientifique de la présentation.

Conclusions

L'utilisation du logiciel Fuzzy Flou pour noter les rapports techniques et les exposés oraux est simple et flexible. De plus, il permet, aux enseignants en cas d'hésitation, d'accorder des notes exactes, approximatives ou floues avant d'obtenir la note finale. Celle-ci est répétitive pour les mêmes entrées de notes et elle dépend de la base des connaissances utilisées. Afin de construire la base de connaissance, on peut se servir de l'analyse des notations des années précédentes ou bien utiliser l'expertise, l'intuition et les connaissances de plusieurs professeurs. Utilisé pour noter plusieurs groupes d'étudiants, le SAD permet d'homogénéiser les notations. L'utilisation du logiciel ne nécessite pas l'utilisation de calculs ainsi que d'autres notions mathématiques.

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ART TEACHERS' VIEWS ON STRATEGIES AND METHODS WHICH ARE USED TO ACHIVE ATTAINTMENT

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Abstract

Art education because of Visual Arts Education Program which is given in schools has an important place in our education system for discovering and developing the child's abilities and getting the child in community. This research which is descriptive nature, was done to investigate the views of Art Teachers Teaching Program in Visual Arts, which was placed into effect 2005 - 2006 academic year and now being implemented, achievements in teaching strategies and methods used for and to understand the practical implications of the program.

The state of this study is 71 primary schools selected from the Çanakkale at the academic year in 2009 – 2010 and 74 art teachers who are working in these schools. Quantitative research technique was used to investigate the views of art teachers for the strategies and methods which are used to in teaching in the Elementary Visual Arts Teaching Program' achievements. In order to obtain the data with the purposes of the study, a survey was applied to teachers who teach the visual arts in the primary schools. The data which was gathered from the survey forms and personal information, were analyzed using SPSS (Statistic Program for Social Sciences) package program. As a result, it may be said that strategies and methods which are used in teaching achievements, centered student, allow students to learn by doing and experiencing, make the student to active participants and are based on observation.

Key Words: Visual Arts Education Course Program, Art Teacher, Acquisition, Strategy, Methods

Introduction

Education aims to person discovers himself, aware of his potential and assess it the best way. Visual arts lessons undoubtedly have an important place at the beginning of the lessons which develop his skills, his creativity and critical thinking skills especially during primary educations term.

Visual arts education includes all training efforts which in order to create an aesthetic point of view, improve the ability of individuals to express their thoughts and feelings, and gain the ability to think critically and creatively. When we gain him all of these, he will be a person who useful to society, protective his values, respect others as well as himself produce solutions and undaunted challenges.

1. Problem Statement

Art education is necessary for educating person's creative power and potential, organizing the aesthetic thought and consciousness. Giving the sufficient value and importance, provisioning of hardware to this discipline which positively affects the efficiency of other courses, is necessary and important in education and training system. To be educators who equipped and aware of the seriousness and importance of his work is other necessary and an important point. It is impossible to grow people who are creative, have high self-confident, critical, able to look at problems with multi-faceted and give solutions, at peace with himself without art education.

In order to see its deserved importance of art education, how important and primarily the art, in artistic activities and creativity and it is in the place of human life must teach the society.

All educational activities, which are given in formal and informal education institutions, is carried out within the framework of a program prepared in advance. For this reason, the quality of education largely depends on the implemented program. To take the right decisions that will make the program more effective, depends on research bases of those decisions with scientific studies, and assessment of applications (Erden, 1998). Assessment which is the last step of the program development, is also important seeing the shortcomings of the program, to detect aspects of the program's shortcomings and help the new programs will be developed in this direction. One of the best person to assest the programs is the teachers who implement the program exactly with the students not the experts who prepare the program theoretically.

2. Purpose of the Research

The main purpose of this research is investigate the views of Art Teachers Teaching Program in Visual Arts, (GSDÖP) which was placed into effect 2005 - 2006 academic year and now being implemented, achievements in teaching strategies and methods used for and to understand the practical implications of the program and make recommendations in accordance with the data which were obtained.

3. Model of the Research

Scanning Model from the quantitative research methods is used in this research. Scanning models are approach to aim describing a situation which we still have or in the past the way that. This research aims the investigate the views of Art Teachers Teaching Program in Visual Arts, achievements in teaching strategies and methods used for a questionnaire developed by the researcher.

4. Research Field and Sampling

The population of this study is painting teachers who work in second stage of schools which were selected in center and districts of city Çanakkale in 2009 - 2010 academic years. Simple random sampling method was used for sample selection. In simple random sampling method, each unit, which is in universe, has the same probability to take place in sampling. There are 72 teachers in the universe of the research and all of them were included in the sampling.

Table 1. Research Field and Sampling

AYVACIK	Ümmühan Hatun Primary School	2867121831	26.04.2010

AYVACIK	Ayvacık 21 Eylül Primary School	2867123700	26.04.2010
AYVACIK	Çankaya Primary School	2867121089	26.04.2010
AYVACIK	Merkez Atatürk Primary School	2867121066	26.04.2010
BAYRAMİÇ	Mehmet Akif Ersoy Primary School	2867732000	27.04.2010
BAYRAMİÇ	Menderes Primary School	2867734430	27.04.2010
BAYRAMİÇ	Bayramiç Gazi Primary School	2867731682	27.04.2010
BAYRAMİÇ	Milli Hakimiyet Primary School	2867731037	27.04.2010
BAYRAMİÇ	Milli Zafer Primary School	2867731067	28.04.2010
BAYRAMİÇ	Mustafa Kemal Primary School	2867733902	28.04.2010
BAYRAMİÇ	Vali Ekrem Özsoy Primary School	2867735770	28.04.2010
BİGA	Tevfik Emin Başarır Primary School	2863165005	29.04.2010
BİGA	Fatih Primary School	2863162527	29.04.2010
BİGA	Biga Primary School	2863162250	29.04.2010
BİGA	Kaldırımbaşı Primary School	2863165185	29.04.2010
BİGA	İdris koru İbrahim Aydın Primary School	2863164440	30.04.2010
BİGA	Çavuş Village Primary School	2863161791	30.04.2010
BİGA	Bozlar Primary School	2863127099	30.04.2010
BİGA	Dumlupınar Primary School	2863161013	30.04.2010
BİGA	Diyarbakırlı Ekrem	2863162540	03.05.2010

	Ergün Primary School		
BİGA	Osmangazi Primary School	2863161016	03.05.2010
BİGA	Sakarya Primary School	2863162525	03.05.2010
BİGA	Hüseyin Onan Primary School	2863162541	03.05.2010
BİGA	Yenice Primary School	2863161400	04.05.2010
BİGA	Cumhuriyet Primary School	2863160701	04.05.2010
BİGA	Çiçekli Dede Özel İdare Primary School	2863169990	04.05.2010
BİGA	TOKİ Hasan Tahsin Günay Primary School	2863160212	04.05.2010
ÇAN	Özer Primary School	2864161163	05.05.2010
ÇAN	Cumhuriyet Primary School	2864161573	05.05.2010
ÇAN	Atatürk Primary School	2864161107	05.05.2010
ÇAN	Mehmet Akif Ersoy Primary School	2864161193	05.05.2010
ÇAN	23 Eylül Primary School	2864161316	06.05.2010
ÇAN	İstiklal Primary School	2864161007	06.05.2010
ÇAN	75.Yıl Murat Köse Primary School	2864160480	06.05.2010
ÇAN	Osman Caneri Primary School	2864168649	06.05.2010
ÇAN	Şehit Engin Eker Primary School	2864161059	06.05.2010
ECEABAT	Köprülü Hamdibey Primary School	2868141046	07.05.2010
ECEABAT	Türközü Primary School	2868141207	07.05.2010
EZİNE	22 Eylül Primary	2866186272	10.05.2010

	School		
EZİNE	Cevat paşa Primary School	2866181168	10.05.2010
EZİNE	Yahya çavuş Primary School	2866181155	10.05.2010
EZİNE	Akköy Primary School	2866181107	10.05.2010
EZİNE	Gazi Primary School	2866181187	11.05.2010
EZİNE	75.Yıl Primary School	2866184132	11.05.2010
GELİBOLU	Namık Kemal Primary School	2865660030	12.05.2010
GELİBOLU	Piri Reis Primary School	2865662835	12.05.2010
GELİBOLU	Hakimiyeti Milliye Primary School	2865661051	12.05.2010
GELİBOLU	Gazi Süleyman paşa Primary School	2865661072	12.05.2010
GELİBOLU	Orgeneral Eşref Bitlis Primary School	2865661075	13.05.2010
GELİBOLU	75.Yıl Cumhuriyet Primary School	2865661052	13.05.2010
GELİBOLU	26 Kasım Primary School	2865668646	13.05.2010
LAPSEKİ	Plevne Primary School	2865121498	14.05.2010
LAPSEKİ	25 Eylül Primary School	2865121146	14.05.2010
CENTER	Şemsettin Fatma Çamoğlu Primary School	2862174515	14.05.2010
CENTER	Ömer Mart Primary School	2862172015	14.05.2010
CENTER	Turgut Reis Primary School	2862172941	14.05.2010
CENTER	Anafartalar Primary School	2862179477	14.05.2010

CENTER	18 Mart Primary School	2862174872	17.05.2010
CENTER	Arıburun Primary School	2862172049	17.05.2010
CENTER	Barbaros Hayrettin Paşa Primary School	2862175816	17.05.2010
CENTER	Cumhuriyet Primary School	2862171241	17.05.2010
CENTER	Gazi Primary School	2862171275	17.05.2010
CENTER	Vali Fahrettin Akkutlu Primary School	2862174883	17.05.2010
CENTER	İstiklal Primary School	2862171270	18.05.2010
CENTER	Merkez Primary School	2862171099	18.05.2010
CENTER	Mustafa Kemal Primary School	2862171883	18.05.2010
CENTER	Atatürk Primary School	2862182168	18.05.2010
CENTER	Özlem Kayalı Primary School	2862137693	18.05.2010
YENİCE	Yeşilyurt Primary School	2864743016	19.05.2010
YENİCE	Atatürk Primary School	2864743037	19.05.2010
YENİCE	Cumhuriyet Primary School	2864743466	19.05.2010

5. Collection of Data

For the purposes of the research in order to obtain data, second levels of primary schools, a survey was conducted for teachers who teach the visual arts. This survey is prepared and administered by the researcher. İn the preparation of the survey, studies and literature in different fields were scanned, with the expert advice given its final form. The data which was gathered from the survey forms and personal information, were analyzed using SPSS (Statistic Program for Social Sciences) package program.

Table 2. Statistics on the options which are used in the calculation

	Options	Borders
1	Totally disagree	1.00–1.79

	Disagree	1.80–2.59
2	Disagree	1.80–2.59
3	Not Sure	2.60–3.39
4	Agree	3.40–4.19
5	Totally Agree	4.20–5.00

Results and Comments

This part of the research involves the findings which obtain from results of the implementation of the data collection instrument and interpretation of these findings.

Strategies which are used to achive attaintment of GSDP's by Art Teachers;

Education Strategy of Through Invention
Education Strategy of Through Presentation
Education Strategy of Through Research and Inquiry
Full-Learning Strategy
Other Strategy

Table 3. Views on Strategies Which Are Used to Achive Attaintment

	1		2		3		4		5	
	f	%	f	%	f	%	f	%	f	%
Education Strategy of Through Invention	5	6,90	45	62,50	20	27,8	2	2,80	--	--
Education Strategy of Through Presentation	36	50	8	11,10	20	27,80	4	5,60	4	5,60
Education Strategy of Through Research and Inquiry	28	38,90	15	20,80	28	38,90	1	1,40	---	---
Full-Learning Strategy	2	2,80	2	2,80	4	5,60	64	88,90	---	---
Other Strategy	---	---	2	2,80	3	4,20	---	---	67	93,10

As shown in Table 3, When we look the values of Education Strategy of through Invention in Strategies which are used to achive attaintment of GSDP's by Art Teachers, it is preferred at most second with 62.5%, at least in fourt with 2.8% by teachers. However, in fifth it is never preferred. When we look the values of Education Strategy of Through Presentation at most it is preferred first order with %50 after second order with %27.8 but at least it is preferred fourt and fifth with %5.6. When we look the values of Education Strategy of Through Research and Inquiry, it is preferred at most first and third in with %38.9 but at least it is preferred in fourt with %1.4. When we look the values of Full-Learning Strategy, it is preferred at most fourt with%88.9, but

at least it is preferred in first and second %2.8. When we look the values of Other Strategy, it is preferred at most third and fifth with %93.1, but at least it is never preferred in first and fourt.

Methods which are used to achive attaintment of GSDP's by Art Teachers;

Observation and Analysis Method

From Easy to Difficult Method

Demonstration Method

Working From Model Method

Educational Creative Drama Method

Education Through Art Method

Memory Method

Children's Art Methods

Project Method

Dramatic Method (Dramatization)

Musical Method

Copy Method

Analysis and Connection Method

Museum Education Method

Psychological Method

Table 4. Methods which are used to achive attaintment, to be Preferred Rates

Method Which is Used	Arithmetic Mean ( )
Observation and Analysis Method	12.74
From easy to Difficult Method	11.27
Demonstration Method	11.00
Working From Model Method	10.58
Educational Creative Drama Method	8.57
Education Through Art Method	8.51
Memory Method	8.14
Children's Art Methods	8.01
Project Method	7.22
Dramatic Method (Dramatization)	6.74
Musical Method	6.60
Copy Method	5.93
Analysis and Connection Method	5.50
Museum Education Method	4.71
Psychological Methods	4.55

As shown in Table 4, The first three methods which are used to achive attaintment of GSDP's by Art Teachers are Observation and Analysis Method(= 12.74), From easy to Difficult Method(= 11.27) and Demonstration Method (= 11.00).

At least the preferred methods which are used to achive attaintment by Art Teachers are Psychological Methods (= 4.55), Museum Education Method (= 4.71) and Analysis and Connection Method (= 5.50).

Conclusion

Strategies which are used to achive attaintment of GSDP's by Art Teachers are Education Strategy of Through Invention, Education Strategy of Through Presentation, Education Strategy of Through Research and Inquiry, Full-Learning Strategy, Other Strategy. Methods which are used are Observation and Analysis Method, From easy to Difficult Method, Demonstration Method, Working From Model Method, Educational Creative Drama Method, Education Through Art Method, Memory Method, Children's Art Methods, Project Method, Dramatic Method (Dramatization), Musical Method, Copy Method, Analysis and Connection Method, Museum Education Method, Psychological Method. When we look strategies which are used to achive attaintment of GSDP's by Art Teachers, from the most prefered to the least prefered, Education Strategy of through Presentation which is provided a significant learning, requires an intense interaction between teacher and student, education is advanced step by step, is preferred first with %50, Education Strategy of Through Invention is preferred second with %62.5, Education Strategy of Through Research and Inquiry which is the student becomes aware of the problem, established hypothesis for the solution, collected datas to test hypotheses and reached conclusion by evaluation with it, is preferred third with %38,9, Full-Learning Strategy is preferred fourt with %88.9, Other Strategy is preferred the last with %93.1.

When we look methods which are used to achive attaintment of GSDP's by Art Teachers, with order, Observation and Analysis Method is preferred first, from easy to Difficult Method is preferred second and Demonstration Method is preferred thirt. At least the preferred methods which are used to achive attaintment by Art Teachers are Psychological Methods is prefered in fifteenth is realy regrettable for art education.

Suggestion

Methods which are used to achive attaintment of GSDP's by Art Teachers, serve the purpose. But the important thing is to draw up efficiency to maximize. In Human life, childhood is a period which is imagination is dominated life and the most free in. In parallel to this, people make the best theater acting in their childhood in their lives. Every child is an excellent theater player. There is no role which he can do once after seeing an instance of a role. When person grows, he begins to narrow his limitation. Before these limitations don't start, taken advantage of this feature during the children's education, should be lived, empathized, understood events and facts and portrayed. In children's life, Drama, is an important transfer the game to educational life with in a controlled way. Students' creativity is important to use this method as well as their knowledge. Drama should mainly use for the emergence of intense creativity in the visual arts course and students produce original work.

Students, who represent the future, whose the most important ties with the past is historical artifacts, so museums. The students can learn themselves and other nations culture and art in history courses, just with books but they cannot internalize. Museum education is a method that especially should be used mainly in the visual arts lessons. Creativity is maximize in free environments. In the museums which occurrence of nested with works of art are advanced students' aesthetic capabilities, skills in perception and attention and their creativities are maximize so that must be ensured persons can lived Art culture, grasp the culture of art is a universal language. On the basis of these, museum education which is not given enough attention or not provided enough facility, should be given required importance and frequently used as a technique.

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ASSESSING ELEARNING TEACHING QUALITY OF FACULTY MEMBERS IN TEACHERS' COLLEGE AT KING SAUD UNIVERSITY: STUDENTS PERSPECTIVES

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Abstract

This paper examines students' perspectives about assessing Elearning teaching quality for faculty members in teachers' college at King Saud University. The sample of the study includes all enrolled students in Teachers' College during the academic year of 2009-2010, which they were (2282) students. Two questions are stated to be answered: (a) what are the perspectives of students about assessing Elearning teaching quality for faculty members in science, literary and educational departments in the Teachers' College? (b) What are the perspectives of students about assessing Elearning teaching quality for faculty members within each department?. Participants were asked to complete a 5-point Likert scale questionnaire. The results revealed that Educational department has had the highest mean score (3.92), followed by Literary (3.91) and Science (3.79) Departments, respectively. Further, results reveal that within each department, Curriculum and Instructions has had the highest mean with (4.01) in Educational departments; Islamic Studies had the highest mean with (4.09) in literary departments; and Science Department had the highest mean with (4.08) in all scientific departments. Finally, students thought the Elearning Teaching quality of their faculty members in teachers' college at King Saud University was satisfied.

Keywords: Elearning Teaching Quality; Performance of Teaching; and Quality Assessment.

Introduction

The rapid development in all higher education institutions made the Elearning Teaching quality has been recently stressed. Assessing and measuring the efficiency and effectiveness of teaching performance is an ongoing process, so it is a crucial issue in higher education. Assessing performance helps faculty members think about what results and skills that they want their students to acquire. It also validates expectations of learning outcomes and maps such outcomes with the institution's vision, mission, and objectives. Moreover, assessment supports continence communication, feedback, and dialogue about performance of teaching.

Using Educational technology became a core and critical issue in education, In line with the fast advance seen in technology, the use of technological resources in education has come to play an important role in terms of drawing students' attention to the subjects studied in the classroom so that success increases and the knowledge is better internalized. (Can, Sendil, 2010, p46). In addition, using Elearning became a developmental step, Sammour, G.N. (2009) identified Elearning as a strategic resource that can be utilized as an increasing variety of venues such as homes, workplaces, and traditional institutions of learning, education, and training. Elearning systems are becoming technologically sophisticated and complicated, with regard to training management or course management. Their use does not always match well with traditional modes of teaching and learning and much care needs to be taken when considering the use of Elearning in educational institutions. (Sammour, G.N, 2009, p1). Elearning require policies balancing different expectations of participants and considering how the users perceive ethics during online learning. As in the case of face-to-face classes; learners must show respect and tolerance among each other, and conduct civil relations and interaction based on pre-determined rules. (Toprak, Elif ; Ozkanal, Berrin ; Aydin, Sinan, 2010, p78).

Traditionally, the role of students in the learning process is undeniably passive, a situation that leads them to accept knowledge and information provided to them by their respective instructors. Students have thus a limited

set of opportunities to express their ideas and opinions about their learning. As a result, students assessment of teaching (SAT) in higher education became a necessary tool to improve learning and teaching (Bie & Meng 2009). Although students assessment of teaching (SAT) are not generally accepted as being reliable, nor provide meaningful information (Pan, Tan, Ragupathi, Booluck, Roop, & Ip 2009), numerous work has been done on investigating STUDENTS ASSESSMENT OF TEACHING (SAT)in higher education (Seldin 1993; Marsh & Dunkin 1997; Kember & Wong 2000; Brown 2008; Kang 2008; El Hassan 2009; Kember & Leung 2009; & Pan et. al. 2009). That is because measuring the efficiency and effectiveness of teaching plays a vital role in higher education institutions (Chen & Hoshower 2003, Smith 2009).

The Importance of students assessment of teaching (SAT) revealed from many studies as McKeachie (1997), Wachtel (1998), Spencer and Schmelkin (2002), and Stark-Wroblewski, Ahlering, & Brill (2007) assert that research studies have shown that students are best placed to assess various aspects of teaching quality, where their ratings are relatively valid, multidimensional and quite reliable. To achieve that, Kember and Leung (2009) concluded that instruments for assessing the teaching and learning are comparatively inadequate. Therefore, Feldman (1997) believes that instruments of assessing teaching should be multidimensional because teaching and instruction in higher education consist of various components. Designing multidimensional and comprehensive instruments for assessing teaching provides valuable feedback to instructors about their teaching quality (e.g. strengths and weaknesses); help students select courses; facilitate making personnel and administrative decisions (e.g. hiring, contract, renewal, promotion, awards, and tenure) (Marsh & Dunkin 1997; Wachtel 1998; Kember & Wong 2000; Stark-Wroblewski et. al. 2007; Brown 2008; Kang 2008; Bie & Meng 2009; Smith 2009). Moreover, it is crucial for faculty members to understand how to use such feedback so as to address their students' concerns and needs (Pan et. al. 2009).

In the other hand, Olivares (2003, p.240) states that 'there is no empirical evidence to suggest that the widespread implementation of teacher ratings has resulted in more effective teachers or more learned students'. Seldin (1993), Olivares (2003), Kang (2008), Remedios & Lieberman (2008), and Pan et. al. (2009) explains that in spite of the extensive use of SAT, validity, fairness, and accuracy of the measures are not well accepted as being valid, reliable, and subjective because such assessment materials are biased and can be affected by external factors (Olivares 2001; Griffin 2004; & Stark-Wroblewski et. al. 2007), and may ultimately produce results that might be misinterpreted and thus misused (Theall & Franklin 2001).

Any way, if we agree or not about if the students are qualified or not to assessing their teachers teaching quality, at least we could use students assessing as indicator in faculty member assessment. Assessment of teaching effectiveness of faculty members in higher education, as Campbell & Bozeman (2008, p.13) assert, 'is one of the most daunting and arduous tasks confronting administrators, particularly department chairs and deans'. Furthermore, Theall and Franklin (2001, p.45) affirm that 'few issues in higher education are as sensitive, divisive, and political as faculty evaluation and in particular the quality and value of the information provided by students in their evaluations'. Generally, assessments of teaching include instructional skills, delivering and facilitating instructions, evaluating student learning, satisfactions and attitudes toward courses, students' needs, instructor's knowledge, organization and preparation, communication and interaction skills, stimulation, and fairness in grading (D'Appollonia & Abrami 1997; Kang 2008; Bie and Meng 2009; Smith 2009).

Campbell and Bozeman (2008) explains assessments of teaching effectiveness as influenced by students' perspectives and attitudes. students assessment of teaching (SAT) provides students with great opportunities to voice their concerns regarding their education (Bie & Meng 2009). Spencer and Schmelkin (2002) and Greimel-Fuhrmann and Geyer (2003) have found that subjects of their study subjects think that they are qualified to rate their instructors, and that the assessing of the teaching process is important in improving teaching methods. Similarly, in their study on Florida Community College, Campbell and Bozeman (2008) have noticed that the majority of students strongly believe that their assessment has a positive and valuable role, and has thus been considered vitally important. Also, They recommend that students should participate in completing assessment forms to assess their instructors and that the respective instructors should, thereafter, be informed about the results of students' assessment.

Hussein, Hisham (2011) aims to identify the Attitudes of faculty members at Saudi Universities towards using E-learning Management System, The results showed a positive Attitudes of the members of the faculty at Saudi University towards E-learning management system JUSUR. the results showed how their needs for training in using the system and in particular learning content management and file sharing, forums, and Questions Bank. Moreover, results showed no difference in attitudes towards using the system among the faculty members regarding gender or the types of colleges humanitarian, scientific and health.

Guler, Cetin ; Altun, Arif (2010) aims to identify problems and issues teacher trainees experience when designing Learning Objects (LO). The findings indicated that teacher trainees experienced content development related issues (such as, understanding LO paradigm, development software and environments, content packaging and repository) the most. In addition, project management and copyright related issues were emerged, as well. As Becker (2000) puts it well, teachers' beliefs and philosophies affect their use of resources. Therefore, starting the process with prospective teachers and integrating LO design as part of their training curricula, where these issues and problems addressed, would be beneficial in the long term.

Eskil, Murat; Ozgan, Habib ; Balkar, Betuel (2010). Explore the opinions of 9-13 year old students' perspective regarding the interaction with classroom technology (CT) in Science and Technology (S&T) lessons in Kilis city of Turkey. The issues discussed here can provide some ideas for educators to improve their teaching. Two types of students are used from private schools: from schools with high levels of teaching resources (HLTR), and from schools with low levels of teaching resources (LLTR). The students are surveyed in five general areas related to CT. The population of the study is 263 students (4. and 5 class) which belongs to four different primary schools in Kilis city. Subjects (participants) were chosen through random sampling. "Personal Data Form" and "Survey About Students' Opinions on Using CT in S&T Lessons" which were improved by the researchers were used as data collection tools. From this research, Some differences have been found in students' point of view on which it leads support on learning, drawing attention, increasing the research opportunities and the effects of computers on learning according to the school types by using CT in S&T lessons.

Isman, Aytekin; Celikli, Guelsuen Ersoy (2009) aims to find out the self-efficacy level among participant students and analyze their beliefs. This study showed that male students are more confident comparing to female student. Teo, Timothy (2009) Examines the relationship between computer self-efficacy and intended uses of technology of student teachers (N = 1094) at a teacher training institute in Singapore. Results showed that significant relationships exist among Basic Teaching Skills, Technology for Pedagogy, Traditional Use of Technology, and Constructivist Use of Technology. However, Advanced Teaching Skills did not influence Traditional Use of Technology and Constructivist Use of Technology in a significant way. Overall, the results of this study offer some evidence that student teachers' self-efficacy is a significant influence on whether they use technology in a traditionalist or constructivist way.

The Study:

The current study addresses the two major research questions: (1) What are students' perspectives about assessing Elearning quality teaching for faculty members in Teachers' College, including: (a) Science departments, (b) Literary departments, (c) Educational departments? (2) What are perspectives of students about assessing Elearning quality teaching for faculty members among departments within each field in Teachers' College?

In addition, the main purpose of this study is to investigate students' assessment about the Elearning Teaching quality for faculty members in all of the departments in teachers' college at King Saud University (KSU), during the academic year of 2009–2010. The significance of this study stems from the fact that it becomes necessary for each single higher education institution; TCs are no exception, to improve the status quo of its faculty member, develop and expand its curriculum and study plans. This study, to the knowledge of the researchers, is the first in its kind to evaluate the Elearning Teaching quality of the faculty members in (TC).

Descriptive research design was used to obtain thorough information concerning the status quo about the Elearning Teaching quality of faculty members. Sample of the study was (2282) students during the academic year of 2009–2010. Participants were asked to complete a five-point Likert scale questionnaire (Strongly Agree=5, Agree=4, Agree to some Extend=3, Disagree=2, and Strongly Disagree=1).

The questionnaire was adopted from many instruments that examines the students attitudes, perceptions and perspectives, as Al-Karni et al. (2006), Hussein (2011) Construct validity and content validity of the questionnaire was ensured. It was sent to five expert professors who specialized in measurement and evaluation for revision and feedback. Various items of the questionnaire have been modified based on received feedback provided by the expert professors. In its final format, the modified questionnaire compromises 29 items. The researchers verified the reliability coefficient of the questionnaire by conducting pilot study. The sample of the pilot study consisted of (50) students. Cronbach's alpha was (0.94), which is considered to by very high, indicating that the questionnaire is reliable (Harris, 1998).

To successfully achieve the goals of this study, the researchers grouped all departments into three major domains: Scientific, Literary and Educational departments. The number of all courses and classes related to each department during the academic year of 2009 – 2010 were calculated to obtain appropriate results that are expected to reflect students' perspectives about faculty members' Elearning Teaching Quality.

The students were asked to electronically complete a separate evaluation form for each course that they were registered in at the end of semester anonymously. Since two probe statements were used in the questionnaire, any wrong response to either of them, the whole evaluation form was eliminated from the final analysis. The valid calculated and analyzed evaluation forms were (20538) forms of (2282) students for the academic year of 2009 – 2010, which that mean each students complete (9) form to evaluate (9) courses. Statistical treatments were conducted to extract results.

Results and Discussions

Findings about students' perspectives of assessing Elearning quality of teaching for faculty members in Teachers' College at KSU are being displayed in the following tables. In addition, percentile rank of faculty members in each single department compared to the rest of the departments is also shown. For instance, a percentile rank of (75) indicates that performance of the department is higher than (75%) of other departments in both college levels.

The first question of this study addresses to perspectives of students about assessing Elearning quality teaching for faculty members in Teachers' College, including three main domains: Scientific departments, literary departments, and Educational departments. As shown in Table 3, even though differences in mean scores are minor, Educational departments have collectively achieved the highest mean score of (3.92) at the college level. Such a result indicates that students highly assessed faculty members belonging to Educational departments, which surpassed those belonging to Scientific and Literary departments. Moreover, it was noticed from students' grades during the academic year of 2009 – 2010 that there was direct proportion between students' high grades and their high ratings to their instructors in courses presented by Educational departments. In contrast, it is also noticed that the lowest mean and percentile rank were for scientific departments, in which students' grades in courses presented by scientific departments are relatively low.

The second question of the study is related to perspectives of students about assessing Elearning quality teaching for faculty members among departments within each domain in Teachers' College. Results in Table 4 show that the Science department achieved the highest mean score of (4.08) and its percentile rank among the other Scientific departments was (62.5%) at the college level. It was also noticed that students' ratings of Elearning Teaching quality in Science department surpassed their ratings in both Computer Science and Math departments. It was observed from students' grades during the academic year of 2009 – 2010 that there is a direct proportion between students' low grades and their low ratings to their instructors in courses presented by both Computer Science and Math departments, with a slight difference in favor of Computer Science department.

Islamic Studies department achieved the highest mean score of (4.09) and its percentile ranks at college level was (82.85%) among the other Literary departments, and was (92.14%) . There was a direct proportion between students' high grades and their high ratings to their instructors in courses presented by Islamic Studies department. Even though students' rating for their instructors in Arabic Language department was good (3.74), its percentile ranks at college level was very low (21.42%) among the other Literary departments.

In addition, Results showed that the Instructional Technology department achieved the highest mean score of (4.03) and its percentile ranks at college level was (85.71%) among the other Educational departments. Based on students' grades, there was a direct proportion between students' high grades and their high ratings to their instructors in courses presented by Instructional Technology departments. High mean score attained by Instructional Technology department might due to the nature of its courses, which make the students interesting for students as they are technology-based and have many relevant applications to their daily life. In contrast, mean score of Physical Education department was (3.81), where it was ranked as (35.71%) higher than other departments at college level. and (63.35%) .

In general, the overall results of the study raise several questions concerning the objectivity and integrity of students' assessment of teaching. Doubt of students assessment of teaching (sat)is affirmed by the fact that students assessment of teaching (sat)is directly proportional to students' grades in courses they study in each department. further, external factors might increase the lack of validity and reliability of sat. such factors include renewal of the non-Saudi faculty members' contracts, relationships with students, and faculty members' personality. therefore, students assessment of teaching (sat)should not be considered the main criterion for rating the quality of teaching in teachers' college as well as developing teaching and learning processed at KSU. results of this study are consisted with other studies, including Seldin (1993), olivares (2001), olivares (2003), griffin (2004), stark-wroblewski et. al. (2007), kang (2008), Remedios & lieberman (2008), and pan et. al. (2009). these studies conclude that although the students assessment of teaching (sat)was extensively used in higher education institutions, its validity and accuracy as measures of teaching are not fully accepted due to its biases and being influenced by external factors.

In addition, Results of Students Assessment of Teaching might be misinterpreted and misused as Theall & Franklin (2001) stated. Kang (2008) summarizes the most common problems regarding Students Assessment of Teaching (SAT): (1) issues related to the development of instrument quality and its functions; (2) misleading of applied raw scores and its averages, which might lead to inconsistent statistical analyses; and (3) adopting class-average scores, which neglects variability within classes and ignores the peculiarity of students' assessment.

Conclusion:

The Researchers of this study reach a conclusion that students are neither sufficiently qualified nor objective to tackle the task of assessing faculty members. Students lack the ability to rate their instructors' subject knowledge or Elearning quality. Therefore, students usually tend to highly evaluate instructors who give higher grades. An important recommendation of the research is that students assessment of teaching (SAT)should not be considered as a the main criterion for judging the Elearning Teaching quality. Rather, it can be one of the crucial indicators for assessing teaching.

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ATYPICAL DEVELOPMENT OF CHILDREN FROM MULTICULTURAL FAMILIES IN KOREAN RURAL AREAS

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Abstract

The aim of this study was to explore overall developmental status of young children from multicultural families. 290 kindergarten children were involved (147 from multicultural families and 143 from typical Korean families). The result indicated significantly lower levels of performance on overall development of children from multicultural families than children from typical Korean families. It also suggested that delayed language development of children from multicultural families negatively affected their cognitive development, which then influenced higher aggression indirectly through their low self-respect and low self-control. These findings indicated latent atypical development of children from multicultural families.

Keywords: Atypical development; Children; Multicultural families; Rural areas

1. Introduction

During the last decades, Korea has become a multicultural and multi-ethnic society (Hwang, Kim, Lee, Choi, & Lee, 2007; Koo, Park, & Choi, 2009). This can be observed in both urban and rural areas. However, there is a big difference between the two regions: In urban areas, usually a majority of immigrant men have come to find job opportunities, whereas in rural areas, many women have immigrated to marry Korean men (Lee, 2005; Oh, 2007; Yoon, 2005). Moreover, although the absolute number of multicultural families in cities is larger than in rural areas, the social, economic, and psychological influence of multicultural families is greater in rural areas because they form a higher percentage of the population (Koo, 2007). In terms of immigrant women's influx, in 1995, the number of immigrant women was 619 and most were Korean-Chinese (Korean National Statistics Office, 2005). However, according to the Ministry of Justice of the Republic of Korea, by 2011 this had increased to 189,900 from various countries in South East Asia, South America, and the former Soviet Union. This dramatic increase was also reflected in the marriage ratios, that is, 33.9% of all marriage cases in rural areas were interracial marriages in 2010 (Korean National Statistics Office, 2011).

Despite the high ratio of international marriage in rural areas, many young males in those areas appear not yet prepared to adjust to this change. Several studies on this issue have demonstrated that rather than understanding and accepting multicultural families, numerous young males in rural areas just tolerate them as an unavoidable given fact and display depressive emotions on intermarriage (Chu, 2006; Eom, 2008). Additionally, they report their feelings of insecurity about the increasing new cultures and colored races in their environment (Yang & Chung, 2006).

In accordance with this perspective on intermarriage, a considerable number of immigrant women may be at risk. Regarding this, Lee (2005) and Yoon (2003) reported serious problems with intermarriage in rural areas. First, there is a big age gap, averaging between 15 and 17 years in married couples. In some cases, the gap is more than 20 years. Second, without knowing the groom, the women move to Korea and get married through private agencies. More seriously, in this case, most immigrant women do not have enough linguistic ability to

communicate with their husbands in Korean. Third, a high prevalence of economic deprivation has occurred in rural areas and the disadvantaged environment from poverty has negatively affected these women's marriages.

The foremost problem for multicultural families in rural areas in South Korea, however, is related to their children. According to the Ministry of Education, Science and Technology (2008), 1 in 10 children from multicultural families in rural areas leaves primary school. Up to 87% of adolescents give up attending secondary school. Even children in primary schools show a very low level of academic achievement. Moreover, 37% of children from multicultural families have been bullied due to their maladjusted behavior. Related to their social maladjustment, there is other evidence that children in multicultural families easily get involved with school violence and delinquency (Ahn, 2007; Lee, 2007; Oh, 2007). Koo (2009) and Chung and Chung (2010) also showed that the aggressive behavior of children from multicultural families is often reported not only by school teachers but also by kindergarten teachers. Teachers explain that the aggressive behavior is different from that of children from typical Korean families.

To alleviate various problems in multicultural families, the Korean government has implemented several policies and supporting programs. For immigrant mothers, Korean language learning and culture classes were established (Chung, 2008). In addition, for children, after-school programs for coping with schoolwork were provided and mentoring services by school counsellors were established (Hwang, 2008; Jun, Pae, & Kwak, 2008). Nevertheless, there were no significant and positive outcomes (Koo, 2009). For instance, North Jeolla Province, which has the highest number of immigrant women and their children as a percentage of the population, reported that the problems were becoming even worse (Jeonbuk Development Institutes, 2010). These results demonstrate that more effective intervention systems are required based on in-depth understanding of the latent problems.

Therefore, there is a need to figure out the reasons for the non-remarkable results of governmental projects, and to analyze the requirement of immigrant women and their children, as well as to explore when children's problems started and why.

2. Method

To discover fundamental reasons for the maladjustment of young children from multicultural families, a quantitative study was conducted.

2.1. Participants

Initially, 350 kindergarten children were selected in North Jeolla province, South Korea. However, 43 parents did not give permission for this study and 17 children could not be involved in all the tests. The final number of participants was 290: 147 children from multicultural families (75 boys and 72 girls) and 143 children (73 boys and 70 girls) from typical Korean families.

2.2. Measures

2.2.1. Language development test

For measuring language development for children from multicultural families, Joo's (1982) revised version of Peabody Language Development Kits (Blank, Rose, & Berlin, 1978; Dunn, Horton, & Smith, 1981) was used. Joo's (1982) original kits consisted of 80 items in four sub-factors (perceptive, analytic, synthetic, and reasoning skills). Through a pilot study with children from multicultural families, 48 of 80 items were selected across four sub-factors. Cronbach's alphas ranged from .96 to .97.

2.2.2. Cognitive development test

To examine early cognitive development, an intelligence test, Kaufman Assessment Battery for Children (K-ABC) was used. The test was standardized in 1997 by Moon and Byon in Korea. K-ABC differs from most traditional intelligence tests because it has reduced emphasis on verbal abilities and has a significant advance toward non-discriminatory assessment of minority children from multicultural backgrounds (Kaufman & Kaufman, 1983). The test is divided into two domains called mental processing scales and achievement scales. More specifically, mental processing scales contain simultaneous processing, which is related to congenital cognitive development, and sequential processing, which is more involved in acquired cognitive development. However, for mental processing, the two sub-tests are considered as inborn mental abilities. In contrast, achievement scales are strongly related to acquired learning of children.

2.2.3. Social and emotional development test

To investigate the social-emotional development of the children, test scales on self-respect, self-control, and aggressive behavior were used. The self-respect test was the Pictorial Scale Perceived Competence and Social Acceptance (Harter & Pike, 1984). Based on a pilot study, 17 of 24 original items were included and Cronbach's alphas ranged from .84 to .96. Next, the self-control test was a revised version of Eisenberg et al.'s (1996) Self-Control Ability Test by Ahn (1998) in Korea. After a pilot study, it contained eight items with pictures and reported Cronbach's alphas ranging from .81 to .98. Third, aggressive behavior was measured using the developed test (Koo, 2007) based on the Behavior Check List (Achenback & Edelbrock, 1983), the Korean version of Child Behavior Checklist (Moon, Oh, Ha, & Park, 1999), and the Toddler Behavior Checklist (Lazelere, Ambersun, & Martin, 1989). Based on a pilot study, 14 items were used and Cronbach's alphas ranged from .93 to .95.

2.3. Data analysis

For data analysis, first an independent samples t-test was conducted to compare total and subscale scores of language and social-emotional development between children from multicultural families and those from typical Korean families. To explore cognitive development of children from multicultural families, their distributions of intelligence test scores were analyzed against those of children from typical Korean families. Furthermore, to understand cognitive characteristics of children from multicultural families, sub-factors of the intelligence test were compared separately. Finally, to investigate potential causal relationships among developmental domains, structural equation modeling analysis was conducted.

3. Results

3.1. Understanding in language development for children from multicultural families

Regarding language development, the results showed that children from multicultural families had significantly lower levels of language development over the sub-factors (see Table 1): perceptive (t=-4.65, p<.001; M=2.11, SD=.75 < M=2.45, SD=.47); analytic (t=-2.30, p<.05; M=2.16, SD=.64 < M=2.31, SD=.40); synthetic (t=-9.27, p<.001; M=1.64, SD=.73 < M=2.29, SD=.43); and reasoning skills (t=-8.15, p<.001; M=1,69, SD=.74 < M=2.28, SD=.44) when compared with those in typical Korean families. The delay in language development during early childhood is considered an independent impediment. Moreover, it also can be identified as a continuing negative factor over a person's lifetime on cognition and social-emotional development. This demonstrates that language development is a crucial part of general developmental process.

Table.1 Comparison of language and social-emotional development between the two groups

	Children from multicultural families (n=147)	Children from typical Korean families (n=143)	t
	M(SD)	M(SD)	
Language			
Perceptive skills	2.11(.75)	2.45(.47)	-4.65***
Analytic skills	2.16(.64)	2.31(.40)	-2.30*
Synthetic skills	1.64(.73)	2.29(.43)	-9.27***
Reasoning skills	1.69(.74)	2.28(.44)	-8.15***
Social-emotional			
Self-respect	3.02(.53)	3.27(.48)	-4.08***
Self-control	2.61(.57)	2.89(.64)	-3.89***
Aggressive behavior	2.70(.54)	1.82(.69)	11.99***

*$p < .05$, ***$p < .001$

3.2. Understanding in social and emotional development for children from multicultural families

To understand social-emotional development in children from multicultural families, the levels of self-respect, self-control, and aggressive behavior were measured, compared with those of children from typical Korean families. As can be shown in Table 1, children from multicultural families showed lower levels of self-respect (t=-4.08, p<.001; M=3.02, SD=.53 < M=3.27, SD=.48) and self-control (t=-3.89, p<.001; M=2.61, SD=.57 < M=2.89, SD=.64), whereas their aggressive behavior (t=11.99, p<.001; M=2.70, SD=.54 > M=1.82, SD=.69) was much higher than that of children from typical Korean families.

3.3. Understanding in cognitive development for children from multicultural families

To analyze cognitive development of children from multicultural families, the distributions of their K-ABC intelligence test scores were compared with those of children from typical Korean families. As can be seen from Fig. 1(a), the overall distribution of children from multicultural families in mental processing scales was similar to the normal distribution of the comparative group. However, in a more detailed analysis, there were differences in some specific intervals.

As the line chart of Fig. 1(a) shows, the percentage of children from multicultural families in the mean interval ranging from 90 to 109 was much lower than that of the children from typical Korean families. Moreover, in the borderline interval ranging from 80 to 89, which indicates cognitive developmental delay, the

result showed a significant percentage difference between the two groups. Only 15.9% of children from typical Korean families were distributed in this borderline interval, whereas 25.2% of children of multicultural families appeared in the same interval. Although there were more children from multicultural families in the borderline interval on mental processing scales, the line chart indicated a normal distribution.
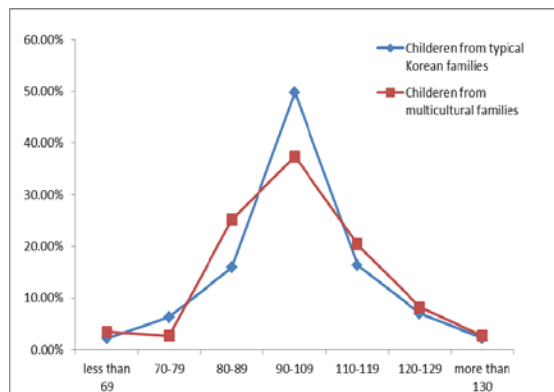
Fig. 1. (a) Comparison of mental processing scales
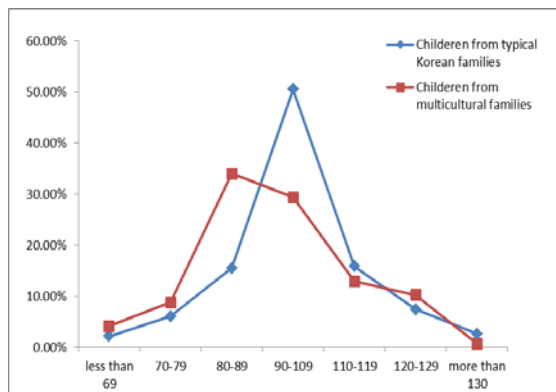
Fig. 1. (b) Comparison of achievement scales

However, a significant difference appeared on the achievement scales in the overall distribution as well as in specific intervals presented in the line chart in Fig. 1(b). The highest number of children from multicultural families in the achievement scales appeared in the borderline interval ranging from 80 to 89, which indicates cognitive developmental delay, with a positively skewed curve. In contrast, the largest number of children from typical Korean families appeared in the interval ranging from 90 to 109 with a normal distribution.

To reveal a clear view on cognitive development of children from multicultural families, the obtained scores of mental processing scales were separately compared because the sub-factors emphasize different aspects of cognition, such as congenital and acquired function. Thus, the result of simultaneous processing was compared to that of sequential processing. Each obtained score of simultaneous and sequential processing was also compared to that of achievement scales. In addition, the total score of mental processing scales (simultaneous and sequential processing) was compared to that of achievement scales.

As can be seen in Table 2, children from multicultural families achieved significantly lower scores in sequential processing (t=-5.14, p<.001; M=96.43, SD=17.89 < M=104.21, SD=15.93) as well as in achievement scales (t=6.19, p<.001; M=95.53, SD=15.81 < M=104.21, SD=15.93) when compared to simultaneous processing. They also achieved a significantly lower mark in the degree of achievement (t=4.10, p<.001; M=95.53, SD=15.81 < M=100.78, SD=16.30) compared to the total score of mental processing scales.

Table 2. Comparison between cognitive sub-factors for children from multicultural families

Cognitive	Children from multicultural families (n=147)		t
(comparison between sub-factors)	M(SD)	M(SD)	
Sequential vs. Simultaneous	96.43(17.89)	104.21(15.93)	-5.14***
Sequential vs. Achievement	96.43(17.89)	95.53(15.81)	.69
Simultaneous vs. Achievement	104.21(15.93)	95.53(15.81)	6.19***
Mental processing vs. Achievement	100.78(16.30)	95.53(15.81)	4.10***

***$p < .001$

According to the results, it can be assumed that fluid intelligence, which is strongly related to biological factors, does not explain children's cognitive developmental delay. However, achievement, which is more involved in crystallized intelligence, naturally receiving input from the surrounding environment, could be the reason for the delay in cognitive development.

3.4. Structural equation modeling for developmental pathways of children from multicultural families

To understand potential developmental pathways of children from multicultural families, structural equation modeling was analyzed with model fitness indexes. Model fit indicators were RMSEA=0.07, TLI =.91, and CFI= .93, which could imply goodness-of-fit indexes.

Moreover, in the structural equation modeling, standardized β coefficients were tested in the relationship of causal effect between independent and dependent variables for children from multicultural families. As shown in Table 3, language development affected cognitive development (β=8.76, t=5.08, p<001) and also impacted self-respect (β=0.17, t=3.02, p<.01). Moreover, cognitive development had an effect on self-control (β=0.03, t=5.23, p<.001). Through these connected relationships among developmental domains, finally, the extent of self-control (β=-0.51 t=-3.77, p<.001) and self-respect (β=-0.50, t=-2.77, p<.01) influenced aggressive behavior.

The results of indirect and direct causal effects among developmental domains showed that the developmental delays of children from multicultural families in Korean rural areas were articulated with each other (see Fig. 2). The problems usually start with language developmental delay, and this affects the children's cognitive development as well as their self-respect. Cognitive developmental delay also affects the children's self-control. Eventually, failure in self-control and self-respect brings on aggressive behavior. Therefore, any kind of developmental delay may negatively affect other developmental aspects.

Table 3. Hypothesis test with structural equation modeling for children from multicultural families

Independent Variable	Dependent Variable	Standardized β	t
Cognitive	Self-control	0.03	5.23***
Language	Cognitive	8.76	5.08***
Language	Self-respect	0.17	3.02**
Self-control	Aggressive behavior	-0.51	-3.77***
Self-respect	Aggressive behavior	-0.50	-2.77**

$**p < .01, ***p < .001$
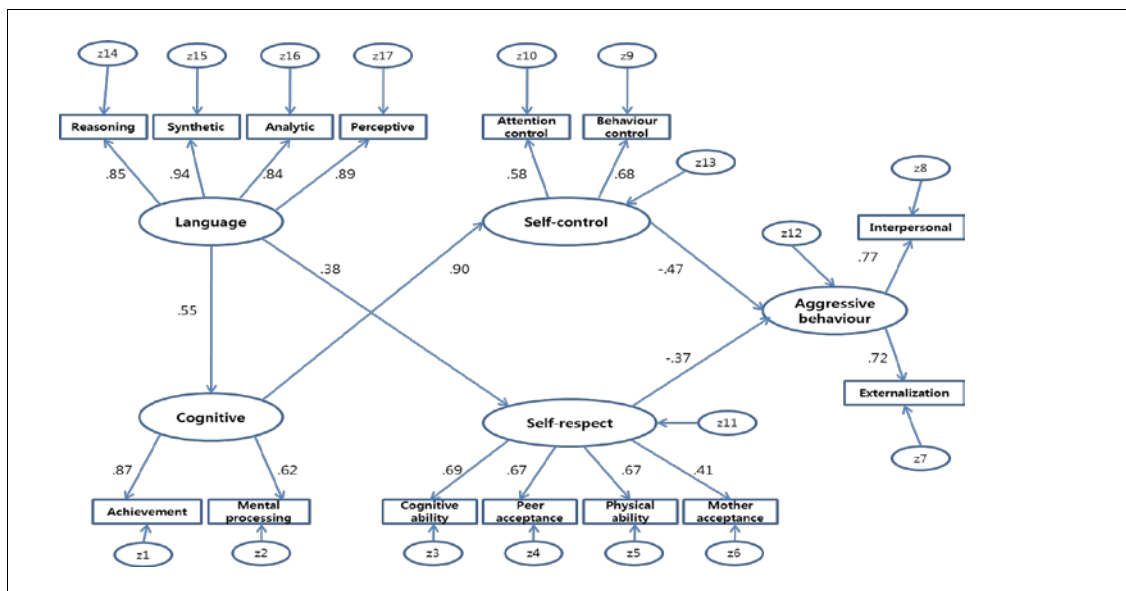
Fig. 2. Structural equation modeling for developmental pathways of children with multicultural families in rural areas

4. Discussion and Conclusion

This study has provided an account of and the reasons for the developmental delay and its potential pathways in children from multicultural families. It is a broadly recognized fact that the early days of life are easily and directly influenced by factors like social, cultural, and family environment, the relationship between parents, parents' social and financial circumstances, and caring attitude of parents (Chung, 2003; Duncan & Brooks-Gunn, 2000; Koo, 2007; McLoyd, 1998). Hence, any problems caused by those factors will seriously affect normal development of young children. More specifically, the problematic behavior of young children from multicultural families found in this study may start from deprivation in their home environment. The negative influential factors from their home environment affect these children's early language, cognition, and social-emotional development. Accordingly, an infant who experiences a negative environment is highly prone to show either atypical development or developmental delay, which also has a negative impact on future growth processes (Koo, 2009; Koreman, Miller, & Sjaastad, 1995). Thus, it can be concluded that the problematic behavior of adolescents from multicultural families is not a temporary issue.

Considering this critical impact of environment on early childhood development, the mother has an important and large role in stimulating her child in the early days (Cho, 2011; Haden, Reese, & Fivush, 1996; Raikes et al., 2006). For the same reason, the conflicts of interracial couples may negatively affect their children's development. Relevant previous research has also emphasized that a lack of caring and stimuli at the beginning of children's lives has a negative effect on their development over the lifetime (Brooks-Gunn, Klebanov, & Liaw, 1995). Furthermore, in most cases, interracial couples are afraid of their future and become more stressed from the fear that conflicts will remain unresolved. These conflicts, however, are not unique to multicultural families in Korea. Instead, they represent a global social problem that is inevitable between interracial husband and wife (McFadden, 2001).

With his longitudinal study, McFadden suggested progressive stages for accepting each other in interracial couples. He indicated that the first stage of acceptance starts with rejection; the next stage is resistance. Through those conflict stages, the husband and wife identify themselves in the family. After that, they can accept and will have respect for each other. Based on this respect, their two different cultures will be transmitted to each other. Finally, the racial difference will be minimized, signalling the universality stage. McFadden also explained that it usually takes 10 years to overcome the rejection and resistance stages. From this point of view, most multicultural families in Korean rural areas could be considered in these stages, which means their conflicts are natural and their chances of surviving the struggle will increase. Therefore, there must be education on the acceptance stages, and the social caring system must focus on interracial couples married for less than 10 years.

In addition, the evidence of this study suggested that children from multicultural families should be systematically observed through screening tests. With respect to this, Shonkoff and Phillips (2000) explained that environmental risks in disadvantaged families and vicious cycles of potential problems can be prevented when the community builds up the social safety net for young children. They also emphasized that the fundamental solution is to identify accurately these children's developmental status. Similarly, Reynolds, Temple, Robertson, and Mann (2001) suggested that screening tests and early intervention can reduce the atypical development of children at environmental risk.

Taken together, the findings of this study imply that children from multicultural families should be involved in early childhood special education. Regarding this, Tjossem (1976) divided children who need special education and are at risk of atypical development into three groups. These are children at biological risk, established risk, and environmental risk. From this perspective, the children from multicultural families could be considered to be at environmental risk in that they have greater possibility of atypical development. The first five years of human life include critical periods that can optimize human development but also negatively affect the entire life. Therefore, for children from multicultural families, implementing immediate interventions through early childhood special education after identifying developmental delay can be the most effective way to prevent further social problems.

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AUTHORSHIP AND PLAGIARISM – DISCURSIVE ISSUES AND EDUCATIONAL EFFECTS

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Abstract

New writing and reading practices, due to advances in technological convergence, demand changes on models of construction and circulation of cultural goods. That means new relations of authorship, which bring questions to the logic in the established copyright law, and simultaneously, highlight a trial of strengths between discourses, such as copyright and copyleft, regulation and transgression, author protection and public access to creative work (Fapesp 2010/52454-7). Therefore, this paper focuses on educational challenges, which are a result of these technical and social transformations.

We take as the object of our studies, activities developed during the long distance course *Reading/Writing Processes and Digital Technologies in Education*, on Moodle's a virtual learning environment, in which Brazilian public schools teachers were the course´s target. Based on the theoretical and methodological principles of discourse analysis, we explored the meanings of authorship and plagiarism that circulated during the course's activities, as well as virtual interfaces as potential authorship environments.

As results we highlight two aspects: in order to avoid plagiarism, the importance of placing writing and reading in the perspective of an affiliation process; and, in order to maintain teacher´s autonomy, the importance of comprehending the technical possibilities of a virtual learning environment, so that it can be used according to teaching principles and not as a given object, a neutral technology.

Keywords: authorship; plagiarism; discourse; education; technology.

Introduction

We are experiencing changes in the production and dissemination of culture. The relationship between public/private, producer/consumer and editor/author has been transformed by the new possibilities of technological convergence. The roles of author and reader also suffered changes, thus becoming an overlapping set that is facilitated by the digital space.

This new model brings several polemic arguments, in a search for a discursive hegemony. Thus, the meanings of copyrights instituted by laws, agreements, national and international treaties are in constant change, also in a confrontation between regulation and transgression. This confrontation puts in evidence a power-game between discourses, such as those of copyright and copyleft, just like we discussed in Abreu (2012).

In this context, we bring the question of authorship and plagiarism in the educational scope.

It has become a commonplace to hear teachers complaining about students increase use of the feature of 'copy and paste', when surfing the Internet. There are teachers and schools who have decided to ask for hand written work, in an attempt to force students to read and write, believing that then the students will not copy. Could this be the solution? The problem, in the teacher's point of view, seems to be the lack of appropriate reading. Or could it reside in the student's lack of ethical conduct? Or might there be alternative reasons?

One should remember that this lack of reading and unethical behavior is a manifestation that keep arising, ever stronger, thanks to the Internet and its boundless possibilities of access to information, and therefore it is not caused by the Internet. We call these acts manifestations, as they are revealing a lack, a gap, a failure: it sounds to us identical to a claim for attention.

Therefore, we have as main objectives to understand the current meanings of authorship and plagiarism in the Internet scope, as well as analyzing a virtual learning environment as an area of potential authorship, understanding that the diverse interfaces, whereas technological tools that are apparently closed in its material organization, may present possibilities for openings and new creations. In other words, what is the materialistic weight in the discourse relations?

The vision of plagiarism, in school, as a directive of warning, purely punishment, and with the sole focus on the product, we desire to question. Starting with the assumption that the construction of plagiarism is a process that involves teachers, students, and the school as a whole, as well as methods that form cultural property, its access by society and without doubt the configuration of new media on the Internet. Therefore, plagiarism it is not simply an isolated and individual action. Since we understand that, the thought of plagiarism involves reflecting on authorship, which is evident in Schneider (1990), on treating the *Thieves of Words*. And authorship reminds us of interpretation, thus we put the problem of plagiarism in direct relationship with the practices of reading and writing, which are organized in different forms throughout our society. Speaking specifically on school settings, the relationship between approach/methods used and practices of reading/writing done by the students brings us a special meaning, since is where the specificity of our work in the development of language teachers resides.

Meanings of Authorship and Plagiarism

Authorship and Plagiarism were two key themes developed during the long distance course *Reading/Writing Processes and Digital Technologies in Education*, offered at UFSCar Teacher's Portal, through Moodle platform – Brazilian public schools teachers were its target audience.

UFSCar Teacher's Portal is an institutional program, originally funded by PROEXT/MEC 2003/2004/2005. The Teachers Portal (*http://www.portaldosprofessores.ufscar.br*) is a site that focuses on meeting the formative needs of teachers in different levels and modalities of teaching, and also other fundamental education professionals. In a set of long distance sessions, the portal provides individualized and groups support, to teachers and schools. The teacher-users can, among other things: receive aid for evaluation and construction of instructional materials; ask questions; receive a several number of information (events, contests, public policy, etc.); exchange successful experiences; keep contact with professionals of the university of different areas of knowledge; and participate in virtual communities (REALI, MIZUKAMI, 2009, p.97).

In the sequence we present a few considerations brought by the participating teachers, in which questions about reading, writing, authorship and teacher action arise:

Participating Teacher N:

"I personally do not believe that plagiarism is a display of self-denial on the part of the plagiarist. In fact I believe it is a necessity for self-assertion, thereof a inherit condition of being a student. The student who places himself in a situation of plagiarism does so because he needs to prove himself to the teacher. With intent or even by way of ingenuity, the student tries to take advantage of a resource that does not bring efficiency, but a mistake. In an assessment the student aims at the final grade and not the learning process that the work offers. This assumption conditions the student to seek resources to obtain the desired result (a high grade). Thus, the resource of the assessment becomes a commonplace to the student, because he seeks merely the resulting grade, and not the means by which one creates the need for evaluation. This behavior should and must, in fact, be rejected and condemned by the teachers. The students should be reprimanded, alongside the law, for their undue practice and advised about it. Likewise, the teachers must explain the contradictory focus between teacher and student assessment values. Namely, the teachers should warn students, prior to delivering assessments, about the function of evaluating the knowledge that the student has acquired throughout the course. In summary, it is the sole or main purpose of the evaluation, not a final grade. So that students can change the focus of their production, to focus on understanding the recording of their acquired knowledge, not just the final grade. To facilitate this need of self-assertion, inherent to the student because of his status, be directed to his own

knowledge and not just assignments grades. The teachers must be tough when dealing with plagiarism, so that students do not use the dreaded "little Brazilian way".

Participating Teacher P:

"When thinking of the role of teachers, it is reasonable to treat the subject plagiarist and the explicit theme of plagiarism in the classroom. Often we assume it is paraphrasing, and is actually plagiarizing the original author. Thus, it seems necessary that teachers make clear the limits of paraphrasing, and what plagiarism is, as well as the judicial sanctions. Teachers must emphasize the control over what is produced (gain knowledge), since a number of other students copy, because they know that the teacher does not give feedback, which means that many teachers ask for work but do not read it. Consequently the students perceives little or no difference between writing for themselves and copying – by copying they turn out to avoid time spent in their own writing."

Participating Teacher E:

"We saw that nowadays the teacher's role is in configuring an individual, not just 'deliver' knowledge and bring content to the classroom. The teacher of the information era is responsible for the ethical and moral learning of these subjects, and for making explicit that a copied assignment is bylaw a crime. However, this requirement of ethical commitment should not happen only in the academic life: from earlier grades students must be aware that there is free access to information, but the misappropriation of this information is illegal. The students should be required to have gained these grounds before being placed in front of such critical tasks. Therefore student should be made to build their own opinion and work, instead of putting up with copying the work of others."

Participating Teacher M:

"The digital age certainly gives the reader/writer facility to access information. All this ease brings up a delicate issue: plagiarism, a very common practice, especially among young students. They often fail to produce their own texts and begin to take ownership of unrelated content, without worrying about the authenticity of their productions. This process should be changed with the construction of the subject as an author, and for this to happen reading in school needs to move from the shallow to authentic, as exposed in Chartier (1994, p.155). 'Reading in school is artificial, practiced by the means of texts just made to compel reading, while social reading is authentic, practiced in situations where the reader knows why he needs to read'. By building his texts, the author places in-between lines, his worldviews, his positioning, and his profile as an author."

The participating teachers, because already are working in their field, bring some important issues regarding reading, writing and potential situations of plagiarism. One can understand, from their comments, that there is a relationship between the teacher's methods, the pitch presented to students and how the teacher establishes a dialogue, originated from their texts. We believe that inside the motion of this relationship is where student's authorship starts to develop.

The authorship, in a discursive perspective, is composed by an act of interpretation, a result of a course and a construction of files. Therefore, in the words of Orlandi (2005, p.71):

The [teacher] question is not what text to give, but to be aware of the meanings produced in a variety of texts, for which the pupil perceives the process, rather than only accumulating products. It's not a question of quantity, but the relationship of meanings in the formation (qualitative) of files. (…) What matters is to make the pupil realize that there are relations in the meanings that circulate. There are meanings that are entangled, forming affiliations. To understand, he needs to see these relationships, as we introduce common goals. Hence we seek to change the image that he has about reading, bringing new elements to his reflection, other ways of reading. It is therefore about creating conditions for him to work in order to build files – documental discourses of all kinds – that open his understanding for different possible meanings, even unfulfilled ones.

From a set of affiliations, from a constructed path, the reader/student feels safer to write, to position himself, by taking author's thoughts as arguments, which then can sustain his written text.

With this working method, allowing a construction of networks of meanings, we can prevent the silencing of authorship. According to Paasonen (2007), erasing traces of the past, in a temporal compression, creates a form of amnesia, for which citation practices serve as constraint and means of linking debates and paradigms. According to Orlandi (1997, p.148), while handling the silencing of authorship, this erasing causes effects, because the pupil "rather than unfolding meanings (polysemic process which is the base for the discursive functioning), doubles the meaning (in the sense of 'double' and 'shrink'), shortening the path of meaning."

The process of working with students through different methods of quoting is also essential to avoid that the student, by ignorance, commits plagiarism. The citations, according Orlandi (1997), mark the historicity of language and indicate that the construction of knowledge is a collective act. The erasure of the mention of other means a process of denial, as Orlandi (1997) writes: it denies the trajectory of the senses, denies the identity of others, and denies the identity of the person writing as author.

Terms of Authorship and Technological Possibilities

Our reflection concentrates on virtual learning environments, focusing on the interfaces, considered as potential spaces of authorship. Not only the way these interfaces are configured, but also how much can be appropriated by individuals that are embedded in a learning process, are issues that arise at a time that more and more educational institutions tend to offer long distance courses. For that reason, we propose rethinking the construction of meaning and its dissemination. Given the electronic treatment of the information, which is considered by Auroux (1992) to be one of the techno-linguistic instruments, along with grammar and the dictionary, these instruments are understood as social practices "that have left intact the human linguistic practices" (p.70).

We start from a notion of education in which the individual – situated in history – is at the center of the process, also placing language as the fundamental aspect to be considered, since it is in/through language that the individual constitutes itself (ORLANDI, 2000, p.37). That means to understand how meaning circulates by/through several technological instruments. And with that we end up claiming that material forms are not neutral, but loaded with meaning. We can draw an analogy with the radio and television, following Picanço (2003, p.37) considerations when discussing the risks of reductionism in the educational process, through virtual environments:

the technology (technical / knowledge), which led to radio and television, enabled both the emission and reception of information. However, since the appropriation of these production processes of technology, different settings are being displayed and maintained at the expense of efforts and intentions. It is simplistic to say that the technical devices, in this case the communication and information technologies, are merely tools, like if they have kept only a usability value, and as they embodied false neutrality.

Challenges that distance learning process has are the activities suggested to the student, through platform and other didactic materials, and the work conditions established by the responsible for the course:

According to this model the creation of teaching materials is centralized and its distribution is made in a large scale, through a high work division among the teams of specialized teachers and technicians, not to mention the tutors that make possible to operate the reception. (...) Many experiences of LDE (long distance education) use the media as tools to trigger the distribution of content, which is produced centrally, by experts. This option is marked by a hierarchical model, initiated by a mass education model. This production process has a large division of work, where teams of specialized teachers make the content, technicians produce institutional communication, and tutors facilitate the reception of content to students (PICANÇO, 2003, p.7).

Picanço, while making explicit the risk of a process that has its supply of content vertically transmitted, does not necessarily stop the possibility of subverting the model, then again this is greatly challenging.

With regards to a virtual learning environment, the planning, which implies on reflecting and deciding on which interfaces to work with, is fundamental, in order to provide spaces for case studies, interpretation of charts, portfolios, log book, forums, chats, etc. What matters is the multiplicity of languages that, somehow, will serve the diversity of pupils. In particular, this process has to have an understanding of the concepts underlying the model on the platform, with the perspective of available interfaces and potentially possible work modes.

We understand that there is a game, not always easy, among technical possibilities and methods of using them, generating an appropriation process.

As stated by Chartier (2000,p.67), about the concept of ownership:

allowing etymological links on both dimensions that are present in the concept of ownership: to appropriate is to claim property on something; and, this way, the concept of ownership was used by Michel Foucault to describe all devices that try to control the dissemination and circulation of discourses, establishing over the discourse and through its material forms an ownership. There is a sense of ownership in hermeneutics, which consists of what individuals do with what they receive, and that is a form of invention, creation and production, from the moment they take possession of the texts or objects received. Thus, the concept of ownership can mix the control and the invention, and can articulate the imposition of a sense and the production of new meanings.

It is in the space between control and invention that the teacher operates, building contents on virtual environments. Among the limitations imposed by the own environment, there are possibilities of resistance, reinterpretation, re-meaning, suggesting new techniques of working with interfaces, designing new ways, building new relationships between the team considered as technical, the teachers and the student. But not everything is transparent and regards decisions, as we deal with language and so:

The meaning, writes G. Canguilhem, escapes from any reduction that tries to host it on an organic or mechanical configuration. The so called intelligent machines are the ones that produce relationships among the data supplied to them, but they are not in relation to what the user intends from these relationships. As the meaning is the relationship to, people can play with the meaning, deviate it, simulate it, lie, make a trap" (CANGUILHEM, 1990, pp.16-17, cited by PECHÊUX, 1994,p.62).

It is on these slippery spaces, of games with meanings – whether we like it or not – that we think about the process of attendance and virtual learning. Spaces that have form and content, not totally random, not completely determined, more or less open and administered spaces, which depend on the conditions given for the production of meaning that, according to Orlandi (2000:40), "what is material (the language is subject to misunderstanding and historicity), what is institutional (social formation, in its order) and imaginary mechanism."

The perception of a strong relation between technical and political instruments is taken from Auroux (1998, p.321), for whom the existence of these instruments "is placed not out of society and its place, but within its own scheme, in the construction of a single thread that is techno-social indissoluble. This perception is also viewed by Pêcheux (1990), for whom the instrument in itself cannot be considered independent of a theory or as a simple application of it."

Technology, therefore, is understood as a social practice, since instruments are created not in a vacuum, but full of interests and expectations:

that move into a process acquiring dynamic, intensity, modifications, blocked relations, processes and structures, which can be social, economic and cultural ones. Structures which are active on national and worldwide social spheres. Taking this route will lead them to acquire the presence, power and scope of social techniques such as organization, work, control, management of social systems and the game of social power (IANNI, 1998,p.18).

As these instruments are bringing techno-political questions, they are also theoretical ones, as they inherently relate to economical, social, and cultural aspects. The instruments are not put in place isolated from an ideology.

Orlandi situates it as "ideology is not concealment, but the interpretation of meaning in a certain direction, where this direction is determined by history." (1997:101).

From this position, we bring an analysis of some observed data regarding *forum* and *task* configuration, during the course Reading/Writing and Digital Technologies in Education.

The following considerations are focused on two interfaces of Moodle platform – Task and Forum – used during the course offered by the Teacher's Portal.

The Moodle's task interface, in the way made available for the course, offered the following possibilities of use:

Group Type: offers the following configuration options:

- No groups – there is no division of the students that are participating in the discipline in groups.

- Separate groups – each student of every group only sees the colleague and documents of his own group, as well as the information regarding these participants. The messages and students from other groups are not visible.

- Visible groups – each student can only participate in the activities of his group, but can see the activities and colleagues of other groups.

New Send: the default configuration prevents the student from sending again the same task after it has been evaluated. If that option is triggered, students can continue to send different versions of the task, even after it has been evaluated. This can be useful, if the teacher wants to encourage students to improve their results, or when there is an interactive evaluation process, and successive revisions.

Comment inserted on the sentence: If this option is selected, the original submission will be copied into the comment field during evaluation, making it easier to comment on the text (perhaps using a different color) or to edit the original text.

The choices on how to formulate the tasks, for example, depend on a previous format, which may be under the control of the teacher or not. From these, there are effects related to the possibilities of collective reading and writing, rewriting of texts, more comprehensive view of the course by the participants, among other aspects.

Such decisions may be placed within a teaching methodology, with the intention of being merely efficient, worrying about adjusting itself to the interface possibilities, established by the technical team, following a trim already established, without considering the effects that this model of circulation of the proposed contents can establish, due to its materiality.

The materiality here is argued using the meaning worked by Orlandi (2006). The author works the relationship between language, speech and ideology, from the idea that "the specific materiality of the ideology is the discourse and the specific materiality of the speech is the language". For the author, the materiality is established as speech materiality:

the material form, that is the text, moves with the information's nature, produces effects on the way it works. The nature of the significant (different languages) affects the production of the object, and this object in turn, is the manner of signification of this symbolic gesture. And what is a text? It is a unit of signification in relation to the situation. This characterization can be maintained, but certainly the textually, its material form, its relationship with the memory and production settings differ when its significant materiality differs. (...) The space has meaning, has materiality and is not indifferent in its different ways of meaning (ORLANDI, 2006, p.5).

We have to take into consideration the biased behavior of these instruments, and the constitutive relationship between form and content, understanding that the computerized data is like effects of discursive positioning, as stated by Pêcheux (1994).

We understand that the treatment of the text does not exist only in the digital field, even thou we cannot erase the discursive power of this field acting in a conflicting game with the positions that are sustained by plurivocity of the meaning, in the materiality that fails.The appropriation of knowledge does not happen without clashes. This becomes evident when we make decisions about the subjects that will make up a curriculum, and the content of their digests. It is an ideological fight that is established and translated to "the struggle over the 'way a question is presented', the 'order of the questions', etc., depending on the ideological-discursive effects that this or that presentations assumes and reacts" (PÊCHEUX, 1988, p.223).

Therefore the formulation is understood as political, by way of 'all speech is a political act, because all significance has a direction, divides" (ORLANDI, 2004, p.129). By thinking this question of the division of the meaning, we bring a few considerations from the interface discussion forum.

The forum is an interface, whose asynchronous characteristic brings a potential for higher density in postings, by the student and tutor/teacher. But that depends on how the instrument is appropriated by the individuals involved. Thus, the existence of the forum does not necessarily mean authorship, since authorship implies in positioning oneself in front/next to other people's words, projecting new meaning and taking responsibility for them.

Conclusion

The participation in a forum, as a potential space for authorship, reveals important aspects of the individual's relation to language. At the forum, the individual experiences a search to stabilize meanings, his meanings. Then, in the opacity of language an illusion appears, because it is to have knowledge from language that is ruled by partiality. This partiality is forgotten in order to circulate meaning. We think "I finished, managed to write everything," in a necessary gesture for closing the text posted on a forum, but illusory, since it is "just an illusion that one thinks one can give the 'final word'. Neither the speech has a verifiable beginning: the meaning is (always) in progress" (ORLANDI, 2004, p.11).

Let us not forget that distinctive materiality brings different relationships of the individual with his text production. Thus, in an interface like a forum of a virtual learning environment, we normally have small text files that often seem lost, disconnected from other participant's posts, made at different times. Nevertheless these texts are intersected, sometimes mediated by a professor-tutor who takes over students wording, highlighting the link between the posts.

This move from the professor-tutor, in order to "bring order out of chaos" – as some professor-tutors say – implies in a closing action, which seems to contradict a principle that we hold important: the speech is open. However, we can understand it as a metaphor for the process of signification, which, even though it is open, in movement, is managed (ORLANDI, 2004, p.11), and there is always, by the individual part, an attempt of controlling.

Regarding the gesture of the professor-tutor, with his intervention, he establishes a particular reading; there is an effect of leaving obscure the fact of the participating student makes the possible links in the forum, i.e. he links his wordings to others that make sense to him, from his discursive memory.

The meanings circulate, they have and do not have place, and we try to control them. In response to the comments from the boards of our forums we react: "but that is not what I meant." As if we could control the interpretation, forgetting that what we say is always attached to other's wordings. While in the act of interpretation, this memory of this speech also brings its effects, allowing determined constructions of meaning, and nothing else in its place. We play, then, with the fault, the openings for interpretations and in this the risk of authorship resides.

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AUTONOMOUS LEARNING: A TEACHER-LESS LEARNING!

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Abstract

Holec (1981) describes autonomy as, "the ability to take charge of one's learning" (cited in Thanasoulas, 2000). The term autonomy has sparked considerable controversy, inasmuch as linguists and educationalists have failed to reach a consensus as to what autonomy really is. In fact, autonomy in language learning is a desirable goal for philosophical, pedagogical, and practical reasons. But what is oppressed here is the role of teacher. Considering autonomous learning as an unbridled learning is as ludicrous as to assume that an infant can grow up with the help of his/her mother. In the realm of language teaching, teachers scaffold students towards independence using variety strategies in order to help students develop autonomy. Despite such explanations as many practitioners does not consider autonomous learning as synonymous with teacher-less learning, many view the construct of learner autonomy as being synonymous with self-access and especially with technology-based learning. The writer held if being autonomous is to take some charges on the part of students, since the capacity of taking charges of one's own learning in not innate but it must be taught, there would be much need for guidance. As Thanasoulas (2000) declares it would be nothing short of ludicrous to assert that learners come into the learning situation with the knowledge and skills to plan, monitor, and evaluate their learning, or to make decisions on content or objectives. The present paper was an attempt to elucidate the concept of autonomy from philosophical and theoretical perspectives and also to provide some pedagogical implications in order to value the role of teacher, as the primary scaffolder in the educational classroom, in consolidating the autonomy of learners.

Keywords: Autonomy, liberatory autonomy, learning strategies, chaos complexity

Introduction

For many years we have been hearing that autonomy is important. Immanual Kant held that autonomy is the foundation of human dignity and the source of modality, (cited in Hill, 1991, p. 43). Accordingly, autonomy has been heralded as an essential aim of education. Autonomy like many philosophers' favorite words is not the name of one single thing; it means quite different things to different people. However, Hill (1991) claims, "Little progress can be made in debates about autonomy until these different ideas are sorted out." (p. 44).

Learner autonomy in language education is interpreted in various ways, and various terms such as 'learner independence', 'self-direction', and 'independent learning' have been used to refer to similar concepts. It is noteworthy that autonomy as a social process can be interpreted in terms of a point of a departure from education as well as in terms of redistribution of power attending to the construction of knowledge and the roles of the participants in the learning process. In the field of language learning, there is much concern about what techniques can be employed by teachers in order to help those students who are unable to develop skills to learn, to assess and to control their own learning (Ustunlouglu, 2009). A growing number of research studies are focusing on investigating the causes of this failure, with many writers (including Rivers, 1992; Brindley, 1990) offering suggestions for improvement. One area of study is autonomy, defined as the degree of responsibility students take for their own learning, as proposed by Brindley (1990).

2. Literature Review

The concept of learner autonomy has in the last twenty years become influential as a goal in many parts of the world. Accordingly, Palfreyman and Smiths (2003) maintain several arguments may be used in favor of developing autonomy in language learners: for example, that autonomy is a human right; that autonomous learning is more effective than other approaches to learning; and that learners need to take charge of their own learning in order to make the most of available resources, especially outside the classroom (p. 1).

Benson (1997) distinguishes three broad ways of talking about learner autonomy in language education:

● a 'technical' perspective, emphasizing skills or strategies for unsupervised learning: specific kinds of activity or process such as the 'metacognitive', 'cognitive', 'social' and other strategies identified by Oxford (1990);

● a 'psychological' perspective, emphasizing broader attitudes and cognitive abilities which enable the learner to take responsibility for his/her own learning;

● a 'political' perspective, emphasizing empowerment or emancipation of learners by giving them control over their learning. (cited in Palfreyman & Smiths, 2003, p. 3)

As Omaggio (1978) states there seem to be seven main attributes characterizing autonomous learners:

Autonomous learners have insights into their learning styles and strategies;

take an active approach to the learning task at hand;

are willing to take risks, i.e., to communicate in the target language at all costs;

are good guessers;

attend to form as well as to content, that is, place importance on accuracy as well as appropriacy;

develop the target language into a separate reference system and are willing to revise and reject hypotheses and rules that do not apply; and

have a tolerant and outgoing approach to the target language. (cited in Thansoulas, 2000)

Thanasoulas (2000) in his article "What are Learner Autonomy and How Can It Be Fostered?" describes three approaches to knowledge and learning, and debates how each of them is in contact with autonomy:

a) Positivism: This school of philosophy premised upon the assumption that knowledge reflects objective reality. Therefore, if teachers are to be considered the holder of this reality, learning occurs by the transmission of that knowledge from one person to another. Derived from this perspective, we imagine traditional classrooms in which the teachers are considered as the purveyors of knowledge and wielders of power; learners are deemed to have vessels which are going to be filled with the knowledge held by teachers. On the other hand, positivism also lends support to the widespread notion that knowledge is attained by dint of the 'hypothesis-testing' model, and that it is more effectively acquired when 'it is *discovered* rather than *taught*' (ibid.) (my italics). It takes little perspicacity to realize that positivism is incongruent with, and even runs counter to, the development of learner autonomy, as the latter refers to a gradual but radical divorce from conventions and restrictions and is inextricably related to self-direction and self-evaluation.

b) Constructivism is an elusive concept, one of the central tenets of which is that individuals try to give meaning to events and ideas in which they find themselves. In contrast to positivism, constructivism posits the view that, rather than internalizing or discovering objective knowledge (whatever that might mean), individuals reorganize and restructure their experience. In Candy's terms (cited in Thanasoulas, 2000), constructivism 'leads directly to the proposition that knowledge cannot be taught but only learned (that is, constructed)', because

knowledge is something 'built up by the learner'. Apparently, constructivism supports psychological versions of autonomy that appertain to learners' behaviour, attitudes, motivation, and self-concept. As a result, constructivist approaches encourage and promote self-directed learning as a necessary condition for learner autonomy.

c) Finally, critical theory, an approach within the humanities, shares with constructivism the view that knowledge is constructed rather than discovered or learned. Moreover, it argues that knowledge does not reflect reality, but rather comprises 'competing ideological versions of that reality expressing the interests of different social groups' (Benson & Voller, 1997, cited in Thamasoulas, 2000). Within this approach, learning concerns issues of power and ideology and is seen as a process of interaction with social context, which can bring about social change. Certainly, learner autonomy assumes a more social and political character within critical theory. As learners become aware of the social context in which their learning is embedded and the constraints the latter implies, they gradually become independent, dispel myths, disabuse themselves of preconceived ideas, and can be thought of as 'authors of their own worlds.

According to Kuaravadivelu (2003, cited in Kumaravadivelu, 2006, p. 176), in postmethod pedagogy, there are two views of learner autonomy, a narrow view and a broad view. A narrow view seeks to develop in learner a capacity to learn to learn, whereas the broad view goes beyond that to include a capacity to learn to liberate as well. Helping learners learn to learn involves developing in them the ability to take charge of one's own learning. Taking charges, according to Holec (1981, cited in Kumaravadivelu, 2006, p. 176) means to (1) hold responsibility for determining the objectives; (2) to select methods and techniques; (3) for monitoring their progress; and (4) for evaluating what has been acquired. This definition might bring out some misconceptions among many practitioners; among them is the lifeless role of teacher in the class. Little (1991) seems to make a useful statement on what autonomy is NOT: (1) autonomy is not a synonym for self-instruction; in other words, autonomy is not limited to learning without a teacher; (2) in the classroom context, autonomy does not entail an abdication of responsibility on the part of the teacher; it is not a matter of letting the learners get on with things as best they can; (3) autonomy is not something that teachers do to learners; that is, it is not another teaching method; (4) autonomy is not a single, easily described behavior; and (5) autonomy is not a steady state achieved by learners.

Referring to Kumaravadivelu's (2006) broad and narrow concept of autonomy, he elucidates two kinds of autonomy: academic and liberatory. Accordingly:

While the narrow view of learner autonomy treats learning to learn a language as an end in itself, the broad view treats learning to learn a language as a means to an end, the end being learning to liberate. In other words, the former stands for *academic autonomy*, while the latter, for *liberatory autonomy*. If academic autonomy enables learners to be effective learners, liberatory autonomy empowers them to be critical thinkers. (p. 177)

2.1. A critical look at teacher's role

In the literature on language teaching and learning, there are many variations upon the basic idea of autonomy. The underlying assumption is that teachers and students view the processes in which they are mutually engaged from very different perspectives and that this is likely to influence the ways in which they make sense of a notion such as autonomy. From the teachers' perspective, autonomy is primarily concerned with institutional and classroom learning arrangements within established curricula. In other words, from the teachers' perspective, autonomy tends to imply the learner taking control of arrangements whose underlying legitimacy is unquestioned. From the learners' perspective which Benson (2008) views as tangential to, rather than opposed to, the teachers' perspective autonomy is primarily concerned with learning, in a much broader sense, and its relationship to their lives beyond the classroom.

Little (1991) stressed that learner autonomy and teacher autonomy are interdependent, and that teachers wishing to promote greater learner autonomy need to "start with themselves", reflecting on their own beliefs, practices, experiences and expectations of the teaching/learning situation. However, learner autonomy does not imply that the teacher becomes redundant abdicating his/her control over what is transmitting (Thanasoulas,

2000). In fact the teacher's role in maintaining a learning environment in order to enhance the autonomy of learners in the process of learning is critical. The learning environment, also, is taken as a site for democratic practices and this provides another rationale for learner-centered education. Teachers in this model are not viewed as "bank-clerks" who make deposits into empty students. A key concept here is that of the hidden curriculum (the knowledge, values, and beliefs that schools present to students and others), not by what is explicitly being taught, but by the process in which the actual instruction takes place (Loporchio, 2006 cited in Jacobs & Farrell, 2010, p. 18). The point being that if schools and society talk about democracy but classroom practices do not reflect this because they are overly autocratic, students may be less likely to know how to function in a democratic learner-centered setting or even how to insist on this method if they recognize that they are being denied this right (Jacobs & Farrell, 2010). Along the same line, appreciating diversity and democracy are challenge in humanist thinking and acting is the linking of autonomy and humanity. As Hassaskhah (2005) submitted: "that language teaching should be democratic has long become a fact" (p. 54). Autonomy is not isolated individuality but it is the way a person relates to the other. It's the agency of the situatedness of people, as Veugelers (2011) declares. Developing autonomy and humanity is not a natural process, but an interactive process between people under social and political power relationships. Enhancing autonomy and humanity is part of social, cultural and political developments. Like autonomy that can not be separated from humanity, human development can not be separated from social, cultural and political struggle for a world of social justice. From a humanist point of view social change is not possible without strong and critical autonomous people (Veugelers, 2011).

2.2. Autonomy and learning strategy

Emphasizing this continuum, Zimmerman (1998) claim that learners who are able to self-regulate the locus of control throughout the learning experience are strategic learners. Those learners learn through the positive experience of a good performance, through the experience of others, through verbal persuasion, and through a positive physiological state, and eventually develop their self-regulatory skills to the point where they become self-regulated learners and take control of their (Ustunlouglu, 2009). In second language education Learner Autonomy involves second language learners gaining awareness of their own ways of learning such as learning styles and learning strategies, so that they can utilize their strengths and work on their weaknesses (Benson, 2007, cited in Jacobs and Farrell (2010, p. 18). However, according to Jacobs and Farrell (2010), focusing on learner strategies is important in second language education because research has indicated that our students can actually learn how to successfully manipulate their own strategy use. However, focusing on learning styles is more difficult to manipulate because it is within the nature of the learner himself or herself; in other words, learning style is the given (Jacobs and Farrell 2010).

2.3. Autonomy and chaos complexity

Paiva (2006) argue that autonomy is a socio-cognitive system nested in the SLA system. It involves not only the individual's mental states and processes, but also political, social and economic dimensions (cited in Paiva, 2011, pp. 63). It is not a state, but a non-linear process, which undergoes periods of instability, variability and adaptability. It is an essential element in SLA because it triggers the learning process through learners' agency and leads the system beyond the classroom. Paiva (2011) holds, "Autonomous learners take advantage of the linguistic affordances in their environment and act by engaging themselves in second language social practices" (p.63).

Autonomy changes for reasons that are, usually, entirely internal to itself, such as a willingness to learn in a more independent way. In Paiva and Braga (2008), it is argued that 'autonomy, in the perspective of complexity, encompasses properties and conditions for complex emergence, and is inextricably linked to its environment'. (cited in Paiva, 2011, p.63) Likewise, its dynamic structure governs the nature of its interactions with the environment in which it is nested. In this sense, the language learner agent influences, and is influenced by, his/her social practices in a constant movement of organization and reorganization, a process that, paradoxically, possesses a certain degree of freedom and dependency. Murphy (2011) argues, "Despite the lack of a single,

universal theory of autonomy, there is agreement on the educational importance of developing autonomy and that autonomy can take a variety of forms, depending on learning context and learner characteristics." (p. 17)

2.4 How to achieve autonomy

That learners have to follow certain paths to attain autonomy is tantamount to asserting that there has to be a teacher on whom it will be incumbent to show the way. In other words, autonomous learning is by no means "teacher-less learning" (Thanasoulas, 2000). As Sheerin (1997, cited in Thanasoulas, 2000) succinctly puts it, teachers have a crucial role to play in launching learners into self-access and in lending them a regular helping hand to stay afloat. Probably, giving students a "helping hand" may put paid to learner autonomy, and this is mainly because teachers are ill-prepared or reluctant to 'wean students away from teacher dependence. After all, it is not easy for teachers to change their role from purveyor of information to counselor and manager of learning resources. Kumaravadivelu (2006) holds Meaningful (liberatory) autonomy can be promoted in the language classroom by, among other things:

encouraging learners to assume the role of mini-ethnographers to investigate and understand how, for instance, language as ideology served vested interests.

asking them to reflect on their developing identities by writing diaries… related to the social world

helping them in the formation of learning communities where they develop into unified, socially cohesive, mutually supportive groups seeking self-awareness and self improvements.

providing opportunities for them to explore the unlimited possibilities offered by online services and bringing back to the class their own topics for discussions, and their own perspectives on those topics. (p. 178)

Clearly, as Kumaravadivelu (2006) claims such a far-reaching goal cannot be attained by learners working alone; they need the willing cooperation of all others who directly or indirectly shape their educational agenda, particularly that of their teachers.

Thanasoulas (2000) also outlines three ways in order to foster autonomy: (1) self-report, (2) diaries and evaluation sheet and (3) persuasive communication. To him, there are two types of self-report: introspective and retrospective. The main goal of the first, introspective self-report, is help learners become aware of their own strategies, and in the latter, retrospective self-repot, students are asked to think back to retrospect on their learning. It could be argued that self-reports can be a means of raising awareness of learners' strategies and the need for constant evaluation of techniques, goals, and outcomes. The purpose of the second method, diaries and evaluation sheet, according to Thanasoulas (2000) seems to alter learners' beliefs about themselves by showing them that their putative failures or shortcomings can be ascribed to a lack of effective strategies rather than to a lack of potential. It is through the second way, diaries and evaluation sheets, which offer students the possibility to plan, monitor, and evaluate their learning, identifying any problems they run into and suggesting solutions. This approach as Thanasoulas (2000) brings is based on the assumption that when learners are faced with convincing information about a situation, 'they can be led to re-examine existing evaluations they hold.

Nowlan (2008) suggests journal writing and using the internet and technology for having autonomy in language learning. Furthermore, Rao (2003) finds that the use of portfolios works satisfactorily with his students.

As an assessment device, portfolios not only encourage students to participate in the process of evaluation, but also motivate students to improve their English learning in a comprehensive way. In addition, portfolio evaluation takes individual differences into consideration and involves everybody in the assessment process, including students, teachers, and peers. Most importantly, portfolios connect learning, assessment, and instruction and stress improvement, effort, and achievement. With the use of portfolios, students can document the planning, learning, monitoring, and evaluation processes. This can help raise students' awareness of learning strategies, facilitate their learning process, and enhance their self-directed learning. (p. 120)

3. Conclusion

What permeates this article is the belief that in order to help learners to assume greater control over their own learning, it is important that teachers help them to become aware of and identify the strategies that they already use or could potentially use. In other words, autonomous learning is by no means teacher-less learning. The study shows that students do not perceive themselves as sufficiently autonomous, that they are unwilling to take responsibility and that they continue to see the teacher as a dominant figure who is the decision maker in the classroom. Thus, this study highlights the need to integrate learner independence into the language curriculum, with a well-structured focus, delivery, and content.

Autonomy as a socio-cognitive system is not a state but a no-linear process which undergoes variability. Thus, autonomous learners take advantage of the linguistic affordance in their environment and act by engaging themselves in second language social practices. Hence, being autonomous, in initial state, involves being scaffolded by teachers in order to enhance the process of learning. Without this, it would be difficult to implement independent learning in a coherent way and to attract institutional commitment. Meanwhile, teachers, of course, need to experience autonomous learning themselves and need to be committed to self-development. The questions of how teachers can be psychologically prepared and which skills and knowledge are needed for autonomy should be addressed as well. Students need induction sessions and support so that they can become familiar with independent language learning materials, equipment and resources. Thus, designated advisors working at the Self-Access Center will be able to provide students with appropriate approaches.

To sum up, the results indicate that students do not perceive themselves as autonomous enough in language learning and teachers need the ability to move their students towards autonomous learning. Respecting student ideas, sharing decisions in teaching, learning goal setting and leading students towards taking responsibility for their learning rather than prescribing the learning process will all increase student motivation, and thus, foster success.

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AVRUPA BİRLİĞİ ERASMUS HAREKETLİLİK PROGRAMI ONLİNE BAŞVURU VE BİLGİ SİSTEMİ TASARIM VE MODÜLLERİ

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Özet

Bu programların amacı, Avrupa'nın farklı ülkelerindeki üniversiteler arasında işbirliğini teşvik ederek karşılıklı anlaşmalar yapmalarını sağlar. Bu şekilde, öğrencilerin ve eğitimcilerin birbiri ile değişimleri sağlanarak üniversitelerdeki iyi uygulamaların Avrupa'nın bütününe yayılması ve karşılıklı fikir alışverişi ortamı oluşturulması amaçlanır. Bu kapsamda Erasmus hareketlilik programına katılmak isteyen öğrenci ve eğiticilerin programa başvurabilmeleri ve bu süreç sonunda üniversitelerinin belirlediği başarı ölçütlerine göre uygun olanlarının Erasmus programına yerleştirilmesi işlemleri zor bir süreçtir. Bu nedenle bu süreçleri bilgisayar ortamında tanımlamak, hem bu zahmetli süreçten kurtulmak hem de daha geniş kitleleri bu imkândan faydalandırmak adına iyi bir yöntem olacaktır. Bu çalışmada, Erasmus programına katılmak isteyen adaylar için internet üzerinden online başvurabilecekleri bir web bilgi sistemi geliştirilmesi amaçlanmıştır. Çalışma kapsamında öğrenci ve eğitimciler başvurularını, kendi bölümlerinin yapmış olduğu anlaşmaları tercih ederek online yapabileceklerdir. Geliştirilen sistem, üniversitelerinin başarı ölçütleri çerçevesinde başvuruları değerlendirilerek tercihlerine göre otomatik yerleştirmelerine olanak sağlamaktadır.

Anahtar Kelimeler: Avrupa Birliği; Erasmus; Öğrenci Hareketliliği; Personel Hareketliliği; Online Bilgi Sistemi;

Abstract

Erasmus mobility program sare carried out within the scope of European Union lifelong learning process. The purpose of these programs, make mutual agreements by promoting cooperation between universities in different countries of Europe. In this way, it's aimed that spread of good practices at universities to whole of Europe, by exchange of students and educators with each other, and the creation of environment of mutual exchange of ideas. In this context, students and educators who want to participate in the Erasmus mobility program refer to the program and the success of this process, according to the criteria set by the universities at the end of the Erasmus program, placement procedures were in accordance with a difficult process. Therefore, defining these processes in the computer environment would be a good method both for getting rid of these complex processes and as well as giving the broad masses of people the benefit of these advantages. In this study, for candidates wishing to participate in the Erasmus program can apply online via the Internet to develop a web information system. Working within the scope of applications for students and educators, have made their own parts of the agreements is preferred to be able to online. The developed system, criteria for success within the framework of universities in place to automatically allows applications are evaluated according to their preferences.

Keywords: Europe Union, Erasmus, Student Mobility, Stuff Mobility, Online Information Systems

1. Giriş

Bologna süreci kapsamında Avrupa Birliği(AB) hayat boyu öğrenme Erasmus programı, Avrupa'daki üniversiteler arası karşılıklı fikir alışverişi ve iyi olanı yayma anlayışını amaçlamaktadır (Ulusal Ajans, 2012). Avrupa Birliği Eğitim ve Gençlik Politikası, Avrupalılık bilinci oluşturmak ve Avrupa vatandaşlığı kavramını

her bir Avrupalı bireye kazandırmayı hedeflemiştir (Üre, R., K., 2010; Tanyeri, 2006). Erasmus programı, belirtilen amaçları; üniversiteler arasında ülkelerarası işbirliğini teşvik ederek, öğrencilerin ve eğitimcilerin Avrupa'da karşılıklı değişimini sağlayarak ve programa katılan ülkelerdeki çalışmaların ve alınan derecelerin akademik olarak tanınması ve şeffaflığın gelişmesine katkıda bulunarak gerçekleştirmeye çalışmaktadır (Gümrükçü, 2006; Serbest, 2005). Yapılan bu değişimler vasıtası ile farklı ülkelerden gelen öğrencilerin kültürlerarası iletişimi güçlenmektedir (Sancak, A., 2009).

Teknolojinin gelişmesiyle bilgisayarlar artık her alanda kullanılmaktadır. Televizyon, sanat, müzik, yaşam, alışveriş, eğitim vs. gibi tüm alanlarda artık bilgisayar etkin bir şekilde kullanılıyor. İnternetin yaygınlaşmaya başlamasıyla birlikte bilgisayarlar üzerinde yönetilen sistemler internete açılmış ve daha kolay erişim imkânı bulmuşlardır (Erkunt, & Akpınar, 2006). Online bankacılık, online alışveriş siteleri, online kütüphaneler vb. her türlü işlem artık internet üzerinden rahatlıkla tek tuşla yapılabilinmektedir. İnternetin aktif bir şekilde her alanda kullanılması eğitim alanında da yenilikler getirmiştir. Online kütüphaneler ile oturduğumuz yerden dünyadaki tüm kütüphanelerdeki kitapları okuyabiliyor, dergilere abone olabiliyor ve yeni gelen yayınlardan haberdar olabiliyoruz. Bu noktada AB'nin hedeflediği karşılıklı değişim programları da internet üzerinden daha büyük kitlelere ulaşmakta ve bu programlardan milyonlarca kişi haberdar olmaktadır (İşeri, 2005). Fakat Erasmus programından yararlanmak isteyen adaylar, uzun bir süreçle karşılaşmaktadırlar. Başvuru yapma, sınava tabi tutulma, değerlendirilme ve yerleştirilme gibi adımlar sonucu kesin adaylar belirlenir. Tabi burada bu işlemlerin hepsi uzun zaman alan işlerdir. Bu uzun süreçler karşılıklı değişim yapacak üniversiteler için büyük bir sorun haline gelmiştir. Üniversitelerin uluslararası ilişkiler ofisi personeli tarafından yürütülen bu zorlu süreçler programa başvurmak isteyen adayların sayılarının artmasıyla daha da karmaşık ve içinde çıkılmaz hale gelebilir. Bu problemler beraberinde daha çok kişide insanın Erasmus programından yararlanmasını engel teşkil etmektedir. Böylece AB'nin hedeflediği iyi olanı tüm Avrupa'ya yayma hedefi bu tür uzun işlemler yüzünden sekteye uğramaktadır. Bu nedenle bilgi çağında bilgisayarın bize sunduğu hizmetlerden yararlanarak bu uzun süren süreçler kısaltılabilir.

Bu çalışmada, Erasmus programından yararlanmak isteyen adayların kısa sürede doğru sonuca ulaşmaları ve programın önündeki uzun kabul süreçlerini en kısa zamana indirgemek için internet olanaklarını da kullanarak Erasmus online başvuru ve bilgi sistemi geliştirilmiştir.

2. Erasmus Programı Aday Kabul Süreci

Erasmus programının gerçekleştirilebilinmesi için uzun bir evrak ve zaman süreci gereklidir. Erasmus programına katılmak isteyen aday, başvuru formunu doldurarak kendi üniversitesinin erasmus ofisi personeline elden teslim ederek başvurusunu yapmalıdır. Bu şekilde elden başvuru yöntemi, hem uzun süren başvuru süreciyle hem de kısıtlı zaman içerisinde adayın üniversiteye gelmesini gerektirmesiyle başvuracak aday sayısını önemli ölçüde düşürmektedir. Bununla birlikte adayların sadece kendi bölümlerinin anlaşmalarını tercih etmeleri ve anlaşmaların bölümden bölüme değişken olması başvurma işleminin uzun sürmesine neden olmaktadır. Adaya ne kadar çok tercih yapma imkânı sağlanırsa diğer süreçlerde bir o kadar karmaşıklaşacaktır. Elden takip edilen bu işlemlerde hata payı yüksektir. Başvuru alma sürecinden sonra başvuran adayları sınava tabi tutmak için sınav yeri duyurusu, sınav değerlendirmesi ve puan hesabı gibi karmaşık süreçler tüm adaylar için yapılacaktır. Bütün bu işlemler tamamlandığında, adayların tercihleri doğrultusunda başarı sıralaması esasına göre yerleştirme işlemi yapılır. Manuel yapılan işlemler içerisinde en karmaşık süreç yerleştirme sürecidir. Çünkü her adayın tercihleri değerlendirilecek ve anlaşma kontenjanları dâhilinde yerleştirme yapılacaktır. Ayrıca anlaşma kontenjanı önlisans, lisans, yüksek lisans ve doktora öğrencileri için ayrı olması durumunda işlemler daha da karmaşık bir hal alır. İşte tüm bu olumsuz faktörler eğitimde kaliteyi arttıracak erasmus programının gerçekleştirilmesine engel teşkil etmektedir. Bu gibi uzun ve karmaşık süreçler öğrencileri erasmus programına katılmayı teşvik etmemektedir.

3. Erasmus Online Başvuru ve Bilgi Sisteminde Aday Kabul Süreci

Geliştirilen online bilgi sistemi aday kabul sürecindeki karmaşık süreçlerinin çözümü için tasarlanmıştır. Sakarya Üniversitesi bilgisayar araştırma ve uygulama merkezi bünyesinde geliştirilen sistem şuan aktif olarak kullanılmaktadır. Aday kabul sürecinde önceki yıllarda yapılan elden kabul süreçleri analiz edilerek yaşanılan tüm sorunlar tespit edilmiştir. Özellikle başvurunun bizzat elden yapılmasından dolayı başvuru süreci içerisinde adayların şehir/yurt dışında olması gibi durumlardan ötürü çoğu adayın başvuru yapamadığı tespit edilmiş bu da başvuru sayısı büyük ölçüde azalttığı gözlemlenmiştir. Bunun yanı sıra uzun süren başvurma işlemleri de büyük bir sorun olduğu için bunların çözümü değerlendirilmiştir. Özellikle en karmaşık süreç olan yerleştirme süreci probleminin kesinlikle çözülmesi gerekmektedir. Bu gibi durumları bilgisayar ortamına aktarmak için erasmus ofisi ile uzun süren toplantılar yapılmış ve gerekli çözüm önerileri düşünülmüştür.
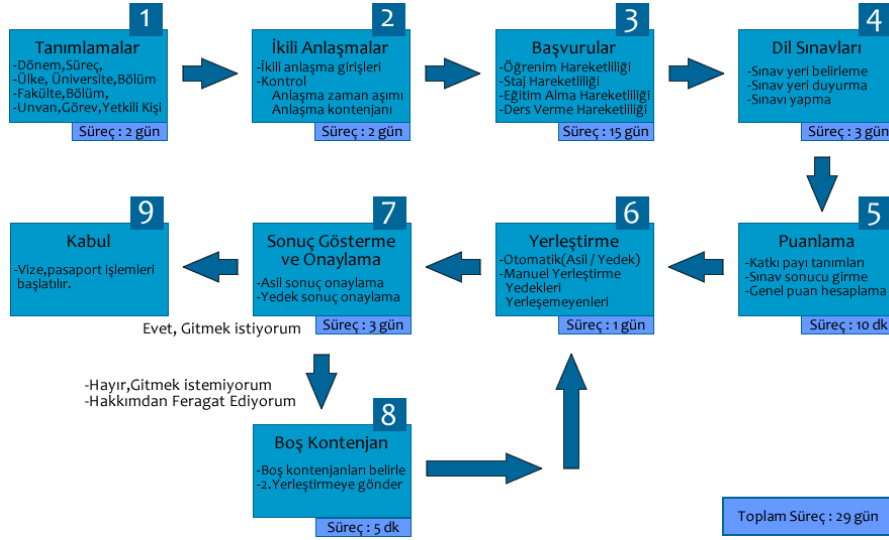
Şekil 1. Erasmus Online Başvuru ve Bilgi Sistemi Aday Kabul Süreci

Yapılan analiz çalışmaları sonucunda Şekil 1'de görülen aday kabul süreci ortaya çıkmıştır. Aday geliştirilen sistemle başvurusunu internet üzerinden başvuru zamanı içerisinde istediği yerden istediği zamanda kısa sürede yapabilmektedir. Başvuruların sorunsuz yapılabilmesi için Erasmus programına dâhil olan ülkeler, üniversiteler ve bölümlerin sisteme tanımlanmalıdır. Ayrıca programı yürütecek olan üniversite kendi fakülte bölümlerini ve sistemde olması gereken tüm değişkenleri tanımlamaktadır. İkili anlaşmalar da hangi bölüm ile yapıldığı kontenjanları ve yetkili kişi tanımlamaları yapılarak sisteme girilmektedir. Böylece başvuru süreci için gereken tüm ihtiyaçlar karşılanmıştır. Aday internetten sisteme girerek başvuru yaptığında, karşısına sadece kendi bölümlerinin anlaşmaları gelmekte ve anlaşmalar hakkında tüm detaylı bilgilere erişebilmektedir. Öğrenci, idari ve akademik personel sistem üzerinde kendilerine uyan programa başvurabilmektedirler. Sistem ile öğrenim, staj, eğitim alma ve ders verme hareketlilikleri başvuruları alınabilir. Başvuru süreci sonrası dil sınavı uygulanacaksa adaylar kendi hesaplarına girerek nerede, ne zaman ve hangi dilde sınava gireceklerini öğrenebilirler. Sınav sonuçları sisteme kısa sürede aktarılarak gerekli puanlama katkı payları ölçüsünde hesaplanır. Burada en önemli şey karmaşık bir süreç olan yerleştirme süreci sistem sayesinde dakikalar mertebesinde ve adilce otomatik olarak yapılabilir.

4. Geliştirilen Sistemin Modelleri

Geliştirilen sistem modüller şeklinde tasarlanmıştır. Şekil 1'de verilen aday kabul sürecindeki her adım modüllere bölünerek sistemin entegre çalışmasına olanak sağlamıştır. Sistem 5 farklı kullanıcı profili ve 11 modül ile geliştirilmiştir.
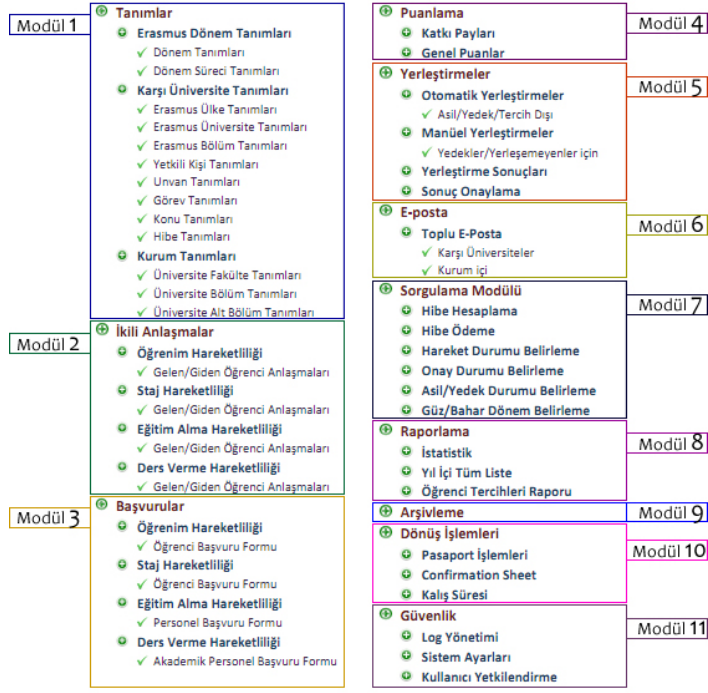
Şekil 2. Erasmus Online Başvuru ve Bilgi Sistemi Modülleri

Şekil 2'de sistemin modülleri aday sürecinin işlem sırasına göre gösterilmiştir. Her modül alanındaki işleri yürütür ve bir sonraki süreçle puzzle parçaları gibi haberleşerek veri transferi sağlar.

4.1. Tanımlama Modülü

Tanımlama modülüyle, üniversitenin fakülte bölümlerini, erasmus dönemlerini, ikili anlaşma koordinatörlerini, ülkeleri, karşı üniversiteleri, bölümleri, başvuru-yerleştirme-sonuç duyurma ve onay süreçlerinin zaman aralıklarını ve birçok gerekli verileri tüm detayları ile sisteme tanımlanabilir. Sistem tüm üniversitelerin erasmus süreçlerini rahatlıkla yönetebilmeleri için esnek olarak tasarlanmıştır. Örneğin fakülte bölüm tanımları ile sistemi kullanan üniversiteler kendi fakülte bölümlerini tanımlayarak sistemin tüm işlevlerini kullanabileceklerdir.

4.2. İkili Anlaşma Modülü

İkili anlaşma modülü, erasmus hareketlilik programında var olan tüm hareketler için oluşturulabilmektedir. Anlaşmadaki iki tarafında tüm bilgileri detaylı olarak sisteme kaydolmaktadır. Ayrıca gelen öğrenci/personel ve giden öğrenci/personel seçenekleri ile tüm durumlar sisteme tanıtılır.

4.3. Başvuru Modülü

Üniversitedeki tüm idari/akademik personeller ve öğrenciler sisteme güvenli başvuru yöntemi ile sadece kendi bölümlerinin yapmış olduğu anlaşmalara başvurabilirler. Başvurular internet üzerinden zaman ve mekân gözetmeksizin başvuru süresince alınabilir. Sistem kısa sürede başvuru alabildiği için başvuru sayısını büyük oranda etkiler.
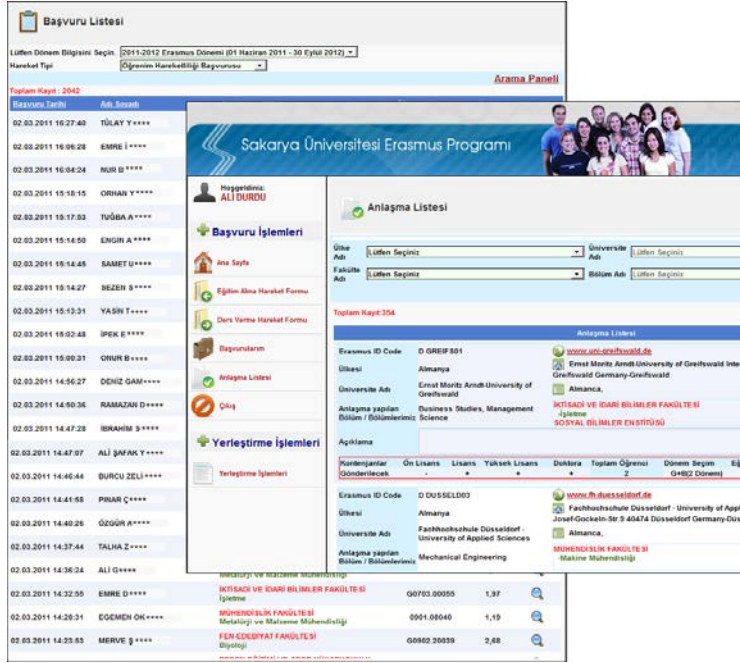
Şekil 3. Erasmus Online Başvuru ve Bilgi Sistemi Başvuru Listesi ve Başvuru Ekranı

Şekil 3'de görüldüğü gibi başvuru ekranı ile erasmus adayı bölümündeki tüm anlaşmalara ve detaylarına ulaşabilmekte ayrıca yetkili kullanıcılar admin panelinden başvuran adayların listesini ve adayın başvurusunu inceleyebilmektedir.

4.4. Yerleştirme Modülü

Yerleştirme modülü otomatik ve manuel olmak üzere iki seçenek sunar. Otomatik yerleştirme ile sistem binlerce başvuruyu beş dakikadan daha az bir sürede değerlendirebilir ve adayları başarı sırasına göre anlaşmaların kontenjanları dâhilinde tercihlerine yerleştirebilir. Asil ve yedekler otomatik olarak oluşur. Manuel yerleştirme ile de yetkili kullanıcı yerleşemeyenleri veya yedekleri boş kontenjanlara yerleştirilebilir.

4.5. Sorgulama Modülü

Güçlü sorgulama seçenekleri ile sistemdeki tüm kayıtlara istenilen alandan anında erişebilinir. Sorgulama ekranı kişinin yaptığı tüm erasmus faaliyetlerini görüntüler ve üzerinde işlem yapılmasına imkân tanır.

4.6. Sistemin Yetkilendirilmesi

Şekil 4'de sistemde tanımlı kullanıcı profilleri verilmiştir. Yetkili kullanıcılar ve standart kullanıcılar olmak üzere iki grup kullanıcı vardır. Yetkili kullanıcılar grubunda administrator kullanıcısı her türlü işlem yapma yetkisine sahiptir. Administrator kullanıcısı tarafından oluşturulan yetkili kullanıcı sadece kendisine verilen yetkiler doğrultusunda işlemler yapabilir.
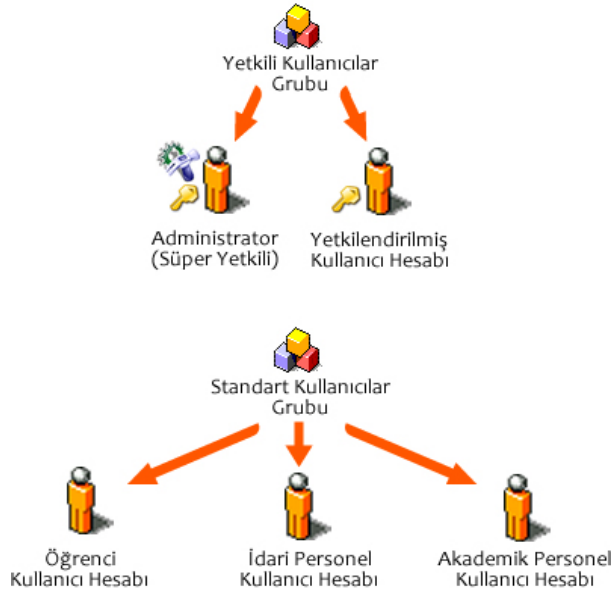
Şekil 4. Erasmus Online Başvuru ve Bilgi Sistemi Kullanıcı Profilleri

Erasmus sistemine işlem yapacak adaylar; öğrenci, idari personel ve akademik personel olmak üzere üç kullanıcı hesabı ile tanımlanmışlardır. Öğrenci kullanıcı hesabı öğrenim ve staj hareketliliğine, idari personel kullanıcı hesabı sadece eğitim alma, akademik personel kullanıcı hesabı ise eğitim alma ve ders verme hareketliliklerine başvurabilir. Böylece kayıt olacak adayların kullanıcı hesapları yapabilecekleri hareketliliğe göre kısıtlandırılmıştır.

5. Sistemin Başarımına İlişkin Veriler

Erasmus online başvuru ve bilgi sistemi 2006-2007 eğitim öğretim döneminden itibaren Sakarya Üniversitesinde fiilen kullanılmaktadır.
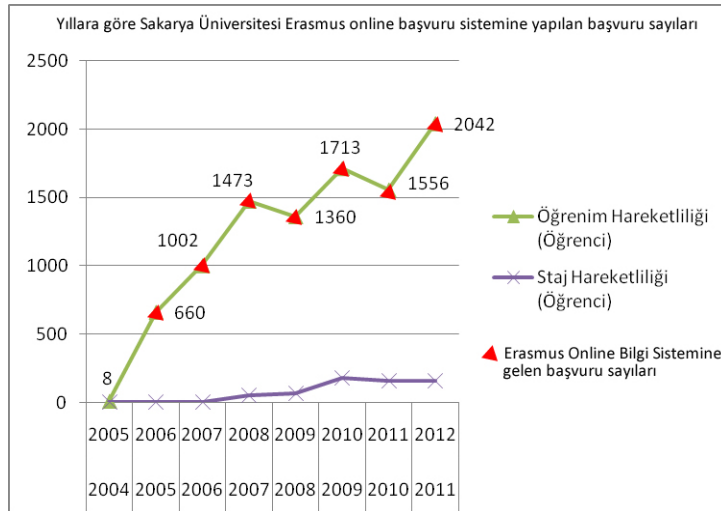
Şekil 5. Yıllara göre Sakarya Üniversitesi Erasmus online başvuru ve bilgi sistemine öğrenim ve staj hareketliliği alanında yapılan başvuru sayıları grafiği

Şekil 5'de verilen grafikte 2005-2006 eğitim öğretim yılında Erasmus online sistemin kullanılmasıyla birlikte önceki sene 8 olan başvuru sayısı aniden 660' yükselmiş ve sonraki yıllar artarak ve son olarak 2042'ye kadar yükselerek sürekli bir artış göstermiştir. Başvuru sayılarının bu şekilde yükselmesinin en önemli sebebi Erasmus

online başvuru sistemiyle internet üzerinden zaman ve mekan kavramı olmadan kısa bir sürede başvuru yapabilme olanağıdır. Başvuracak olan adaylar bulundukları yerden üniversitelerine gelmeden kısa sürede başvuru yapabildikleri için sistem birçok kişiyi başvuru yapmaya teşvik etmiştir.

Tablo 1. Yıllara göre Erasmus online başvuru ve bilgi sistemiyle Sakarya Üniversitesi'nden yurt dışına gönderilen öğrenci ve personel sayıları

Faaliyet	2004 2005	2005 2006	2006 2007	2007 2008	2008 2009	2009 2010	2010 2011	Toplam
Öğrenim Hareketliliği (Öğrenci)	3	30	173	355	334	262	359	1516
Ders Verme Hareketliliği (Akademik Personel)	1	12	123	99	82	27	102	446
Eğitim Alma Hareketliliği (İdari Personel)	0	0	0	19	57	4	26	106
Staj Hareketliliği (Öğrenci)	0	0	0	21	18	10	19	68
Toplam	4	42	296	494	491	303	506	2136

Tablo 1'de Erasmus faaliyetinden yurtdışına giden Sakarya Üniversitesi personel ve öğrencilerine ait yıllar bazında sayısal veriler verilmiştir. 2004/2005 eğitim öğretim yılında başlanan erasmus faaliyetlerinden yararlanan kişi sayısı toplam 4'den 2005-2006 eğitim öğretim yılında sistemin kullanılmaya başlanması ile 42 kişiye çıkmış ve her sene yararlanan kişi sayısında büyük oranda artış gözlenmiştir. 2007/2008 eğitim öğretim yılında 494 kişi ile Sakarya Üniversitesi Türkiye'de en büyük Erasmus bütçesini alan üniversite yaparak birincilik kazanmıştır. Son olarak 2010/2011 eğitim öğretim yılı için 506 kişi yurt dışına gönderilmiştir. Şuana kadar toplam 2136 kişi Erasmus programından yararlanarak yurtdışına gönderilmiştir. Tablo 1'de verilen sayılardaki yurtdışına giden öğrencileri büyük bir kısmı iki dönem(güz+bahar) eğitim almak üzere gönderilmiştir.

Tablo 2. Yıllara göre Erasmus programıyla Sakarya Üniversitesi'ne gelen yabancı uyruklu öğrenci sayıları

Faaliyet	2004 2005	2005 2006	2006 2007	2007 2008	2008 2009	2009 2010	2010 2011	Toplam
Öğrenim Hareketliliği (Öğrenci)	0	1	28	40	65	57	75	266
Staj Hareketliliği (Öğrenci)	0	0	0	0	0	2	0	2
Toplam	0	1	28	40	65	59	75	268

Tablo 2'de Erasmus faaliyetinden Sakarya Üniversitesi'ne gelen yabancı uyruklu öğrencilere ait yıllar bazında sayısal veriler verilmiştir. 2004-2005 eğitim öğretim yılında Sakarya Üniversitesine hiç öğrenci gelmemişken, 2005-2006 yıllarında sistemin kullanılmaya başlanması ile 1 kişiye çıkmış ve her sene gelen öğrenci sayısında büyük oranda artış gözlenmiştir. 2006-2007 yılları arasında erasmus faaliyetlerinden yararlanarak Sakarya Üniversitesine gelen öğrenci sayısında 28 kişi ile yine rekor oranda artış gözlenmiş 2010/2011 eğitim öğretim yılında bu sayı 75'e kadar yükselmiştir. 2011 yılı itibariyle kadar toplam 268 yabancı uyruklu öğrenci Sakarya Üniversitesi'nden eğitim almıştır ve halen almaktadır.
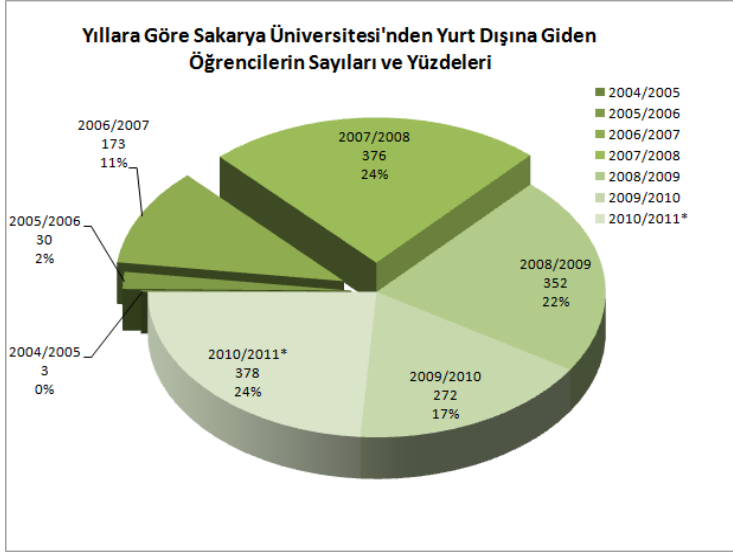
Şekil 5. Yıllara göre Sakarya Üniversitesi'nden Erasmus programıyla yurt dışına giden öğrenci sayılarının pasta grafiği ile gösterimi
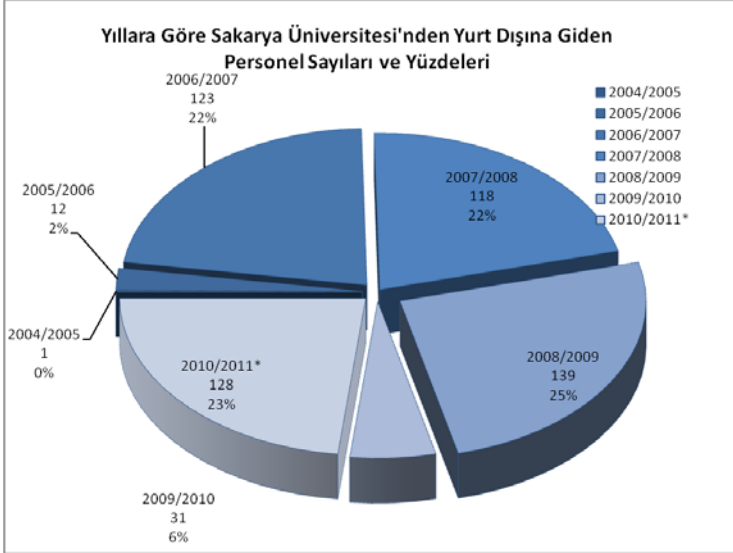
Şekil 6. Yıllara göre Sakarya Üniversitesi'nden Erasmus programıyla yurt dışına giden Akademik/İdari personel sayılarının pasta grafiği ile gösterimi

Şekil 5 ve Şekil 6'da verilen Tablo 1'deki verilen sayıların pasta grafiği ile gösterimi ile online başvuru ve bilgi sisteminin Erasmus programına katılan kişi sayısını önemli ölçüde arttırdığının ispatını belirgin bir farkla göstermektedir.

Sonuç

Bu çalışmada, Üniversitelerin Erasmus programına katılmak isteyen öğrenci ver personellerinin başvuru ve yerleştirme süreçlerini internet üzerinden adilce yönetilebilmesi için online sistem geliştirilmiştir. Geliştirilen sistem internetin yaygın kullanıldığı günümüzde özellikle internet üzerinden başvuru alma modülü ile etkili bir şekilde başvuracak aday sayısı önemli ölçüde arttırmaktadır. Sistemin Erasmus programı sürecine kattığı katkıları;

Başvuru alma, yerleştirme, sonuç gösterme ve onaylama süreçlerinin zaman kısıtlarını belirleyebilme

İnternet üzerinden kısa sürede güvenli başvuru yapabilme

Adaylara sınav yerlerinin ve sonuçlarının internet üzerinden kısa sürede duyurulması

Adayların bilgilerine anında erişim

Puanlamaların otomatik olarak yapılması

Yerleştirmelerin otomatik yapılması ve sonuçların internet üzerinden duyurulması

şeklinde özetlenebilir. Verilen sayısal verilerle de sistemin Erasmus programına katılımı büyük oranda arttırdığı gösterilmiştir.

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AVRUPA YETERLİLİKLER ÇERÇEVESİ KAPSAMINDA TÜRKİYE YÜKSEKÖĞRETİMDE SPOR EĞİTİMİ

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Özet

Ülkemizde yükseköğretimin geçirdiği aşamalardan geçmeyen ve bilim dalı olarak ancak son 40 yılda kabul görmeye başlayan Beden Eğitimi ve Spor, çeşitli dönemlerde farklı kuruluşlara bağlı olarak değişik adlar altında çeşitli aşamalar geçirmiştir.

Türk yükseköğretiminde bazı bölümler, anabilim ve bilim dalları bilimsel yeterliliğini kurmakta çok geç kalmıştır. Avrupa'da birçok üniversitede ya bilim dalı olarak ya da diğer bilim dallarındaki öğrencilerin sosyal ihtiyaçlarını karşılamada yükseköğretimde spor ve sanat faaliyetleri diğer bilim dallarıyla eşit olarak gelişme gösterirken, aynı gelişimin Türk yükseköğretiminde olduğu söylenemez.

Bu çalışmanın amacı geçirdiği dönemler itibariyle Türkiye Yükseköğretiminde Beden Eğitimi ve Sporu incelemek; bu inceleme doğrultusunda gelecek yıllardaki misyon ve vizyonu hakkında öngörüler sunmaktır.

Ayrıca, Türkiye Yükseköğretiminde Beden Eğitimi ve Sporun tarihsel gelişimi incelenmiştir.

Sonuç olarak Türk Yükseköğretiminde Beden Eğitim ve Spor Yüksekokullarının gerek Avrupa birliği "Uyum Süreci" gerekse "Bologna Sürecinde" olması gereken yer ile şu anda bulunduğu yer hakkında öneriler sunulmuştur.

Anahtar kelimeler: Beden Eğitimi ve Spor, Bologna Süreci, Yükseköğretim.

Giriş

İnsan vücudunun belirli amaçlar için eğitilme düşüncesi insanlık tarihi kadar eskidir. En ilkel kavimler bile vücutlarını işletmesini bilmişlerdir. İlkçağlarda bir savaş eğitim aracı olan spor ve beden eğitimi, programlı olarak 1800'lü yıllarda eğitim çalışmalarına girerek 1900'lü yıllarda ülkeler arası barış ve propaganda vasıtasına dönüşerek hızla gelişmiştir. Özellikle İkinci Dünya Savaşı'ndan sonra spor bilimindeki gelişmelere paralel olarak antrenman bilimi de gelişmiştir (Sevim, Y. 1992 akt: Güçlü, M.2001).

Türkiye'de beden eğitimi kavramı, kurtuluş savaşı sonrası toplanan birinci maarif şurası 15 Temmuz 1923 yılında "birinci heyeti ilmiye" olarak eğitim tarihimize geçmiştir. Milli Eğitim bakanı İsmail Sefa beyin başkanlığında toplanan bu heyette Selim Sırrı Tarcan da bulunmaktadır. Bu heyetin çabalarında izcilik ve beden eğitimi 5. madde olarak kayda geçmiştir. Aynı yıl meclise gelen bu durum "ferdin bedeni ve fikri kabiliyetleri gibi ahlaki ve içtimai kabiliyetleri de inkişaf ettirilecektir" sözüyle beden eğitimi öğretmeni okulu açılacağı belirtilmiştir. Cumhuriyetin ilanından sonra ülkemizde açılan okullarda izcilik ve beden eğitimi dersinin yürütülmesinde eğitimci ihtiyacı açığa çıkmıştır. Bu açığın giderilmesi için kurulacak olan okullarda Beden eğitimi öğretmenlerini yetiştirmek üzere eğitimci bulma zorunluluğu da doğmuştur. Bu amaçla yurtdışına Vildan Aşır Savaşır, Nizamettin Kırşan ve Suat Hayri Ürgüplü gönderilmiştir.1926 yılında artan bu ihtiyacın kurslarla karşılanması için Çapa öğretmen okulunun yanına bir spor salonu yapılmıştır. Bir yıl sürecek bu kursa katılacak bayan ve erkek adaylar için yurtdışından eğitimci getirilmiştir. Kursun müdürlüğünü Selim Sırrı Tarcan yapmıştır. Bu kurstan başarıyla mezun olanlar orta dereceli okullara atanmış başarılı olamayanlar okullarına gönderilmiştir. Üç yıl bu alanda kabiliyeti olanlara verilen kursun hocalığını daha sonraki dönemlerde

yurtdışında eğitime gönderilen Vildan Aşır Savaşır ve Nizamettin Kırşan da yapar. Bu kurslar 1930 yılına kadar devam etmiştir. 1932-33 öğretim yılında Gazi Eğitim Enstitüsü Beden Eğitimi Bölümü kurulmuştur. Ülkemizde spor eğitimi öğretmen okullarının açıldığı illerde bazen kısa süreli kurslar bazen de tekâmül kurslarıyla yürütülmüştür (Şakar, F. 2011,akt:http://www.saglikllispor.com/spor/1909dan-bu-yana-tarihi-surec-icindebedenegitimi. html).

1970'li yıllarda Gençlik ve Spor Akademileri kurulmuştur. Bu akademiler esas itibariyle antrenör yetiştirmek amacıyla açılmış kurumlardır. 1980 yılından sonra Üniversitelerin Eğitim Fakülteleri bünyelerinde Beden Eğitimi ve Spor Öğretmenliği Bölümleri kurulmuştur. 1990'lardan sonra ise üniversitelerin Beden Eğitimi ve Spor Yüksekokulu bünyelerinde; Beden Eğitimi ve Spor Öğretmenliği, Spor Yöneticiliği, Rekreasyon ve Antrenörlük Eğitimi bölümleri spor eğitimini vermeye devam etmektedir.

Günümüz yükseköğretiminde beden eğitimi ve spor farklı enstitülerde ve anabilim dallarında hizmet vermektedir. Örneğin, bazı üniversitelerde beden eğitimi ve spor sağlık bilimlerine bağlı iken, bazılarında sosyal bilimler ve eğitim bilimleri enstitülerine bağlanmıştır. Bu durum, alanda yeterli sayıda öğretim üyesinin olmaması, hızlı ve plansız gelişimden kaynaklanmaktadır. Bu durumun öğrencilerin sosyal ve sportif ihtiyaçlarını karşılamada yetersiz kaldığı görülmektedir. Ülkemizde son 15 yıl içinde beden eğitimi ve spor yüksekokulları plansız ve altyapıları tamamlanmadan hızla çoğalmıştır. Bu yüksekokulların üniversitelere göre dağılım ve öğretim elemanı sayıları aşağıdaki gibidir (Bkz. Tablo 1-2).

Tablo 1: Beden Eğitimi ve Spor Yüksekokulu Bilgileri

Devlet Üniversitesi - BESYO	45
Özel Üniversite – BESYO	7
Toplam	52

Tablo 1'de görüleceği gibi Türkiye'de Devlet üniversiteleri bünyesinde 45, Özel üniversiteler bünyesinde 7 olmak üzere toplam 52 Beden Eğitimi ve Spor Yüksekokulu bulunmaktadır..

Tablo 2: Beden Eğitimi ve Spor Yüksekokulları Akademik Personel

Personel Ünvanı	n	%
Prof.	61	6,57
Doç.	29	3,1
Yrd. Doç.	286	30,81
Öğrt. Gör.	212	22,84
Araştırma Görevlisi	159	17,13
Okutman	181	19,5
Toplam	928	100

Tablo 2 'de görüleceği gibi, Beden Eğitimi ve Spor Yüksekokulları Akademik Personel sayıları Yrd. Doç. (%30,81) ve Öğrt. Gör. (%22,84) kadrolarında yoğunluk göstermektedir.

Günümüzde hızlı teknolojik gelişmelerle birlikte beden eğitimi ve sporun insan yaşamındaki önemi giderek artmış ve eğitim amaçlarının insana kazandırabileceği önemli bir disiplin durumuna gelmiştir. Çünkü beden eğitimi ve spor bireylerin fiziksel, zihinsel, duygusal ve sosyal gelişmelerini sağlayan bir bilimdir. Beden eğitimi

ve sporun bu işlevini yerine getirebilmesi için nitelikli, araştırıcı ve üretken beden eğitimi ve spor öğretmenlerinin yetiştirilmesi gereği ortaya çıkmıştır (Temel, C., Sunay H. 2002).

Bu çalışmanın amacı geçirdiği dönemler itibariyle Türkiye Yükseköğretiminde Beden Eğitimi ve Sporu, Bologna süreci eğitim yeterlilikleri ve Avrupa biriliği spor eğitim modelini incelemektir. Bu inceleme doğrultusunda gelecek yıllardaki misyon ve vizyonu hakkında öngörüler ortaya koymaktır.

Bologna Süreci ve Avrupa Yeterlilikler Çerçevesi

Avrupa Yükseköğretim alanı yaratmayı hedefleyen Bologna süreci beden eğitimi ve spor alanında da Avrupa'yla entegre olmamızı gerektirmektedir. Bologna Süreci, 2010 yılına kadar Avrupa Yükseköğretim Alanı yaratmayı hedefleyen bir reform sürecidir. Pek çok uluslararası kuruluşun işbirliği ile 47 üye ülke tarafından oluşturulan ve sürdürülen, alışılmışın dışında bir süreçtir. Sürece üyelik hükümetler/devletlerarası herhangi bir anlaşmaya dayanmamaktadır. Bologna Süreci kapsamında yayımlanan bildirilerin yasal bir bağlayıcılığı bulunmamaktadır. Süreç tamamen her ülkenin özgür iradeleri ile katıldıkları bir oluşumdur ve ülkeler Bologna Süreci'nin öngördüğü hedefleri kabul edip etmeme hakkına sahiptirler. Bologna Sürecinin oluşturmayı hedeflediği Avrupa Yükseköğretim Alanı içerisinde yer alan ülke vatandaşları, yükseköğrenim görmek ya da çalışmak amaçları ile Avrupa'da kolayca dolaşabileceklerdir. Avrupa, gerek yükseköğretim ve gerekse iş imkânları açısından dünyanın diğer bölgelerinden kişiler tarafından tercih edilir hale getirilecektir. Avrupa Yükseköğretim Alanında en gerçekleşmesi arzulanmayan şey, üye ülkelerin eğitim sistemlerinin tek tip yükseköğretim sistemi haline getirilmesidir. Avrupa Yükseköğretim Alanı'nda asıl hedeflenen, çeşitlilik ile birlik arasında bir denge kurulmasıdır. Amaç, yükseköğretim sistemlerinin kendilerine özgü farklılıkları korunarak birbirleriyle karşılaştırılabilir olması ve uyumlu hale getirilmesinden ibarettir. Bu şekilde, bir ülkeden ya da yükseköğretim sisteminden bir diğerine geçişin kolaylaşması ve böylece öğrenciler ve öğretim görevlilerin hareketliliği ve istihdamının artırılması planlanmaktadır (http://bologna.yok.gov.tr/?page=yazi&c=1&i=3).

Türkiye Yükseköğretim Yeterlilikler Çerçevesi (TYYÇ), Avrupa Birliği (AB) tarafından 2000 yılında yayınlanan Lizbon Stratejisi hedefleri ve ülkemizin 2001 yılında dahil olduğu, Bologna Süreci hedeflerine yönelik olarak, Bologna Süreci'ne üye ülkelerin yükseköğretim sistemlerinde şeffaflık, tanınma ve hareketliliği artırma amaçlarıyla 2010 yılına kadar oluşturmayı taahhüt ettikleri "yükseköğretim alanında ulusal yeterlilikler çerçevesi geliştirme" konusunda ulusal düzeyde gerçekleştirilen çalışmalar yükseköğretimin tüm iç ve dış paydaşlarıyla paylaşılmaktadır (http://tyyc.yok.gov.tr/).

Yükseköğretim alanında yeterlilik, herhangi bir yükseköğretim derecesini başarı ile tamamlayan bir kişinin neleri bilebileceği, neleri yapabileceği ve nelere yetkin olacağını ifade eder (http://tyyc.yok.gov.tr/).

Ulusal Yeterlilikler Çerçevesi ise, ulusal düzeyde bir eğitim sistemindeki yeterlilikleri ve bunların birbirleriyle ilişkilerini açıklar. Diğer bir deyişle, Ulusal Yeterlilikler Çerçevesi, ulusal ve uluslararası paydaşlarca tanınan ve ilişkilendirilebilen yeterliliklerin belirli bir düzen içerisinde yapılandırıldığı bir sistemdir. Bu sistem aracılığıyla, yükseköğretimde tüm yeterlilikler ve diğer öğrenme kazanımları açıklanabilir ve tutarlı bir şekilde birbiri ile ilişkilendirilebilir (http://tyyc.yok.gov.tr/).

Yeterliliklerin kazanılma derecesi, her ders / modül esnasında ve sonunda uygun ve nesnel yöntemlerle "öğrenme çıktıları" olarak ölçülür (http://tyyc.yok.gov.tr/).

Bu yeterlilik çerçevesinde ülkemizdeki ders sayıları ve kredilerinin sürece uyumlu hale getirilmesinin yeterli olamayacağı öğrenci seçiminden akademik yeterliliğe kadar bütün sistemin uyumlu hale dönüştürülmesi gereği düşünülmektedir. Sadece ders kredi saatlerinin aynı düzeyde olması öğrenme çıktılarının aynı olması, öğrenci, öğretmen ve program üçlüsünde değerlendirilmelidir. Avrupa'daki uygulamalar değerlendirildiğinde Avrupa yeterlilik çerçevesi Yükseköğretimdeki durumu göstermektedir.

Avrupa Yeterlilikler Çerçevesi Üç Ana Unsurdan Oluşur:

1.Öğrenme sonuçlarına dayanan bir takım ortak referans noktaları, 8 seviyelik bir yapı üzerine kurulmuştur. Her seviye; biçim, konum, zaman çizelgesi, öğrenme içeriğinin odak noktası (bilgi, yetenek, yeterlilik), değerlendirme, kalite kontrol düzenlemeleri, öğrencilere yönelik rehberlik ve nitelik kullanıcılarına yönelik rehberlik gibi belirli anahtar kavramlarla belirlenmektedir. Bu seviyeler, araştırmalardan elde edilen sonuçların analiz edilmesi ve Bologna'da Yüksek Öğretim aşamaları ile ilgili varılan mutabakatların ışığında belirlenmiştir.

2.Vatandaşların bireysel ihtiyaçlarına yönelik bir dizi destek araç-gereçleri (yaşam boyu öğrenme – Avrupa Eğitim Pasaportu için entegre bir Avrupa Kredi Transfer ve Biriktirme Sistemi.

3.Farklı seviyelerdeki paydaşlar arasında işbirliği için kılavuzlar sağlayan bir takım ortak ilke ve yöntemler – özellikle kalite güvencesine, geçerliliğe, rehberliğe ve anahtar becerilere odaklanan bir yapıdır (http://www.eseip.eu/index.php?option=com_content&task=view&id=37& Itemid=67).

Spor eğitiminde ulusal yeterlilikleri hazırlarken bu durum göz önüne alınabilir. Bologna sürecinde ve ulusal yeterlilikler çerçevesinin temeli ISCED (International Standard Classification of Education) dayanmaktadır. ISCED, UNESCO (Birleşmiş Milletler Eğitim, Bilim ve Kültür Organizasyonu) tarafından geliştirilen ISCED (International Standard Classification of Education), eğitim istatistiklerinin ve karşılaştırılabilir göstergelerin toplanması, derlenmesi ve bunların gerek ulusal gerek uluslararası düzeyde sunumu için uygun bir araç olarak tasarlanmıştır. ISCED standart kavram, tanım ve sınıflamaları sunmaktadır. İlk kez 1976 yılında yayınlanan ISCED, 1997 yılında revize edilmiş ve günümüze kadar pek çok ülke tarafından eğitim politikaları belirleme ve istatistik verilerinin toplanmasına yardımcı olma gibi amaçlara yönelik olarak kullanılmıştır. 2010 yılında UNESCO, eğitimle ilgili tüm paydaşlarla yeni bir istişare sürecine girmiş ve taslak olarak hazırladığı ISCED 2011 dokümanını paylaşmıştır. Söz konusu dokümanın 2011 yılı başında resmi olarak yayınlanması beklenmektedir. ISCED-1997'de, yapı olarak evrensel olması amacıyla, ülkelerde eğitim sisteminin geliştirilmesi açısından seviyesine bakılmaksızın uygulanabilir olması istenmiştir. Hem bireysel olarak ülkeler, hem de ülkeden ülkeye karşılaştırılabilir eğitim istatistiklerini ve göstergelerini derlemek ve sunmak için bir araç görevi görmesi amacıyla tasarlanmıştır (http://tyyc.yok.gov.tr/?pid=12).

Tablo 3: TYÇÇ, ISCED 97, EUROSTAT&CEDEFOP Eğitim ve Öğretim Alanları

ISCED 97, EUROSTAT&CEDEFOP EĞİTİM VE ÖĞRETİM ALANLARI				
ISCED GENEL ALAN KODU	GENEL ALANLAR	ISCED TEMEL ALAN KODU	EĞİTİM VE ÖĞRETİM TEMEL ALANLARI	EĞİTİM VE ÖĞRETİM ALANLARI
1	Eğitim	14	Öğretmen Yetiştirme ve Eğitim Bilimi	141-Eğitim ve Öğretim=143+144+145+146 142-Eğitim Bilimi 143-Okul Öncesi Öğretmen Eğitimi 144-Temel Düzeyler Öğretmen Eğitimi 145-Genel Alan Öğretmen Eğitimi 146-Mesleki Alan Öğretmen Eğitimi
2	Beşeri Bilimler ve Sanat	21	Sanat	211-Güzel Sanatlar 212-Müzik ve Gösteri Sanatları 213-Görsel-İşitsel Teknikler ve Medya Prodüksiyonu 214-Tasarım 215-El Sanatları

		22	Beşeri Bilimler	221-Din 222-Yabancı diller ve kültürler 223-Anadil 224-Tarih, Felsefe ve İlgili Konular=225+226 225-Tarih ve Arkeoloji 226-Felsefe ve Etik
3	Sosyal Bilimler, İşletme ve Hukuk	31	Sosyal ve Davranış Bilimleri	311-Psikoloji 312-Sosyoloji ve Kültür Çalışmaları 313-Siyaset Bilimi ve Yurttaşlık 314-İktisat
		32	Gazetecilik ve Enformasyon	321-Gazetecilik ve Muhabirlik 322-Kütüphane, Enformasyon,Arşiv
		34	İşletme ve Yönetim Bilimleri	341-Toptan ve Perakende Satış 342-Pazarlama ve Reklamcılık 343-Finans, Bankacılık,Sigortacılık 344-Muhasebe ve Vergilendirme 345-İşletme Yönetimi ve Kamu Yönetimi 346-Sekreterlik ve Ofis İşleri 347-Çalışma Yaşamı
		38	Hukuk	380-Hukuk
4	Bilim, Matematik ve Bilgisayar	42	Yaşam Bilimleri	421-Biyoloji ve Biyokimya 422-Çevre Bilimi
		44	Doğa Bilimleri	441-Fizik 442-Kimya 443-Yer bilimi
		46	Matematik ve İstatistik	461-Matematik 462-İstatistik
		48	Bilgisayar	481 Bilgisayar Bilimi 482 Bilgisayar Kullanımı
5	Mühendislik, Üretim ve Yapı	52	Mühendislik	521-Mekanik ve Metal İşleri 522-Elektrik ve Enerji 523-Elektronik ve Otomasyon 524-Kimya ve İşleme 525-Motorlu Araçlar, Gemiler ve Uçaklar
		54	Üretim ve İşleme	541-Gıda İşleme 542-Tekstil, Giyim, Ayakkabı, Deri 543-Malzemeler (tahta, kağıt, plastik, cam) 544-Madencilik ve Maden Çıkarma
		58	Mimarlık ve Yapı	581-Mimarlık ve Şehir Planlama 582-Yapı ve İnşaat Mühendisliği

6	Tarım ve Veterinerlik	62	Tarım, Ormancılıkve Su Ürünleri	621-Bitkisel ve Hayvansal Üretim 622-Park ve Bahçe Bitkileri 623-Ormancılık 624-Su Ürünleri
		64	Veterinerlik	641-Veterinerlik
7	Sağlık ve Refah	72	Sağlık	721-Tıp 722-Tıp Hizmetleri=725+726+727 723-Hemşirelik ve Bakım 724-Dişçilik Çalışmaları 725-Tıbbi Teşhis ve Tedavi Teknolojisi 726-Terapi ve Rehabilitasyon 727-Eczacılık
		76	Sosyal Hizmetler	761-Çocuk Bakımı ve Gençlik Hizmetleri 762-Sosyal İşler ve Danışmanlık
8	Hizmetler	81	Kişisel Hizmetler	811-Otel, Restoran ve Yiyecek Sağlama 812-Seyahat, turizm ve Dinlence (eğlence) 813-Spor 814-Ev Hizmetleri 815-Saç ve güzellik hizmetleri
		84	Ulaştırma Hizmetleri	840-Ulaştırma Hizmetleri
		85	Çevre Koruma	851-Çevresel Koruma Teknolojisi 852-Doğal Çevreler ve Yaban Hayatı 853-Toplum Sağlığı Hizmetleri
		86	Güvenlik Hizmetleri	861-Kişilerin ve Mülkiyetin Korunması 862-Meslek Sağlığı ve Güvenliği 863-Askeriye ve Savunma

Tablo 3'de görüldüğü gibi, Eğitim Öğretim alanları içerisinde Spor Kişisel Hizmetler alanında yer almaktadır. Avrupa yükseköğretimi spor bilimleri açısından incelendiğinde aşağıda açıklanan modeller karşımıza çıkmaktadır.

AEHESIS Altı Adım Modeli (A6SM)

1. Adım: Profesyonel Alanın Tanımlanması

Bir profesyonel alan, özel sektörde genel olarak endüstri diye adlandırılan belirli servislerin ve eşyaların üretimine uygun aktiviteler dizisidir. Bir profesyonel alan belirli görev ve işlevler bütünü olarak tanımlanabilir ve her alan için bir "işlevsel harita" olarak hazırlanabilir. Burada ortaya çıkan sorulardan bir tanesi "endüstri"nin esasının ve limitlerinin mümkün olduğunca açık bir biçimde tanımlanmasıdır (http://www.eseip.eu).

2. Adım: Standart Meslekler

Bir standart meslek yapılan iş ya da mesleğin türüne göre tanımlanır. Bir meslek, belirli görevler ve sorumlulukların bir insan tarafından yerine getirilmesinin beklenmesidir. Standart bir meslek farklı ülkelerde başka standart mesleklere karşılık gelebilir. Temel görev ve sorumlulukları büyük oranda benzerlik gösteren bir dizi meslek sınıflandırılması gerekir. Farklı alanlar için standart meslekler aşağıdaki gibi belirlenmiştir.

Sağlık ve Fitness

İleri Gym Eğitmeni/ Kişisel Eğitmen

Sağlık ve Egzersiz Eğitmeni / Uzmanı

Halk Sağlığı Danışmanı

Sağlık ve Fitness Yöneticisi

Beden Eğitimi

Mesleğin standardı açısından 3 ana fonksiyonu vardır:

Beden Eğitimi öğretimi, bilgi, beceri ve kavramayı içerir.

Beden Eğitimi öğretimi, sağlıklı yaşam tarzını içerir.

Beden Eğitimi öğretimi, ders dışı spor faaliyetlerini içerir.

Antrenörlük

Bu mesleki alanda 2 temel standart belirlenmiştir.

A) Katılım-Odaklı (Herkes İçin Spor) Antrenörlük

Spora yeni başlayanlar için antrenörlük (Çocuk, Genç, Yetişkin)

Spor geçmişi olan katılımcılar için antrenörlük (Çocuk, Genç, Yetişkin)

B) Performans-Odaklı Sporcular İçin Antrenörlük

Yetenek Seçimi antrenörü

Yüksek Performans sporcusu antrenörü

Spor Yönetimi

Yerel yönetimlerde spor yöneticisi

Spor kulüpleri yöneticisi

Ulusal spor federasyonu yöneticisi

Özel spor işletmeciliği yöneticisi

3. Adım: Etkinlikler

Etkinlikler belli standart mesleklere karşılık gelen görev ve sorumluluklar olarak tanımlanır.

4. Adım: Yeterlilikler

Yeterlilik bilgiye başvurabilme, alanında uzmanlık sahibi olma, sabit ve değişken durumlara uyum sağlayabilme yetenekleri olarak tanımlanabilir.

5. Adım: Öğrenme Sonuçları

Programların sonucunda öğrencilerden beklenen genel ve özel öğrenme çıktılarının tanımlandığı bölümdür.

6. Adım: Müfredat Modeli

Bir eğitim faaliyetinde müfredat, takip edilen bir dizi etkinlik olarak tanımlanabilir ve eğitim amacı, içerik, yöntem, değerlendirme, araç-gereçler, öğretmen eğitimi ve eğitimcileri kapsar (http://www.eseip.eu).

Avrupa birliği spor eğitim sisteminden 6 adım modelinden 5 aşamalı geçiş süreci aşağıda belirtilmiştir:

Yeni Beş Aşamalı Sistem (5PF)

Dört alanın araştırma grupları tarafından bir matris olarak spor eğitimi ile ilgili veri elde etmek için kullanılan altı adım modeli, spor eğitiminde yeni bir müfredat geliştirme modeli ortaya çıkarmıştır. Altı adım modeli, spor eğitim alanlarından dört tanesinde bir çerçeve planı olarak kullanılmıştır.

1.Aşama: Müfredat Kaynağı Tasarımı

Eğer müfredat planlaması sonuçlarının iş gücü ihtiyaçları ile uyumlu olması bekleniyorsa, müfredat gelişim sürecinin en başında kimin – hangi ihtiyaçlarının hedeflenmekte olduğunun net bir biçimde belirlenmesi gerekir. Sistemlerin ve uygulamaların etkili olması için müfredat yapı ve konularının alana hakim profesyoneller ve taraflar ile tartışılması, hedef grupların (müfredatı hazırlayanların, profesyonellerin, karar alıcıların vb) taleplerine uygun olması ve hedef kitle tarafından kolay anlaşılabilecek nitelikte olması gerekir (http://www.eseip.eu).

2.Aşama: Müfredat Kaynağı Belirleme

Eğitim ve istihdamın birbiriyle bağlantılı olmasını ve profesyonel partnerlerin işbirliği hedef kitleye ulaşacak içerikle ilgili daha net tanım ve açıklamalara imkân sağlar. Spor alanı dört temel bölümden oluşmaktadır. Her alan kendi bölgesini, sınırlarını ve aynı zamanda da diğer meslek alanlarıyla olan bağlantılarını belirler. Standart meslekler, hedef kitleye basit ve açık bir biçimde iletilir, profesyonel bağlamda onlardan beklenen temel etkinlik ve görevlerin tanımları iletilir (http://www.eseip.eu).

3. Aşama: Müfredat Amaçlarının Belirlenmesi

Geçmişte müfredat hedefleri akademik eğitime göre uyarlanmaktaydı. Eğer işgücü ihtiyaçları ile ilişki kurulmak isteniyorsa, müfredat tasarlayanlar ve geliştirenler profesyonel yeterlilikleri spor eğitim sisteminin esas amacı olarak mutlaka göz önünde bulundurmalıdırlar (http://www.eseip.eu).

4. Aşama: Müfredat içeriklerinin belirlenmesi

Milli ve bölgesel düzenlemelerin farklılıklarına uygun olarak, müfredat içeriği eğitim kurumlarına esneklik ve uyum kazandıran prensiplere bağlı kalarak hazırlanmıştır. Klasik olarak müfredat, öğrencilerin profesyonel yeterlilikleriyle bağlantılı öğrenme sonuçlarına göre ayarlanmıştır. Öğrenme sonuçlarının tamamını derinlemesine ele almak amacıyla çalışma alanlarına dağıtılmıştır (http://www.eseip.eu).

5.Aşama: Müfredat Sonuçlarının Denetimi

Müfredat sonuçlarını takip etmek amacıyla, "düzenleme" süreci tarafından müfredat geliştirilmesinde denetleyici kontrol özelliği tasarlanmıştır. Bu nedenle her eğitim kurumu taraflarla ilişkilendirilmiş bir kalite kontrol sistemi hazırlar. Bu düzenleme süreci bir onay süreci ile sürdürülebilir. Bu, yenilenmeye ya da spor eğitimi alanındaki topluluğun tamamı tarafından altı başlık tanımlarının onaylanmasına olanak sağlar (http://www.eseip.eu).

TARTIŞMA

Bologna Anlaşmasının ruhuna uygun olarak Avrupa genelde Yükseköğretim kurumlarında geçerli olacak Beden Eğitimi Öğretmenliği müfredatı geliştirilmiştir (Hardman K, Klein G, Patriksson G, Rychteckı A, Costa C. F, 2011).

Türkiye Bologna uyum sürecinde Beden Eğitimi Öğretmenliği programını Avrupa'daki üniversitelerdeki eğitime paralel hale getirmelidir. Avrupa birliği "spor üzerine beyaz kitap" diye adlandırdığı raporunda üç temel noktadan bahseder; birincisi sporun toplumsal rolü ikincisi ekonomik boyutu bir diğeri ise organizasyon boyutudur (Gürten K, 2010). Avrupa Birliği'nde spor tartışmasında bir diğer önemli konu da, 'sporun eğitsel ve toplumsal rolünün güçlendirilmesidir (Balcı V, 2002). Avrupa birliği spor politikası eğitim, halk sağlığı, sosyal ve kültürel, dinlendirme ve eğlendirme faaliyetleri kapsamında gelişmektedir (Atalı L, Sertbaş K, 2003).

Sağlık ve Fitness alanındaki toplu etkinlikler, fiziksel uygunluk, davranışlar, sağlık veya fitness ile ilgili politikalar olmak üzere iki alt bölümden oluşur (PilKington A, 2011). İlgili müfredat planlamaları bu doğrultuda yapılmalıdır. Avrupa birliği sürecinde özellikle sağlık ve fitness alanındaki topluma yönelik etkinliklerin liderlerini yetiştirmede Beden Eğitimi ve Spor Yüksekokullarının ilgili bölümleri etkin hale getirilebilir.

Avrupa konseyi antrenörlük niteliklerinin tanınması için Spor Bilimleri Eğitim ve İstihdam Avrupa Ağı isimli bir alt komite ile çalışmaktadır. Bu komitenin çalışmaları sonucunda Antrenörlük kurslarıyla Avrupa Antrenörlük Eğitimi nitelikleri arasında yakın bir ilişki olduğu tespit edilmiştir. Bu çalışmalar Avrupa antrenörlük konseyi (ECC) uluslar arası federasyonlar, Avrupa Olimpiyat Komitesi, Avrupa Spor Eğitim Bilgi Ağı (ICCE) ile işbirliği içerisindedir (Duffy P, 2011).

Türkiye'de iki tür antrenör yetişmektedir. Birincisi kurslarla yetiştirilen antrenörler, ikincisi yükseköğretim kurumlarının dört yıllık lisans eğitimiyle yetişen antrenörlerdir. Bu yapının Avrupa ile paralel olarak düzeltilmesi gerekmektedir.

Avrupa'da, spor yönetimi müfredat geliştirme çalışmaları, Avrupa Spor Yönetimi Birliği (EASM) ve Avrupa Spor Bilimleri Yükseköğrenim Yapısının Standardizasyonu (AEHESIS) işbirliğiyle gerçekleştirilmiştir (Cingiene V, Puronaho K, 2011). Türkiye'de spor yönetimi eğitiminin standardizasyonu ve yeterlilikleri belirleme sürecinde kalite uygulamaları göz önüne alınarak spor federasyonları ve diğer paydaşlar ile işbirliği içinde hazırlanmalıdır.

Avrupa Birliği Spor Eğitim Bilgi Platformu (ESEIP), Avrupa Spor Yönetimi Birliği (EASM) ve ilgili birçok yapılanma spor eğitiminin, beden eğitimi, antrenörlük, sağlık ve fitness, spor yönetimi alanlarında şekillendiğini araştırmaları ile standart hale getirmişlerdir. TYÇÇ Temel alan yeterlilikleri içerisinde Antrenörlük Eğitimi, Spor Yöneticiliği ve Rekreasyon Bölümleri 81 kodlu kişisel hizmetler alanında tanımlanmaktadır (Bkz Tablo 3).

Ancak ilgili alanlardaki mevcut müfredat ve Avrupa Birliği örnekleri dikkate alındığında bölüm hizmet içeriği ve kapsamı gereği kişisel hizmetlerin yanı sıra, Öğretmen Yetiştirme ve Eğitim Bilimleri (Kod 14), İşletme Yönetim Bilimleri (Kod 34) gibi bölümlere göre temel alan yeterlilikleri tekrar sınıflandırılmalıdır.

Üniversitelerin özel yetenek sınav sistemi ile öğrenci alan Beden Eğitimi ve Spor Yüksekokullarının eğitim-öğretim yeterlilikleri sadece öğrenci ve öğretim çıktıları açısından ele alınmamalı, Akademik Personel yapılanmasının da Avrupa Birliği gibi sistematik bir şekilde ele alınması gerekmektedir.

Sonuç ve Öneriler

Türkiye yükseköğretimin de beden eğitimi ve spor eğitimi, Bologna süreci ve yeterlilikler çerçevesinde yeniden yapılanma içerisindedir. Bu yapılanmada, temel alanların belirlenmesi Bologna sürecinde spor eğitim müfredatı dikkate alınarak tekrar gözden geçirilmelidir.

Bu paralelde üniversitelerin Beden eğitim ve spor yüksekokullarının Bologna uyum sürecini kalite çalışmaları ile birlikte yürütmelerinde yarar vardır.

Bologna uyum süreci kapsamında öğrenci odaklı olarak ele alınan bu sistem, Beden eğitimi ve spor yüksekokullarında görevli akademik personelin akademik yükseltme ve kariyer planlama süreçleri de göz önüne alınarak yapılandırılmalıdır.

Antrenörlük Eğitimi, Spor Yöneticiliği ve Rekreasyon Bölümleri ile ilgili ISCED temel alınarak yapılmış olan TYÇÇ temel alan yeterlilikleri tekrar sınıflandırılmalıdır. Bu sınıflandırmada Avrupa modellerinin temel bölümlerine ilave olarak "Engellilerde Hareket Eğitimi ve Spor Bölümü" de eklenmelidir.

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A ARTE CINEMATOGRÁFICA E O ENSINO DE CIÊNCIAS NO BRASIL

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Abstract

The objective of the present article is to discuss the production, socialization and application of two educational films aiming at the improvement of science teaching. The films dealt with the biological concept of life and its origin. In addition to being widely socialized, the films were used in three disciplines: Biology of Knowledge, Special Topics of Biology and Evolution. Besides the discussion of the content, the students' understanding of the film was also evaluated based on a questionnaire containing ten specific questions. The results showed that the students' understanding of the film's content was satisfactory (concepts A and B).

Keywords: Educational film; science teaching, life, origin of life; autopoiesis, evolution.

1. Introdução

A inter-relação entre cinema, educação e ciência foi inaugurada em 1902, com o filme de ficção científica intitulado "Le voyage dans la lune" de Georges Méliés, baseado no romance homônimo de Júlio Verne (Cunha & Giordin, 2009). De lá para cá, o cinema se consolidou como veiculo de comunicação de massa, projetando imagens e criando representações sobre quase todos os temas, incluindo a ciência, os cientistas e suas invenções. É a partir dos referenciais simbólicos construídos pelo cinema que uma boa parte da sociedade vislumbra, concebe e julga os cientistas e o fazer da ciência, seja como uma atividade humana como outra qualquer, contudo diferenciada, seja como uma atividade estereotipada, salvacionista ou nefasta (Oliveira, 2007).

No Brasil, a preocupação com a produção do filme de cunho educativo e científico teve inicio com a criação, em 1936, do Instituto Nacional de Cinema Educativo (INCE). Este Instituto perdurou até 1947 e chegou a produzir 72 filmes educativos nos seus 11 anos de existência (Lima & Miranda Sá, 2008). Desde então, o Brasil não possui um setor ou instância estratégica responsável em produzir, apoiar ou mesmo sistematizar a escassa produção deste gênero de filme.

Considerando o grande potencial do cinema na criação de representações coletivas e mitos urbanos e a lacuna existente na produção de filmes educativos de cunho científico no Brasil, decidimos nos aventurar na produção deste gênero de filme para utilizá-los como material didático no ensino de ciências. Para justificar tal empreendimento, partimos de duas constatações e de duas premissas, quais sejam: (a) o ensino de ciências está em crise e isto pode ser mensurado pelo fraco desempenho dos estudantes brasileiros nos testes do "Programme for International Student Assessment" (PISA) (Academia Brasileira de Ciências, 2008); (b) parte desta crise se deve à alienação dos estudantes frente aos conteúdos científicos que lhes são apresentados de forma monótona e descontextualizada (Bizzo, 2009); (c) "tanto na ciência, como na arte, o que buscamos é um elo com o mundo" (Bachelard, 1989) e (d) este elo pode ser facilitado e fortalecido pelas atividades lúdicas, como o cinema (Duarte, 2006).

Nesta perspectiva, traçamos três grandes objetivos para a realização deste trabalho, quais sejam: (a) produzir filmes educativos de cunho científico, envolvendo os próprios estudantes na criação e produção; (b) socializar os filmes de forma ampla e gratuita e (c) aplicá-los no ensino formal.

2. Metodologia

Ainda que de forma não-linear, a realização de nosso trabalho seguiu as seis etapas enumeradas a seguir: 1ª) Envolvimento dos estudantes e docentes no processo de escolha de conteúdos de aprendizagem desafiadores do ponto vista educacional e lúdico, com vistas à produção dos filmes educativos; 2ª) Produção de roteiro literário e técnico a partir da pesquisa bibliográfica, decodificação e resignificação de conteúdos educacionais; 3ª) Captação de recursos financeiros junto às agencias de fomento e/ou fundações educacionais; 4ª) Construção de cenários, ensaio de elenco e produção de imagens e cenas; 5ª) Produção, divulgação, distribuição e socialização dos filmes em Portal apropriado, como o Vimeo e 6ª) Aplicação dos filmes em espaços educacionais formais e informais.

3. Resultados e Discussão

Partindo de nossa experiência didática com estudantes de biologia, decidimos abordar dois temas inter-relacionados: o conceito biológico de vida e a origem da vida (Andrade & Silva, 2003 a e b). A escolha do primeiro tema se deveu a uma ausência, quase que completa, de material didático específico sobre o conceito biológico de vida. A escolha do segundo – a origem da vida – se deveu a duas razões principais: uma relacionada à riqueza deste tema para o ensino de ciências – uma questão aberta, plena de hipóteses explicativas; a outra relacionada ao tensionamento provocado pelas concepções prévias de matiz religioso no campo laico da educação que, se não forem bem conduzidas pelo professor, se tornam um obstáculo para o livre pensar.

3.1- Envolvimento e participação dos estudantes

A participação voluntária e gratuita de mais de 200 estudantes - universitários e secundaristas - na produção de nossos dois filmes é o melhor indicador do envolvimento do corpo discente. Considerando que 98% destes participantes nunca estiveram na frente de uma câmera e o roteirista e diretor não é um cineasta profissional, nosso trabalho é, assumidamente, amador. Apesar deste amadorismo ter dificultado a realização de algumas cenas, ele nos proporcionou uma maior liberdade na criação, posto que as exigências, cobranças e expectativas eram menores. Há de se ressaltar, no entanto, que isto é válido somente durante o processo de criação. Quando o filme é divulgado pela mídia, as cobranças são maiores e a qualidade do filme (imagens, som e conteúdo) torna-se o fator preponderante para o sucesso ou insucesso do empreendimento – a aceitação do público.

3.2- Filmes produzidos e abordagem reflexiva

O primeiro filme, intitulado "Quem foi que disse: sobre a vida e o viver", com 55 minutos de duração, doravante chamado de Filme 1, foi realizado durante o ano de 2008 e divulgado a partir de 2009. Ele pode ser visto integralmente no Vimeo (http://vimeo.com/28168576). O segundo filme, intitulado "Quem foi que disse: sobre a origem da vida", com 38 minutos de duração, realizado em 2010, doravante chamado de Filme 2, está disponível no Vimeo (http://vimeo.com/28032795).

Considerando que a nossa produção é marcada pela polifonia e pelo convite à reflexão, fizemos da pergunta "quem foi que disse?" nossa marca. Com ela chamamos atenção para a importância do observador. Quem diz? Um observador. Para quem? Para outro observador. Sobre o que? O tema a ser apresentado e discutido. Assim, quem foi que disse deixou de ser parte do título de um filme para se transformar em uma série educativa. Neste contexto, as perguntas e os argumentos produzidos nos diálogos são mais importantes do que as respostas prontas e acabadas.

Assim, na discussão entre religião e ciência, por exemplo, tentamos mostrar que a questão principal não é vencer ou "derrubar" os argumentos religiosos com fatos científicos ou, de outro modo, "subjugar", pelo racionalismo científico, a crença religiosa de uma criação divina. Para nós, o melhor encaminhamento para este debate é mostrar aos estudantes e ao público em geral que os discursos destes dois sistemas de conhecimento, religião e ciência, são diferentes, seja pela forma pela qual eles são construídos, seja pelos critérios de validação de suas proposições (cenas: 43'35" a 47'20" do Filme 1; 34'40'' a 37' do Filme 2).

Com relação aos conteúdos científicos, procuramos ressaltar a importância dos conceitos, contextualizar historicamente as perguntas (Figura 1), ilustrar os experimentos e criar modelos e alegorias para conceitos mais densos, de difícil compreensão como, por exemplo, a auto-catálise de Kauffman (1995) (cenas: 29'30" a 31'55" do Filme 2) e a autopoiesis de Maturana (1970) (cenas: 37'26" a 39'15" do Filme 1; 32' a 34'37" do Filme 2).

Figura 1 – "Louis Pasteur" apontando o microscópio em cena do filme 2

3.3- Divulgação e socialização dos filmes

Várias estratégias foram utilizadas para divulgar e socializar os conteúdos dos dois filmes da série educativa "quem foi que disse?". Assim, foram produzidos e distribuídos cerca de 1000 cópias DVD para os atores, professores e instituições escolares. Seguindo o mesmo objetivo de socialização, os filmes foram postados, na íntegra, no Portal do Vimeo (com cerca de 2000 acessos, ao todo) e vinculados, através de links, às redes sociais, como o facebook e a um blog educacional de mesmo nome (http://quemfoiquedisse.blogspot.com.br/). Para além desta divulgação na internet, nossos filmes foram veiculados na TV Universitária da Universidade Federal Fluminense (http://www.uff.br/uniteve/), no Teatro desta mesma Universidade e em diversos colégios da rede pública do Estado do Rio de Janeiro, Brasil.

3.4- Aplicação dos filmes

Não dispomos dos registros da aplicação de nossos filmes nos diferentes contextos da educação formal ou não-formal no Brasil. É possível fazer, no entanto, um breve relato das experiências de uma comunidade virtual de práticas - a ComPratica - coordenada pelo Professor Charbel El-Hani, da Universidade Federal da Bahia (El-Hani & Greca, 2011) e de algumas experiências realizadas no seio de nossa própria Instituição, a Universidade Federal Fluminense (UFF).

Assim, na comunidade virtual de prática, pensada e criada como uma ferramenta para diminuir a lacuna existente entre a pesquisa e a prática docente na sala de aula, os vídeos da serie educativa "quem foi que disse" foram utilizados como um desafio na preparação de planos de aula (http://www.moodle.ufba.br/mod/forum/discuss.php?d=18531&parent=309057).

Na Universidade Federal Fluminense, o filme "Quem foi que disse: sobre a vida e o viver" (Filme 1) foi apresentado e discutido na disciplina de Evolução pelo Prof. Edson Pereira da Silva (EPS), abrangendo um contingente de 80 estudantes do Curso de Graduação em Biologia e nas disciplinas de Biologia do Conhecimento e Tópicos Especiais em Biologia, ministradas pelo Prof. Luiz Andrade (LA), abrangendo cerca de 200 estudantes do referido Curso.

Na disciplina de Evolução, o filme foi utilizado para suscitar discussões específicas como, por exemplo, as ideias de transformismo e progresso, muito arraigadas nas concepções prévias dos estudantes. Para além destas discussões, o Prof. EPS aplicou um questionário, com questões específicas, para avaliar a compreensão dos estudantes da disciplina de Evolução em relação ao conteúdo do Filme 1. A avaliação e quantificação das respostas dos estudantes, em relação a um gabarito previamente definido, permitiu mensurar o nível de compreensão dos estudantes para as questões formuladas. Na Tabela 1 estão listadas as perguntas. O momento em que a cena correspondente à cada questão aparece no Filme (X' = tempo em minutos e X"= tempo em segundos) e a média de acerto dos estudantes para cada questão. Quando as respostas para estas questões foram analisadas no seu conjunto, os estudantes (41) da turma de 2009 ficaram com média geral 9,19 (conceito A) e os estudantes (39) da turma de 2010 ficaram com média geral 8,74 (conceito B).

Tabela 1. Questionário aplicado aos estudantes de Evolução sobre o conteúdo do Filme 1.

Questões de aprendizagem	Cena correspondente	Nota (média de acertos)
1- Qual a idade estimada da vida na Terra?	7' e 20''	10,0
2- Explique por que a metáfora da árvore é mais adequada para explicar a evolução da vida na Terra do que a idéia de um transformismo das espécies.	7' e 50''	6,9
3- A parte ficcional do filme foi construída em função de uma pergunta: O que é vida? Para além disso, qual é a outra questão fundamental que a ficção encerra?	8' e 35''	7,3
4- Segundo Charbel El-Hani, o termo vida é *"prenhe de significados"*. Quais idéias/discursos/significados é possível identificar na fala das pessoas no ônibus quando elas respondem à questão: o que é vida?	28' e 18''	8,2
5- Por quê o Dr. Martin Makler afirma que "somos *poeira de estrelas"*?	31' e 45''	8,8
6- Qual a diferença entre conceitos classificatórios e comparativos?	33' e 12''	8,1
7- Vírus e a Terra podem ser considerados seres vivos? Explique a sua resposta.	33' e 50''	7,3
8- O que significa dizer que os seres vivos são operacionalmente fechados, contudo, termodinamicamente abertos?	37' e 22''	6,1
9- Qual o problema de se definir vida como uma lista de predicados? Qual a solução para este problema?	39'	6,1
10- Respondam vocês mesmos a pergunta da Aline: "Haverá uma resposta definitiva para o problema do que é vida?" Por que você pensa assim?	46' e 35''	7,3

Para se ter uma idéia do grau de dificuldade das questões formuladas, apresentamos o gabarito que serviu de base para as correções dos relatórios dos estudantes. Questão 1: A idade estimada da vida na Terra é de 3,8 bilhões de anos. Questão 2- A idéia equivocada do transformismo - a transmutação de uma espécie em outra ao longo do tempo – está geralmente associada a outro equivoco, a idéia de um sentido, o fim último do processo evolutivo: o aparecimento da espécie humana. De fato, o processo evolutivo não é linear, mas ramificado e não existe finalismo nem o sentido de progresso e, portanto, não há espécies mais ou menos evoluídas. O processo evolutivo é lento e gradual, de sobrevivência diferencial dos indivíduos que tem alguma vantagem dentro de uma população. Se pudéssemos observar o processo evolutivo no tempo, a perspectiva seria de um grupo diverso se dividindo em dois grupos diversos e esses dois grupos, ainda diversos, se dividindo em mais dois e assim por diante. Destarte, o que melhor descreveria a evolução seria uma árvore. O surgimento de novos ramos (ramificação) seria o surgimento de novas espécies e a quebra de ramos seria a extinção. Questão 3: A linguagem é fundamental para o surgimento da cultura e como mediadora do conhecimento. Questão 4: Senso comum, religião, saber ensinado. Questão 5: Porque todos os átomos pesados que participam da constituição dos seres

vivos tiveram suas origens a partir dos átomos mais leves, Hidrogênio e Hélio, em reações nucleares ocorridas nas estrelas. Questão 6: Os conceitos classificatórios não distinguem ou valorizam as formas intermediárias, são conceitos do tipo "tudo ou nada". Os conceitos comparativos distiguem e valorizam as formas intermediárias, ou seja, o "mais ou menos". Questão 7: Uma lista de predicados (características) não é uma explicação, porque ela não propõe um mecanismo gerativo que, posto a operar, produz a fenomelogia do vivo ou o próprio ser vivo. Para além disto torna-se difícil estabelecer quais predicados são necessários e suficientes para abarcar toda da biodiversidade, presente e passada. A solução seria a proposição de um mecanismo gerativo como, por exemplo, a organização autopoiética proposta por Humberto Maturana (1970/1980; 2002). Questão 8: Um sistema operacionalmente fechado não permite instrução de fora para dentro. Ele é autonômo e, portanto, só obedece a uma lei que lhe é interior. Um sistema termodinâmicamente aberto aceita trocas de matéria e energia com o meio. Assim, os sistemas vivos, enquanto sistemas autonômos, são operacionalmente fechados. No entanto, enquanto sistemas que trocam matéria e energia com o meio, eles são termodinamicamente abertos. Questão 9: Seguindo o modelo da autopoiesis, os virus não são seres vivos porque lhes faltam as dinâmicas moleculares autonômas – produção de moléculas constitutivas da produção de moléculas que se auto produzem e especificam uma fronteira. Quanto à Terra, seguindo o modelo da autopoiesis, ela também não é um sistema vivo porque lhe falta a dinâmica molecular autonôma. No entanto, a questão pode ser rediscutida em outro nível. Se o observador considerar a Terra, não como um organismo, mas como um super-organismo, constituído de sistemas vivos - os organismos - neste caso, poder-se-ia considerar a Terra como um sistema autopoiético de 3ª ordem, apoiando assim a Teoria de Gaia, proposta por James Lovelock e Lynn Magulis (1974). De outra maneira, poder-se-ia também utilizar de conceitos comparativos, como sugerido por Charbel El-Hani (cena: 33'10" do Filme 1), para afirmar que a Terra é "mais ou menos" viva. Questão 10: Não, porque todo e qualquer enunciado da ciência é passível de ser refutado. Para além disto, os diferentes sistemas de conhecimento aceitam diferentes critérios de validação de suas explicações e, finalmente, porque as diferentes culturas produzem diferentes verdades.

Nas disciplinas "Biologia do Conhecimento" e "Tópicos Especiais de Biologia", ambas ministradas pelo Prof. LA, os filmes são utilizados para suscitar discussões em torno dos conceitos de vida, autopoiese, organização biológica, clausura operacional e linguagem. O Filme 2 é utilizado para apresentar e discutir o conteúdo relativo à origem da vida. De uma forma geral, buscamos as concepções prévias dos estudantes para análise e desenvolvimento de estratégias pedagógicas e, na seqüência, os filmes são apresentados pausadamente, ressaltando-se as cenas que exigem maiores explicações ou que vão de encontro às concepções prévias dos estudantes, previamente identificadas e analisadas.

Quanto à aceitabilidade dos dois filmes pelos estudantes e pelo público, podemos afirmar que ela é maior no público mais adulto do que na juventude, acostumada com os filmes de ação. A parte isto, nossos filmes têm sido elogiados por professores do ensino médio e universitário, dentro e fora do Estado do Rio de Janeiro (http://www.moodle.ufba.br/mod/forum/discuss.php?d=18531) e por setores científicos e educacionais, como a FAPERJ (http://www.faperj.br/boletim_interna.phtml?obj_id=7687) e o Instituto Ciência Hoje (http://cienciahoje.uol.com.br/alo-professor/intervalo/2011/12/luz-camera-ciencia).

Fazendo uma análise conjunta de nosso trabalho, acreditamos que tenhamos conseguido atingir os nossos objetivos, quais sejam: produzir, socializar e aplicar filmes educativos de boa qualidade com vistas a melhorar o ensino de ciências.

4. Conclusões e recomendações

O nosso trabalho mostra que é possível produzir material didático interdisciplinar, intercultural e lúdico em ambiente universitário, através da arte cinematográfica. Contando com o apoio institucional, é possível construir cenários e envolver estudantes e docentes nas produções cinematográficas, mesmo que eles sejam amadores. Esta experiência construtivista, vivenciada junto aos nossos colegas docentes e graduandos, desmistifica a exclusividade da linguagem cinematográfica para o uso de poucos iniciados e o próprio uso da técnica, cada vez mais facilitada e socializada pelas novas tecnologias da informação e comunicação. Podemos concluir, também, que o filme educativo é um bom recurso didático para o ensino de ciências, especialmente nas situações em que

ele é utilizado com objetivos pedagógicos claros e, fundamentalmente, quando o seu conteúdo é bem discutido e avaliado.

A título de recomendação, nosso trabalho sinaliza a importância de se produzir mais filmes educativos nacionais, sem abrir mão, no entanto, da supervisão de um docente, posto que todo filme, para além do seu conteúdo científico, estético e poético é, também, portador de mensagens politico-ideológicas que devem ser decodificadas pelos professores e estudantes.

Agradecimentos

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A CHILD IN THE CULTURE OF SILENCE? THE MEANING AND COMMUNICATION IN CHILDREN'S DRAWINGS

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Abstract

I assumed that artistic activity performs a role of a drawing-text, by which a child can communicate with the outside world and to overcome the culture of silence which is imposed on him/her by the adults. A six-year-old creator draws things which he/she finds important and shows it through particular signs. Communication and its effect taking form of a drawing given to others constitute a drawing message. A child creates drawings and provides certain sense and meanings for both his/her activity and its visual effect. As a result emerges a new kind of the communication plane between a child and an adult. However, it is not easy to reach an agreement there.

Keywords: children's drawing, voice-drawing, drawing-message, drawing-text, analytical methodology of the meaning of drawings, CDA, drawing as communication, polysemy of drawing

1. Introduction

Why does a child draw? What does he or she want to tell us? Why are the first steps such as drawn words and colorful thinking so important? How can the environment influence the communication in the drawings? And what meanings are important enough to make them comprehensible for parents, teachers and psychologists? Is it possible that drawing can be the voice of the child? How to speak by the drawing language? What kind of potential communication barriers can we encounter in differentiating the meanings? What kind of similarities and differences could occur in constructing and reading the meanings of a drawing-message by children and adults? What kind of pedagogical consequences could the discovery of a net of shared meanings related to a drawing and constructing by different social groups have (Karczmarzyk, 2011)?

These questions are at the core of my research. I assumed that artistic activity performs a role of a drawing-text, by which a child can communicate with the outside world and to overcome the culture of silence which is imposed on him/her by the adults. A six-year-old creator draws things which he/she finds important and shows it through particular signs. Communication and its effect taking form of a drawing given to others constitute a drawing message. A child creates drawings and provides certain sense and meanings for both his/her activity and its visual effect. As a result emerges a new kind of the communication plane between a child and an adult. However, it is not easy to reach an agreement there.

1.1. Meaning and communication

Due to the fact that: semiotics examines all cultural phenomena as if they were sign systems, and assuming a hypothesis that cultural phenomena are indeed sign systems, they are also communication phenomena (Eco, 2003: 35), it is possible to state that all kinds of communication, either verbal or nonverbal, are based on semiotics. Therefore, pictorial communication owns certain forms which according to a semiotic perspective can be called signs, creating a specific text – drawing meant to be read by a receiver. Since in the next part of this article I would like to analyze the significance of drawing and phenomena concerning differentiating and operationalizing of a pictorial message, I would like to start by defining the theory of signs.

A sign is perceived in a twofold manner by different researchers. Employing structuralist theories, we may state that a sign is everything that enables an individual to communicate and express him/herself and that there is

an ideal structure explaining all communication interrelations. This structuralist conception is characterized by determinism; research approach I am employing does not have to lead to determined settlements. Therefore, adopted here is a methodology not based on the superior aim to find an ideal structure in communication, but instead it refers to thinking about values connected with the description of a multitude of communication patterns. My own research belongs then to a poststructuralist trend characterized by the lack of one superior and objective view of knowledge about a subject and having a discursive character. (Nycz R.,1993:54).

For Charles Sanders Peirce the concept of a sign is crucial and determines almost all. His conception sees a sign as a tripartite unity (Peirce, 1997:137)

- representamen (first correlate of a triadic relation),
- object (second correlate of a triadic relation),
- interpretant (third correlate of a triadic relation).

Following Peirce's theory I use his correlates, but I also introduce others terms connected with this area such as: *a drawing-message, a drawing-text or a pictorial text, the semantic content, drawing communication.* Others categories employed in my research include: *drawing code, drawing sign, polysemy of drawing, drawingness.*

For this article, I will define these other categories: drawing-message, drawing – text, pictorial text it is product of child's thinking; what the child thinks and is translated into drawing; drawing communication – it is art - product which is also a communication medium between sender and recipient/ reader of a message; drawing sign – It is an art-product, or more specifically drawing of the child and elements in the drawing; polysemy of drawing – multiplicity of meanings given to the iconic sign by other readers of children's drawing (here: early education expert, psychologist, artist).

2. Research methodology

Owing to the interest in child's drawings together with the network of "ascribed" meanings I am conducting this research in the paradigm defined as "the radical humanism paradigm" (Kostera, 2005). It is based on the assumption of relativity and inter-subjectivity of the reality created by hidden social forces, invisible by an average man.

Due to the fact that I decided on the quality methodology I abandoned making hypothesis and turning to the "naive-investigative" approach. What is also relevant to me is the lack of a poised conceptual network (or to be more precise, creating it while analyzing the material) and using the language of the objects under investigation to describe the observed reality in the most precise way. The main subject of main investigation is description of multiplicity of various meanings given to a single drawing of family related subjects and presenting it as a specific visual communicate which becomes a relevant voice of a child. I use semiotic analysis as defined by Umberto Eco - so called "open work"(Eco, 2003: 35), the methodology of drawings' meaning analysis of my own and Critical Discourse Analysis (Duszak, 2008). All these methods complement each other.

My analysis was composed of a few research procedures based on following methods:

- collecting the research data in the form of drawings made by the six-year-old children with purposely stated subject,
- the nonstandarized interview with the respondents who belong to 3 groups (six-year-old authors of drawings, second – persons known to children and emotionally involved: parents or carers, third - persons not known to a child such as professionals: educators, psychologists, artists),
- qualitative analysis of collected data.

The main subject of my study is the description of the multiplicity of meanings imparted to one picture of a family and presentation it as a special visual message. My aim is, however, not to analyze family relations. Therefore, it is not import for me to examine the character of family bunds, children's feelings or emotions between a child and the interpreter of a drawing. All of those aspects can be analyze with the aid of a

psychological projective test. My research aims at recognizing the communicative and semantic potential of children's artistic works. The semiotic analysis of children's drawings and verbal analysis from different representatives - CDA (interviews with 28 parents, 20 education experts, 7 artists, and 5 psychologists) are to help me to show the meanings and the communication aspects of this process. The own test method extends the possibilities of drawing meaning to read children's drawings. Based on a concept proposed by Ch. S. Peirce's study sets a new, wide field of interpretation for the sign, which is translated to other characters through interpretant. This leads to the total arbitrariness of character connections, and - consequently - infinitive polysemy that arise between the child - the creator of the drawing and readers of a drawing – the adults.

3. What do the children say through their drawings?

The drawings made by the children at the age of six whose the given subject was family were analyzed as carefully as possible, to be more exact, individually. I referred to a singular creation of a child and, to formed in that way, the network of meanings constructed by the child itself as well as by the adults that belong to different social environments. The categories which were formed in the process of coding after an initial analysis of children' drawing and verbal communicates are, among others: stereotypical presentation of sex roles, aesthetizing of a drawing, meanings referring to consumerism, spacial planning (two and three dimensional), applying the references to reality and using the adults' code (for instance media code) which is copied and transferred to its own drawing, impregnated or overseen forms.

A young child when introduced into the culture learns to look at reality not through its own eyes. In consequence, a conventionalized code is formed out of conventional signs: sun, smiles, sky and land stripes and signs derived from popular culture: Coca-Cola, red heart. What is worth highlighting, the signs mentioned above are deciphered in a similar way by various readers, but not unequivocal. There is no arbitration which occurs for example in a mathematical code. On the other hand, unconventionalized code is formed with unconventionalized signs which do not repeat throughout the other children' works and are known to be a singular, individual code of every child. It can be formed as a result of, for example, enriching or simplification of a given conventionalized sign (every little change or adding even a small detail causes its completely unlike connotation and misunderstanding in child-adult communication). This code is created also by all kinds of illegible drawing sings causing the communicative barriers between a sender and a reader of the communicate, for example: erasing, cancellation or correcting the drawing with a rubber.

The conclusion of my research is also the meaningfulness of a child's drawing is connected with conventionalism and enforcing subordinate attitude towards the patterns ordered by authorities.

3.1 How the adults describe children' s drawings?

When it comes to adults the interpretation of children' s works was associated with traditional model of family, schematic meanings, often matching the meaning to inbuilt matrix or scheme (for example the projective method). They applied the aesthetic assessment of artistic creation of a child and referred the meanings to a familiar reality. When the subject of this artistic creation is known by an adult it made the assigning of meanings to a given matrix easier; on the other hand, when the subject was unknown the interpretation caused more difficulties, became chaotic (among educators and psychologists) or abstract (among artists).

The most marginalized drawing signs of a child in the adults' evaluations were: sun, smile, stripes of sun and land. It is problematic that the marginalized signs are the conventionalized signs- that belong to a known code. They are the ones which should be more recognized and understood, but in fact are "transparent". This lack of skills in reading and interpretation of the visual code is connected with inability of reading images - visual literacy. Yet another reason for this marginalization of drawing signs can be related to the inclination to "advertise" a child to a researcher by, for instance, a parent. Other adults, for example educators, psychologists and artists marginalize the chosen drawing signs of the child because they are unable to ascribe them to a chosen

meaning matrix. It causes the creation of interpretation based on an already known sign and subordinating other subjective interpretation of an adult"reader.

3.2 The network of discourses

In the revealing fields of meanings I found the network of interchanging discourses: expert discourse, aesthetic discourse - aesthetic open and closed educative discourse, repudiation discourse, male discourse, child discourse.

Expert discourse belongs to the speakers having power over a child and influencing and controlling it through public institutions. Its characteristic features include often use of impersonal grammatical forms (infinitives, passive voice, elliptical sentences). Speaking knowledge and examples is diverting from a specific child's drawing on a given stage of drawing development.

Aesthetic discourse possesses, on the one hand, features characteristic for expert discourse because it is connected with limiting, ordering and assessing of child's drawing signs. On the other hand, it can also be open to a little bit different meanings belonging to the world of fiction and imagination. Aesthetic open discourse is not an evaluation; rather it is comparing child's drawing to other visual creations. It is used mainly by artists and psychologists who look for the comparisons to what is culturally not available and known (a movie, a pictogram, art made by great artists). Speaking visual language is nothing more than making a child's drawing open to an infinite semiotics and treating it as an open work in which meanings are constantly co-created by "a reader". The next one- educative discourse is often very subjective and based on exclusively positive connotations. It can be prejudiced because it defends child's works from negative opinions of others. It can be also evaluating. Negative terms are associated with subconscious oppression of a child by an adult.

Repudiation discourse is connected with belittling the content of the drawings, infantilsing the meanings by using diminutives that delineate *drawing signs*. This language automatically "decreases" the value of the drawings as art and at the same time it prevents them from treating them "on an equal footing" with the works of adult creators. A child is not autonomous and all controlling, evaluating or supporting actions towards the child, despite naturally its positive outcome, become the power techniques, and it rules every society.

Male discourse is about traditionalism, stereotypical perception of sex roles, aggrandizing the individual who possess power (for example, a father in a patriarchal family). An interlocutor is influenced by attachment to a traditional model of family where it is a father who possesses for instance economic power.

The last but not least, child discourse that can be defined as a specific auto-communicate fulfilling an important role. A child starts to interpret differently what it has drawn and as a result through the dialogue with itself it learns about itself and the world. "Covering*" the drawing signs* into words changes their meanings and ranks *the drawing communicate* higher; it becomes more complete than the verbal one in terms of content and meaning.

4. Summary

Although children "talk" with drawings it initiates the network of meanings that does not help mutual communication. The closest surrounding may seem a space closed for an interpreter due to over-rationalism of the world ruled by universal discourses. Drawing communicate can be marginalized or "read" too schematically by adult readers. There is also no interest of adults in verbal commentary of a child concerning the created drawing. Modern world in which a picture fulfills an important communicative role should be open to a visual communicate which is a child's drawing. It should also be easily absorbed and more appreciated by adults. However, it is not the case. Why?

Possibly it happens because in the visual chaos, from postmodernist modern art to aestheticism and pop culture, an adult man has always been accompanied by constant loss enhanced by manipulating his aesthetics

intuition, artificially enforced patterns, conventions or current fashions. All that is not "nice and pleasant" and is not in accordance with what global *aestheticism* of culture offers "must be rejected and marginalized".

Research described in Polish academic dissertations indicate that a majority of people pays attention to a picture content rejecting as a rule works diverting from realistic performance. What influences also their evaluations is, among others, favoring picture's faithfulness or so called "the art of happiness" associated with aestheticism of contemporary culture and city space. As a consequence, the child's drawing may seem not aesthetic and at the same time less important and meaningful than other artistic creations. As my research show, the majority of adults reads child's drawing schematically ascribing it to educative, psychological or aesthetic matrices. The question remains as to "who" created the regime of the truth mentioned earlier and why adults are unable to free themselves? Why cultural frames can be so stiff that they cannot be weakened even in the relationship context which are supposed to be filled with love and affection?

The inevitable conclusion is that between an iconographic creative communicate of a young creator and its perception by an adult who uses conventions is created the tension. If the interpersonal dialogue is one of the most crucial ways of building healthy relationships it is necessary for a child's *voice- drawing* to be heard and properly understood. For this to happen it is crucial to repeat the effort to notice this tendency to simplify and schematize the way of thinking and the readiness to understanding the communicate sent by children creatively.

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A COMPARATIVE RESEARCH ABOUT BASIC TRAINING IN TURKEY AND EU COMMUNITIES

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Abstract

In every country, educational systems resist to the change more than other systems. This resistance is a result of the social mission that is associated with schools. When educational institutions which are in charge of transferring the changing values to the new generations, could not realize social changes; they tend to preserve their status quo and they adapt models from institutions which have changed before. These attempts do not fit into 'the unique structure of education' (Ozden, 2010:154). Countries often carry out reforms to realize unique changes and establish the most appropriate system. In Turkey there has been a strong debate in society about the new elementary education and training legislation. Especially the contradictions about early childhood education and vocational training were justified by referring to the European Union educational systems which Turkey aims to be a member of (TBMM, 2012). This study aims to examine new Turkish educational system - namely 4+4+4 in colloquial speech- and basic educational processes of some EU countries' educational systems in a comparative way.

Keywords: Educational system, reform, vocational training, early childhood education, 4+4+4 years education model

1. Introduction

The three dimensions which learning and teaching focused on are; the changes occur in the core of schooling, the changing professional positions of educators (in organization structure, workplace conditions and decision making processes) and the changes occur between the power distribution of school and schools' stakeholders (Elmore, 1990:11).

In every country, educational systems resist to the change more than other systems. This resistance is a result of the social mission that is associated with schools. When educational institutions which are in charge of transferring the changing values to the new generations, could not realize social changes; they tend to preserve their status quo and they adapt models from institutions which have changed before. These attempts do not fit into 'the unique structure of education' (Ozden, 2010:154). Countries often carry out reforms to realize unique changes and establish the most appropriate system.

In Turkey there has been a strong debate in society about the new elementary education and training legislation. Especially the contradictions about early childhood education and vocational training were justified by referring to the European Union educational systems which Turkey aims to be a member of (TBMM, 2012).

It is stated that students in USA, United Kingdom and France, grouped in a segmented structure according to age groups and physical features in the newly regulated Turkish Education Law Proposal. According to this proposal, uninterrupted education has negative effects on vocational education, it makes the village schools nonfunctional by means of unsuitable physical conditions. Also it is emphasized the fact that the students who have just enrolled and older adolescences having a common learning environment could have some negative effects. Therefore Turkish government passed an education law on basic compulsory education which has 3 four-year segments and called as 4+4+4. First two segments (first 8 years) of this structure is compulsory.

Vocational education is the main focus of these adaptations. This reform provisions that after the first four-yeared education, students would be guided to vocational education, the ten years old students are exposed to their initial vocational guidance and during their basic training students are separated to different programs and school types.

Via this legalized proposal, the compulsory education would start a year earlier, that is; the five-year old students are going to enroll primary education in 2012-2013 academic year. A five-year old student who starts school is within the range of 60 months to 72 months. Compulsory education starting age range is reduced to 6-13 years with this regulation in Turkey. Preschool education, which has been the biggest policy priority of the last couple of years, is completely removed from the proposal and compulsory preschool education is not considered within this context.

2. Compulsory Uninterrupted Education and Preschool Education

Education process is a continuing and lifelong process from birth to death which exist also out of school. So why do we need formal education at school? Because individuals need to gain "intellectual knowledge beyond the direct area of their daily life". It has crucial value for children that they could get this knowledge in a systematical way. Furthermore, compulsory education takes part in every countries' education policy in order to eliminate the inequality that appears with the progress of civilization and development of individual variety (Rothbard, 1999).

The earliest thoughts about compulsory primary education was stated in Universal Declaration of Human Rights in 1948, it was important particularly due to the fact that being the first-ever. Afterwards these statements were supported with the European Convention on Human Rights, Protocol 1 (1952), UNESCO (1960), the International Covenant on Economic, the Social and Cultural Rights (1966), the Convention on the Rights of the Child (1989), the European Social Charter (1996) (Tomasevski, 2001). Compulsory education durations in European Union Countries and Turkey appears in the following table (Eurydice, 2012a).

Table.1 Compulsory education durations in European Union Countries and Turkey

	Full-time compulsory education starting age	Full-time compulsory education ending age	Duration of full-time compulsory education (in years)
Germany [1]	6	15-16	9-10
Austria	6	15	9
Belgium	6	15	9
Bulgaria	6	16	10
Denmark	6	16	10
Italy	6	16	10
France	6	16	10
Netherlands	5	18	13
United Kingdom[2]	4-5	16	11-12
Norway	6	16	10
Turkey[3]	6	14	8
Spain	6	16	10
Portugal	6	18	12
Finland	6	15	9

[1] Compulsory education in high schools called as 'Gymnasium' lasts for 9 years, as to the others are 10 yeared schools.

[2] In Northern Ireland starting age is 4. In the other regions of United Kingdom, students start school at 5.

[3] With the last regulation in Turkey compulsory education starting age is reduced to 5, therefore the finishing age changed as 13.

In Europe preschool education is compulsory in Greece, Cyprus, Latvia, Luxembourg, Hungary, Poland, Denmark and Sweden (Eurydice, 2012b: 28). The countries whose pre-primary education implementations are optional, have pre-primary enrollment rates over 90% (World Bank, 2012). It is known that within the range of 36-72 months, male student enrollment rate is 30.23% while female student enrollment is 29.43% (MEB, 2011: 88). Some countries' pre-primary education enrollment ratios are listed in the following table (UNESCO, 2011).
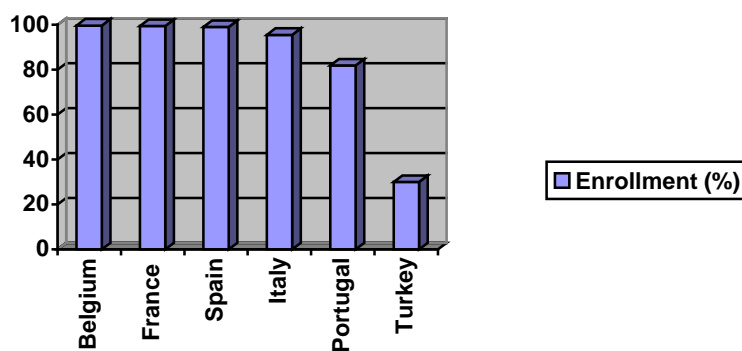
Fig 1. Pre-primary education enrollment ratios in Turkey and some EU Countries

Qualified pre-primary education is an effective education policy alternative to reduce the socio-economical inequalities and to improve learning outcomes. Pre-primary school enrollment rates can be increased by compulsory pre-primary education to improve educational quality and to encourage the progress of education. Non-compulsory pre-primary education results in disparities in terms of preparation to the enrollment processes, on the side of the students from lower socio-economic status.

3. Vocational Education

Educational systems in Europe are divided into the levels as pre-primary, primary, secondary and tertiary education however these levels do not have different curriculums. The earliest guidance to vocational education in Europe is in Germany and Austria although the OECD countries' average is 15. It's known that three states of Germany postpone the guidance age by three years (qtd. ERG, 2012a: 6). The Austrian government aims to integrate all *Realschule* (lower secondary education-middle schools) and *Hauptschule* (lower secondary education- basic training school) under a single structure of curriculum until 2015 (IFES, 2010; qtd. ERG, 2012b). The ratios of vocational and technical programs in upper secondary education are listed in the following table (OECD, 2012b).
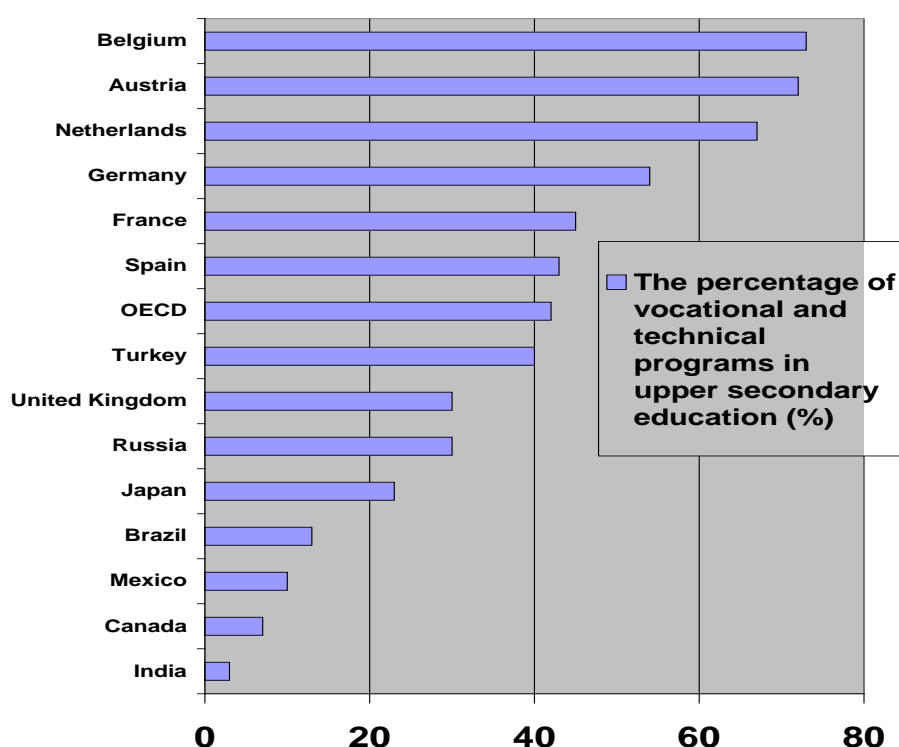
Fig 2 The percentage of vocational and technical programs in upper secondary education

In the following section, some countries' basic education systems are examined (Eurydice, 2012b).

3.1. France

Primary school *(École primaire)* and following middle school (*Collège)* are categorized under compulsory education in France. The curriculum has a single structure. In addition to the core subjects elective courses are included in the second level schools known as *Collège.* These courses with elective subject are known as the vocational discovery modules. In the last year of this module, 14-15 year old students are guided to the secondary school levels named as 3rd-guidance cycle. By offering profession and field subjects, voluntary students (on the average age of 14) are guided to the vocational education effectively. After *Collège* education, approximately 15 years old students are guided to general, technical or vocational education.

3.2. United Kingdom

All levels of education levels are the same in three states of United Kingdom, England, Wales and Northern Ireland. Primary and secondary school are categorized under compulsory education and 16 year old students are guided to a different curriculum for the very first time. These education levels are divided into four categories (key stages) and there are elective courses on technical, art, design and foreign language subjects. After completing the compulsory education, students can attend general high schools or sixth form schools with general academic education or they can start their vocational education at the further education colleges.

Scotland differs from the other states in terms of segmentation. The earliest guidance age is 16 after the compulsory education. Types of secondary schools are the same as the other states of United Kingdom.

3.3. Germany

Students are guided to different school types and curriculums starting from the age of 10 except Berlin and Brandenburg. At lower secondary education, including 5th and 10th grades, there are schools named as *Hauptschule, Realschule, Gymnasium* and *Gesamtschule.* Pre-vocational courses take part in the last two years of compulsory education. In comparison to *Hauptschule* and *Realschule*, *Gymnasium* has more elective vocational courses.

Lower secondary education is predominantly of a general nature whereas, apart from Gymnasien, vocational education predominates at upper secondary level. Students graduated from *Hauptschule* usually attend to vocational schools *(Berufsschule)*. *Realschule* provides the opportunity to enter prepatory schools of tertiary education (for example *Fachoberschule*). In this manner, the major part of students go to Vocational Collages (*Fachhochschule*) and Collages (*Hochschulen*). *Gymnasium* is a kind of general lower and upper secondary school. The nine-year *Gymnasiums (Gymnasium in Aufbauform) is* completed by taking maturity examination (*Abitur*) which gives the right to enter the collages. *Gesamtschule* (multi-programmed schools) are formed by integration of *Hauptschule, Realschule* and *Gymnasium. Hauptschule* aims to bring students in general culture and prepare them to a vocational school or upper secondary education. *Realschule* aims to educate students to their career or upper secondary education. *Gymnasium* aims to prepare students to higher education by offering a general education.

3.4. Austria

Compulsory education covers 6 to 15 years old students. There are academic general secondary or general secondary levels in lower secondary education. Students are guided to different curriculums (general, technical and vocational schools) at this level. There are compulsory courses about 'vocational education guidance' for lower secondary level. In some cases, there is an integrated form of compulsory courses and vocational education guidance.

3.5. Finland

7 year-old students attend uninterrupted nine years education in the basic training schools named as *Perusopetus/Grundläggande utbildning* until they become 16. They are guided to vocational or general secondary schools starting from the age of 16. Vocational education guidance is integrated into the first years of curriculum. Students take compulsory vocational courses in the lower secondary level however this compulsory form transforms into an elective form in the upper secondary level.

3.6. Netherlands

Compulsory education covers 5 to 17 years old students. Primary education, lower secondary education and the first two years of upper secondary education are compulsory. Students are guided to VWO or HAVO schools with general education or they can attend to VMBO schools with vocational options. VMBO schools have general programs for the first two years. Students can attend to vocational secondary schools at the age of 16. Vocational guidance is integrated into the whole secondary education curriculum. All of the students take vocational guidance courses during their secondary education.

3.7. Sweden

Like Finland, students are guided to vocational education or general secondary education for the first time after nine-year uninterrupted education. The earliest guidance age is 16. There are seventeen different programs in three-year high school education. Thirteen of these programs include detailed vocational education.

3.8. Czech Republic

Students attend to the uninterrupted nine-year education in basic training schools named as *Základní škola.* This level includes two segments but a single structured program. Students can continue their education on upper secondary schools named as gymnasium or conservatory. However, students are guided to vocational education after completing compulsory education. Students who finish the secondary education after taking *maturitní zkouška* exam, can attend to general, technical, vocational education or conservatory.

3.9. Denmark

Students who are 7-16 year old enroll to compulsory education. From the first year to 9th year of compulsory education there is career education in the curriculum with a multi-dimensional approach. Compulsory basic training schools called as *Folkeskole* has a curriculum that consists of 3 subject blocks. These blocks are on social sciences, fine arts and life sciences. Folkeskole is designed as a single structure and there is no transition between primary school and lower secondary school. Students can take elective courses from the blocks that they attend or can attend the general education.

3.10. Spain

Primary school is composed of six-year education known as 2+2+2. Including lower secondary education, compulsory education lasts for 10 years. This segmentation is being organized according to students' age groups. After completing the two-year first cycle, students can attend only conservatory (*Enseñanzas de régimen especial*) to study dance and music. Students are being chosen in accordance with their competences. The earliest guidance age is 16. Lower secondary education includes four school years is divided into two equal parts. Compulsory secondary education prepares students to vocational education. Students are guided by means of elective courses in preparation phase. In the last two years of compulsory education, there are guidance and vocational guidance activities predominantly.

3.11. Italy

Compulsory education lasts for ten years and serves for 6-16 year old pupils. Students who are fourteen years old are guided to upper secondary education or initial vocational education (FPI). In addition to this there are vocational guidance services. While lower secondary education offers general education, fourteen years old students are guided to different programs in upper secondary education. These schools are Liceo classico (classic high school), Liceo scientifico (science high school), Liceo Linguistico (language school), Liceo Socio-psico-

pedagogio (sociological, psychological and pedagogical high school), Liceo Artistico (art school), Istituto tecnico (technical high school), İstituto professionale (vocational high school) / Istituti d'arte (craft high school) and Fomazione professionale di base (apprenticeship education).

3.12. Turkey

Compulsory education is composed of four-year two cycles and lasts for 8 years. First four years of these cycles correspond to primary education while the next four years stand for middle school. After completing first four-year education, 10 years old students are guided to general, vocational education or schools that require examination results for enrollment. Vocational schools include vocational trade high schools, vocational industrial high schools, girls' vocational school, religious vocational school, multi-program high school and vocational and technical education centers.

The proposal which became law in Turkey, set the earliest age, when education is being interrupted as 10. Some countries' earliest guidance ages are listed in the following table (OECD, 2012a: 57).

Countries	Earliest age when education is being interrupted	Countries	Earliest age when education is being interrupted
Denmark	16	Japan	15
France	15	Mexico	15
Iceland	16	Portugal	15
New Zealand	16	Italy	14
Norway	16	Belgium	12
Sweden	16	Netherlands	12
Spain	16	Switzerland	12
United Kingdom	16	Germany	10
USA	16	Austria	10

Table 2. Earliest age when education is being interrupted in some countries

4. Conclusion

In Europe; there are specific cross-national diversities when it comes to preschool education and vocational guidance activities. These activities alter as to country's level of welfare, geopolitical position, demographic structure etc. The comparisons between countries should be done with regard to these variables. While comparing countries in terms of educational processes, countries' academic achievement in the international tests can be examined instead of doing this comparison only in the context of social welfare. The most effective policy implementations for every nation will arise as a result of such a comparison.

If there is a segmented structure at primary level, Turkey may need an elective guidance system at the end of first four-year cycle. When the existing social and economic disparities and quality differences between schools in Turkey are considered, as opposed to the international trends; such a guidance of a very early age, may increase inequalities. Particularly this may reduce the opportunity to access qualified education by children with disabilities.

Non-compulsory pre-primary education results in undesired lower levels of pre-primary enrollment ratios. It is known that students who do not enroll preschool, differ from their peers in the coming years (Kagitcibasi et. all, 2005).

It is realized that countries which guide students to vocational education at early ages, support these practices with elective courses or similar activities. Countries should consider the negative effects of early vocational

guidance on students. Hence all variable conditions of countries' should be examined and vocational guidance implementations should be organized in this manner.

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A CREATIVE STRATEGY FOR SUSTAINABLE DESIGN EDUCATION - A TRIBUTE TO CHARLES AND RAY EAMES

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Abstract

This paper describes a project that was assigned to senior level Design students in the Department of Design and Computation Arts at Concordia University, Montreal. The objectives were to transmit advanced conceptual and creative skills while bringing students to integrate fundamental sustainable design principles. The challenge suggested was to create a base for the structure of recuperated chairs designed by Charles and Ray Eames in the 1950's. This project stimulated students to deeply engage in the development of high quality designs and creative concepts while encouraging them to understand the importance of preserving the environment and the cultural heritage related to objects that are much too often discarded after the end of their useful life. This project was inspired by Metacycle, a design research that aims to prolong the lifespan of everyday objects (metacycle.ca).

Key Words: Design Education; Sustainable Design; Design History; Material Culture, Charles and Ray Eames.

1. Introduction

According to the International Council of Societies of Industrial Design (Icsid.org), design is a creative activity whose aim is to establish the multi-faceted qualities of objects, processes, services and their systems in whole life cycles. Therefore, design is the central factor of innovative humanization of technologies and the crucial factor of cultural and economic exchange. In general, designers concentrate their expertise on the creation of furniture and products related to a broad range of domains, including transport; electrical and electronic appliances; lighting; medical devices; sports equipment; etc. Design education is therefore concerned with transmitting both the theoretical and practical knowledge involved in this complex activity.

With the current environmental crisis, the field of design is more than ever challenged by finding solutions and developing products that will have less negative impacts on the ecosystem, which means using less resources, less energy and finding ways to re-use and recycle the materials and the various parts of all the furniture and objects we use after their end of life. For many design schools, the environment issue has become a central preoccupation, as students need to understand that it will be their responsibility to integrate the fundamental principles of sustainability through an ecological perspective, but also from a socio-cultural and economical standpoint.

Since many years, as a design researcher and educator, I have focused my interests towards issues related to sustainable development and I attempt to develop strategies aiming at inducing a fundamental paradigm shift in our society of consumption. Essentially, this means putting less emphasis on the production of new things and paying more attention to notions of maintenance, re-use, repair and durability. While design activities usually concentrate on developing innovative products, this may seem paradoxical and incongruous to focus on the re-use of existing materials and recuperated elements, especially for students who are eager to create novelty. My challenge as an educator is therefore to transmit values of sustainability and making my students realize how creative it can be to re-use and refurbish elements that otherwise would end up in the garbage dumps or landfills. In this paper I describe a project that I have assigned my students, which had the specific objectives of developing advanced design skills, while integrating notions of ecology, and both socio-cultural and economical sustainability.

2. Background Context

Since the late sixties, ecologists have been raising their voices in opposition to the western world's profligate lifestyle. A few designers were among adamant agitators for a reassessment of our wasteful habits and the values that support them. At all scales, the message was the same: progress as measured by unending growth is an untenable paradigm, leading to both depletion of non-renewable resources and the poisoning of the planet through the increased production of toxic pollution. Jane Jacobs argued that architects were destroying the ecology of the built environment through the promotion of urban sprawl [1]. Victor Papanek criticized designers for participating in the suicidal race towards ecological disaster through their contribution to the relentless rise of consumerism [2]. At an even earlier date, Buckminster Fuller demonstrated how wasteful building methods were standing in the way of providing adequate shelter for all[3].

Half a century later, in line with notions of sustainable development established at the Rio World Summit in 1992, a group of ethically responsible designers are proposing changes in our ways of doing things in order to reduce the negative effects of our society's excessive consumption (McDonough and Braungart, 2002, Lewis and Gertsakis, 2001, Charter and Tischner, 2001) . It is along this axis that my group's research efforts have been directed, linking various digital technologies with modern social phenomena in an effort to prolong the life span of manufactured products and thus reduce the deleterious effects of over consumption.

The premise at the root of this research concerns the organic nature of manufactured objects; like living things, objects can change over time. Jonathan Chapman considers that a product's life span is determined in large part by the attachment linking it to its user and that this could be enhanced by the product's ability to evolve and change over time [4]. While this ability is often seen in the area of software design [5] where updates, patches and versioning enable programmes to evolve not only to correct errors but also to meet new needs, some researchers have made attempts at transferring this aptitude to physical objects[6, 7].

As an educator concerned by environmental issues, the important question to address is "How can I raise the students' awareness regarding sustainable design approaches? In order to reach this objective, I introduce them to my research activities, and put the emphasis on a project entitled Metacycle, a concept aimed at establishing a network of designers applying their creativity to proposing how existing objects could be enhanced and modified in order to take on a second life (Figure 1). Previous work called PRéco [8] established the feasibility of using digital manufacturing technologies and in particular Rapid Prototyping (RP) for repairing products. My research group took this to a second level in META[morphose] by experimenting the application of RP to the up and side grading of products thus enabling them to evolve [9]. Metacycle configures this technique into an operational framework by creating a virtual community of designers linked by their common interest in the creation of new products from old.
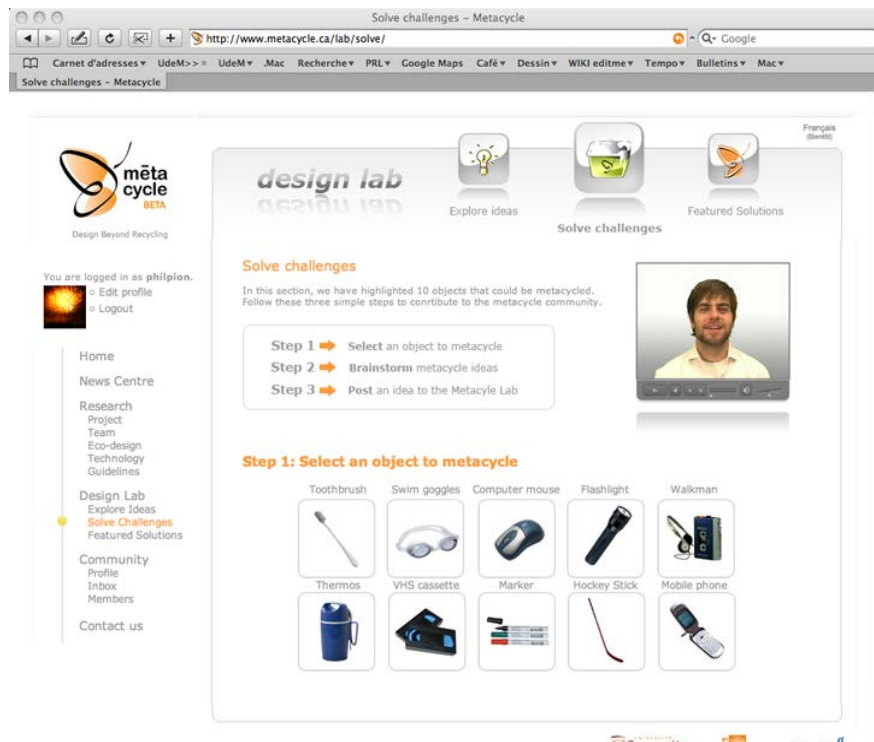
Figure 1: Metacycle.ca, a web site where designers are asked to find a second useful life to old objects: swimming goggles, cell phones, computer mice, etc.

More specifically, Metacycle.ca is a web site that aims to optimize the creative potential of designers by reuniting them within a virtual community serving the common objective of prolonging the life span of consumer products. The goal of this project is to develop an interactive framework through which consumers can benefit from unique and innovative updates to products whose usefulness is being put into question. The pooling of a large number of creative minds allows the generation of a new category of unique products that favour increased attachment through personalization. Essentially, the metacycle web site challenges creative minds to find solutions for giving a second life to objects that cannot be recycled, for example toothbrushes, VHS cassettes, hockey sticks, computer mice, swimming goggles, computer screens, markers, Walkmans, cell phone, etc. After having chosen a challenge, additional information pertaining to the size, materials and other characteristics of the object is presented with a reminder of the Metacycle guidelines: "Revitalize Functionality, Maximize Reuse, and Reduce Waste and Energy". After having accepted the Creative Commons terms for the non commercial use of their ideas, users can submit their images, models and/or instruction manuals. This content is automatically uploaded into the Explore Ideas section for others to browse and vote upon. If ever an idea gathers a large amount of positive feedback, the Metacycle team will promote it into the third and final section of the Design Lab labelled Featured Solutions.

3. The Design Challenge

Describing my research activities brings students to understand the importance of recuperation for its environmental benefits. They also realize the creative challenge associated with the objective of extending the life span of old objects. While examining closer all the objects around them that end up being rapidly discarded, they recognize the design efforts that are behind and discover the cultural value of those objects, like as archaeologists examining and preserving precious artefacts. Yet beyond the benefits of recuperation from a strictly environmental point of view, there can also be cultural benefits behind such a strategy. With this in mind, I initiated a project for my senior design studio course aiming to address the global notion of sustainability, from an environmental, socio-cultural and economical perspective. I entitled the assignment "A Tribute to Charles and Ray Eames" as the challenge consisted of creating a base for seats salvaged during the renovation of our

university's amphitheatres, which were recuperated just before their disposal. Those seats were actually chairs without legs and only supported by a steel post, as they were previously bolted on metal structures and fixed to the floor (Figure 2). Inspired by the DSR (*Dining Height Side Chair Rod Base*), a famous chair designed in the early 1950's by two of the most innovative American designers of the 20th century, Ray and Charles Eames, those seats are made in fibreglass, an extremely durable material that otherwise cannot be recycled.

Figure 2. The challenge was to design a base for salvaged seats, recuperated during the renovation of university amphitheatres. The model is inspired by a famous chair designed by Charles and Ray Eames in the 1950's.

Each team of two students was given a fibreglass shell and had to develop a support system (legs, structural system or central post) with the material of their choice (wood, metal, plastic). The base had to be built to scale and attached to the seat without any modification of the original shell. Therefore, students were not allowed to drill holes or to glue any elements on the fibreglass chair in order to preserve the integrity of the original design. They could however use the existing metal structure to which the seats were fixed or attach their base by using the four threaded rods protruding through the shell under the seat. The structure needed to be solid enough to support at least 100kg and be perfectly functional. The project also had to be developed according to sustainability principles, as indicated in my course outline:

"All the projects generated in class must integrate the fundamental notions of sustainability: favouring local materials and production, reducing parts and costs, designing for disassembly, designing for repair and longevity, avoiding the use of toxic materials, glues, paints and finishes. These principles must be integrated in all the aspects of the design process: limiting the printing, using eco-friendly materials for the construction of preliminary maquettes and leaving the studio clean after class".

The first step for this project was to bring students to better discover the original Eames concept and the richness of the designers' vision while giving them the occasion to bring a new life to an icon of modern design (Figure 3). Charles Eames (1907–1978) and Ray Kaiser Eames (1912–1988) are known to having given shape to America's twentieth century. Their lives and work represented the nation's defining movements: the West Coast's coming-of-age, the economy's shift from making goods to producing information, and the global expansion of American culture. The Eameses embraced the era's visionary concept of modern design as an agent of social change, elevating it to a national agenda. Their evolution from furniture designers to cultural ambassadors demonstrated their boundless talents and the overlap of their interests with those of their country. In a rare era of shared objectives, the Eameses partnered with the federal government and the country's top businesses to lead the charge to modernize post-war America.

Figure 3. Here is a sample of the furniture designed by Charles and Ray Eames. Many elements of their work have become icons of 20th century American modern design.

The students were asked to do a complete research about the creative couple, and to study their work in the areas of furniture, architecture, film, art and exhibition design. Following the research phase (Figure 4), students explored conceptual and creative avenues through sketches and preliminary cardboard maquettes, which were presented in class and discussed during the critiques (Figure 5).
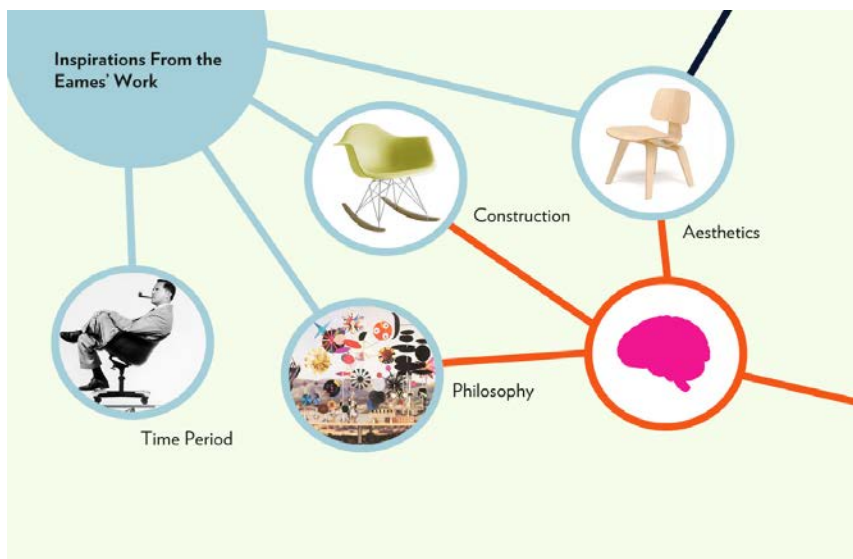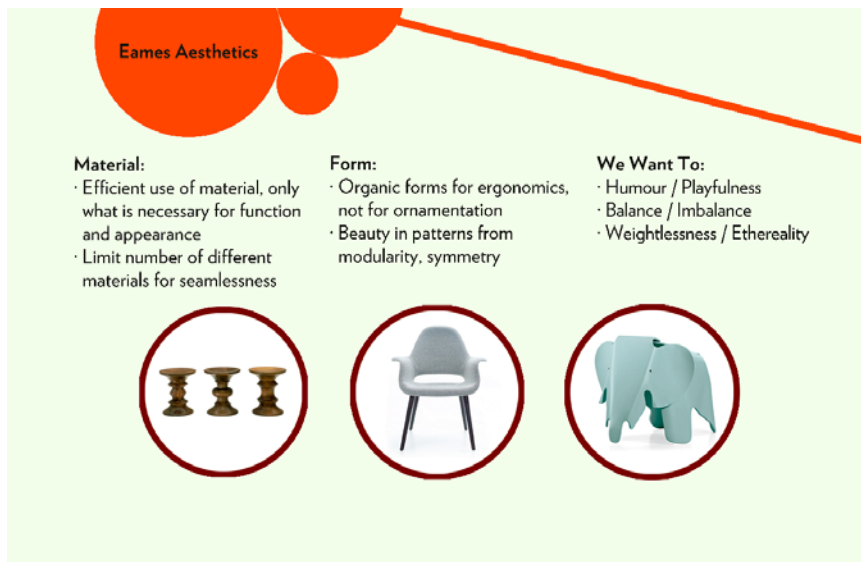
Figure 4: In their presentation, students had to address the historical context, the design philosophy of the famous designers and describe the conceptual framework for their creative intervention. Students: Gabrielle Turcotte and Zachary Kain.
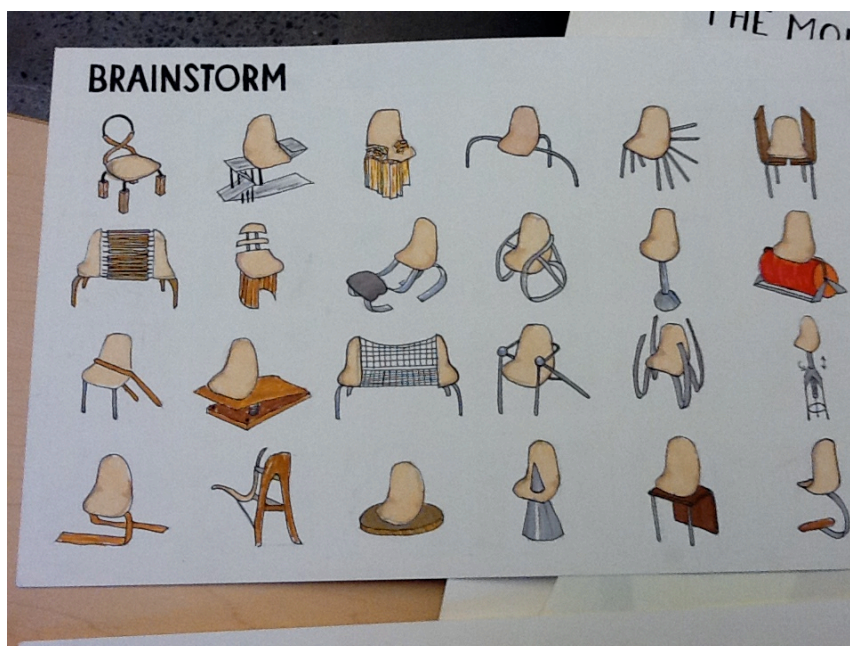
Figure 5: Students prepared sketches to present their brainstorming sessions in the studio. Students: Vivien Leung and Levi Bruce.
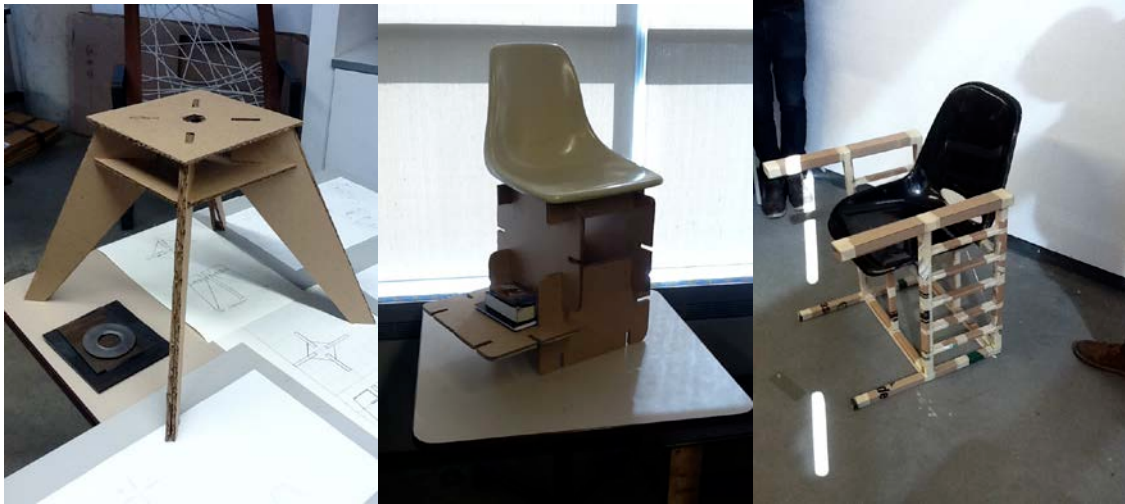
Figure 6: Exploration of different concepts through cardboard mock-ups. Different iterations were developed to test the solidity of the structure and evaluate the aesthetic proportions.

4. The results

It has been quite impressive to see the level of commitment and energy the students have spent on this project. What made the experience even more satisfying was to see the level of innovation and creativity that has been expressed through the various solutions. In fact, each of the twelve different concepts developed in class was distinct from the others and every concept focused on a unique structural solution and fabrication method, which led to an extremely rich array of aesthetic and functional approaches (Figure 7).

Figure 7: Images show a sample of the different creative concepts have been developed by the students. (a) Project 1: Rodolfo Martinez and Alexandre Théroux; (b) Project 2: Jeffrey Bush and Alexis Pautasso; (c) Project 3: Vivien Leung and Levi Bruce; (d)Project 4: Kyle Goforth and Dacia Pantelis.

In the four examples presented in Figure 7, we note that the version (a) is based on a braced wooden structure fixed directly to the chair as the version (b) uses the central post to support it, allowing the chair to rotate. The version (c) is also unique, as it is inspired by the Japanese culture, where people sit lower to the ground. The metal structure gives the option of sitting straight or leaning back for additional comfort. The other version presented (d) is a rocking chair, which can turn into a normal chair when the legs are inverted. While developing their concepts, students have learnt to develop essential design skills, while studying the furniture designed by the Eameses, they had the opportunity to understand chair structures and the physical principles applied in furniture and architecture. Because the chairs had to be functional, the students were challenged to use a rigorous process in order to precisely determine the height of the seating position, evaluate the amount of material needed, choose the fabrication method and develop their design according to the technologies that were accessible to them. Throughout this assignment, students were encouraged to exploit the potential of computer assisted design (CAD) and the precision of the computer numerical control (CNC) milling machine. By doing so, they successfully integrated and assimilated abstract theoretical notions and technical knowledge through practical experimentation.

To showcase the projects and to celebrate the unique quality of the projects, I organized an exhibition of the work in the Faculty of Fine Arts' Gallery. This brought a great deal of exposure to the students and contributed to their sense of pride as the expo received many positive comments by the university community.

5. Conclusion

This project proved to be remarkably successful, the challenging assignment stimulated students to understand the Eameses unique vision and to deeply engage in the development of high quality designs, creative concepts and innovative breakthroughs. It also encouraged the students and the community at large who has been exposed to the projects, to be more concerned about the value of the many objects that are discarded without any respect for the environment and consideration for the cultural richness that disappears when things in our surroundings are thrown out. Design, as a creative activity has the potential to add value to what is too often considered useless. In the Department of Design and Computation Arts at Concordia University, we strongly believe that design educators should play a leading role in moving forward towards sustainability, which requires the reconciliation of environmental, but also social equity, cultural heritage and economic demands. Too often this view expresses the idea that the pillars of sustainability are mutually exclusive, they should to the contrary be mutually reinforcing.

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Acknowledgements

A DISCUSSION OF WHAT MAKES A GOOD TEACHER: OPINIONS OF PRE-SERVICE PRIMARY SCHOOL TEACHERS

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Abstract

As being the most important subject of the teaching process, the qualities of teachers naturally influence and shape the quality of learning in schools. Teachers start developing the qualities they need to perform their jobs, during their education at teacher training institutions. This study is designed to determine the conceptions of pre-service primary school teachers at Muğla University about what qualities a good teacher needs to have. It was also aimed to see whether there is an awareness among these prospective teachers about how much they own these qualities which they value. The terminology "good teacher" is used to make the pre-service teachers think again on the qualities not for teachers generally but especially for a good teacher to obtain the most desired qualities. For this purpose, a qualitative research was designed. 90 first grade and 90 fourth grade pre-service teachers were asked two open ended questions. The questions and the number of the sample are the same as Drvodelic and Rajic's (2011) study on Croatian pre-service teachers so that a comparison could be made between two cultures and the results of these two researches will be combined for a further study. Firstly, pre-service teachers were asked to determine five qualities that a good teacher needs to have and rank them by importance and then they were asked to rank the same qualities by regarding their own level of possession. The data was analysed using both a qualitative and a quantitative approach. Qualitative approach was used for thematic coding analysis of the qualities. The data was categorised based on personal and professional qualities. After that, they were analysed through a quantitative method for the frequencies and the rank order. The results showed that, both first year and fourth year pre-service teachers mentioned more personal qualities than professional qualities.

Keywords: teacher qualities; professional teacher qualities; personal teacher qualities; good teacher; pre-service teachers

1. Introduction

Sanders and Rivers (1996) stated in their study that teacher effectiveness is the most important factor affecting student academic gain. And to perform effectively, a teacher should possess an impressive body of knowledge and a considerable amount of qualities (Cohen, Manion & Morrison, 1998, 144). But what is the reference point of these qualities? Teacher qualities are quite popular issues that researchers study about. As Hayes (2006) mentions in his study; opinions vary about the required qualities for a teacher to be successful. There are wide ranges of efforts by different organisations and by different researchers trying to clarify the problem of what qualities and competencies a teacher need to have.

Darling-Hammond (2006) indicates that there should be a coherent system that can provide well-trained teachers in all communities and to do that there should be standards of teacher qualities that all teacher training institutions must follow. For instance, the National Council for the Accreditation of Teacher Education which is recognised by the U.S. Department of Education set some professional standards for the accreditation of teacher training institutions (National Council for the Accreditation of Teacher Education, [NCATE], 2008). These standards include pedagogical content knowledge and skills and pedagogical and professional knowledge and skills that a teacher should possess. The Teacher Education Accreditation Council is another organisation, which is again recognised by the U.S. Department of Education and the Council for Higher Education Accreditation, also determined the standards of qualified teachers for teacher education programs. Subject matter knowledge, pedagogical knowledge, caring and effective teaching skill, learning how to learn, multicultural perspectives and

accuracy and effective use of technology are some of these standards (Teacher Education Accreditation Council, [TEAC], n.d.). In Turkey, the Ministry of National Education made a report and identified the competencies of teachers (Ministry of National Education, [MoNE], 2006). According to the results of this study, six main competencies were determined which are; personal and professional values-professional development, knowing the student, learning and teaching process, monitoring and evaluation of learning and development, school-family and society relationships, knowledge of curriculum and content (MoNE, 2006, 3). Besides MoNE, the Council of Higher Education in Turkey has its own list of teacher qualities for teacher training programmes. They identified four main competencies as; competencies regarding to subject matter and curriculum training, competencies regarding to teaching and learning process, monitoring, assessing and recording students' learning outcomes and other professional competencies (Council of Higher Education, 1998, 15-17). As well as these standards set by the organisations, there are also research efforts considering teacher qualities.

Research conducted by Walker (2008) including pre-service and in-service teachers, states there are twelve qualities of an effective teacher. These traits are; prepared, positive, holds high expectations, creative, fair, displays a personal touch, cultivates a sense of belonging, compassionate, has a sense of humour, respects students, forgiving and admits mistakes. In another study, teacher qualities were divided into four dimensions as; instructional expertise, student assessment, learning environment, and personal qualities of the teacher (Stronge, Ward, Tucker & Hindman, 2007). Cruickshank and Haefele (2001) also define different visions of a good teacher. These are; ideal, analytic, effective, dutiful, competent, expert, reflective, satisfying, diversity-responsive and respective respectively (Cruickshank & Haefele, 2001).

The starting point of this study is the problem of providing quality teachers for all students in the education system. As McArdle (2010) indicates, "…teaching in new times demands new knowledges and new understandings. Key quality indicators can work to shape programs aimed at improving teacher quality." (pp.62-63). Therefore, to be able to obtain an understanding of a "good teacher", pre-service teachers' viewpoints are used as a research base. This study is designed to identify the conceptions of pre-service primary school teachers at Muğla University about what qualities a good teacher needs to have. It was also aimed to see whether there is an awareness among these prospective teachers about how much they own the qualities which they value. The terminology "good teacher" is used to make the pre-service teachers think again on the qualities not for teachers generally but especially for a good teacher, to obtain the most desired qualities. In addition, by comparing the viewpoints of the pre-service teachers in the first grade and in the final grade, this study also provides an insight about; the influence of the teacher training process on the conceptions of pre-service teachers about the qualities of a good teacher. As the respondents pointed out to what degree they own these qualities, this study can also function as an analysis of the effectiveness of education faculties in making the pre-service teachers gain the desired qualities.

2. Methodology

This study uses a qualitative design to research the opinions of pre-service teachers about the qualities of a good teacher. This is the first phase of a study that will be conducted between Croatian and Turkish pre-service primary school teachers. Therefore, the methodological design and the research questions are the same as Drvodelic and Rajic's (2011) study on Croatian pre-service teachers. The data of these two researches are combined for the second phase of the studies which will provide a cultural perspective to teacher qualities issue.

2.1. Sample

The sample of this research is 90 first grade and 90 fourth grade pre-service teachers who are studying at Primary School Teaching department at Muğla University's Faculty of Education. The details of the sample can be found in Table-1. The number of pre-service teachers who participated in this study is % 51.72 of the population. The number of the sample are the same as Drvodelic and Rajic's (2011) study on Croatian pre-service teachers so that a comparison could be made between two researches.

Table 1. Participant overview

	1st grades		4th grades (final year)		Total	
	N	%	N	%	N	%
All Pre-service Teachers	190	100	158	100	348	100
Respondent Pre-service Teachers	90	47,4	90	58.4	180	51.7

2.2. Instrumentation and implementation

To obtain the data for this research, the pre-service teachers were asked two open ended questions. After the data collection tool was prepared, it was shown to two field experts for the comprehensibility of the questions. According to the experts' viewpoints the necessary changes were made in the statements. In the first question, pre-service teachers were asked to write five qualities that make a good teacher and rank them by importance. The most important quality was written at the top of the list and the least important one was written at the bottom of the list. Then pre-service teachers were given some time to think about these qualities they wrote and rank them again with regard to their own level of possession.

2.3. Data analysis

The data was analysed with a qualitative thematic coding analysis. After the data was collected, they were all listed as they were written. Then qualities with similar meanings or synonyms were grouped under the same theme. In addition, the quality list was given to two field experts for the same process. The themes were compared and the data was grouped according to the agreed compromise with the experts. After that, the data was categorised based on personal and professional qualities. Finally, they were analysed through a quantitative way to see how frequently they were mentioned. Only the qualities that were mentioned five times or more were included in the research.

For the second part of the data analysis process, regarding the importance and possession levels of these qualities, each quality was scored from 5 to 1. The most important or the most possessed qualities were given a score of 5 and the least important or the least possessed ones were given a score of 1. The means of the total scores of the qualities were used to be able to rank the data.

3. Findings

After the data was analysed, it was found that pre-service teachers that participated in this research mentioned a total of 32 qualities that a good teacher should possess. The frequencies of these qualities are illustrated in Table 2.

Table 2. Teacher qualities

Quality	Frequency	Quality	Frequency
Patient	86	Inquisitive	13
Tolerant	59	Humanitarian	11
Having wide general knowledge	53	Disciplined	11
Expert on subject matter	43	Having a good diction	10
Just	41	Authoritarian	9
Committed to work	36	Unconditional acceptance	8
Affectionate	31	Friendly	8
Smiley	29	Innovative	7
Professional	27	Responsible	6
Understanding	25	Humorous	6
Respectful	24	Motivated	5
Empathetic	20	Moral	5
Good communicator	18	Self-confident	5
Honest	15	Idealist	5
Democratic	14	Objective	5
Love of Children	14	Continuing self-development	5

According to Table 2, it is seen that patience is the most mentioned teacher quality. When the qualities were categorised into two groups as; personal and professional qualities, the findings indicate that pre-service teachers mentioned 17 personal qualities and 15 professional qualities. The two most mentioned qualities (patience, tolerance) are among personal qualities. The frequencies of personal teacher qualities according to grade levels of pre-service teachers are shown in Table 3.

Table 3. Frequencies of personal teacher qualities

1st year		4th year	
Quality	**Frequency**	**Quality**	**Frequency**
Patient	43	Patient	43
Tolerant	35	Tolerant	24
Affectionate	21	*Democratic*	14
Smiley	19	*Humanitarian*	11
Understanding	16	Good communicator	11
Respectful	13	Respectful	11
Having a good diction	10	Empathetic	11
Empathetic	9	Affectionate	10
Friendly	8	Smiley	10
Good communicator	7	Understanding	9
Honest	7	Honest	8
Love of Children	6	Love of Children	8
		Humorous	6
		Moral	5
		Self-confident	5

Frequencies of personal teacher qualities indicate that first year pre-service teachers mentioned 12 and fourth year pre-service teachers mentioned 15 qualities. Most pre-service teachers in both groups consented to the fact that patience and tolerance are among personal qualities that a good teacher should possess. In addition to 10 common qualities between the two groups, first year pre-service teachers think that having a good diction and being friendly and fourth year pre-service teachers think that being democratic, humanitarian, humorous, moral

and self confident are also important teacher qualities. The frequencies of professional qualities with regard to grade levels of pre-service teachers are given in Table 4.

Table 4. Frequencies of professional teacher qualities

1st year		4th year	
Quality	**Frequency**	**Quality**	**Frequency**
Just	30	Having wide general knowledge	34
Having wide general knowledge	19	Expert on subject matter	33
Professional	14	Committed to work	22
Committed to work	14	Professional	13
Disciplined	11	Just	11
Expert on subject matter	10	*Unconditional acceptance*	8
Authoritarian	9	*Innovative*	7
Inquisitive	7	Inquisitive	6
Objective	5	*Responsible*	6
		Motivated	5
		Idealist	5
		Continuing self-development	5

Table 4 shows that first year pre-service teachers cited 9 and fourth year pre-service teachers cited 12 professional qualities. One third of first year pre-service teachers stated that being just is a quality that a good teacher should possess. However, only one in ten fourth year pre-service teachers think that *just* is an important quality. Most of the fourth year pre-service teachers indicated that having wide general knowledge is a quality that makes a good teacher. In addition, almost the same amount of fourth year pre-service teachers mentioned that a good teacher should also be an expert on their subject matter. And unlike from the six common qualities; first year pre-service teachers referred being disciplined, authoritarian and objective and fourth year pre-service teachers referred being innovative, responsible, motivated, idealist, accepting all the students unconditionally and continuous self development as other professional qualities that a good teacher should possess.

In the study, pre-service teachers were asked to rank the qualities according to their level of importance. They were also asked to rank these qualities by regarding how much they possess them. The results are illustrated in Table 5 and Table 6.

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Table 5.   Importance and possession levels of personal teacher qualities

Quality	1st year		4th year	
	Level of importance	Level of possession	Level of importance	Level of possession
Patient	1	9	8	12
Good communicator	2	10	9	13
Smiley	3	1	14	7
Empathetic	4	4	11	8
Understanding	5	5	7	11
Honest	6	7	3	1
Respectful	7	6	10	4
Love of Children	8	2	4	5
Tolerant	9	8	12	9
Affectionate	10	3	13	14
Having a good diction	11	11	-	-
Friendly	12	12	-	-
Humanitarian	-	-	1	6
Moral	-	-	2	3
Democratic	-	-	5	2
Self-confident	-	-	6	15
Humorous	-	-	15	10

As shown in Table 5, first year pre-service teachers indicate that being patient, a good communicator and smiley are the three most important personal qualities that a good teacher should possess. On the other hand, fourth year pre-service teachers do not agree the importance level of these qualities. They think that being humanitarian, moral and honest are the three most important qualities. When the results are examined regarding the students own level of possession, it is seen that the most possessed qualities by the first year pre-service teachers are: being smiley, having a love of children and being affectionate. They also pointed out that the least possessed qualities by them are being a good communicator, having a good diction and being friendly. However, fourth year pre-service teachers indicate that the qualities that they the most possessed are being honest, democratic and moral. On the other hand, they think that they mostly do not consider themselves as being a good communicator, affectionate or self-confident.

Table 6.   Importance and possession levels of professional teacher qualities

Quality	1st year		4th year	
	Level of importance	Level of possession	Level of importance	Level of possession
Expert on subject matter	1	7	7	9
Just	2	1	3	3
Professional	3	5	5	10
Having wide general knowledge	4	4	9	11
Committed to work	5	3	2	1
Disciplined	6	2	-	-
Objective	7	6	-	-
Authoritarian	8	8	-	-
Inquisitive	9	9	10	12
Motivated	-	-	1	4
Unconditional acceptance	-	-	4	2
Innovative	-	-	6	8
Idealist	-	-	8	6
Continuing self-development	-	-	11	7
Responsible	-	-	12	5

According to Table 6, being an expert on subject matter, being just and a professional are the most important professional qualities for the first year pre-service teachers. Fourth year pre-service teachers almost agree on the importance of being just but they also mentioned that being motivated and committed to work are more important than being just. When we look at the results about how much they possessed these qualities, first year pre-service teachers think that being just, disciplined and committed to work are the most possessed qualities they have. Nevertheless, they do not mostly find themselves as an expert on subject matter, authoritarian or inquisitive. Fourth year pre-service teachers indicate that the qualities they the most possessed are; committed to

work, unconditional acceptance and just. However, being professional, having wide general knowledge and being inquisitive are the least possessed professional qualities by the fourth year pre-service teachers.

4. Discussion

Teacher qualities are one of the most discussed subjects when the issue is the crucial role of education in shaping the future of societies and the world (Hoşgörür, 2011, 127). Although there is general agreement on some qualities of a good teacher, Stones (1994) points out that the concept of a good teacher has a value laden nature and there is not much consensus about this nature of a good teacher (p. 5). In this study, it was aimed to bring perspective to these discussions about the qualities of a good teacher with the opinions of pre-service teachers.

The most mentioned quality by the pre-service teachers that were involved in this study was patience. About the same number of pre-service teachers indicated patience in Drvodelic and Rajic's (2011) study on Croatian pre-service teachers. This result shows that according to pre-service teachers' viewpoints, in both cultures, patience is an important quality that makes a good teacher. Besides some common qualities that were mentioned by both Turkish and Croatian pre-service teachers, there are also differences in opinions about what makes a good teacher. For instance, being respectful, democratic, having love of children, being humanitarian, having a good diction, being moral and self confident are the personal qualities that were indicated only by Turkish pre-service teachers. In addition, some of the professional qualities mentioned by Turkish respondents are; having wide general knowledge, being an expert on subject matter, being inquisitive, disciplined and unconditionally accepting all the students.

According to the findings of personal teacher qualities regarding respondents' grade levels, it can be said that most of the pre-service teachers in both grades think that patience and tolerance are among the qualities that make a good teacher. Besides patience and tolerance, the most referred qualities by the first year pre-service teachers are mostly related to supportive role of teachers like being affectionate, smiley and understanding. Stronge (2002) also points out the similar traits of effective teachers in his study like; being caring, listening to students, understanding students' concerns and questions. On the other hand, fourth year pre-service teachers direct attention to qualities like; being democratic, humanitarian and moral. First year pre-service teachers do not consider them as important qualities that make a good teacher. This result shows that during their education in teacher training institutions, pre-service teachers observed that accepting democratic principals and being humanitarian are also necessary components of a good teacher.

When the findings about the professional qualities are analysed, it can be said that both groups of pre-service teachers think that a good teacher should have a wide general knowledge, be an expert on their subject matter, be just, professional, committed to work and inquisitive. Walker (2008) also states that an effective teacher should be prepared and fair. Moreover, Stronge (2002) mentions similar characteristics like; being fair, having positive attitudes for the teaching profession, and engaging in reflective practice as essential for teaching. Nevertheless, first year respondents think that being a good teacher also means being disciplined, authoritarian and objective. Mentioning disciplined and authoritarian could be related to their academic self concept. Because they lack teaching experience, they might be thinking that they will have authority problems while doing their jobs so they should be managing the class according to strict rules. On the other hand, fourth year pre-service teachers think that a good teacher should also be accepting all the students unconditionally, be innovative, responsible, motivated, idealist and they should be aware of the importance of continuing self-development. The quality unconditional acceptance is a parallel thought with the personal qualities democratic and humanitarian which they mentioned as personal qualities. It can also be said that teacher training process caused an awareness on the pre service teachers that in the information age teaching profession, the qualities of being innovative, motivated and continuous professional self-development are required.

Pre-service teachers' viewpoints about the importance level of personal teacher qualities are showing differences according to their grade levels. For the first grade pre-service teachers, the most important teacher qualities are mostly related to a teacher's interactions with people like; being patient, a good communicator and

smiley. On the other hand, the most important teacher qualities for the fourth grade pre-service teachers refer to ethical values like; being humanitarian, moral and honest. Hayes (2006) also stresses the importance of social and moral impact of teachers on students while educating them. It can be concluded that pre-service teachers became aware of the importance of these ethical values during their training.

When the findings about the possession levels of personal qualities mentioned by the first year pre-service teachers are analysed, it is seen that the qualities they possessed the most are qualities that are part of an individual's personality. On the other hand they indicated that they are lack of good communication skills and they should progress their diction. They also pointed out that they do not find themselves friendly. This could be because they are at their first year in the department; they have not had much chance to socialise with others around them. Personal qualities that fourth year pre-service teachers possessed the most are mostly parallel to the qualities that they find important. Nevertheless, it is noticed that they could not gain good communication skills during their education. It is also surprising that although they mentioned self-confidence as one of the important qualities, yet they think that they do not possess it. This result shows that teacher training process does not provide opportunities for them to build up their self-confidence.

The findings about importance levels of professional teacher qualities indicate that the most important qualities for the first grade pre-service teachers are mostly knowledge based. On the contrary, fourth grade pre-service teachers think that attitude based professional qualities are more important. This could be the reflection of the thought that to expand knowledge on a profession primarily requires motivation and commitment. The findings about possession levels of professional teacher qualities show that first grade pre-service teachers are aware of the fact that they are not qualified for the profession. Moreover, fourth grade pre-service teachers indicate that they still do not see themselves as competent in their subject matter or as professionals. This result shows that their training could not satisfy their needs about their subject area. Not feeling like a professional could be regarded as expected, as they have not officially started performing their jobs but this result could also be the sign of not being provided adequate teaching experience. Furthermore, fourth grades mentioned that they have low levels of general knowledge and they are not inquisitive. Although personal and professional development of teachers are one of the main competencies identified by the Ministry of National Education in Turkey (MoNE, 2006, 3), it can be said that it is still one of the areas for the teacher training programmes which needs progressing.

Researching the conceptions of pre-service teachers about the qualities of a good teacher gave a chance to compare their opinions with what they were expected to gain with their training. Moreover, learning possession levels of these qualities could help to determine the areas that need improvement. On the other hand, to be able to build a wider understanding of what makes a good teacher, expectations of primary school students from teachers could be identified with further researches.

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A GENETIC-FUZZY BASED MATHEMATICAL MODEL TO EVALUATE THE DISTANCE EDUCATION STUDENTS' ACADEMIC PERFORMANCE

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Abstract

In distance education systems, it is very important to predict academic performance for both instructors and students during the course of the semester. If an instructor can properly assess and predict student performance early at the beginning of the semester, then the instructor can take action and arrange both the course content and the teaching style. This, in turn, contributes greatly to the success of students. In order to make such a prediction, constructing mathematical models is one of the most effective and efficient methods. Among many approaches, fuzzy logic-based models have the most appropriate topology. In this study, fuzzy logic model is used to model data of distance education and predict students' academic performances. In order to increase the success of fuzzy logic model, fuzzy membership functions are optimized by using genetic algorithms. As distance education data, when students enrolled in learning management system, how frequently they log on, and how long they stay online are used. By using this model and data of a 6 week-long study, students' success level at the end of the semester is predicted and the results are compared with the ground truth data.

Keywords: Fuzzy Logic, Genetic Algorithm, Distance Education, Academic Performance Evaluation

1. Introduction

Over the past several years, the use of distance education systems has grown rapidly, since they have more advantages than traditional education; an Internet connection is just enough to access the education system and there is no time restriction to attend the courses. In addition to these advantages, it is relatively cheap compared to traditional education.

Evaluation of student academic performance is one of the most important parts in educational systems. Instructors monitor students' learning processes and analyze their performance based on paper records and observation in traditional education. Distance education systems provide definite opportunities for instructors to observe students' academic performance. In order to establish this task, instructors encounter difficulties in observing academic performance during distance education. Therefore, weblogs stored in Learning Management Systems (LMS) could be helpful for observing and analyzing learners' academic performance, as well as predicting final marks. It is required to monitor and analyze students' activities in distance education systems by suitable scientific research methods. The ability to predict students' performance could be useful for instructors who can take a precaution failure or prevent students from dropping out.

In this study, we have incorporated three types of web logs: recency, frequency, and monetary. Recency is enrollment time of students that shows the number of days after the lectures have been uploaded to LMS. Frequency is defined as how frequently they logged on. How long they stayed online is regarded as Monetary. These data are incorporated into Fuzzy to obtain a prediction model. In order to increase the success of fuzzy logic model, fuzzy membership functions are optimized by genetic algorithms. By this mathematical model, we have tried to predict class grades of the students using only six weeks RFM data.

The rest of the paper is structured as follows: Section 2 Related Works presents the findings of related research literature. In Section 3, we briefly review theory of the Fuzzy Logic and Genetic Algorithm. In Section 4, we present classical fuzzy model and Genetic-Fuzzy Model to evaluate academic performance of students, and the experimental results are discussed. Finally, conclusion and further research are reported in Section 5.

2. Related Works

Several studies focus on the field of analyzing student performance in distance learning. Dimitris and Christos (2006) have employed genetic algorithms and decision trees to estimate academic performance of distance learning students'. Zafra and Ventura (2009) have incorporated multiple instance genetic algorithms to predict whether the students will fail or pass for a certain course. This prediction has been based on students' activities such as quizzes, assignments, and forums. Lykourentzou et al (2009) have performed a student achievement prediction method applied to 10-week introductory level e-learning. Vandamme, et al. (2007) have studied a model by means of neural networks procedure in SAS/Enterprise mining. They have categorized students into three groups as "the low-risk", "medium-risk" and "high-risk" who have a high probability of failing. Kotsiantis, et al. (2004) have conducted a supervised machine learning algorithm in which the training set was comprised of students' key demographic characteristics and their mark on a few written assignments. Ibrahim and Rusli (2007) have used neural network, decision tree and linear regression to estimate students' academic performance. In this work, they have employed demographic profile and students' first semester cumulative grade point averages (CGPA) to predict final CGPA.

In the literature, prediction studies involving Fuzzy Logic method are generally carried out associating with Artificial Neural Network (ANN). Taylan and Karagozoglu (2009) have presented a study that introduces a systematic approach to design of a fuzzy inference system based on a class of neural networks to assess the students' academic performance. The development method used a fuzzy system augmented by neural networks to enhance some of its characteristics like flexibility, speed, and adaptability, which is called the Adaptive Neuro-Fuzzy Inference System (ANFIS). Yusof, et al. (2009) have built an evaluation of student's performance and learning efficiency based on ANFIS, too. In that study, neural network and fuzzy have been used for predicting student's performance based on four criteria which are scores earned, time spent, number of attempts and help needed.

3. Fuzzy Logic and Genetic Algorithm

3.1 Fuzzy Logic

Fuzzy sets and fuzzy logic have been considered an effective tool to deal with uncertainties in terms of vagueness, ignorance, and imprecision (Cho, Cho, & Wang, 1997). While making an operation in a set, a 'b' element is a member of a set or not. On the other hand, when making an operation with fuzzy, 'b' element can be a member of two sets at the same time. Fuzzy Logic is a form of three main stages; fuzzification, rule evaluation and defuzzification. Fuzzification is the first step that transforms the crisp inputs into degrees of match with linguistic values. Rule evaluation is where knowledge derived from experts are formed which is then called fuzzy rules (Yusof, Zin, Yassin, & Samsuri,2009). Defuzzification transposes the fuzzy outputs to crisp values. Figure1 shows the stages of Fuzzy Logic.
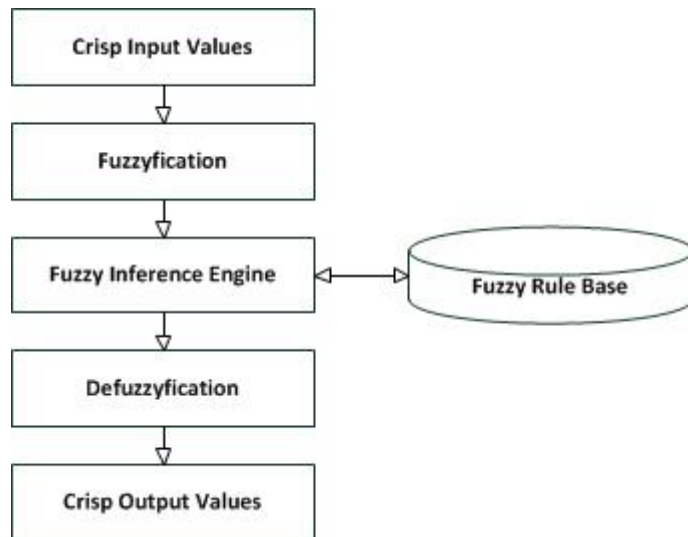
Fig. 1 Fuzzy Logic Stages

3.2 Genetic Algorithm

The Genetic Algorithm (GA) is an optimization and search technique based on the principles of genetics and natural selection (Haupt & Haupt, 2004). A GA works on a population of randomly generated input solutions symbolized by chromosomes that are often represented by binary strings. The population improves toward better solutions by applying genetic operators, such as crossover and mutation. In each generation, favorable solutions generate offspring that replace the inferior individuals. Crossover hybridizes the genes of two parent chromosomes in order to exploit the search space and constitutes the main genetic operator in GAs. The mutation is operated to provide the diversity of gene pool. An evaluation or fitness function plays the role to decide for the good or bad solutions (Cordon, Herrera, Hoffmann, & Magdalena, 2001). The major components and the principal structure of GA are shown in Figure 2.
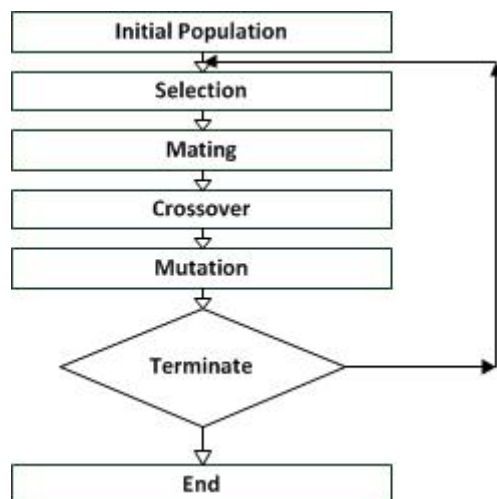
Fig. 2 Principal Structure of GA

4. Method and Results

In this study, the informatics course of the Yildiz Technical University (YTU), Matlab course is delivered in web-based education during 2010/2011 spring semester for Chemistry students.

Moodle (Modular object oriented developmental learning environment), a free learning LMS is utilized for this course. Moodle offers many activities that can be combined with learning material. It logs every activity report for each student that indicates the activities such as operation on course materials, quizzes, and messages for different times and days. This fact enables the authors to collect data only from the tutors involved in this learning process.

The Moodle records for Matlab course have supplied the data for the Fuzzy-RFM model. Matlab course is composed of 12 weeks and leads to an elective course. The total number of registered students is 62, 46 of whom, are selected and the model is formed by entering RFM values for the first six weeks. As the desired output, grade scores of 46 students are selected and introduced to model.

We have first used Classical Fuzzy Model to predict pass grades of the students. Then, we have improved the model by employing Genetic Optimization Algorithm to obtain higher prediction accuracy.

4.1 Classic Fuzzy Model

In this model, Fuzzy Memberships are organized for three input data sets; Recency, Frequency and Monetary. Academic Performance (AP) is used as output value of the model. Input values are determined as low (R1), medium (R2) and high (R3) for Recency, low (F1), medium (F2) and high (F3) for Frequency, low (M1), medium (M2) and high (M3) for Monetary. The output values are determined to be low (AP1), medium (AP2) and high (AP3). Figure 3 shows Classic Fuzzy Model.
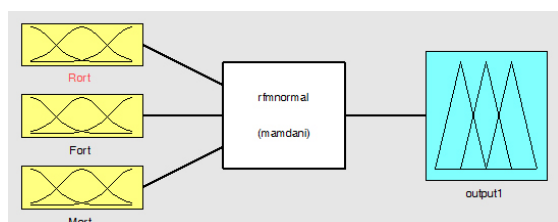
Fig. 3 Fuzzy RFM Model.

Input values R, F and M are shown in Figures 4, 5, and 6, respectively.
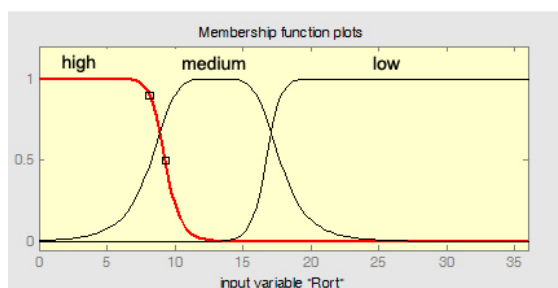
Fig. 4 Recency Membership Function Plots
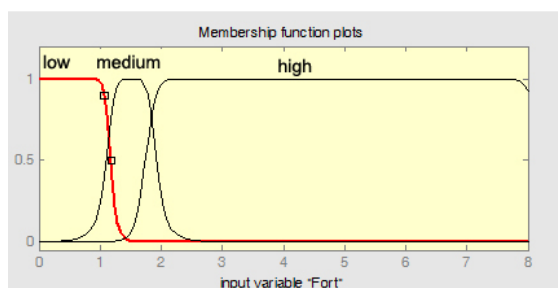
Fig. 5 Frequency Membership Function Plots
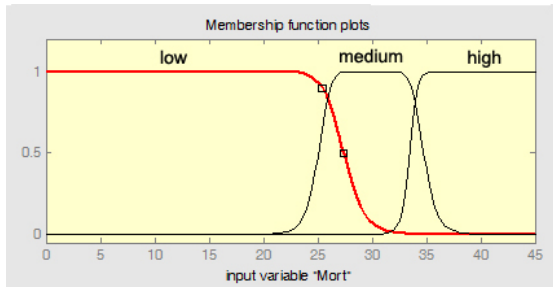
Fig. 6 Monetary Membership Function Plots

After determining Membership Functions, 27 rules are constructed according to expert opinion. For example, IF R (Recency) is low and F (Frequency) is low and M (Monetary) is low THEN AP (Academic Performance) is low.

The obtained results from classic fuzzy can be evaluated in two stages.

4.1.1 Determining Intervals

Expert opinion is the most vital factor in determining intervals and forming rules while designing the model with RFM data obtained from learning management system of students in distance education. Low, medium and high intervals for each value in RFM variables are formed. For instance, is Recency indicates to how long ago the student visit each course week after the course entered to the system. Firstly, intervals are equally installed. After this installation, the ratio of accuracy of students' academic performance has been found approximately %65. Then, we consult the expert to determine the intervals and the model is reformed. According to the expert, if the student enters the system in 1-7 days, it is high, 7-14 days, medium, and 14-36 days low. On the other hand, trial-error method is used in determining frequency that shows to how often each student stays in each course week. The ratio of accuracy between the alteration intervals according to the expert and prediction of students' academic performance has risen to %74.

4.1.2 Determining Membership Functions

After the determination of intervals in which membership function the model has got high value is determined by 4-type MF. Table 1 presents the results of the model formed before consulting expert opinion that show trimf function gives better result compared to other functions.

Table 1 Accuracy for different type of MF types.

Membership Function	Accuracy (%)
Trimf	65,25
Gauss2mf	64,81
Pimf	64,62
Gbellmf	64,28

Table 2 shows the results of models formed by varied MFs according to intervals formed by experts' opinions. It is observed that Gbellmf function gives better results than others.

Table 2 Accuracy for different type of MF types

Membership Function	Accuracy (%)
Gbellmf	74,40
Gauss2mf	73,40
Pimf	73,29
Trimf	72,90

4.2 Genetic-Fuzzy Model

Fuzzy Logic rules and membership functions are formed according to expert opinion, which is shown as one of the lack of the fuzzy logic. Therefore, fuzzy membership functions' intervals have been optimized by genetic algorithm in this section. Triangular-shaped (trimf) built-in membership function has been used. Figure 7 shows the membership function. There are 3 trimf shaped for all input variables that are R, F, M whose axis of vertex points are a,b,c, respectively. The other points of triangle are on the x-axis. a1 ve a2, b1 and b2, c1 and c2 have indicated the distance from a, b, c.
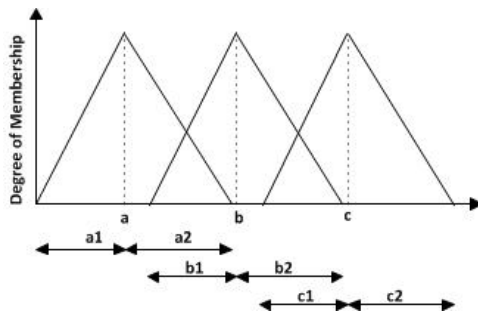
Fig. 7 Fuzzy Membership Intervals

The genetic algorithm works with chromosomes. The chromosome has 27 variables. The chromosome is written as row vector.

Chromosome=[Ra1, Ra, Ra2, Rb1, Rb, Rb2, Rc1, Rc, Rc2, Ra1, Fa, Fa2, Fb1, Fb, Fb2, Fc1, Fc, Fc2, Ma1, Ma, Ma2, Mb1, Mb, Mb2, Mc1, Mc, Mc2]

The genetic algorithm works with binary encodings. An example of binary encoded chromosome that has 27 variables, each encoded with 7 bits, is

Figure 8 shows the shape of a member.
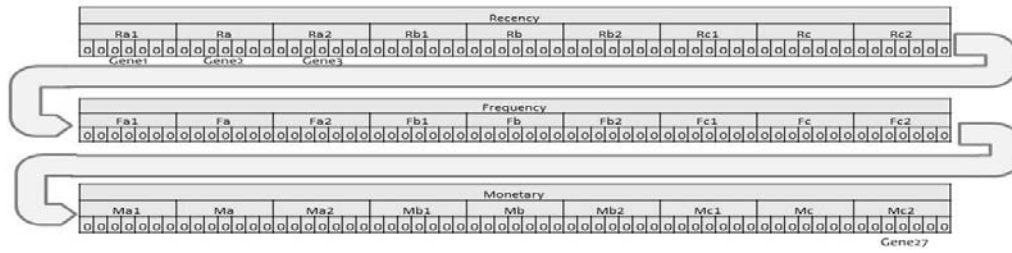
Fig. 8 Representation of Chromosome of Fuzzy Membership Function

The GA starts with 10 initial populations. After 85 iterations, the algorithm has stopped because costs are the same. Figure 9.(a),10.(a) and 11.(a) show optimization of Recency, Frequency, and Monetary Membership Function, respectively and Figure 9.(b),10.(b), and 11.(b) show optimized intervals of Recency, Frequency, and Monetary Membership Functions.

(a)	(b)
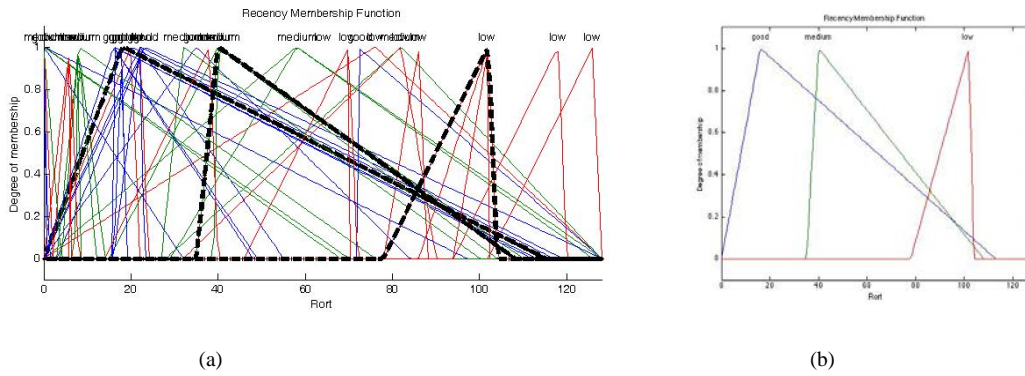
Fig. 9. (a) Optimization of Recency Membership Function and (b) Optimized Membership Function

(a)	(b)
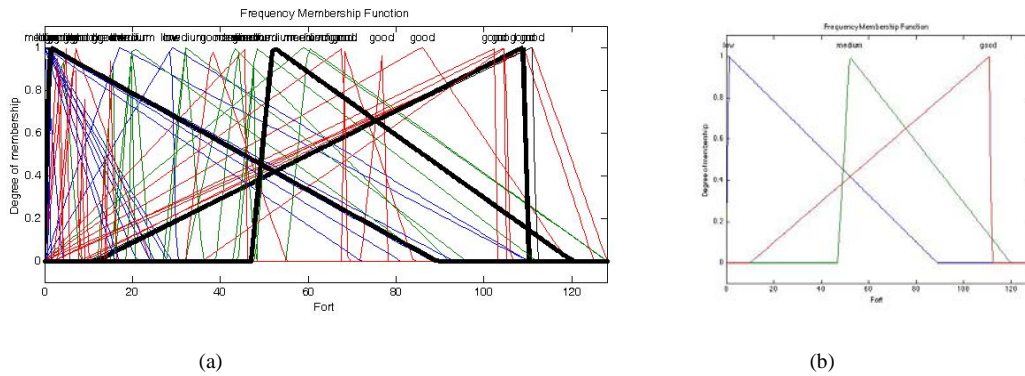
Fig. 10. (a) Optimization of Frequency Membership Function and (b) Optimized Membership Function
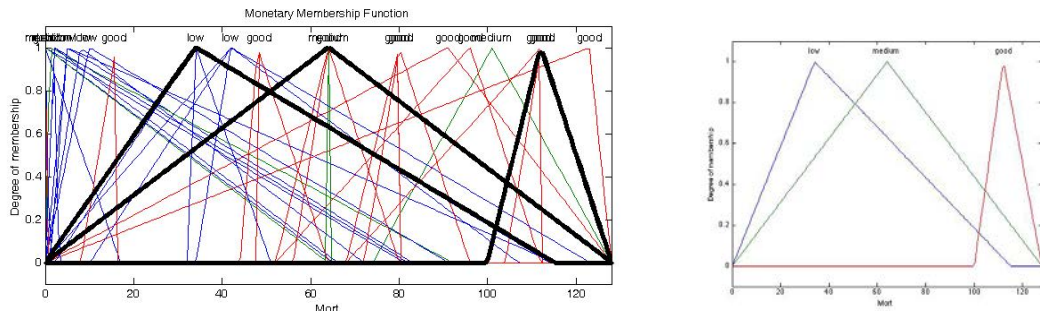
Fig. 11. (a) Optimization of Monetary Membership Function and (b) Optimized Membership Function.

After the optimization of intervals of membership functions, accuracy of prediction for distance education students' academic performance has risen to 84.52%.

5. Conclusion

To sum up, a new model, Genetic-Fuzzy Based Mathematical Model, has been formed to predict students' performances in distance education. Academic Performance have been attempted to predict just using 6-weeks data. Fuzzy membership intervals have been determined by genetic algorithm based optimization. Firstly, eight different models have been formed by using varied MF for the intervals formed in consultation with expert opinion. The best ratio of accuracy is 74.40 percent among formed models and it is an acceptable value. Then, using genetic algorithm, the optimal intervals for R, F, M were determined and prediction of students' academic performance has risen to 84.52%. In further studies, the optimization of rules used in the fuzzy logic system will be considered.

Acknowledgements

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A GREEN TOUCH FOR THE FUTURE OF DISTANCE EDUCATION

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Abstract

This paper aims to draw attention to the sustainability of distance learning in terms of the design process based on learner characteristics and technology usage. Distance learning has become a cyberized system owing its presence to developments in digital technologies. Technological developments solve some immediate problems but also have the risk of leading to even greater ones. To 'sustain' is not only about keeping up, supporting or maintaining continuity but also is about nourishing, cultivation and acknowledgement. 21st century incentives in all fields of human endeavour have replaced sustainability measures in their plans and actions as a necessity for meeting the needs of the present and future generations. Green engineering and design perspectives state the importance of carrying out an inventory of all the materials and energy used in the design process and assessing all the environmental discharges resulting from the product's manufacture, use, and disposal. Being cyberized or virtual does not leave distance education apart; still it is a product designed to serve actual human beings and alike every design, the process has inputs, outputs and unfortunately, produces waste. Unless managed properly, waste is harmful; to avoid possible harms and to be able to respond both to current and future demands and expectations, distance education has to include ecological and sustainable perspectives to its vision. This study outlines the historical background of sustainability, lists the green engineering and green design perspectives from literature and expresses a *green touch* for sustainable distance education within these perspectives.

Keywords: sustainable distance education; future of distance education

1. Introduction

The future is undefined, yet inevitable. Thoughts and actions towards future tend to be hopeful and every organism, including us humans, struggle for permanence and progress rather than to corrupt. There have been numerous incentives in our history which represent this hopeful struggle. The Universal Declaration of Human Rights, adopted in 1948, specifies both individual rights and governmental determinations on promoting social progress and better standards of life for current and future generations. The Bill of Rights for the Planet, declared in 2000, is concerned with the health of the environment where human life takes place and advocated the rights of the planet we live in, the Earth. 21st century initiatives envisioning the future are still based on permanence and progress and the necessity for the wholeness of individual, social, governmental and environmental actions and understandings are underpinned. Education has been one of the common needs of humans. As stated in Article 26 of The Universal Declaration of Human Rights, "Everyone has the right to education… Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit". 21st century education incentives, alike all fields of human endeavour, have to care for meeting the needs of the present and future generations. The new digital age has introduced such technological marvels that were never thought possible before and as John Sener states, "Education is entering the age of cybersymbosis - irretrievably dependent on digital technologies. This is not a fad, a niche, or even a trend; it is education's future" (Sener, 2011).

In terms of education, distance education can be defined as a result of the struggle for permanence and progress. Initially relying on postal services, it was a provision for accessing learning where the source of information and the learners were separated by time and distance. It has now become a cyberized system owing its presence to developments in digital technologies. The contribution of developing technologies together with

the increasing demand due to changing living and working styles have enforced distance learning from being a supplementary solution to a unique system. It is a system; a group of independent but interrelated elements comprise a unified whole to accomplish a predefined goal. The goal is to deliver education to students who are not physically "on site" in a traditional classroom or campus by allowing self-determined, independent and interest-guided learning. It is unique; the learner is real and has real needs, the learning environment is virtual. This system could be successful if it becomes being continuous in space or time, hindering interruptions or disconnections, namely it has to be sustained. To 'sustain' is not only about keeping up, supporting or maintaining continuity but also is about nourishing, cultivation and acknowledgement. Kim (1998) explains the term as "the search for providing the best of all possible worlds for people and the environment both now and into the indefinite future". To provide the best solutions for meeting the needs of the present and future generations, the sustainability provisions have to be an integral part in the design and delivery policies regarding distance education. The following sections present the milestones of sustainability, summarize the green engineering and green design perspectives from literature and express a *green touch* for sustainability, aiming an optimistic contribution to the future of distance education.

2. Milestones of Sustainability

Sustainability definitions have held the Earth - our planet and the Human - our lives as focal points for a long period of time. The concept itself has been a human concern from the earliest civilizations to the present, but has become popular at the post-World War II period when technology had become the determinant of economic growth and innovations like plastics, synthetic chemicals and nuclear energy were changing production and life styles. Popular books such as Silent Spring by Rachel Carson (1962) and The Population Bomb by Paul R. Ehrlich (1968) raised public awareness on the fact that there were environmental costs to be paid for obtaining material benefits and the quality of the environment was linked closely to economic development. Consumption of natural resources and the harm made by technology were major concerns. In 1972, The Limits to Growth Report and the Stockholm Conference on the Human Environment started a wave of governmental regulations for concerns about environmental issues and with the publication of the Brundtland Report in 1987, the society was recommended to act as a whole with the awareness of the fact that current patterns of resource consumption and environmental degradation could not continue as they were. Brundtland Report was the first report to use the term "sustainable development" and defined it as: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The report agreed that technological developments may solve some immediate problems but also stated that these developments had the risk of leading to even greater ones. As to reach a coherent path, the report underlined the fact that sustainable development had to be understood as a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change all collate in harmony and enhance both current and future potential to meet human needs and aspirations. Taking these steps further, The Bill of Rights for the Planet, developed and presented by William McDonough Architects for EXPO 2000, aimed to outline priorities which would be taken into consideration by designers, planners, government officials and all involved in the built environment. The aim of setting these principles were declared as follows: "For the development and improvement of humankind, it is imperative to renew a commitment to living as part of the earth by understanding development and growth as processes which can be sustained, not exploited to impractical limits" (McDonough, 2000).

Following these milestones, there has been increasing attention focused on the challenges of sustainability. Hargroves and Smith (2005) have sorted the common sustainability principles from the work and publications by different authorities as follows:

- dealing cautiously with risk, uncertainty and irreversibility,
- ensuring appropriate valuation, appreciation and restoration of nature,
- integration of environmental, social and economic goals in policies and activities,
- equal opportunity and community participation,
- conservation of biodiversity and ecological integrity,
- ensuring inter-generational equity,

- recognizing the global dimension,
- a commitment to best practice,
- no net loss of human or natural capital,
- the principle of continuous improvement and
- need for good governance

Anastas and Zimmerman (2006) state that changes can be made through innovations in science and technology to mutually benefit the environment, the economy, and the global society. They further state that "Most popular constructs of sustainability are in agreement that there are three major aspects- environmental, economic and societal. Inherently, if an action is not advancing each of the three *pillars* of sustainability it could not be viewed as advancing sustainability overall. Therefore, the difficult questions are involved with the short-term versus long-term consequences of actions, regional versus global, and known consequences versus unforeseeable consequences". Green engineering and green design are terms which offer paths to realize the goals of sustainability in practice.

2.1. Green Engineering and Green Design

Green Engineering is the design, discovery, and implementation of engineering solutions for sustainability (Anastas and Zimmerman, 2006) and *Green Design* is intended to develop more environmentally benign products and processes (Hendrickson et.al.,1999). The Principles of Green Engineering presented by Anastas and Zimmerman (2006) represent a reflection of those engineering techniques that are being used to become more sustainable. The authors describe their intention in forming these principles as follows: "While there are significant, creative, and important examples of engineering solutions that are being developed, they are neither comprehensive nor systematic. The 12 Principles should be thought of not as rules, laws or inviolable standards. Instead they are a set of guidelines for thinking in terms of sustainable design criteria that, if followed, can lead to useful advances for a wide range of engineering problems" (Anastas and Zimmerman, 2006). The principles of Green Engineering are as follows:

- Principle 1 - Designers need to strive to ensure that all material and energy inputs and outputs are as inherently non-hazardous as possible.
- Principle 2 - It is better to prevent waste than to treat or clean up waste after it is formed.
- Principle 3 - Separation and purification operations should be a component of the design framework.
- Principle 4 - System components should be designed to maximize mass, energy and temporal efficiency.
- Principle 5 - System components should be output pulled rather than input pushed through the use of energy and materials.
- Principle 6 - Embedded entropy and complexity must be viewed as an investment when making design choices on recycle, reuse or beneficial disposition.
- Principle 7 - Targeted durability, not immortality, should be a design goal.
- Principle 8 - Design for unnecessary capacity or capability should be considered a design flaw. This includes engineering "one size fits all" solutions.
- Principle 9 - Multi-component products should strive for material unification to promote disassembly and value retention - (minimize material diversity).
- Principle 10 - Design of processes and systems must include integration of interconnectivity with available energy and materials flows.
- Principle 11 - Performance metrics include designing for performance in commercial "afterlife".
- Principle 12 - Design should be based on renewable and readily available inputs throughout the life-cycle.

Hendrickson et.al. (1999) outline three general goals for green design in pursuit of a sustainable future: (1) Reducing or minimizing the use of non-renewable resources, (2) Managing renewable resources to insure sustainability and (3) Reducing, with the ultimate goal of eliminating, toxic and otherwise harmful emissions to the environment, including emissions contributing to global warming, and identify the objective of green design as to pursue these goals in the most cost-effective fashion. The authors give special importance to the fact that the application of green design involves a particular framework for considering environmental issues, the application of relevant analysis and synthesis methods, and a challenge to traditional procedures for design and manufacturing. Some Green Design Methods and Tools listed by the authors are as follows:

- Conducting mass balance analysis based on measurements of inflows, inventories, and outflows (including products, wastes and emissions).
- Paying attention to green indices and ranking systems which attempt to summarize various environmental impacts into a simple scale by providing rudimentary guidance in choosing materials, components, or process alternatives that have reduced environmental impacts.
- Designing for disassembly and recycling; making products that can be taken apart easily for subsequent recycling and parts reuse.
- Including risk analysis in design as a means for tracing through the chances of different effects occurring.

- Using material selection and label advisors through which designers can select the most environmentally preferred material among alternatives.
- Integrating full cost accounting methodologies; management information systems that reveal the cost of decisions about materials, products, and manufacturing processes to the company.

The application of green design principles rely heavily on managerial and institutional support since designers are specialists who cannot be expected to be environmental experts capable of estimating the environmental and sustainability implications of their decisions. Especially mass balance analysis and full cost accounting methodologies need to be defined and provided by the management which also means that the institution itself has to plan and act towards sustainability and moreover green design (Hendrickson et.al. 1999). In terms of materials selection, Graedel and Allenby (2002) recommend designers to choose abundant, non-toxic, nature familiar rather than man-made materials which have an existing recycling infrastructure. They also advise to minimize the number of materials used in a product or process and use recycled materials where possible.

Green design principles stress the need to consider the systems effects of design decisions. In designing a new product or service, reducing waste with the ultimate goal of eliminating it, is found important. Life Cycle Assessment, a systematic analysis of the environmental effects of a new product or process, is common to both green design and engineering perspectives. This necessitates defining a system boundary, carrying out an inventory of all the materials and energy used and assessing all the environmental discharges resulting from the product's manufacture, use, and disposal within the defined boundary. Regarding the disposal process, the design choices on recycle, reuse or beneficial disposition becomes important. Within this framework, after completing its intended usage the product or process could be an input in; a closed-loop, which refers to the re-use of the product or service for the same function and an open loop, which refers to the re-use of the product or service in a different function, typically with lower quality requirements (Hendrickson et.al. 1999).

3. The Need for Sustainability in Distance Education

21st Century is the age of digital literacy. Information is located, organized, received, evaluated, and analyzed mostly using digital technology. Technological forces affect culture and human behavior. When introduced in 2001 by Marc Prensky, the term *digital native* defined the ones born into the digital age, and *digital immigrant* referred to ones who adopted technology later in life. These terms aid in understanding the issues of teaching digital literacy; technology has changed the way today's students read, perceive, and process information and today's educators need to find effective teaching methods for the digital natives.

The 21st Century Fluency Project, uses the term *fluency* particularly to emphasize an alteration regarding digital literacy; literacy defines to have knowledge or competence whereas to fluency describes the demonstration of mastery- doing unconsciously and smoothly. The fluencies of a digital citizen are given in Fig. 1 and the project states that these fluencies *are not about technical prowess, they are critical thinking skills, and they are essential to living in this multimedia world*.
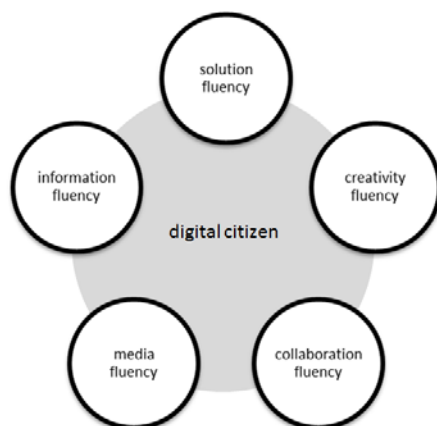
Fig.1. Fluencies of a 21st Century digital citizen

- Solution fluency is the ability to think creatively to solve problems in real time by clearly defining the problem, designing an appropriate solution, applying the solution then evaluating the process and the outcome.
- Creative Fluency is the process by which artistic proficiency adds meaning through design, art and storytelling. It regards form in addition to function, and the principles of innovative design combined with a quality functioning product.
- Collaboration fluency is team working proficiency that has reached the unconscious ability to work cooperatively with virtual and real partners in an online environment to create original digital products.
- Media Fluency is firstly, the ability to look analytically at any communication media to interpret the real message, how the chosen media is being used to shape thinking, and evaluate the efficacy of the message and secondly, to create and publish original digital products, matching the media to the intended message by determining the most appropriate and effective media for that message.
- Information fluency is the ability to unconsciously and intuitively interpret information in all forms and formats in order to extract the essential knowledge, authenticate it, and perceive its meaning and significance.

Evidently, current learners of distance education are mostly digital immigrants and in the near future they all will be digital citizens. This is where the importance on envisioning sustainability regarding distance education becomes important. Current distance education planning and solutions need to support present needs but while doing so, have to create a care taking vision for its future generations- the digital citizens. Distance learning has already become a cyberized system but technological developments have the risk of leading to greater problems while solving immediate ones. Thus, there is a need for a supplementary vision; a vision which not only integrates technology but also an overall systems view of the planning process. Distance education is a designed product and service and alike every design, the process has inputs, outputs and unfortunately, produces waste. Unless managed properly, waste is harmful; to avoid possible harms and to be able to respond both to current and future demands and expectations, distance education has to include Green Engineering and Green Design perspectives to its vision.

4. A Green Touch to Distance Education

Sustainable development has been the search for protection and preservation of the environment not only for current generations but for the future ones as well. Sustainable development strategies lead shareholders to be more attentive to the concerns of all stakeholders and thus to convey the expectations of society as well as the environment of the company (Amann et al., 2009). Weybrecht (2010) states that these strategies have created huge competition not only between organizations and firms, but also between countries and societies; the importance of inclusion of sustainability is a publically acknowledged necessity. Green engineering and green design visions offer paths to realize the goals of sustainability in practice. They have resulted from the recognition of the consumption of natural resources and the harm made by technology. The main focus is on cleaning up past pollution and ongoing waste streams (Hendrickson et.al.,1999). Considering the right factors, and building in the right parameters as design criteria, green engineering and green design visions stress the importance of:

- assessing the life cycle of products and processes, including their afterlife period
- using renewable and readily available inputs throughout the life-cycle
- selecting all material and energy inputs and outputs to be as inherently non-hazardous as possible
- choosing materials, components, or process alternatives that have reduced environmental impacts
- designing for disassembly and recycling and
- preventing waste

The contribution of developing communication technologies together with the increasing demand due to changing living and working styles have enforced distance learning from being a supplementary solution to a unique system. It is unique; the learner is real and has real needs, the learning environment is mostly virtual. We have to recognize the fact that in the near future all distance learners will be digital citizens of a world we can't yet even imagine. The distance education system to serve the digital citizens must take into account their fluencies and this is where sustainability becomes significant. Following sections propose definitions and a *green*

touch for sustainable distance education by linking distance education principles, fluencies of digital citizens and green engineering and design perspectives.

4.1. Inputs and Outputs

With reference to distance education principles, context, learner needs, goals, characteristics and the local learning environment can be defined as inputs whereas active and effective learning can be defined as outputs in terms of sustainability. The team working and creativity fluencies of digital citizens add interaction and collaboration as an input and generating innovative products as an output. From the instruction part, managing interaction and collaboration necessitates the provision of feedback which also is an input unit. Fig.2 presents the inputs and outputs of a sustainable distance education system as described above.
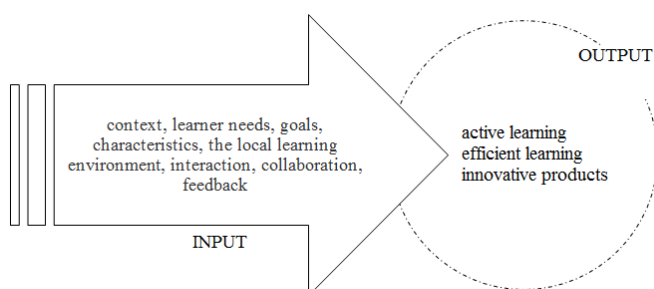
Fig.2. Inputs and Outputs of Distance Education

4.2. The Energy

The energy with which inputs would be transformed to outputs are the institutional strategies. It is important for any institution to possess both a technology plan and a human infrastructure to ensure that appropriate technical requirements are established and learners and learning facilitators are supported in their use of these technologies. The natural resources of distance education, namely the learners, facilitators and content have to be used without depleting them. The main focus needs to be on preventing waste. Fig.3 presents the energy component of a sustainable distance education system.
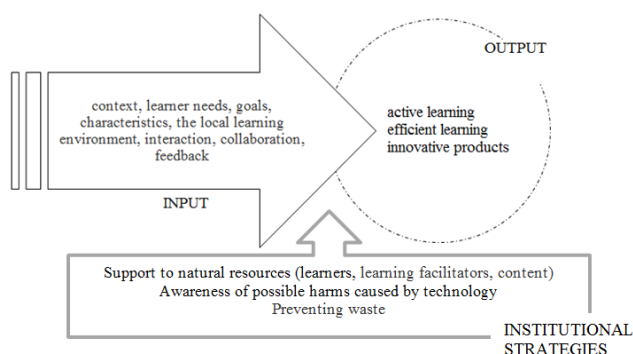
Fig.3. The Energy Component for Sustainable Distance Education

4.3. Designing Learning Materials

Distance education has the ability to provide access to unlimited information via communication technologies, yet has to shape this information so that the learner receives it in coherence with its intended aim. Once designed, the learning materials and environment become real products for which life cycle assessment has

to be conducted. These products need to be designed for disassembly and recycling in order to be renewable and readily available inputs. Fig.4 presents the design process as an input for a sustainable distance education system.
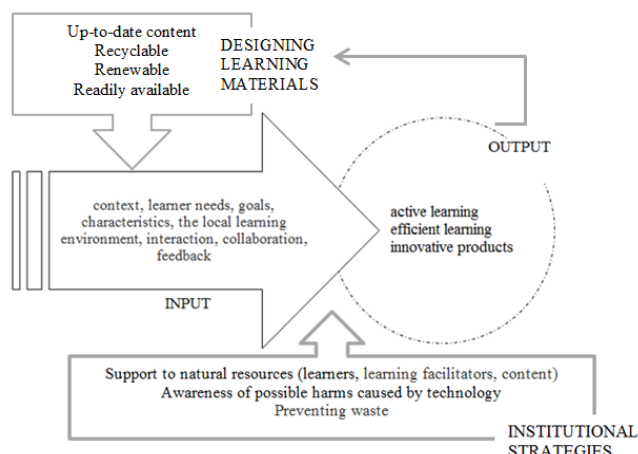
Fig.4. The Design Process for Sustainable Distance Education

4.4. Waste

Waste is anything is unwanted or useless; it is a loss through carelessness, inefficiency, or ignorance. Ignoring environmental effects during the product design and production stages resulted in environmental damage caused by careless consumption of natural resources and the inefficient dumping of hazardous waste. Recognizing this damage, green engineering and design perspectives proposed actions towards cleaning up past pollution and ongoing waste streams. Being mostly cyberized or virtual does not leave distance education apart; still it is a product designed to serve actual human beings and alike every design, the process has inputs, outputs and unfortunately, produces waste. Unless managed properly, waste is harmful; to avoid possible harms and to be able to respond both to current and future demands and expectations, a sustainable distance education design needs to integrate waste prevention.

Every distance education is unique regarding its components and goals, thus the concept of waste has to be redefined in the planning stage of each system. Considering the right factors and building in the right parameters as design criteria, green engineering and green design visions stress the importance of reducing waste with the ultimate goal of eliminating it.

A sustainable distance education at first hand, must be caring, efficient, or aware towards its resources; the learners, facilitators and content information. If not, then dissatisfied learners and/or facilitators, dropouts and out of date information would be wastes. In terms of both hard and software, due to rapid developments, technology itself has the tendency to be waste. Although designers of a distance education system are not expected to be environmental experts capable of estimating the environmental and sustainability implications of their decisions, managerial and institutional support integrating green engineering and design perspectives would provide a reference area at least by forcing product life and after life analysis into the design process. Within this framework, all resources and outputs can be planned as different quality inputs after completing their intended usage.

5. Conclusion

Sustainability is a multi-scale study with many frames of reference and application context ranging from the planet Earth to economic sectors. As all 21st century incentives, current distance education planning and design has to integrate sustainability as a necessity for meeting the needs of the present and future generations. Distance

education has become a cyberized system owing its presence to developments in digital technologies but in terms of sustainability, it can no longer rely on advances in technology or the increasing 'consumer' demand; the inputs, outputs, energy and wastes have to be defined and managed so that the system can be sustained for an indefinite period without damaging its own environment, without depleting resources and has to be renewable. This study defines the inputs as learner characteristics, content, learning materials and environment, outputs as active and efficient learning and energy as the institutional strategies. Understanding the characteristics of learners in the near future, namely the digital natives, is important for the design process. Since every distance education is unique regarding its components and goals, the concept of waste has to be redefined for each system. Green engineering and design principles focusing on efficient use of resources and provisions for reducing waste with the ultimate goal of eliminating it would be a reference for designers in creating sustainable distance education systems for future generations.

Our planet has always offered us colorful resources. Now, in turn, we owe a green touch to our descendants.

Acknowledgements

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A MESSAGE-CENTERED APPROACH TO TEACHING A COLLEGE-LEVEL COURSE IN POPULAR CULTURE

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Abstract

Popular Culture, including mediated artifacts from film, television, music, and the internet, are prevalent in most people's lives but often eschewed in academic settings. This essay provides insights into studying and teaching a graduate level course in popular culture through the lens of the communication studies discipline. It provides a message-centered approach that critically examines both mediated and non-mediated artifacts, focusing on the verbal and nonverbal, discursive and nondiscursive symbols that comprise the rhetoric of popular culture. Beginning with background and definitions, the essay then summarizes the course structure including objectives, required readings, and course assignments and their weightings. The focus then moves to examine in greater detail two specialized theories/models taught in the course – Deanna Sellnow's Illusion of Life and Andrew Wood's Omnitopia.   Following this, a description is provided of an online dialogue assigned to discuss media effects. In the dialogue, students compare and contrast the perspectives found in Neil Postman's *Amusing Ourselves to Death* and Steven Johnson's *Everything Bad is Good for You*. The paper concludes with feedback from students and the author's closing thoughts about the value of the course specifically and in studying popular culture in general.

1. Introduction

The movie *The Avengers*, which regales audiences with the adventures of Marvel super heroes such as Captain America, Iron Man, Thor, and the Incredible Hulk, was released in theaters on May 4, 2012. It opened to the biggest box office receipts in movie history, over $200 million USD in one weekend. In less than three weeks, it topped the $1 billion USD mark ($373 million in the United States, and $626 million globally), making it the fastest grossing movie of all time (Bowles, 2012).

I teach a graduate level course in Popular Culture, and a movie such as *The Avengers* is definitely an artifact that could fall under the scope of analysis in the class. That makes some educators cringe. Tell someone you are teaching a graduate level course using traditional and contemporary models of rhetorical analysis for critiquing cultural artifacts, and you will generally receive nods of approval. Tell them that you are analyzing *popular* culture and you may instead get a quizzical expression or perhaps even a sneer. There is something about the term *popular culture* -which generally (and correctly) denotes that you are examining artifacts such as television, music and music videos, video games, comic books/graphic novels, and blockbuster movies – that seems somehow "less than" cultural artifacts found in museums, art houses, and opera theaters.

This essay provides insights into studying and teaching popular culture through the lens of the communication studies discipline. That is, it is a message-centered approach that critically examines the verbal and nonverbal, vocal and nonvocal, discursive and nondiscursive symbols that comprise the rhetoric of popular culture. Starting first with some background and definitions, the essay then summarizes the course structure (e.g. objectives, readings, assignments), and then moves on to more specialized aspects of the course, including an overview of two specialty theories employed – the Illusion of Life and Omnitopia, followed by a description of an online dialogue assigned to discuss media effects. The paper concludes with feedback from students and the author's closing thoughts about the value of the course.

1.1. Definitions

Williams (2005) does an excellent job breaking down the linguistic roots of words/terms such as *culture* and the *masses*, pointing specifically to the degeneration of Latin terms such as *mobile vulgas*. Referring originally, and non-judgmentally, to the shifting and dynamic multitude, we now have such negatively based concepts as *mob* and *vulgar*. It implies that anything pertaining or appealing to the masses must somehow be base, common, or lacking in good taste. Brummett (2011) and Sellnow (2010) identify an elitist culture which lauds theater, opera, classical music and renaissance art; a culture which simultaneously eschews popular genres such as jazz, romantic comedies, and art deco. Fortunately, the gap is being bridged and the distinctions blurred.

Part of that bridge is based on an economic foundation. Cusac and Faulk (2009), looking primarily at formats such as publications, film, television, and sound recordings, determined that, in 2004, the popular culture industry "contributed US $565 billion to the economy, 2.9% of the output in the United States" (p. 459). These numbers precede the launch of products such as the iPad, Nook, and Kindle, which further digitized and revolutionized the aforementioned industries.

In addition to such mass-produced and mediated artifacts, the course also included aspects of popular messages that are less industrialized yet still pervasive in contemporary culture, such as the growing popularity of tattoos or American's fascination with the nostalgic simulacra of mythic locales such as Route 66. All of these artifacts are *texts* worthy of examination. A text, defined by Brummett (2011) is a "set of signs related to each other insofar as their meanings all contribute to the same set of effects or functions;" they are also "the ways in which we experience culture" (p. 29).

Essentially, it is important that we study the messages found within popular culture precisely because it *is* popular. It is what a majority of the people are reading, watching, listening to, and engaging in on a daily basis. In order to better understanding humans and how they communicate, we need to examine the messages they embrace, consume, pay for, dance to, celebrate with, and use for their definitions and construction of self. We need to look at what's popular.

1.2. Brief Course Description

As taught, this is a Master's level course offered as an elective within the Communication M.A. at the University of Northern Colorado in Greeley, Colorado, USA. The section described throughout was offered as an evening course which met once a week. There were twenty students representing a variety of age groups, socioeconomic status, and ethnicities. Though some focus was given to international popular culture (e.g. the influence of the Beatles), given the locale, the focus was primarily on American popular culture.

2. The Course Structure

To set the tone for the course, the syllabus opens with the following quotation, titled "Pop Culture," from the Post World War II American Literature and Culture Database, sponsored by the English Department at the University of California, Berkeley:

> *Popular culture has been defined as everything from "common culture," to "folk culture," to "mass culture." While it has been all those things at various points in history, in Post-War America, popular culture is undeniably associated with commercial culture and all its trappings: movies, television, radio, cyberspace, advertising, toys, nearly any commodity available for purchase, many forms of art, photography, games, and even group "experiences" like collective comet-watching or rave dancing on ecstasy. While humanities and social science departments before the 1950s would rarely have imagined including anything from the previous list in their curricula, it is now widely acknowledged that popular culture can and must be analyzed as an important part of US material, economic, and political culture.*

The course description reads: "This course is designed to examine contemporary Popular Culture through the lens of communication and rhetorical theory. Diverse embodiments of popular culture will be examined, including but not limited to film, television, the internet, music, and Americana." A Blackboard shell was created for the course as a depository for course materials and a site for the online dialogue on media effects discussed later. The banner for the course (see Figure 1) included an assortment of visual images hoping to capture the variety of artifacts to be addressed.

Fig. 1: Blackboard Banner for COMM 561 Popular Culture

Most of the course focused on weekly readings and discussions. Generally, each week a new rhetorical methodology was introduced for critically interpreting cultural artifacts. Among these were popular methods frequently found in rhetorical criticism courses, e.g. Burke's Dramatism, Fisher's Narrative Paradigm, Bormann's Symbolic Convergence Theory, Marxist criticism, Feminist criticism, and media-centered models such as Social Learning Theory, Parasocial Relationship Theory, and Cultivation Theory. Theories were introduced through the required texts, supplementary readings posted online, and class lecture.

In addition, a number of documentaries were viewed throughout the course, including *Confessions of a Superhero*, *Reel Bad Arabs*, *Killing Us Softly 4*, and *Michael Jackson's This Is It*. Two of the course's text authors, Deanna Sellnow and Andrew Wood, Skyped into the class for a virtual guest lecture on their respective theories (discussed later). The class also included one field trip, with an outing to a local theater to see a production of *The Rocky Horror Show*.

2.1. Course Objectives

- Identify and discuss key issues and controversies surrounding the topic of popular culture, such as the debate concerning distinctions between *high* culture and *pop* culture, the impact of television and related media on individual and societal intellect, and the nature of communication messages produced by and about popular culture;

- Understand and apply key rhetorical theories and communication concepts to popular culture phenomena, e.g. narrative/dramatistic approaches, critical power approaches, visual and mediated approaches, and specialized theories such as Illusion of Life and Omnitopia;

- Reflect upon one's own consumption of popular culture and the impact it has one one's communication styles and effectiveness, and share those insights with others;

- Independently research and write a comprehensive analysis of a popular culture phenomenon of one's choosing, interpreting the artifact in light of course concepts and theories, and be able to orally present those findings with like-minded colleagues in a manner consistent with professional academic venues;

- Critique and appraise the works of scholars and peers in light of course content.

2.2. Required Texts/Readings

- Johnson, Steven. (2006, paperback). Everything Bad is Good for You: How Today's Popular Culture is Actually Making Us Smarter. Riverhead Trade.

- Postman, Neil. (2005 printing). Amusing Ourselves to Death: Public Discourse in the Age of Show Business (20th Anniversary Edition). Penguin (Non-classics).

- Sellnow, Deanna D. (2010). The Rhetorical Power of Popular Culture: Considering Mediated Texts. Los Angeles: Sage.

- Wood, Andrew F. (2009). City Ubiquitous: Place, Communication, and the Rise of Omnitopia. Creskill, NJ: Hampton Press, Inc.

- Additionally, approximately 20 journal articles were housed in the Blackboard site as required or recommended readings. Sample resources include The Journal of Popular Culture, Southern Communication Journal, the Quarterly Journal of Speech, Critical Studies in Mass Communication, Communication Monographs, Communication Studies, and Popular Music in Society.

2.3. Assignments/Weights

A **research paper**, in which students wrote a rhetorical/critical analysis on a popular culture topic of their choosing, accounted for a significant portion of the course grade **(25%)**. The papers were 15-20 pages (typed, double-spaced, 1 inch margins, 10-12 pt. serif font, e.g. Times New Roman), not including references or appendices. APA or MLA style was required. A minimum of 15 references were required, with at least five coming from academic Communication journals. As this was a popular culture course, popular press citations were acceptable. No more than half the references could be from online-only resources.

Topics needed to fall under one of the following categories: Film, Radio/Television, Internet, Games, Contemporary History, Art/Visual, Americana. The latter topic included a subdivision focusing on the "American Road" for possible presentation at a conference (discussed later). One of the message-centered methodologies covered in class, e.g. Dramatism, Feminism, Illusion of Life, Omnitopia, needed to be applied as the analytical structure of the paper. 20% of the grade was based on the paper itself (including clarity and organization, depth of analysis, degree of understanding and insight demonstrated re: methodology and interpretation, and writing elements such as grammar and style), while the remaining 5% of the assignment was based on successful completion of a peer review process with fellow students. (Note: after topics were turned in, the categories were reorganized into three cohort groups, which ending up being *Television/Film*, *Audio/Visual Culture*, and *The Road*.)

Students were required to deliver their final paper (**10%** of grade) in a **10-15 minute presentation** emulating a research conference. Like a conference, presenters were seated at a head table. The instructor served as moderator and, following the presentations, a question-and-answer session was held with the audience. Students were expected to deliver their paper extemporaneously; reading from manuscripts was not allowed.

The remainder of the grade was dispersed between **attendance** (**10%**), **class participation** (**10%**), one-page **weekly responses** to assigned readings (**20%**), an **online dialogue** discussed at the end of this essay (**15%**), a two-page **reflection paper** following participation of an off-campus popular culture event of their choosing (**5%**), and an in-class report labeled a "**Pop-up Presentation**" (**5%**). The latter assignment was loosely based on an old VH1 television program called "Pop-up Video" in which a music video aired while historical trivia, insights and "info nuggets" were displayed throughout in little "pop-up" bubbles. In this case, students needed to select a popular culture artifact that was personally meaningful to them and, in a 5 to 15 minute presentation, tell the story using supplementary material (e.g. artifact, song, video) and share history and insights into the phenomenon. The assignment was refreshingly successful, as students shared everything from Beanie Babies and Teenage Mutant Ninja Turtles to rap music and vintage clothing.

3. Specialty Theories/Models

As noted, students generally learned a new message-centered methodology each week. For those in the Communication or Rhetoric discipline, many of the models mentioned earlier will be familiar, e.g. Burke's Dramatism, Fisher's Narrative Paradigm, Bormann's Symbolic Convergence Theory. Space here does not allow explication of the methods. However, two models introduced are significantly worthy and unique to justify additional description here: Deanna Sellnow's Illusion of Life and Andrew Wood's Omnitopia. The author would once again like to thank professors Sellnow and Wood for Skyping into class and providing first-person insight on their theories to the class.

3.1. Sellnow's Illusion of Life

Co-created with husband Tim Sellnow, the Illusion of Life methodology provides a message-centered model for analyzing both the discursive (symbols with fixed associations, e.g. words, lyrics) and nondiscursive (symbols felt as a quality, e.g. sounds, images) of music. Published in a variety of academic journals, Sellnow concisely summarizes the theory in a chapter from her 2010 Popular Culture textbook. The theory expounds upon earlier work by Suzanne Langer, and argues that music functions rhetorically by creating an *illusion of life* for its listeners. In other words, music is not actual life; rather, it is a symbolic representation of "life experiences and feelings influenced by the artist's perspective" (p. 117).

The model provides a framework for analyzing the **virtual experience**, or symbolic lyrics, found in an artist's work. Essentially, the rhetor or critic analyzes whether or not the lyrics are *comic* – which "focus on self-preservation" and "opportunities to beat the odds" – or *tragic* – which focus on "self-consummation, dealing with great moral sacrifices, and coping with fate" (p. 119). Additionally, either comic or tragic lyrics can be situated within a *poetic illusion* – which is backward looking into the past and cannot be altered – or within a *dramatic illusion* – which is "forward-looking into the virtual future" and "offers a sense of uncertain destiny" (p. 119). Thus, a song lyric in which a protagonist looks forward to new and exciting adventures would be described as *comic* and *dramatic*, while a song lyric in which the protagonist laments the loss of a romantic relationship would be *tragic* and *poetic*.

Most message-centered models provide only a framework for analyzing symbolic units, such as the examples above. What makes the Illusion of Life method unique is the additional criteria for analyzing nondiscursive elements in music such as the sound. Referred to as **virtual time**, the method offers a substitute for actual time (which is subdivided into successive movements such as minutes, hours, days, etc.), and identifies instead patterns which are communicated via rhythm, harmony, melody, phrasing, and instrumentation. Distinctions are made between *intensity* patterns and *release* patterns. An intensity pattern, exemplified by a hard rock song, is characterized by fast tempos, harsh and short-held tones, staccato phrasing, and many amplified instruments. In contrast, a release pattern, exemplified by a ballad, consists of a slow tempo, mellow and long-held tones, smooth and connected phrasing, and fewer and generally acoustic instruments. Sellnow provides greater detail in her distinctions, but the brief description above hopefully gives a feel for the methods and demonstrates that one need only be a traditional music consumer, not a trained musician or music professional, in order to hear the difference.

In additional to identifying the variables above, the goal of a critic is to determine whether the messages found in the music being analyzed are **congruent** or **incongruent**. A congruent message, according to Sellnow, occurs when "the emotional messages of the music and the conceptual messages of the lyrics reinforce one another, making the messages communicated poignant (clear) [p. 119]." Conversely, an incongruent message occurs when the emotions conveyed in the music and the conceptual elements of the lyrics contradict. This incongruence tends to alter the meaning of the song compared to simply listening to the music or reading the lyrics separately.

An example of a congruent song would be a *comic* and *dramatic* lyrical message paired with an *intensity* music pattern. Sellnow offers KISS's classic rock anthem, "Rock and Roll All Nite" as an illustration. On the

other side, one would find congruence when combing a *tragic* and *poetic* lyric with a *release* musical pattern. The example offered by Sellnow is Bruce Springsteen's "Streets of Philadelphia," the 1994 Academy Award winning song from the movie *Philadelphia*, focusing on the trauma associated with dying from HIV/AIDS. While congruent music is often effective in creating a particular mood or fostering in-group beliefs, it can sometimes lose rhetorical effectiveness by virtue of being too predictable to adherents and too controversial for outsiders. Sellnow discusses the use of strategic ambiguity and rhetorical ascription as neutralizing methods to temper the polemic nature of a congruent message and make it more palatable to a general audience.

Additionally, the critic can look for incongruity in a musical message, e.g. combining comic lyrics with release patterns or tragic lyrics with intensity patterns. While some might think these combinations chaotic, like the strategies noted above, the dissonance created can actually give the song a twist or a flavor that makes it more acceptable to a broader audience. For example, Sellnow revisits the KISS song "Rock and Roll All Nite;" this time analyzing the ballad-like cover version from Toad the Wet Sprocket. With its slow tempo, harmonic tone, and acoustic instrumentation, this version moves from an abrasive and potentially headache-inducing rock anthem with a call to action to simply a thoughtful and easily consumed musical rumination on the desire to party.

3.2. Wood's Omnitopia

Though many of the course definitions of popular culture focus specifically on mediated texts such as television and the internet, as noted earlier, this graduate seminar sought to identify other aspects of American culture that were not mediated but were still popular, e.g. tattoos. As part of this conversation, we addressed non-mediated artifacts such as locales, roadside attractions, architecture, and increasingly popular home features such as "theater rooms" and "man caves." Andrew Wood's (2009) theory of Omnitopia provided a message-centered lens through which to view such phenomena.

Roughly translated to "all-place," the concept of *omnitopia* "enacts a structural and perceptual enclave whose apparently distinct locales (and locals) convey inhabitants to a singular place (p. 10)." In other words, there exist in culture types of environments that, upon entering, one is cognitively removed from their literal locale and transported to a perceptual, yet strategically incomplete, location that is simultaneously detached from current space yet "everywhere" all at once. Quite simple examples would include a video game arcade at any mall, a McDonalds or Starbucks anyplace on the planet, or a generic conference presentation room found in many hotels. One could be in Denver, Colorado or Prague, Czech Republic – and it is in many ways one and the same space.

Wood discusses these places as *enclaves*; protective and instructive little worlds which have a distinctive identity apart from their surrounding milieu, characterized by "a paradoxical balance of porous borders and rigid rules" (p. 21). Again, space limits preclude an extensive discussion of the perspective. Briefly, Wood's text provides in-depth analysis of three common omnitopia locales: airports, hotels, and shopping malls. In deconstructing their essence, he applies the following five criteria for analysis, all of which relate in varying degrees to the artifact being investigated:

- *Dislocation*: "detaches a site from its surrounding locale" (p. 65). Often, when entering a locale, the external surroundings become immediately irrelevant. We become insulated from the outside, and "here" removes the need or recognition of "there." Casinos, malls, airports, and numerous other structures create such dislocated zones.

- *Conflation*: "merges disparate experiences into a single whole" (p. 68). In this case, multiple message-centered narratives – a "pastiche of functions, referents, and settings (p. 68)" - merge into a single location. Examples include everything from a food court at the mall to Disney's EPCOT Center, where elements of the whole world convene in a unified yet artificial arena.

- *Fragmentation*: "splits a singular environment into multiple perceptions" (p. 70). In contrast to conflation, an omnitopian environment may also fracture the "totality into isolated surface-level images, functions, and interactions" (p. 70). When every occupant in a car is listening to their private music on personal electronic devices, or movie-goers in a multi-plex theater sit in the same building, facing the same direction, but watch different movies on different screens, their locale is fragmented.

- *Mobility*: "orients a place around movement rather than stasis" (p. 73). This is the part of omnitopia in which disparate locales transform into "nodes of the same place" (p. 73). Anyone who has walked from Airport A onto a plane and exits that plane at Airport B – without really feeling like they have gone anywhere – has experienced the movement, flow, and blurred edges of omnitopian mobility.

- *Mutability*: "enables the perceptual change of a place" (p. 76). Within an environment, changes may be purposefully or inadvertently enacted that alter the experience. From adapting a space by moving chairs around to seat a particular group, to setting up velvet ropes to cordon off movie-goers waiting in line to see *The Avengers*, many spaces are mutable. In some cases, the change may actually negate the feeling of being trapped in a singular environment.

Collectively, these five criteria become the basis for a message-centered critique of a popular culture locale. For those wishing to interpret the artifact in even greater detail, Wood concludes his text with three additional variables which help unpack and critically problematize the five-point structures found in the framework above. He addresses the characteristics of *performance* ("recasting of…props and rewriting of preset scripts," p. 156) and *convergence* ("intersection of technology and convergence that allows its practitioners to carry a miniature version of the world with them," p. 175), and concludes with the impact of *reverence* toward the phenomena ("to integrate the value of meaningful places into our sense of selves – not just to pass through them, but also to pass them through us," p. 194).

4. Online Dialogue Regarding Media Effects

The Sellnow and Wood texts discussed above were required readings for class discussion and weekly reading response papers. Two other books, detailed below, were required in class, but there was no time to discuss or integrate them into the weekly regimen. As such, a completely separate online discussion, housed in Blackboard, was assigned. The web dialogue was divided into five two-week blocks. Readings from both books (approximately 80-90 pages) were assigned for each two-week block, and students were required to log into the discussion and contribute at least once to the ongoing conversation. Briefly, zero comments during a two-week block meant an F for that block. The required minimum of one comment earned a D. Two comments, one on each book, were the required minimum for a C for that block. Higher grades were based on a greater quantity of comments and the instructor's evaluation of the caliber of those comments (e.g. more proactive than reactive, thoughtful responses to questions posed by classmates, integration of course and other outside materials, incorporation of personal experience).

4.1. Postman versus Johnson

The two books read were Neil Postman's (2005, 20th Anniversary Edition) classic Amusing Ourselves to Death: Public Discourse in the Age of Show Business and Steven Johnson's (2006) bestseller Everything Bad is Good for You: How Today's Popular Culture is Making Us Smarter. The books give sharply contrasting arguments about the value of mediated popular culture such as television, movies, and the internet. Ironically, both books had red and yellow covers with a drawing on the front of one or two people who had televisions instead of heads. The same picture concept was used as both an indictment and an endorsement of media effects.

Postman's book is a cautionary tale of media consumption. He argues that media, particularly television, is the metaphor that defines and creates our culture. While he claims no bias against the harmless "junk" on television, he expresses concern that media becomes our epistemology – our way of knowing and our standard of

truth-telling. He laments that we have lost our typographic mindset which revered reading and, using the Lincoln-Douglas debates as an example, created an audience who would willingly sit through seven hours of oral debate. With the advent and advances of electricity, telegraphs, telephones, photography, and the like, Postman claims that we entered a peek-a-boo world where, like the child's game, "now this event, now that, pops into view for a moment, then vanishes again" (p. 77). Like the game, it is without much coherence or sense, but is also endlessly entertaining.

With the increasing popularity of television, which puts show business on the screen and entices us with ongoing "Now…This" surprises and topic shifts, Postman concludes that we are abandoning logic and reasoning and replacing it with entertainment and theatrics. Unlike some, who equate television viewing with George Orwell's *1984* and Big Brother concepts, Postman argues that we are more at risk of falling prey to Aldous Huxley's *Brave New World*; a world in which people willingly love the oppressive technologies that take away their capacity to think. Postman observes that:

> *Indeed, he (Huxley) prophesized its coming. He believed that it is far more likely that the Western democracies will dance and dream themselves into oblivion than march into it, single file and manacled. Huxley grasped, as Orwell did not, that it is not necessary to conceal anything from a public insensible to contradiction and narcoticized by technological diversions. (p. 111)*

Quite simply, Postman is concerned that in everything from our religious beliefs to our political affiliations to our educational systems, we are foregoing reasoned treatment and are instead relying on television and other mediated formats to entertain us. We are therefore, in his eyes, amusing ourselves to death.

In contrast, Johnson argues that, thanks to such mediated conventions as televisions and computers, society has actually grown smarter. He bases much of his argument on a theoretical premise called the *Sleeper Curve* (based loosely on Woody Allen's comedy, *Sleeper*, in which a time traveler awakes to find out that future peoples know things not known to previous generations). Johnson argues that "the landscape of popular culture involves the clash of competing forces: the neurological appetites of the brain, the economics of the culture industry, changing technological platforms" (p. 10). This complex interplay between the brain, economics, and new technologies make the peoples of today more intelligent than their forbearers.

Though he extols the Sleeper Curve as the "single most important new force altering the mental development of young people today," he is quick to point out that his argument is about trends and not absolutes. He does not claim that today's television shows and video games are necessarily great works of art; simply that they are more cognitively complex than anything that has proceeded them. In other words, because video games are more complicated, television storylines more multi-threaded, and movie plots more intricate and character-laden, today's consumers are more neurologically engaged.

As evidence, he references the Flynn Effect; a perspective which argues that IQ scores are trending upward. Briefly, philosopher and civil rights activist James Flynn did research to counter allegations (in books such as Arthur Jensen's *The Bell Curve*) which suggested an increasing discrepancy in IQ scores between blacks and whites. What he found was that, regardless of color, the average IQ appeared to have risen by 13.8 points over a 46-year period. It seemed to have gone unnoticed because the IQ exam is geared to have a median score of 100. Every few years the test is recalibrated, allegedly by being made more difficult, in order to reset the median score. According to Johnson, "Some environmental factor (or combination of factors) must be responsible for the increase in the specific forms of intelligence that IQ measures: problem solving, abstract reasoning, pattern recognition, spatial logic (p. 142)." This he attributes to the increasing complexity found in popular culture artifacts.

4.2. Student Reactions

First and foremost, students were supportive of the assignment, but not enthusiastically so. Some were simply not comfortable with, or disciplined enough to engage in, a completely online dialogue. Others simply

tired of the two arguments, especially since they stretched out over a ten-week period. Despite that, it is a dialogue and an assignment worth keeping in class, though perhaps with a few adjustments.

In the end, a majority of the class sided with Postman. A few voiced preference for Johnson overall, but most simply credited him with having some thought-provoking but not entirely convincing ideas. What follows is a sample student comment extracted from the final two-week block of the dialogue, in which students needed to indicate and justify their preference:

In regards to the first page of chapter 10, Postman makes it sound as though educational T.V. is not bad. One thing he said stuck out to me: "'Sesame Street' relieved them [parents] of the responsibility of teaching their pre-school children how to read..." (p. 142). This goes with the theme of "T.V. as the babysitter," which drives me crazy. I watched "Sesame Street" but not as much as my peers because my dad made it his job to sit down with me every night to read to me. And because I wanted to be just like my dad, I wanted to learn how to read. Eventually, my dad had me reading him the bedtime stories and in the morning I would skip to "Power Rangers" over "Sesame Street" because I already knew how to spell, read, and count.

I agree, "... television viewing does not significantly increase learning, is inferior to and less likely than print to cultivate higher-order, inferential thinking" (p. 152). Whenever teachers would put a video on with a follow along worksheet, I would zone out. My generation and the current generations are desensitized to the educational effects of T.V. because we do have unlimited access to it. Besides, our culture dictates T.V. time as leisure time – not intellectual stimulation time.

Overall, I admire what Postman says about educating people about how to use T.V. (and all forms of media). If we made more people aware of how T.V. (and media in general) affects them, then they will be more equipped to utilize media for more than leisurely use. I think people have become slaves to media... as Postman states at the end, people don't need to be worried about the fact they are laughing instead of thinking, but that " they did not know what they were laughing about and why they had stopped thinking" (p. 163).

5. Discussion

All things considered, this was a successful course, and worthy of being taught again. The readings, documentaries, guest speakers, and assignments seem appropriate to the course content. The differential weighting of assignments appropriately reflect the amount of effort expected and value accounted for in the assignment. Though some adjustments could be made to the online dialogue (e.g. condense the number of weeks or number of dialogue blocks, integrate it into a classroom assignment like a debate), the format could be left as is.

Some key elements that seemed most successful were the inclusion of non-mediated artifacts (e.g. tattoos, road) in addition to traditional mediated artifacts, the introduction of new theories/methodologies (i.e. Illusion of Life, Omnitopia) not usually encountered in a communication studies or rhetoric course, the requirement of both a research paper and a concomitant presentation delivered in conference format, and the opportunity to research and share insights into cultural phenomena of personal interest to each student.

This essay provided the author a unique opportunity to reflect upon the course structure, which was certainly of personal benefit. That is not the sole purpose, however, of the paper. The purpose is to share with members of the academic community both a rationale and a framework for those hoping to teach a course, undergraduate or graduate, on *Popular Culture*. The suggestions and ideas throughout are provided freely in the spirit of academic collegiality. Before embarking on such a project, however, it may be of value to hear what the students themselves thought of the course.

5.1. Student Feedback

Students are given a standard course evaluation form to complete, which consists of two clearinghouse questions on a 5-point scale (5 being high) with space for anecdotal comments. On the question, "All things considered, how would you rate the course?" the score was 4.85. On the question, "All things considered, how would you rate the instructor?" the score was also 4.85. Sample open-ended comments include the following:

- This was my first class experience at UNC and it blew my expectations away. The teacher, the material, and the guest lectures all worked together to provide an informative and rewarding experience.

- Very thought provoking. Wish this intense analysis was offered at the undergraduate level.

- Really opened my eyes to the power of pop culture and helped me better put into words thoughts I've had for a long time.

- A new way of considering the world I live in. Dr. Endres always made the time for constructive critique. Breadth and depth of coursework allowed for individual growth and understanding. Books flowed well. Most important, the use of authors via video was excellent addition for understanding.

- The course was one of the most interesting I have ever attended. There was enough material to make it challenging as should be expected in a master's program. It was not too overwhelming and kept me wanting to read more. The instructor was firm and provided a perfect environment for wonderful discussion. I love the idea of bringing Sellnow and Wood into the class.

5.2. Concluding Thoughts

On a professional note, this class was very rewarding, as a number of the students submitted their research papers for consideration at various professional conferences or publications. The five students from "The Road" cohort in class had their papers accepted as a collective panel (chaired by the instructor) at the March, 2012 conference of the *Society for the Interdisciplinary Study of Social Imagery*, held in Colorado Springs, CO. The panel, titled "Rhetorical Perspectives on the Literal and Symbolic Road in Popular Culture" perfectly fit the conference theme of "The Image of the Road in Literature, Media, and Society," and their finished papers were published in the conference proceedings.

The class was rewarding on a personal level as well. Speaking in first person, now, I will admit to being a big fan of popular culture. I've always been a bit hesitant to admit that in an academic setting, however, fearing that my affinity for motorcycle rallies, tattoos, comic books, music and movies does not measure up to the my colleague's interests in ancient or current political speeches. On a similar note, I'm sometimes a bit uncomfortable with popular culture because it sometimes *does* feel shallow when compared to high culture artifacts such as classical music or Renaissance paintings. It is intimidating to be writing this paper for a conference in Prague, which boasts an astronomical clock built in 1410, when I am living in a country whose ruling government wasn't founded until 1776, in a state (Colorado) that didn't exist until 100 years later in 1876. I'm surrounded by more movie theaters than museums, by more tattoo artists than aristocrats, and more comic books than commissioned works. Sometimes, I must admit, I embarrass myself.

But then I return to an observation made in this paper's opening comments. Popular Culture – as manifest in blockbuster movies such as *The Avengers* – is exactly what I should be studying and teaching, because it is what's influencing a majority of consumers worldwide. It is what people are reading about, watching, listening, and dancing to. It is what they are buying and what drives much of the global economy. It is what influences them and their relationships with others. It is the messages they care about.

My next academic paper, which I'll start writing as soon as I finish proof-reading this, is about a super hero action figure named Captain Action. The figure was first released in 1966, then again in 1998, and once again

this summer of 2012. The earlier productions never had more than a three-year lifespan. I will be comparing and contrasting the marketing strategies and use of media in each of the releases (including comic books and, in this new case, social media), as a predictor of the potential success of this latest attempt. Whether you label it "popular" or not, it is communication, and it is culture, and it is worth investigating.

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A PERFORMANCE EVALUATION APPLICATION FOR WELDER CANDIDATE IN VIRTUAL WELDING SIMULATOR

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Abstract

In this study, an application has been developed to evaluate the performance of the welder candidates who's using the 3D Welding Simulator. Training of welders with virtual welding simulator for three different welding methods (Electric arc, MIG-MAG and TIG) can be performed close to reality. To keep the information about the experiments on virtual welding simulator and the users who performed the experiments, a Database management and reporting system has been developed. In this software module, welding information, calculated ideal welding parameters and parameters data recorded during welding operation are stored in the database. With this software virtual welding experiments performed by welder candidate can be evaluated, the results can be shown as graphics and scoring, and personal or classroom-based development can be traced.

Keywords: Welder Training, Electric Arc-MIG-TIG Welding Education, Virtual Welding Simulator, Performance Analysis

1.Introduction

Welding method is an economical joining method which is widely used in local and international industrial levels such as shipyard, automotive, steel construction structures, bridges and machine production. Considering the technological concepts such as cost and safety for optimum production, it is required for a good welding training of the welders for their qualifications and efficiency. As well as technological knowledge for training of the welders, various welding applications are done for testing parts in order to develop their hand skills. Despite the importance of having technological knowledge and experience in welding, hand skills and training are the most important parameter in welding joints.

Today software and hardware technologies put forward that perceptions can be lived as realistic, without real world or material. Generally, this technology named Virtual Reality is the sum of three-dimensional (3D) images animated by computers and created with virtual reality devices, and presented to the user in such a way that the user believes and accepts it as "a real world" (Ellis 1991, Astheir 1994, Slater 1994).

In this study, a software including welder training and performance evaluation has been developed for. In main program module that is created by using C# programming language and MS SQL database management system, a database management and reporting system has been developed to keep the information about the experiments on virtual welding simulator and the users who performed the experiments. In this software module, welding information, calculated ideal welding parameters and parameters data recorded during welding operation are stored in the database. With this software virtual welding experiments performed by welder candidate can be evaluated, the results can be shown as graphics and scoring, and personal or classroom-based development can be traced.

The performance analysis of the user is shown through graphical and numerical ways with using artificial intelligence techniques. At the end of analysis, weakness of the user is detected and advises are being displayed on the screen to overcome this weaknesses. According to the basics of computer aided education, fundamentals of welding education and virtual welding simulator education documents are presented in the software.

2.Welding Simulators

With the advances in computer and software technology, concept of computer aided education has entered the world of education and learning in the early 1990s. Researchers are developing simulators to improve education quality and efficiency, shorten training time, decrease the cost of materials and tools used in education. Simulators also has been developed for welders training. These simulators are divided into two categories based on the software and hardware technologies: older and newer generation welding simulators (Oz,2011).

Simulator developed by Wu and his colleagues is an example of the older generation welding simulators (Wu, 1992 & Wu, 1993). In these studies they investigate how welding simulators are affecting the welder education. Their study took two years with 220 students. They found out that studying with welder simulator decrease the education time and costs. Tim investigated how welding simulators which are developed in the USA, Canada and France in last decade, affected the welder education. (Heston, 2008). They determined the benefits of the virtual welder training and advised to use it before the traditional welder education stage. At the same time, modelling of welding and analysis are carried out, such as 3D anaysis of Arc welding simulation with finite element analysis (FEM) (Hamide, 2008) and MIG modelling and simulation (Palani, 2007). Yaşar Top, from Sakarya University graduated his MSc course preparing an MSc thesis on "welder's education program via simulation and training" (Top, 1997) and published an article about the related subject (Top, 1998). In this paper, case study performed on a total of 24 students in two different groups was presented. He observed that the students, first educated in the welding simulator using Arc, MIG, TIG welding methods, obtained better performance during the real welding operation, done better quality welding and reduced the scrap parts.

There are several patents related to welding simulators and virtual welding training (Danison, 1984, Blair, 1978 & aton, 1987). In addition, there are patents for simulation of torch movement (Vasiliev, 1987) and simulation of welding arc (Schow, 1979).

New generation welding simulators are three dimensional simulators which provide interaction between the virtual environment and the user through using today's computer and virtual reality hardware and software technology. Mavrikos and his colleagues(2006) developed three dimensional welding simulator for MIG-MAG welding. In this simulatori the user enters welding parameters such as gas type ,electrode radius, current and gas flow. While creating the welding seam form, welding speed, torch distance and torch angle parameters was used. Porter and his colleagues (2005), used back-propagation algorithm in artificial intelligence to create welding seam form. In 2009, Dongling and his colleagues performed offline welding heat distribution modellings in ANSYS software (Donglin, 2009). Fast and his colleagues developed MIG welding simulator system with using a haptic torch, a head mounted display and a sound system. Welding seam form was determined by using an artificial neural network (Fast, 2004).

3.Virtual Welding Simulator Used In Welder Training

Virtual Welding Simulator as shown in Figure 1-a has been developed for welder training. Virtual welding simulator program is a continuous cycle. Simulator can draw 60 imagess in one second. Before entering a cycle, first, welding stage is created and then dynamic and static objects, observer's camera and indicators are created and added to the welding stage. When the simulator entered in a cycle, input/output engine listens position and orientation device. This device gives the position and the orientation of the torch. Graphics engine of the simulator manages the virtual scene with these data. When torch's electrode close enough to touch the material, graphics engine create weld seam and arc light, etc., and the sound engine produces 3d sound. DirectX library and GPU (Graphics Processor Unit) create 2D/3D image by providing required texture and

synchronization According to the feedback received from the display and other output units, the user determines his/her movements. Throughout a cycle, welding speed, sound and sparkle effects is renewed. Virtual welding simulator interaction software is shown in Figure 1-b.

(a)   (b)
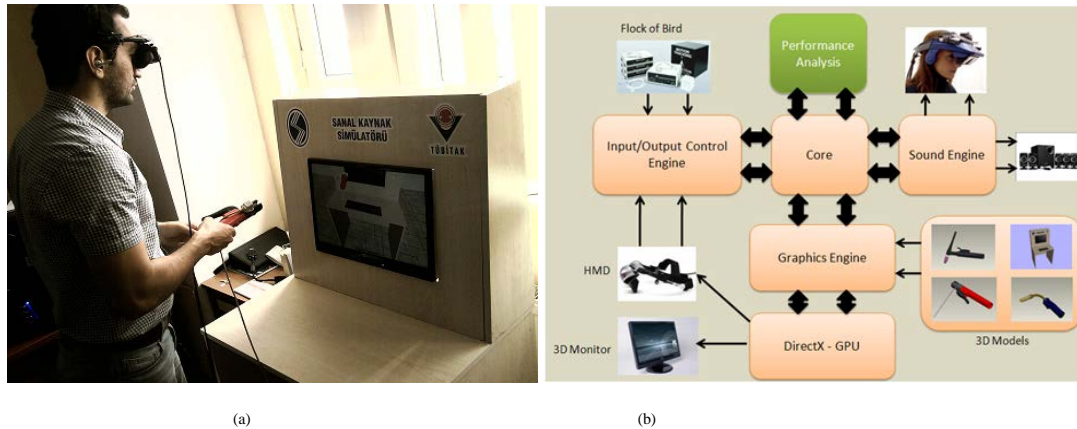
Figure 1.The principle of the simulator software (a) Virtual Welding Simulator (b) Software architecture

4.Welder Education with Virtual Welding Simulator

Virtual welding Simulator is developed using C# and C++ programming language, database management system and Microsoft DirectX library. Program is used with a main form. Four buttons exist on the main form. These buttons are; virtual simulator, performance analysis, training documents and exit from the program.

Welding Simulator; allows the user to make welding with simulator.

Performance Analysis; performs the evaluation of the performance and success of virtual welding work.

Training Document; consists of documents containing the information of using the virtual welding simulator, basic welding and so on.

Exit from the program; is used to terminate the program.

4.1.Welding Simulator

Welding simulator module is the main module of the virtual welding simulator software. If the person who will take welder training is using the system for the first time, registers his/her personal information to the database using the Student Registration Form, In the next stage after the student registration process, a form is displayed calculating the ideal parameters using expert systems for the welding application. Parameters related to

the welding type and material that will join with the welding are entered on the form. Depending on these parameters, ideal parameters that will be used on the welding application are calculated with the expert systems module. These parameters are also used to evaluate the student's performance of his/her virtual welding application. Figure 2 shows the form for selecting the ideal welding parameters.

Figure 2. The form for selecting the ideal welding parameters

4.2.Evaluation of Student Virtual Welding Application

Analysis of a student performance in a virtual welding application can be used for another virtual welding experiment performed by the same student. Performance analysis for earlier experimental studies can be traced with the "Performance Analysis" button on the main form. When the "Performance Analysis" button is clicked, the form is displayed in Figure 3. By using this form, user can see student's virtual welding application list and these experiments can be analyzed.

Figure 3. Virtual welding experiment list performed by the selected student

The evaluation of the welding is performed for four basic parameters. Four different graphics are obtained for these four parameters. Horizontal lines in each graph, the black lines show the ideal values, green lines are the acceptable limit, yellow lines are the tolerance limit and the red lines indicate rejection limit. Rejection limit is a limit value determined for scoring. Exceeding this limit value does not mean the welding is failed. After exceeding this limit, no points are given for welding. However, when it retains for a long time in this region, welding fails.

"Line Control" button displays the graph of the line control. Line control graph is used to test whether the welding process is done along the welding line or not. Even if the user has completed a perfect welding process, the welding fails if he/she does not done this process in the welding region. Rate of moving away from the source line is controlled during scoring and after exceeding a certain limit the welding is considered to be failed.

4.3.Scoring

The histogram graph generated for each parameter is used to determine the welding parameter performance. All parameters are evaluated over 100 points in itself and the result score is obtained by taking average of the weights of the parameters.

Each region is subjected to a separate rating during scoring. These regions are also divided into regions with color scale (black, yellow, green and red). The percentage of value in the ideal region is considered as full point in scoring. Points are decreased as 50%, 25%, 0% while going away from this area. General scoring of welding process is obtained from the sum of the average weight of these four parameters.

Data obtained from successful welding experiments done for Electric-arc welding in Virtual Welding Simulator is given in Figure 4, the histogram graph is shown in Figure 5, and scoring screen in Figure 6.
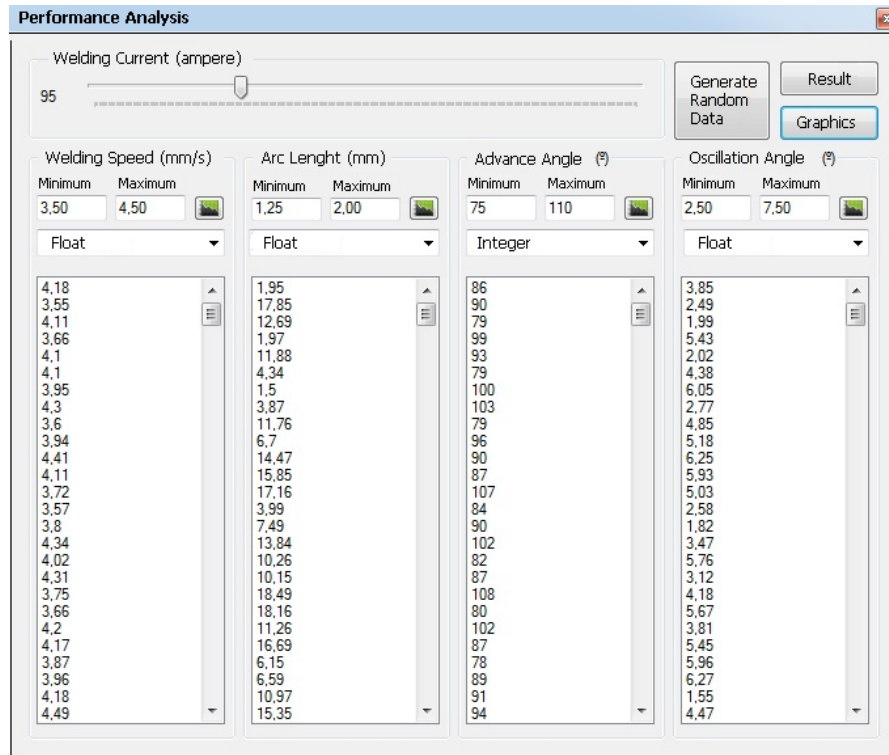
Figure 4. Data obtained from a successful electric-arc welding experiment in Virtual Welding Simulator

The parameter values are concentrated around the ideal value (I.V.) in successful welding experiments, this situation is the vice versa in failed welding experiments and are concentrated around the under rejection (U.R.) and above rejection (A.R.) regions. ('A.T'.: Above Tolerance, 'A.A'.:Above Acceptable, 'U.A'. :Under Acceptable, 'U.T.' :Under Tolerance)
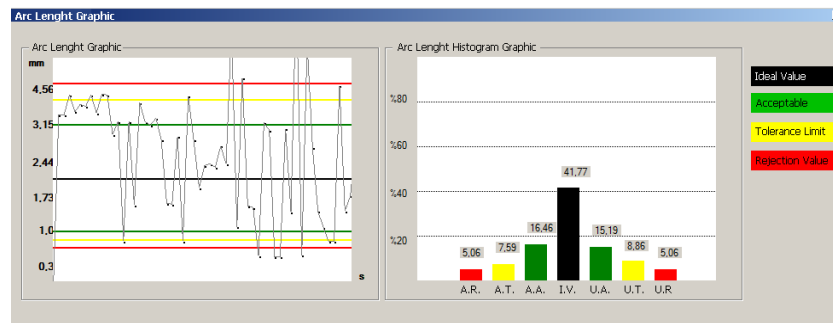
(a)
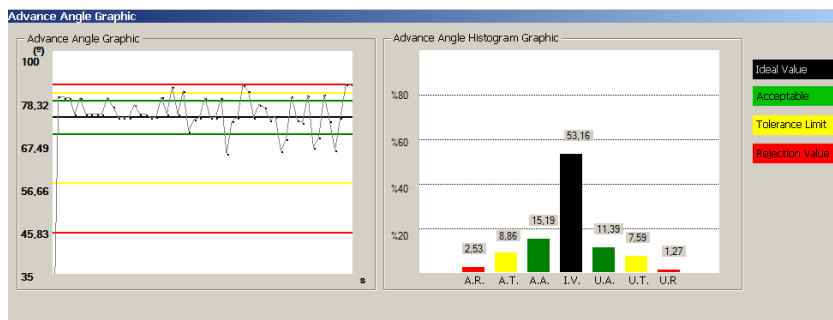
(b)
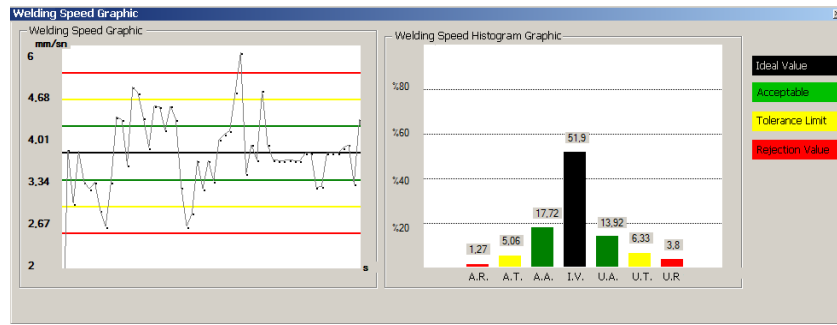
(c)
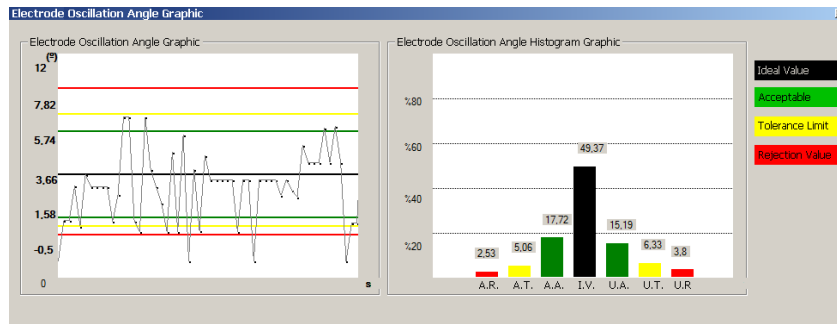
(d)

Figure 5. A successful welding experiment for Electric-Arc Welding a) Arc-length graph b) Angle of advance graph c) Welding speed graph d) Electrode oscillation angle graph

Figure 6. Detailed scoring and comment screen for a successful electric-arc welding application

5. Results and Discussion

In this study, an application has been developed to evaluate the performance of the welder candidates who's using the 3D Welding Simulator. Training of welders with virtual welding simulator can be performed for three different welding methods including Electric arc, MIG-MAG and TIG. Virtual welding simulator system

consists of three stages including data entry of welding method and workpiece, the creation of the welding seam and evaluation of generated welding. A database management and reporting system has been developed to keep the information about the experiments in virtual welding simulator and the users who performed the experiments, In this software module, welding information, calculated ideal welding parameters, parameter data recorded during welding operation, performance evaluation result of the welding are stored in the database. Personal or classroom-based development can be traced; past or current performance reports can be obtained by using this software. Users performing welding experiments with Virtual Welding Simulator have increased their performance of the welding process over time.

User performance evaluation software module is performed with expert system method using data generated by four different welding expert and trainer. Evaluation can also be done by using Artificial Neural Networks, fuzzy logic classification methods and statistical methods. More flexible usage can be provided by bringing the evaluation and reporting part of the program executable on web environment

Acknowledgements

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A PHYSICAL FITNESS INTERVENTION PROGRAM WITHIN A PHYSICAL EDUCATION CLASS ON SELECTED HEALTH-RELATED FITNESS AMONG SECONDARY SCHOOL STUDENTS

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Abstract

The aim of the study was to investigate the effect of a physical fitness intervention program within a physical education class on selected health-related fitness components among Malaysian secondary school girls. A quasi experimental design was adopted for the study. Two Schools in a district were randomly selected. In each school, two classes were randomly assigned intact to the experimental group (n=48) and the other was the control group (n=38). Pretest data was collected on cardiovascular endurance, Flexibility and muscular strength. The experimental and the control groups underwent regular physical education classes twice a week for ten weeks. Apart from the regular physical education classes, the experimental group underwent the treatment of four exercises in a form of a circuit immediately after the warm-up session. After ten weeks, posttest data was collected. ANCOVA indicated that there was a main effect in cardiovascular endurance F(1, 83) = 44.69, p<0.05 and for flexibility F(1,83) = 46.80, p<0.05. As for muscular strength, the result was not significant F(1,83) = 3.54, p>0.05. The results indicate that a ten week physical fitness program within a physical education class was effective in enhancing cardiovascular endurance and flexibility among Malaysian secondary school girls.

Key words: health-related fitness, cardiovascular endurance, strength, flexibility, intervention

1. Introduction

Reports abroad indicate that the state of aerobic fitness and other health related fitness among school going children is not very satisfactory (Derri, Aggeloussis, & Petraki, 2004; Gutin et al., 1990, 1994; Hatano et al., 1997; Tomkinson, Olds, & Gublin 2003; US Department of Health & Human Services, [USDHHS]   1996; 2001). Among children ages between 12-21 only half of them participate in vigorous physical activity (PA), and one-fourth of this population reported that did not participate in any physical activity (USDHHS 1996). In view of this, many physical educators are of the opinion that being physically inactive and leading a sedentary lifestyle is one of the reasons for dramatic increase in the prevalence of overweight and obesity, thus attributing to risk factors for cardiovascular diseases (CVD) in adults and even among children (Denke, Sempos, & Grundy, 1993; USDHHS, 2001, 2008; Young & Steinhardt, 1995; Gutin et al., 1999). The American Heart Association (1992) indicated that a sedentary lifestyle is a modifiable risk factor for coronary heart disease (CHD). Conversely, there is evidence that both increased physical activity (PA) and physical fitness are associated with improved risk factors for (CVD) (Caspersen, Nixton, & DuRant, 1998; Despres, Bouchard, & Malina, 1990; Sallis et al., 1997; USDHHS, 1996, 2001, 2008). In view of this problem and to modify the above situation, all school going children should be encouraged and motivated by the teachers to participate in PA through quality physical education programs conducted in schools to educate and enhance health-related fitness components (Levin et.al., 2001; USDHHS 1996; 2001, 2008). These school based physical education programs that are effective would have the potential to increase PA levels and the knowledge of fitness and therefore plays an important role in promoting health-related fitness components and contribute to public health (Wallhead & Buckworth, 2004).

In Malaysia, CVD posed the greatest threat beginning the late 1990s. In 2001 it was reported that 20-30 % of total death in Malaysia was contributed to CVD (Khor, 2001). The findings from National Health Morbidity Survey III (MOH, 2008) indicate the prevalence of physical inactivity to be 43.7% among adults and sedentary

lifestyles among Malaysian children. A study by Lim (2005) indicated that about 44% of the 75 adolescents studied were sedentary. Further, Dan, Mohd Nasir and Zalilah (2011) reported that one third of the respondents between the ages 13-14 years were in the low physical activity level category. Further, the status of Malaysian school going children undergoing regular physical education in schools indicate low mean scores for health-related fitness components (Balakrishnan, 2003; Kasmini et al., 1997; Rengasamy, 2003, 2006 2008; Singh, 2005; Sinnapan, 2006). It is recommended that proper intervention programs with sufficient intensity levels be implemented at the school level (Council for physical Education, [COPEC] 1998; Dan, Mohd Nasir & Zalilah, 2011; USDHHS, 1996; 2001). Intervention programs have indicated enhancement of health-related fitness among school children, however most of the intervention studies were carried outside the physical education classes. (Derri et al., 2004; Faigenbaum & Mediate, 2006; Faigenbaum, Milliken, Loud, & Burak, 2002; Flanagan, et al., 2002; Ignico & Mahon 1995; Singh, 2005).

There is a need to study and understand intervention programs within a physical education class as local research have indicated low health-related fitness components among girls (Balakrishnan, 2003; Rengasamy, 2008 Palanippan, 2007). The lack of published research locally and abroad on intervention programs towards girls within the physical education classes in enhancing health-related fitness components prompted the current study. The purpose of this study was to investigate the effect of a physical fitness intervention program within a physical education class towards selected health-related fitness components among Malaysian secondary school girls.

2. Methodology

2.1. Participants

Two schools in the district of Banting, in the state of Selangor were randomly selected for the study. There were a total of seven Form Four classes in each of the selected school. Two classes in each school were randomly selected and randomly assigned intact for the experimental and the control group. The experimental group consisted of forty eight (n=48) girls, and the control group consisted of thirty eight (n=38) girls respectively and their mean age was 16.1; *SD* 0.42

2.2. Design and Procedure

A quasi-experimental design with a pretest-posttest design was adopted for the study (Gay, 1992). The experimental and the control groups followed their regular physical education conducted for 40 minutes twice a week in addition the experimental group underwent the intervention program.

2.3. Treatment

The present study was conducted for ten weeks. In the present study, a treatment of four exercises in a form of a circuit was utilized to improve health-related fitness as suggested by Morgan and Adamson (1972). Once the experimental group had assembled, they would undergo the warm-up and stretching exercises for about eight minutes and followed by the treatment. As for the control group, they followed their regular physical education classes conducted 40 minutes twice a week. After ten weeks, posttest data were collected and analyzed for between group differences using analysis of covariance (ANCOVA).

2.4. Testing

A common pretest was given using 12-Minute Cooper's Test for cardiovascular endurance with a reliability of 0.95 and the validity coefficients of .65 (Byrd, 1980). The Test was conducted in a 400 meter track in the school field as recommended by Baumgartner and Jackson (1991).

Flexibility was assessed using the Sit and Reach Test using a specially constructed box and this protocol was supported in studies by Faigenbaum et al. (2002), Hatano (1994) and Singh (2005).

The measure of the hand strength was carried out by a hand dynamometer as seen in study by Faigenbaum et al. (2002). The reliability reported is .90 (Bargartner & Jackson). The hand dynamometer was adjusted before the test to check the suitability of the grip to ascertain the right grip size by adjusting the grip lever.

3. Results and Discussion

ANCOVA was utilized in the present study as the design employed was a quasi experimental design with intact sampling method. Data were analyzed for normality using the test for skewness and kurtosis. The data indicated that the groups were approximately distributed. Further, linearity and regression slopes assumption for ANCOVA were met. For the statistical analysis, the level of confidence was set at 0.05. To ascertain the effect of the treatment between the experimental and the control group, ANCOVA was computed using the posttest score as the dependent score and the pretest score as the covariate. Effect size was calculated for each comparison using Cohen's delta to evaluate the size of mean differences. The result of ANCOVA in Table 2 indicates that there was a significant main effect in cardiovascular endurance $F(1,83) = 44.69$, $p < 0.05$,; *Cohen d* = 0.35, and for flexibility $F(1,83) = 46.80$, $p < 0.05$; *Cohen d* = 0.36. There was no significant difference for muscular strength $F(1,83) = 3.54$, $p > 0.05$. Table 1 indicates the adjusted posttest mean scores for the selected health-related fitness components for the experimental and the control groups respectively. The result showed that treatment in the experimental group was effective in enhancing the cardiovascular endurance and flexibility among the experimental subjects.

Table1:Mean, Standard Deviation and Adjusted Posttest Mean Scores for the Health-Related Fitness Components of the Groups

Health-Related Components		Experimental (n=48)			Control (n=38)		
		Pre	Post	Adjusted Mean	Pre	Post	Adjusted Mean
Cardiovascular Endurance(m)	Mean	1344.68	1597.91	1253.94	1253.94	1320.26	1340.86
	SD	181.24	157.08		114.12	185.43	
Flexibility(cm)	Mean	30.78	33.10	28.44	28.44	27.71	28.72
	SD	6.13	5.47		3.32	3.16	
Muscular Strength(kg)	Mean	21.28	21.71	21.18	21.18	20.96	21.00
	SD	4.63	4.29		5.01	4.53	

Table 2 :Summary of ANCOVA for the Selected Health-Related Fitness Components

Source	SS	*df*	MS	*F*	ES
Cardiovascular Endurance					
Between	1132664.8	1	1132664.8	44.69*	0.35
Error	2103258.9	83	25340.4		
Total	3235923.7	84			
Flexibility					
Between	257.62	1	257.62	46.80*	0.36
Error	456.83	83	5.50		
Total	714.45	84			
Muscular Strength					
Between	9.68	1	9.68	3.54	
Error	226.60	83	2.73		
Total	236.28	84			

* $P < 0.5$

The present study was aimed at investigating the effect of a ten week physical fitness intervention program within a physical education class towards selected health-related components among secondary school girls. The results indicate that there was a statistically significant difference ($p < 0.05$) towards cardiovascular endurance and in flexibility between the groups when posttest scores were compared (Table 2). As for muscular strength the result was not significant ($p > 0.05$).

The significant differences in cardiovascular endurance in the present study are in agreement with similar studies reported by Singh (2005), Ignico and Mahon (1995), Derri et al. (2004), and Sallis et al. (1997). In the present study, four exercises were carried out during the intervention period which lasted for about four minutes. The intervention and the warm-up sessions were carried out for about twelve to thirteen minutes twice a week increased the intensity levels. This would have probably increased the training volume among the intervention group which contributed to the significant improvement among them.

As for flexibility, the result indicated a statistically significant difference ($p < 0.05$) between the experimental and control group of girls (Table 2). Similar studies implementing intervention programs have reported

significant improvements in flexibility (Derri et al., 2004; Ignico & Mahon, 1995; Faigenbaum & Mediate, 2006).

The significant result in the present study can be attributed to the treatment and exercises in the warm-up, treatment, class activity and the cool down session. The treatment in the present study was carried out twice a week and this would have increased the training volume and indirectly enhanced flexibility.

The between group results for muscular strength between the experimental and the control groups for girls was not significant (Table 2). The result is consistent with a similar finding by Faigenbaum et al. (2002). In contrast to the insignificant result in the present study, other intervention studies on muscular strength have shown vast improvements as reported by Flanagan et al. (2002) and Faigenbaum and Mediate (2006). The insignificant result in the present study can be attributed to the insufficient intensity and the noncompliance of the progressive overload principle.

4. Conclusion

The aim of the study was to investigate the effectiveness of an intervention program towards the enhancement of selected health-related fitness components among Malaysian secondary school girls. It indicated that an intervention program within a physical education class had a positive effect towards cardiovascular endurance and flexibility. Consequently, such intervention programs can be incorporated in the physical education curriculum to have better benefits among the girl

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A SOCIO-CULTURAL APPROACH TOWARD EFL TEACHER EDUCATION IN TAIWAN

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Abstract

This is a case study through action research to plan and design a TEFL graduate course of "Writing Development and Instruction," to observe and document the data from students' writing assignments, reflective reports, and collaborative tasks and finally their term papers and portfolios. Through content analysis, the researcher tries to report the content and the issues discussed in the course. The results of the study are presented as: Issue 1: qualifications of being a teacher, Issue 2: professional knowledge and development, Issue 3: learning by doing, the two field trips during the semester, Issue 4: The self and identity.

Keywords: Teacher Education; Writing Instruction; Action Research; EFL Writing; Students' Negotiation

1. Introduction

Students of EFL teaching graduate programs in Taiwan mostly plan to be an English teacher at elementary schools or high schools. With this goal in their mind, do they have clear concepts and self-identity about what a teacher is like? How can they prepare themselves? What basic qualifications do they need to have? What professional features do they need to be nurtured and equipped with? What specific missions do they have to carry out for the society and their unique country, Taiwan?

This paper first portrays the TEFL graduate program at a comprehensive national university in central south Taiwan and the graduate students who planned to be a high school teacher, then, also a brief description of this special and powerful but unrecognized country in Far East in the Pacific Ocean. The study adopts action research and critical/reflective frameworks to examine the processes of orienting graduate students, teachers-to-be, to be qualified and reflective teachers with critical thinking mind.

The results of the study are presented issue by issue as follows: Issue 1: qualifications of being a teacher, Issue 2: professional knowledge and development (life long competence vs. short-term knowledge for exams), Issue 3: learning by doing, the two field trips during the semester, Issue 4: The self and identity (awareness, determination, reliance, self-dependence, and self-control). The issues were well discussed, written and presented by students in class. These issues are also presented and discussed in this paper to show how socio-cultural issues were integrated with the graduate course of "Writing Theory and Instruction." At the end of paper are discussions and conclusion and pedagogical implications.

2. Context of the study: Taiwan, a unique country, and the TEFL program

Taiwan (also called Formosa) is located in west Pacific Ocean in East Asia. For over four hundreds' years since 16th century, it has been colonized under different colonizers such as the Dutch, the Ming, the Ching, Japan, and KMT, a Chinese Nationalist Party. Along with a long process of democratization since 1930s, then under the Japanese governance, Taiwan had come to its direct democracy stage in 1996 with directly electing its president. However, very unfortunately, Taiwan, till today, remains unrecognized, not an official member in the UN but an unresolved territory since WWII.

In 2000 the political power of Taiwan was peacefully transferred to a local Taiwanese party, called Democratic Progressive Party. Since then, Taiwan has come to its new era, a paradigm shift in every way. Taiwan has faced a lot of challenges to restructure the whole country in aspects of politics, education, economics, and culture. In education, there has been an educational reform to implement 9-year executive curriculum and also extend English education down to the elementary schools. On the one hand, the educational reform tries to incorporate Taiwan history and cultures into the curriculum for elementary and high school education, and this trend would further integrate and facilitate a real multicultural society by cultivating different ethnic cultures and nurturing "positive cross-cultural attitudes" (Lambert, 1984, 1987) among the citizens of various ethnic origins and also develop a real Taiwan identity. On the other hand, there is a need to internationalize students by teaching them English from elementary school.

Under the circumstances, English teacher education has been urgently demanded. Responding to the situation, the Ministry of Education has taken various measures such as recruiting potential English teachers by English proficiency exams, then offering intensive courses to train and certify these potential teachers. Besides, MOE also approves more graduate programs to train more teachers through regular academic tracks. This is the background of the TEFL Graduate Program set up in 2004, in the department of foreign languages and literature in a central south university in Taiwan.

3. Methodology

3.1. Settings

This is a graduate course "*Language Acquisition: Writing Development and Instruction,*" offered to graduate students in the TEFL graduate program. It aims to offer an overview of writing theories to graduate students and also orients them to the related pedagogical applications in teaching writing.

The objectives of the course are: First, to get students oriented to the issues of how children develop their writing ability. The complex human act of writing was understood from its fundamental aspects – linguistic, physiological, psychological, and social – and on what is involved in learning to read and write. Second, the writing theories were introduced and discussed, especially the issues about how children learn to write, how second language writing develops. Third, based on the comprehensive understanding about writing development and writing processes, the implications and issues about the kinds of writing instruction learners are most likely to benefit from were illustrated.

The reading and teaching materials had been chosen from several textbooks and supplementary reading articles were also provided from contemporary academic journals. Lectures were kept to the minimum. Students' discussion and presentation on the issues in the reading materials were the major activities in class. Meanwhile, the course offered one session of about 20 minutes for discussion on assigned issues and then writing practicing per week.

The requirements were: 1. Several writing assignments, 2. Six summaries on students selected articles from academic journals, 3. Mid-term proposal for final term project, 4. One final term project for designing an intensive writing teaching program of several weeks for a preferred level of students.

3.2. Participants/student teachers

There were 17 graduate students taking this graduate course of writing development and instruction. Among them, six of them were the second-year students of TEFL program and 11 of them are first-year ones. In gender, six of them are male, while 11 are female. All of them are graduates who previously majored in English or foreign languages at universities. Two of the students are overseas Taiwanese, one from Canada, the other from Belize. Their ages range from 22 – 24.

With previous English majors as undergraduates and learning English at high schools of six years or even earlier private learning, all participants could speak and write English fluently and made presentations in English with PPT. Their English proficiency is about at high intermediate level.

3.3. Method

The present study adopts action research, also named teacher researcher method, and critical/reflective frameworks to examine the processes of orienting graduate students, to become qualified and reflective teachers with critical thinking, professional knowledge, and educational visions.

In educational action research, the teacher is also a researcher observing what is going on in the classroom, identifying the problem encountered, and then planning, acting and designing a study to try to solve problems and improve their teaching. It is a cyclical process of planning, acting, observing, and reflecting for professional development (Lewin, 1946; McNiff, 1995). It is also a reflective, personalized, and contextualized process of research, aiming to cope with difficulties happening in the real world (Wallace, 1991). Hence, the study was conducted in the proceedings of the courses. It adopted multiple approaches to collect data, including students' writing assignments, mid-term reflective reports and final self-evaluation forms, feedback to the professors, and portfolios.

The course also applied critical pedagogy intending to orient graduate students to thinking critically to conceptualize the features of mentors as well as to contextualize themselves about the missions of a teacher in his/her own unique country, about what responsibilities they should shoulder and help construct a normal country. This is a socio-cultural approach to teacher education at national level.

In other words, as a professional in teaching English, they ought not only to absorb the western writing theories and teaching pedagogy but also contextualize their professional knowledge and pedagogies to meet the needs of the special EFL context in Taiwan, in which schooling at high school levels is an exam-driven system. That is to say, these graduate students need to "negotiate" with what they have learned as an agent (Liu, 2008: 86), the academic professional knowledge in the field imported from western theories and pedagogies, transform the knowledge into the context-specific professionals, a socio-cultural approach toward teacher education at professional level for their future teaching practice.

4. Students' Orientations and Negotiations

4.1. Issue of qualifications and basic features of being a good teacher

No matter what career one will develop, one has to identify why to choose, what to achieve, what to learn, and how to learn it. In this study, it is obvious that all students had set their career goal already when they applied and were admitted to the program. Therefore, it could be assumed that all students in this course were aware of their career direction to become an elementary school or high school teacher. Even though the situation is like this, i.e., they know they want to be teachers, can we say that they know clearly what qualifications of being a good teacher? "Not necessary." Surely, they come to learn how to be a teacher, and they need to be conceptualized, and contextualized to be a professional good teacher.

Under the circumstances, in this course, though it covers the issues on "Writing Development and Instruction," it is obvious that the students still need to be conceptualized from an original point, i.e., to ponder over the issues of features or characteristics of good teachers, not just discussing the issues of writing instruction but also thinking over general issues of responsibilities of an educator.

Therefore, students were requested to write an essay in the very beginning, i.e., "Missions of a Teacher." They were directed to think over the qualifications of being a good teacher. In class, students had very thorough discussions on the roles of a real educator. They brainstormed to figure out metaphors for the role of an educator.

Various metaphors were proposed and identified, e.g. a teacher is a lighthouse, a gardener, a spirit designer, a torch holder, a guide to life, a mind engineer. The following is an example:

Joe[2]: "Generally speaking, teachers are expected by our society to be the mentor of students, guiding them in every step of the way and offering their assistances whenever necessary. Teachers are also expected to be a torch holder to enlighten the students by opening their minds to new knowledge. Thus, it can be said that teachers are expected by our society to be like sculptors sculpturing students, with extreme tender and care, into beautiful masterpieces so that they can shine brightly in the future."

Meanwhile, the basic qualifications were further elaborated, too, in their writing assignments. It was found that professional knowledge about the subject and about teaching was identified as most important by the majority of the students, i.e., the cognitive dimension of a teacher is significant for being a good teacher. Besides, students also think that affective dimension of a teacher is important. Thus, features of personality such as patience, kindness, enthusiasm were illustrated one by one. For example:

Joe: "… First of all, teachers need to be knowledgeable and analytical in the field of his teaching. …Secondly, teachers need to have patience, tolerance and sympathy in his virtue. In addition, they should also have very good interpersonal skills. …because they are required to listen, understand …Teachers are also required to be considerate and must try to boost the students' self-esteems without making them feel embarrassed or inferior. Furthermore, they must have a positive attitude towards the students. …Last but not least, teachers must be responsible and have a moral virtue."

In short, the point to let students brainstorm and write about the missions of being a teacher is to help them negotiate with themselves, develop and identify themselves as teachers as well as mentors. Surely the students were encouraged, too, to develop more holistically to become a knowledge producer as well. It is expected that they can develop not only their clear identity as teachers but also their awareness and ambition as mentors for future students. The students are really anticipated to have multiple dimensional developments with various levels of the identities of the self (psychological), the content knowledge (cognitive), a sense of mission as a community and society member (social), and the metacognitive thinking (reflective) for life long self-educator and educator.

4.2. Issue of professional knowledge and development

The graduate course aimed at getting students oriented with the composition theories, research, and practices that form EFL writing instruction. Put it more clearly, the course is part of teacher education program with respect to how writing skill can be taught. For this purpose, the discussion in class started from the psychological underpinning of writing development based on Vygotskian theory of interpersonal and intrapersonal relationship as a writer (Arnold, 1991) to writing teaching approaches of product-based research, process-based research, and contrastive rhetoric, etc.

The students were requested to present the content of the chosen textbooks chapter by chapter to discuss the origin of the theories and practices of instruction. After presentation, students would discuss thoroughly the imported pedagogies to see how they could be used and fit in well in our educational system, which is more exam-constrained at high schools. This process helped the students adapt appropriately the imported theories to local practices, a negotiation and contextualizing process (Liu, 2008), turning students to be an aware agent between western imported pedagogy and local Taiwanese educational settings. The following is an excerpt from a self-report:

Rick: "I think the free writing at the beginning of the course is quite interesting and helpful because I can write freely to express my own ideas and have the opportunity to have a discussion with classmates

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[2] All names used in this study are pseudonyms.

and professor about the writing concept and writing skills. The presentation of chapters provides me an opportunity to train our abilities to organize the ideas from the papers and to present orally to the public. The opportunity for oral presentation in class not only impresses the ideas but also trains our speaking proficiency."

However, the students were not examined in a written test about the content of the knowledge of this field but encouraged to read widely those related research articles published in academic journals such as *Journal of Second Language Writing, College Communication and Composition* to expand and enrich their knowledge in the disciplines of composition research and second language writing. Therefore, they were instructed how to summarize a research article, and then they need to turn in summaries one after another. In this way, they were nurtured a life long competence to be able to research as a problem solver and self-educator rather than a test taker, only memorizing knowledge for a short time for exams.

In the meantime, since this is a "teacher education course devoted to writing instruction," (Hirvela and Belcher, 2007), what problems are widely encountered in young children's writing development process and what are those writing developing stages should be pinpointed to conceptualize the students. As it is, students were trained to write to express their thoughts and concepts in the essay writing assignments, so-called "writer-centered writing" (Silva, 1992), to develop and be able to write to construct knowledge in a report to meet the expectations of the academic discourse, so-called "reader-based writing" (Silva, 1992). The students need to experience this writing development by themselves from a subjective writer to an objective writer; thus, they can be a good writing instructor. For example:

Cindy: "From this class, I have learned a lot from teacher's lecture or classmates' presentation. Especially, I loved the section of free writing, peer evaluation, and group discussion. Sometimes, at the beginning of the class, teacher asked us to do some free writing and get rid of the limitation of grammar or word usage, and just write down what we want to say. That moment is really comfortable. And I feel my mind is so peaceful and pure. ...In addition, I also love the group discussion through which I was often inspired to come up with some ideas and gained more knowledge than I work by myself. A variety of unexpected outcomes often result from the discussion."

4.3. Issue of learning by doing, field trips, and by reflecting

As John Dewey (1961) advocated "learning by doing," learning is occurring while doing and experiencing. Student teachers can only learn how to teach by practicing teaching. Hence, two field trips were arranged to visit two nearby senior high schools. The first field trip was to visit a nearby private senior high school to observe writing teaching classes. Seventeen students were divided into five groups. Three groups' students were assigned to observe three junior high writing classes, while two groups observed two senior writing classes.

As Vygotsky (1987) advocated that cognition is always socially mediated or influenced by others in social interaction. Hatano and Inagaki (1991) also state that learning, thinking, and knowing arise through collaboration with others. The students went to observe together as a group and they also needed to discuss what they had observed and worked together to write an observing report as a teamwork.

Through observing together and group discussing, the group members discussed and identified their focus to report and worked on the report as a group. In this way, they could have their dialogic interactions. After discussing among one another, they emerged their unique voice and focus in their observing report to present in class, then received feedbacks from the instructor as well as the classmates.

In this trip, the most shocking point for the graduate students were that they noticed that in one senior high school writing classes, the discussing topic even included a political issue of "Is Taiwan part of China?" In a political and ethnical diverse society like Taiwan, most of the time teachers are requested not to refer to any political issues in teaching. Therefore, this finding of authentic political issue was publicly discussed or even debated in a writing class embodied what so-called "authentic principle" (Jack Richard, 1986) for language

teaching, especially language teaching should be socially grounded. As a result, students in a writing class would learn not only about linguistic aspects such as lexical, grammatical usage and text structure but also about independent thinking on concrete issues in real life.

> Gloria: "In addition to discussion section, I especially loved the chance to go to visit practical teaching situation in junior high school. By means of real visiting and observing, I had deep understanding about real teaching situation. Moreover, my view of teaching became broader since we were stimulated by foreign teachers' teaching perspectives and teaching ways. I treasured this chance actually."

Besides the observing trip, there was another trip to a public senior high school for teaching practice. Again, 17 students were divided into five groups to do collaborative teaching. They went trough discussing and negotiating among group members on what to teach and which method they would use to teach. They prepared materials and designed activities and did teaching in a real class for fifty minutes.

The point to have this fieldtrip was to create an environment for students to apply what they had learned into practices. Of five groups, each taught in different ways. One group taught about the structure of a text as "Introduction, body, and conclusion," trying to increase students' awareness about the structure of an essay. The other taught story-telling through drawing and brainstorming to one vocational class. Another taught authentic topic about Christmas story.

In a word, each group had their creativity in topics and methods and collaboration in the team teaching. The key problem they arose was that though all graduate students were fluent in English, however, while facing senior high school students they tended to use about 80% of first language to teach. Actually, they shouldn't have accommodated so largely to the students' habits and should have tried to orient the students to a target language by slowing down or repeating their talk in English. By this, students would gradually get used to listening to English and improve their listening comprehension.

This is a first try in real teaching to real students for these graduate students. The aim is to facilitate their understanding the distance between theories and practices, thus they can be empowered to bring about change in an instructional context. Cindy's report is an example for this issue:

> Cindy: "I think this class impressed me a lot. I learned various valuable experiences which I never experience before, especially the teaching in Tung-Shih Senior high school. I and my group members prepared a lot for this teaching, and we also discussed how to teach students writing and searched for some information and material. I think that the procedure and discussion of preparation for teaching is really helpful for my future career, being an English teacher."

4.4. Issue of missions of a teacher in Taiwan: The self and identity

Since Taiwan is an abnormal nation, there are a lot of weird things among the citizens and in the education, e.g. there are diverse identities because of different ethnic origins and historical memories. A majority of the citizens, about 70-75%, identify themselves as Taiwanese, while 25-30%, identify as Taiwanese as well as Chinese, or even only Chinese (about 1%-2%). Though Taiwan is Taiwan; however, at schools students are still educated with Chinese history, which is a legacy of the Chinese Nationalist Party regime for over five decades and the system is like para-colonizing one, trying hard to brainwash Taiwanese to be Chinese and let Taiwanese forget who they are. However, for decades the two ideologies have been conflicting and competing along with the democratization process. Consequently, the political issues are very controversial and sensitive, seen most of the time as taboos in classroom.

It is until 2000 that a local Taiwanese government was elected then the Taiwanese ideology had a chance to be nurtured and grow and a lot of native Taiwanese got an opportunity to discover and remember who they are. Though it is not an easy job to wash away confusing identities among the citizens, for the democratizing purpose, the aim is to make the country a normal one recognized as a member in the UN. Thus, it seems that

there is no choice but awaken students' critical thinking in terms of self-identity as a Taiwanese to get to know who they are not just as a teacher but as a citizen.

It is obvious that teachers of a normal country can not have a confusing identity getting into a classroom. That's why I used various authentic issues related to this special country to arouse students' pondering on their position about the realistic issues, expecting that these teachers-to-be will have a clear self-identity as a real citizen of this country Taiwan rather than a confusing identity as a fake Chinese and pass wrong self-identity on to next generation. And this wide authentic issues discussion actually was quite welcome by the graduate students. As follows you can see the feedbacks from the students:

> Gloria: "Moreover, preparing presentation increases my critical-thinking ability. ...The last but not least, discussion of recent event brings about influences on me. Current issues which involved politics, culture, life styles and so on let me understand the relative importance between academic knowledge and reality. That is, the use of authentic materials such as political issue and world news arouses students' motivation and interests. Among the discussion period, I obtained broader view and attitude toward every day life. In this class, I acquire both academic knowledge and positive attitude. I also understand how to write meaningful and clear articles. ..."

That is right. The course is trying to orient the student teachers to be good teachers in general, specifically to be writing teachers, too. But, the fundamental issue of who they are as an individual is even more crucial in the situation of Taiwan, for this is a historical legacy all Taiwanese need to face, not mentioning to these teachers-to-be. Therefore, back to the original and basic issue, this course was also trying hard to nurture right concept and correct attitude towards life and get to know the reality in Taiwan.

To be a qualified teacher in Taiwan, I think at least the teachers shouldn't be a naïve in political status and situation of Taiwan and its past history, especially the relationship to its neighbour, China. Therefore, by offering realistic and authentic issues of Taiwan, the aim is to guide and reorient these teachers-to-be to contemplate over the social expectations and the need of this unique motherland of Formosa, currently still caught in a post-colonial framework though the president has been directly elected since 1996. The following are some examples of students' feedback to the issues:

> Shawn: "After admitting Chinese students and recognizing their degrees of education, little by little, there might build up a diplomatic relationship or, to be direct, return to China. After that, there will be one thousand five hundred and twenty-three millions of communists in China. Then our wealth will be evenly divided and more people from China will come to Taiwan to deconstruct our society as the same to what they did to Tibet."…."We are suffering under the overwhelming pressure of China in many different ways ..., and especially, schematizing our country. …."

From the statement of Shawn, it is easy to see that he is worried about the current situation in Taiwan. Obviously that he has the awareness what is going on in Taiwan and what will happen next after some controversial issues are decided, i.e., there will be very serious impact in the future direction for Taiwan. As teachers in Taiwan, they need to have a clear mind seeing the country direction.

This kind of writing activities and discussion aims to initiate their independent thinking ability and push them to think the basic issue of who they are to help them identify with the land they are living on. This process of self-identifying is just like a centric circle with one after one outer circle with a fundamental core. The students were guided to locate their positions in the world and the relationships to all related parties in their life. It is a critical thinking and repositioning process as Rick put it, "… orient us into critical thinking about authentic issues what just happened in our country and are highly related to our life and our near future."

5. Discussion

As presented above, four issues: 1. the natures of being a teacher, 2. the professional knowledge of the second language writing, 3. the practical teaching through reflective and collaborative processes, 4. critical

thinking over the special context of Taiwan were embodied in the proceedings of this graduate course. The major aim is to offer students' professional orientation in terms of reflective and critical thinking of being a teacher as well as a writing teacher.

The students were guided to identify themselves layer by layer, from the core of who they are as a citizen of Taiwan, what their missions are being a teacher in such an unrecognized nation, to the basic requirements and qualification of being a teacher in general, to the fundamental qualifications for being a EFL writing teacher in Taiwan. As we can see it is self-identifying orientation from being a citizen to a mentor to an EFL writing teacher to help students position themselves in this real world. The self-images are like concentric circles from the inner core of being a Taiwanese to outer circle of being a real educator or mentor, then to the external specific EFL writing teacher.

As Samaras and Gismondi (1998) put it, "Socially shared cognition in field work and course work makes a significant difference in enhancing pre-service teachers' sense of what it means to teach in terms of using partnership for cognitive and collegial support, perspective-taking, social negotiation, and ownership." (715)

Similarly, in this course students were situated socially in the real world with a socio-cultural approach to think over their roles or agents as citizens, as teachers, as writing teachers. They were guided to negotiate with themselves about their positions and take their perspectives on the authentic current issues happening in the real context in Taiwan.

The process starts from within the self profoundly towards external roles socially as Shawn has put it, "In this semester, we've done several different writings. From teacher's mission, diet, getting to know Vygotsky, summary writings, to political situations, etc., we came to learn not only how to write different writings, but also experienced as how our students might experience in the future. Then we can base on our knowledge and experience to teach our students writing." In other words, in Taiwan context, teacher educators need to take critical perspective on student teachers' moving upward their concepts from citizens to teachers to mentors. It is a transforming process.

Cognitively the student teachers were conceptualized with professional knowledge in the field of EFL writing, simultaneously, they were put into the fieldwork to teach real students at high schools to push them to negotiate between the theoretical grounds of imported western writing pedagogies and the local context of specific exam-driven educational system and, in the meantime, to reflect critically their role as a teaching agent and the ownership of being an educator. As thus, they were put actually in the situated learning environment to negotiate between theories and realities, too.

Surely, along the process, they were negotiating with the self, the peers, and also the imported western writing theories and pedagogies. They need to contextualize what they have learned from the book in a specific EFL context in Taiwan. Through the negotiating process, they need to question and challenge themselves as a citizen, as an educator, also as a writing instructor in such a unique context in Taiwan and situate and position themselves in the multiple layers of diverse discourses such as in the society, at school, and in the classroom. Eventually they reach to have a sense of ownership as an educating professional in the field of EFL writing teaching in the unique country of Formosa.

In practice, the graduate student teachers need to be aware of the context and question imported theories and writing pedagogy. In the meantime, the student teachers have to play a role of a reflective teacher to relate theory to experience-based knowledge with a critical mind in order to continuously improve their teaching practice, as thus to improve the schools and the educational system and thus strengthen the next generation, and eventually to upgrade the country to be a normal nation in the world.

6. Conclusion

This is a case study through teacher action research to plan and design a TEFL graduate course of "Writing Development and Instruction," to observe various activities in class, to record and document the data through

students' writing assignments, reflective reports, and collaborative works and finally their term papers and portfolios. With the data, the researcher tries to report the content, the forms, the objectives, and the issues discussed in the course. The main purpose of the course is to help the student teachers to raise their self-awareness of being an educator to critically negotiate their role in this unique country, to reflect and challenge themselves as an EFL teacher to negotiate between the imported writing theories and the practices. They were guided through a learning journey not only to broaden their vision in the professional knowledge and concepts but also deepen their insight as an educator in Taiwan.

The final goal is to re-orient and empower the student teachers to construct their subjectivity and ownership with self-awakening and self-reflecting features to be able to continuously challenge the self, the imported theories, and the institutional or social constraints as a liberating and powerful professional with consecutive self-improving power. They were expected to be emancipated to be an active self-relying agent in their life long professional development as an educator as well as unique human.

The significance of this study is to demonstrate how a teacher education graduate course can be designed deliberately to include layers of goal with various teaching activities in class, after class, or in the field trips to achieve the multiple objectives in such a specific context in Taiwan.

Surely, there is limitation of the study, i.e., this is an action research with only qualitative data to support this descriptive paper for pedagogical implications and purposes to show how student teachers were emancipated to think critically their roles and agents in the teaching practices and academic professional development. However, for research purpose, if there were quantitative data to complement the outcomes of this study, the conclusion would be more convincing.

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A STRATEGY FOR IMPROVING THE PASS RATE WITHOUT COMPROMISING THE QUALITY OF GRADUATES OF THE MINING ENGINEERING STUDENTS

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Abstract

The skill shortages of mining engineers are well known and a strategy needed to be developed to address these skill shortages. While trying to do this, the biggest challenge is the improvement of student pass rates without compromising the quality of graduates. By establishing a new Mine Design Laboratory (MDL) for higher learning in Mining Engineering, the School of Mining Engineering at the University of the Witwatersrand (Wits Mining) has showed that having good facilities will have a direct positive impact towards student pass rates. Although the establishment of the laboratory has been a costly exercise, results so far have shown an improved pass rate in most subjects taught in the facility. Through this strategy, Wits Mining has taken an important step that will contribute to addressing the skills shortages in the mining industry. This paper outlines the design and equipment of the laboratory, the facilities incorporated; a comparison with the old laboratory as well as the performance of students.

Keywords: Establishment of a Mine Design Laboratory for Mining Engineering students; Wits Mining facilities; improving student pass rate; addressing the skills shortages in the mining industry

1. Introduction

South Africa is one of the wealthiest countries in the world in terms of mineral resources. It is the largest producer of platinum, and one of the leading producers of gold, diamonds, base metals and coal. The South African mining industry's contribution towards the country's gross domestic product (GDP) varies between 5 to 10 per cent and it currently employs about 500,000 people (DMR, 2010).

To capitalize on these valuable mineral resources, it is vital for the country to have available the necessary technical skills. This need requires the availability of adequate numbers of mining engineers and corresponding skilled personnel. Such skilled staffs, in turn, require the adequate education and training of personnel to meet the needs of the country. However, skilled personnel are currently in short supply. The worldwide shortage of mining engineers is well publicised. Phillips (2005) reported a growing disparity between supply and demand for mining engineers. Stacey, et al. (2008) emphasized the strategic importance of addressing these skill shortages since mining is a long-term business. The shortage of skills should be dealt with as a mining company strategy to ensure the supply of the necessary skills for future mining, since the lack of skills will have significant consequences for design, operations, productivity and safety of mines (Stacey, et al., 2008).

The University of the Witwatersrand (generally known as Wits University) is one of the leading universities in South Africa. Wits enrolled 28,442 students in 2011 and its current undergraduate pass rate is 78% (Wits, 2011). Wits Mining is one of the Schools within the Faculty of Engineering and the Built Environment at Wits University. Wits Mining is the largest Mining Engineering School in the English-speaking world and in February 2012, had 20 full-time academic staff members with 704 registered students (Wits Mining, 2012). Table 1 shows staff-student numbers over the last three years and Table 2 shows the breakdown of student numbers from 1999 to 2012 for the different programmes. Therefore, Wits Mining is in a strong position to make a significant contribution to the provision of qualified mining engineers to the mining industry, and consequently, must ensure that its students are taught the appropriate subject matter at a consistently high level.

Mine design is a key aspect of mining engineering and includes all areas (technical, financial, environmental, health and safety, etc.) involved in the assessment of the profit potential of a mining venture from basic exploration data. The computer skills which are essential in mine design play a vital role in converting basic exploration data into a valuable mining asset. The teaching of modern mining engineering requires facilities to enable students to learn the necessary computer skills. For this reason, Wits Mining saw the need to establish a specialized Mine Design Laboratory (MDL) for the education and training of its mining engineering students. The MDL is a specialised computer laboratory which is specifically equipped with the relevant computer hardware and software for mine design and other mining-related work. The School had two main aims in establishing the MDL:

i.   To provide a facility that would make mining-specific computer software available to the mining engineering students;

ii.   To make available computers at the minimum ratio of one computer per two students, so that academic throughput and pass rates of students could be improved.

Table 1. The staff and students numbers 2009 - 2012 (Wits Mining, 2012)

Year	Full-time academic staff in School	Total students
2009	14	802
2010	19	808
2011	20	695
2012	21	704

Table 2. Total student numbers at Wits Mining (1999-2012) (Wits Mining, 2012)

Year	1st Yr	2nd Yr	3rd Yr	4th Yr	Graduates	Under Grads	GDE	MEng	MSc	PhD	Post Grads	Total UG & PG	MRM Cert
1999	43	25	33	26	27	146	123		66	8	197	343	
2005	103	90	46	29	33	268	144	59	17	10	230	498	
2006	137	91	75	33	25	336	149	48	18	16	231	567	
2007	158	67	90	66	57	381	174	49	17	16	256	637	
2008	153	68	94	52	47	367	206	62	23	14	305	672	54
2009	223	89	79	82	62	473	199	85	31	14	329	802	61
2010	228	85	79	76	79	468	196	68	60	16	340	808	69
2011	233	96	82	62	53	473	137	32	34	19	222	695	46
2012	234	143	80	74		531	102	15	42	14	173	704	59

Although student throughput has always been a problem for engineering disciplines, the change to the National Senior Certificate which gives students access to university studies has had a profound impact at first-year level. The impact of the conversion from the old matriculation certificate to an Outcomes-Based Education (OBE) certificate on Wits Mining is clearly visible in Table 2. The first OBE class arrived at the university in 2009, and the statistics in Table 2 shows:

•   A significantly higher number of first-year students as more students qualified for university admission; and

•   A very high attrition rate in first year, as only 85 of the 223 first-year students progressed to second year in 2010.

The number of first-year students reached 233 in 2011, the highest number in the School's history. As stated in its annual report (Wits Mining, 2010), in line with a major goal in the strategic plan, the ratio of staff to students was reduced from one academic for every 43 students in 2010 to a ratio of one to 34 in 2011.This change was achieved by limiting the number of postgraduate students. The School's ultimate objective is to reduce the present ratio of 34 students per lecturer to the point where it reflects the overall Wits University average of one staff member to about 25 students. The result was a significant reduction, in 2011, of the total number of enrolled students to 695 from 808 in 2010.

The School's four-year B.Sc. degree offers computer-related subjects from the start of the degree program. First-year students are offered a simple introduction to Computer Skills. When they reach their fourth and final year, they are equipped to complete their Mine Design Project. Table 3 shows the number of computer-related courses that have been offered to the undergraduate students using the MDL. The MDL is also used for teaching several of the postgraduate courses that require computers.

Table 3. Wits Mining computer related courses for undergraduate programme

Course Code	Course Name	Description
MINN1001	Computer Skills	1st year course - 1 block
MINN2000	Computer Applications in Mining	2nd year course - Full year course
MINN3003	Technical Valuation	3rd year course - 1 semester
MINN3004	Computerised Mine Design	3rd year course - 1 semester
MINN4005	Financial Valuation	4th year course - 1 semester
MINN4006	Mine Design	4th year course - 1 semester
MINN4009	Surface Mining	4th year course - 1 semester

In addition to the teaching of mining engineering students, Wits Mining provides service teaching to the School of Geosciences at Wits University. Some geology students attend second- and third-year-computer subjects (mining) as well as some of the non-computer related mining subjects. Their numbers differ from year to year, varying between 10 and 37.

2. The Old Mine Design Laboratory

The first MDL was established in the early 1990s with 10 PCs. In 1997, the MDL's capacity increased to 25 PCs, and 25 laptops were added in early 2008 to increase the ratio of available PCs per student. Therefore, in the old MDL in 2010, the School had a total of 50 workstations for 228 first-year students and 108 second-year students. The old MDL could accommodate up to 75 students (3 students per desk). With a first-year class size in excess of 200 students, this lack of workstations was clearly an unacceptable situation and contributed to the student throughput problem. All of the 25 desks were identical; their dimensions being 180x90x70 cm as shown in Figure 1.

Fig 1. Old MDL

Table 4. Subjects taught in old MDL during 2009 and 2010

Subjects	Number of Students	Pass Rate	Average Mark
Computer Skills (2010)	195 (1st year)	50.8%	55.5%
Computer Applications in Mining (2009)	110 (2nd year)	70.9%	50.7%
Technical Valuation (2010)	72 (3rd year)	94.4%	55.4%
Computerised Mine Design (2009)	77 (3rd year)	84.4%	70.8%
Financial Valuation (2010)	61 (4th year)	95.1%	67.4%
Mine Design (2010)	70 (4th year)	100%	59.7%
Surface Mining* (Whittle) (2010)	63 (4th year)	95.2%	66.4%

The old MDL had a floor area of about 200 m^2. It had two large screens in the room to allow projection of the lecturer's PC screen. Wits Mining made use of the old MDL until the end of 2010. Table 4 summarises the computer-related subjects taught in the old MDL during 2009 and 2010.

Over the past five years, Wits Mining's first-year intake increased well above the capacity of the School's computer facilities (refer to Table 2). During 2010, the increased number of students forced Wits Mining to divide the first- and second-year computer courses into three and two classes respectively. The third-year computer course was also divided into two classes. The limited capacity with regard to computer facilities impacted on the performance of students. Table 5 shows the key statistics regarding the School's throughput of

students in 2009 and 2010. The pass rates for first- and second-year students were unacceptable and contributed significantly to the poor throughput rates.

Table 5. Student throughput* (Wits Mining, 2012)

Year	Undergraduate (Target is 25%)	Certificate (Target is 50%)	Postgraduate (Target is 33 – 50%)
2009	11%	29%	21%
2010	17%	52%	29%

*Degrees and certificates awarded, divided by total number of students in all years of study. As an example, the ideal target for the four-year undergraduate programme is 25%. The target of 25% for the four-year undergraduate programme represents the situation where all entrants would graduate in four years. The throughput is calculated as the number of graduates in a year divided by the total headcount for that programme that year. Similarly, the ideal target for the two-year certificate programme is 50%.

Since the School's aim has always been to assign an individual computer to each student to maximize the teaching and learning outcomes in order to achieve the consequent achievement of higher pass/throughput rates. With industry support, Wits Mining has established a new MDL for better education and training of its mining engineering students.

3. The New Mine Design Laboratory

The fourth quadrant of the Chamber of Mines Building, where the Wits Mining is located on the West Campus of the university, was completed early in 2010. On the fourth floor of the new quadrant just over 550 m^2 area was allocated for a new MDL. This space represents more than a 100% increase in area compared with the 200m^2 of the old MDL.

With this space allocation, Wits Mining aimed to establish a new MDL with the maximum number of PCs, bearing in mind the continually increasing number of students. Keeping the objective of assigning an individual computer to each student in mind, a new MDL with 99 PCs/Desks was designed. One of the main reasons behind the establishment of a new MDL is the teaching of computer-related subjects to the mining engineering students. Wits Mining offers computer-related subjects during each year of study. Some courses are one block (about three months) long (e.g. MINN1001), some are a full-year course (MINN2000) and some are half-year courses as can be seen in Table 2. From the third-year onwards, the students are taught core mining software in preparation for their final-year subject and capstone course - Mine Design.

The establishment of the new laboratory was a lengthy and complex task, since different suppliers were involved in completing the desired facility. Several months were spent researching the way forward to establish the lab. This time entailed extensive research into the correct suppliers of furniture, audio-visual facilities, light fittings and network switches.

The current features of the new MDL are:

100 networked PCs

99 PC Desks – to accommodate a maximum of 198 students (maximum of 2 students per desk at first year level)

Specially designed computer desks

Fully integrated presentation capabilities

Full interaction between lecturer and students through an advanced sound system

32 invisible ceiling speakers

Four data projectors with motorized screens

A document camera, which eliminates the need for a white-board

Dimmable lights

Full control over students monitors by the lecturer

Although some lectures were presented in the new MDL from September 2010, it was only officially opened on the 29th of October, 2010. The new MDL became fully operational only from the beginning of 2011.

Fig 2. The new MDL with a group of students presenting a mine design.

3.1. PCs

Every facet of the mining industry today makes use of some form of mining and commercial software. Kapageridis (2005) stated that the use of software is becoming more and more widespread, from exploration, through mine design, to rehabilitation. As Wits Mining's main objective is to prepare its graduates for the mining industry, teaching the use of mining software is a very important part of the curriculum. Wits Mining has strong ties with Gemcom Software (2010) and has historically made use of Gems, Whittle and Surpac mine design and utilization software. Mining software packages usually require significant processing power, and the packages mentioned earlier are no exceptions. Even though Wits Mining offers different levels of computer-related courses, it was necessary to invest in a hardware configuration that would be sufficient for the seamless operation of the mining-related software, and also to complement the School's five-year strategic plan for the PCs to serve Wits Mining for at least five years. Table 6 shows most of the available software in the MDL.

The MDL is now equipped with 100 Dell Precision workstations with Xeon processors, each running a 64-bit Windows 7 operating system, and each with 12Gb of RAM and 22" LCD monitors.

Software	Description
Gems	Gemcom GEMS is a leader in collaborative geology and mine planning solutions (Gemcom

	Software, 2011).
MS Office	Productivity software (Microsoft, 2011).
Microstation	Market-leading software for engineering design (Bentley, 2011).
RocScience	State of the art specialised rock engineering software (RocScience, 2011)
Surfer	Powerful Contouring, Gridding, and 3D Surface Mapping Software (GoldenSoftware, 2011).
Surpac	Surpac is a geology and mine planning software. Efficient, easy and accurate, powerful 3D graphics, workflow automation (Gemcom Software, 2011).
Whittle	Gemcom Whittle is the strategic mine planning software used to determine and optimise the economics of open pit mining projects (Gemcom Software, 2011).
Vuma	A world leading windows-based software packages for mine ventilation, cooling and environment control (Vuma, 2011)
APMOT	Anglo Platinum mine optimization tool (Cyest Analytics)

Table 6. MDL software list

3.1. PC Desks

The final-year Mining Engineering students have to complete a Mine Design Project as their capstone course before graduating. During these projects, the students make use of large mine plans, which require a large working surface with minimum obstruction. In addition, Wits Mining wished to use this large new venue as an examination hall. These two requirements and the desire for the establishment of a multi-purpose venue dictated that the computer monitors be placed under glass covers so that the PC desks could serve all purposes. Figure 3 shows the specially designed PC desk.

Fig 3. Specially designed PC desk

The new MDL has a floor area of about 550 m^2 and It has a reverse L-shape. Special PC desks were designed so that the available floor area could be fully utilized. Accordingly, all 99 desks are identical, with dimensions of 180x90x70 cm. Figure 4 shows the front section of the lab, with lecturer podium in the background and Figure 5 shows the distribution of the PCs in the lab.

Fig 4. PC desks, with lecturer podium in the background
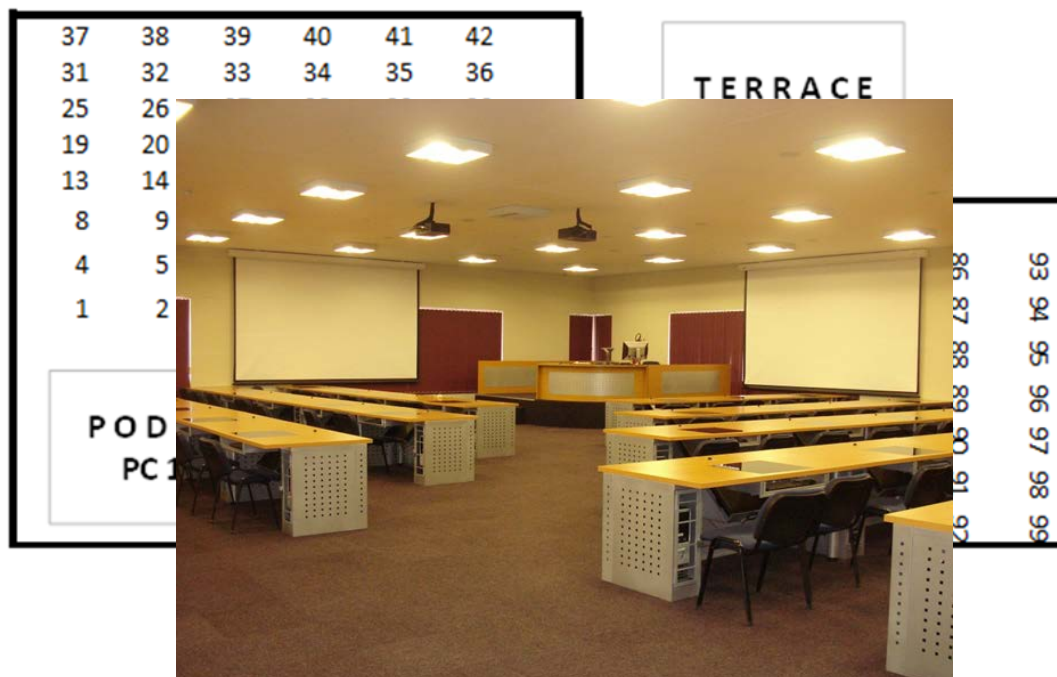
Fig 5. Layout of PC desks in the MDL (Not to scale)

3.3. Networking Equipment

The network speed plays an important role in terms of data transfer. Certain Mine Design Software requires high-speed client-server connectivity. Wits Mining's network speed was upgraded to Gigabit (1000BaseT) speed in 2005. To achieve conformity with our new standard, Wits Mining decided to purchase three additional 96-port 1000BaseT pieces of networking equipment for the fourth quadrant of the building to serve not only the new MDL, but also the remaining PCs in the School.

3.4. Audio and Visual Equipment

Because of the size of the new MDL venue, with 100 PCs and up to 198 students, it was necessary to install a specialized sound system to ensure proper interaction between students and lecturer. This situation was unique as the new MDL was not a conference venue where multiple speakers can interact. Wits Mining wanted to design the sound system so that only the lecturer's microphone is active at all times, and only one student microphone would be activated when the lecturer granted permission. Working closely with sound professionals, a special microphone system was designed. Microphones were attached to each PC desk. To prevent the unauthorized use of the system, a management control panel was designed, allowing control not only of the microphones, but also of 32 invisible ceiling speakers. Figure 6 shows a typical student microphone and the lecturer's control panel. Using the control panel, all the equipment in the venue can be managed. The following functions are available:

- Control of the volumes of the lecturer's and the students' microphones

- Management of the lights - on/off switch as well as dimming of the fluorescent lights

- Control of four data projectors

- Management of motorized screens

- Control of student's screen by means of an on/off switch

Fig 6. A MDL microphone and the control panel

4. New MDL vs. Old MDL

The new MDL became partially operational in September, 2010. The Computerized Mine Design (capstone) course was the first course taught in the new facility in 2010. Since then, all the School's computer-related courses have been scheduled to run in the new lab starting from 2011. Table 7 compares the available features between the old and the new MDL. Table 8 shows the computer-related subjects taught in the new MDL during 2010 and 2011, indicating the numbers of students, course pass rates, and the average mark for each course. While Table 9 compares the pass rates between the old MDL and the new MDL, Table 10 compares the average marks.

Table 7. Feature comparison between old MDL and new MDL

Features	Old MDL	New MDL
Floor area size	200 m^2	550 m^2
Number of PC Desks	25	99
Number of PCs	50	99
Max number of students	75	198

	2	4
Number of projectors	2	4
Control of students monitors	YES	YES
Light control and dimmable lights	YES	YES
Integrated sound system	NO	YES
Document camera	NO	YES
Full-control panel	NO	YES
Ceiling speakers	NO	YES
Motorized screens	NO	YES
Microphone on each PC desk	NO	YES

Table 8. Subjects taught in new MDL during 2010 and 2011

Subjects	Number of Students	Pass Rate	Average Mark
Computer Skills (2011)	196	56.6%	44.8%
Computer Applications in Mining (2011)	96	100%	67.5%
Technical Valuation (2011)	66	90.9%	61.7%
Computerised Mine Design (2010)	83	98.7%	93.8%
Financial Valuation (2011)	66	96.9%	63.7%
Mine Design (2011)	64	98.4%	64.8%
Surface Mining (2011)	67	97%	83.8%

Table 9. Pass rate comparison between old and new MDL

Subjects	Old MDL	New MDL
Computer Skills	50.8%	56.6%
Computer Applications in Mining	70.9%	100%
Technical Valuation	94.4%	90.9%
Computerised Mine Design	84.4%	98.7%
Financial Valuation	95.1%	96.9%
Mine Design	100%	98.4%
Surface Mining	95.2%	97%
Overall Average Pass Rate	84.4%	91.2%

Table 10. Average mark comparison between old and new MDL

Subjects	Old MDL	New MDL
Computer Skills	55.5%	44.8%
Computer Applications in Mining	50.7%	67.5%
Technical Valuation	55.4%	61.7%
Computerised Mine Design	70.8%	93.8%

Financial Valuation	67.4%	63.7%
Mine Design	59.7%	64.8%
Surface Mining	66.4%	83.8%
Overall Average Mark	60.8%	68.6%

The data in Table 9 demonstrates quite clearly the benefits that the new MDL has provided to the students and Wits Mining, as almost all the subjects taught have shown an improvement in the pass rate. Although Table 10 indicated that in two subjects, course average marks reduced, but the overall average mark increased from 60.8% to 68.6%, in effect a 13% increase. However, the very heartening result is that pass rates have improved substantially, even over the short period that the new MDL has been in operation. This pass is a clear demonstration that the throughput problems associated with teaching and learning in large classes can partially be addressed if students and lecturers have access to appropriate facilities.

5. Conclusion

The new MDL has already demonstrated its ability to improve teaching and learning with the much improved pass rates in the new facility. Although the establishment was a costly project, the early results justify the investment in the facility. Through this strategy, Wits Mining has also taken an important step towards addressing the skills shortages in the mining industry. The aims of the School in establishing the new MDL has been achieved – an excellent and comprehensive mine design facility is now in operation; and improved throughput of students in computer-related subjects has already been demonstrated.

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A STUDENT-ORIENTED CHECKLIST TO UNDERSTAND THE CREATIVE LEARNING LEVEL OF PRIMARY SCHOOL GRADE II VISUAL ART CLASS FOR SPECIAL EDUCATION METHODS

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Abstract

Document analysis method at the level of primary school second grade class should be analyzed and document analysis fit for the level of class should be prepared. Different perception types and merging group students can be present at every class in primary schools. class attitude observed during practice within this period and not observed in restricted period will allow us measure the attitude of students during the activity period. In this respect, analysis and activities should be performed concurrently to carry out fit, attitude analysis for class level of every class, activity performance analysis and to measure the attitudes of class. Within this period, activities can be chosen based on the level of perception of students at different levels in a classroom. So the student can observe to the purpose by means of activities and be aware.

It is aimed to create efficient execution process for performance, project assessment for the control groups performing their activities by means of MEB (national education ministry) guide and reports of the grade 3 students of art education in visual art class for working groups during the period of practice of special education methods.

Keywords: Special education methods, types of perception, analysis forms

Introduction

The application phase in art education activities, students who take place in the curriculum of artistic branches are considered to be an evaluable or demonstrable result of the development (Day & Hurwitz, 2001; p:111). While the development, performances and works are evaluated, arts are becoming more and more evaluable day by day. In the teaching process, environmental development factors of the child should be taken into consideration as well as the learning process of the child (Hardy,2006, p:50). Accordingly, cultural trials should be performed on children who are at second level of the art education visual applications (Hickman, 2004). Also, students should participate in the activities in art studios where they can evaluate their artistic performances. Self-assessment will help and allow the children to other artworks and artistic performances (Suggs, 1997. p:14). During this process, students make choices about the main statement, aesthetic development process in art education, concepts of creativity and artistic education and art formation subjects. With the ability of criticizing the art, all students must maintain the feeling of art, artistic creation, art history and aesthetic development through their artistic development process (Levi & Smith, 1991; p:1). Besides, students should be encouraged about their works through their art education process and creativity enhancing practices should be made (Wolff & Geahigan, 1997;p:7).

1. Art education and training

Situations that can occur during the activity application process in visual arts class, are ; the age of the class, different age groups, different perception levels among students and inclusive group. Acquisition is also an extent of knowledge, skill and habits. Acquisitions take place within the learning domains. Every age group has different acquisitions. For every age group, environmental factors play roles on their acquisitions and

interpretations, as well as their perception levels (Aytaç, 2002). As Piaget stated, actions of children are parallel to the development of the perception level of each children (Wood, 2003).

Fig.1 . Perception periods of the class
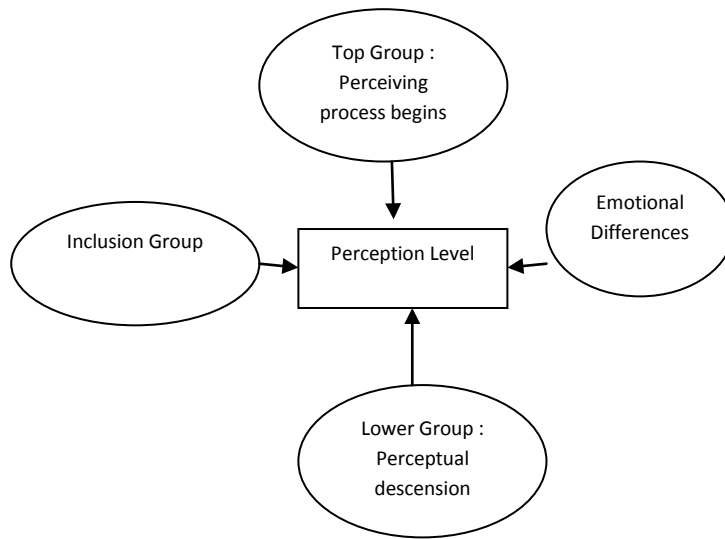
Adapting to the specified topics at grade school second phase level and class levels at application periods are essential to the composition processes of the works. For instance, if overall levels of a 6th grade student is taken into consideration, it is necessary for them to run a more significant construction process and a more efficient learning. After the learning process is complete, better analyzing and researching skills on different types of textures and composition styles must have developed. Even though the concept cannot be reflected as a whole with the color and composition as a result of the abstract connected to the reality at 6th grade, for designing or applying part of the process, it is necessary to have reached a questioning and researching stage for composition, concept and color. This is essential for the 6th grade students. Because when they reach a higher grade, for example 7th or 8th grades, student has to build on the knowledge from last year and give a meaning to the work and structure it and after this process, has to internalize it. Thus, the student will create more criticizing, questioning and meaningful artworks. If class levels are considered at this point, this process sometimes does not occur at 6,7 and 8th grade visual arts classes and art education and applications, due to inhomogeneous class distribution. For instance, if the number of students in a class is 25, this may cause a heterogeneous student distribution due to the number of students whose perception level is lower than their age average. This may cause problems when there are subjects that the whole class should follow at an average level. At this stage, the teacher must know and maintain the average of the class and on which scales it was formed. This attitude will enable the class to learn the targeted goals and behaviors more effectively.

1.1. Child's artistic development and perception

Perception levels are separated as; the top group, the lower group, inclusion group and emotional differences. For perception level is not one of the factors that brought the group together, it is necessary to form 4 different centers. These centers can be formed as ; theme-oriented, concept-oriented, tool-oriented and application oriented. For every stage, different propositions must be developed. Because, each group will base their development on these propositions and will progress at different levels. When the average perception ability of the class is considered, top group will make better analysis and criticisms with a better acknowledgement of the subject, thus will progress to works that include analyzing the relationship between the concept and the subject. This will help that group to start the progress. Especially this group will start building on the previous years' knowledge and support this knowledge with new knowledge and will take on a much more researching role. The other group which is defined as the lower group has difficulties about learning the subject and turn it into a concept. This difficulty will cause a descending in the perception levels. The most distinct characteristic of this group is the difficulty of remembering the previous years' knowledge and adding on it. In order to complete the

learning process, it is necessary to match the previous years' information with the newly learned knowledge. If this process is taking too much time, this means that previous knowledge is not helping to get a result and thus, learning process is not completed. At this point, this group must focus on theme-oriented and tool-oriented studies and associate them with artistic values and art history, and analyze them. During the analysis process, missing knowledge is identified and matched with the new knowledge. This process takes more time considered to the top group's process. However, this is an important period in which the knowledge turns into the meaning and the concept turns into forms. If the inclusion group is taken into the hand, it can be said that there are at least 3 students who can be included in de inclusion group in public schools. Inclusion groups involve students with bigger learning difficulties. Simpler studies must be applied to this type of students. On similar subjects, works that mostly require hand craftsmanship should be preferred. Also, more tangible concepts should be preferred instead of abstract concepts. This group is more of a tool oriented group. They should be encouraged to use the tools more, thus will lead to faster perceiving. Therefore, a tool-oriented group must be formed for these type of students.

Fourth group is the group of students with emotional differences. These students have difficulties of expressing themselves emotionally when considered to the rest of the class. Them not participating in class studies cause deficiencies in the learning process. This causes the incompleteness of the learning process. These type of students will feel much more comfortable with theme-oriented studies by matching the analysis with other information. Composing and structuring the concepts and shapes during the application-oriented period will help them express themselves better. In the study tools and his sense, different perception levels in the class must be identified and directives must be formed accordingly. This formation is important for helping the children to solve the problems in the perception process and to the follow-up of the class.

1.2. Theme oriented studies

In theme oriented studies, for the conveying period, analysis of the artistic thoughts based on the historical criticism must take place. Conveying process must be progressive for the students. Before the elementary level 2nd grade students proceed to the pictorial stage, concepts and subjects must be analyzed. Because at the visual expression level, children have trouble interpreting the themes that they have never seen before. Firstly, the general concepts of the theme are taught. When closer to the result, students must know the concepts which they will base on the expected behaviors and must learn how and where to use them. If we consider the first phase of the class as an introduction, a visual directive of concepts must be passed among the students. At the second phase, concepts must be taught with subgroups and again with a visual directive. When visual directives are combined with verbal lecture and formal expressions, the knowledge will be more permanent. Because at the first stage, students get the knowledge. Then gives a meaning to the knowledge. With the help of the visual directives, students begin to use the knowledge. This process is supported with examples and artistic studies. For the learning process, internalizing the knowledge is essential. In this process, students must be asked to give alternative examples and techniques and to transfer it to the visual works. This process might take time because if students can't understand the concept as a whole, there may be gaps, causing an incomplete compositional and topical at their works. For instance, when the student is asked to use country patterns, they are demonstrated on historical architectural structures and oil paintings. At first student is asked to analyze the graphical shapes on the patterns and then works of various artists are shown to make the student realize how they are using these patterns. This period is very important for the students in theme-oriented study, to internalize the knowledge and use it. In this direction, for the class level to maintain the learning process in theme-oriented studies, initial concepts are given to the child as a virtual directive. At the second phase, each concept and the general subject, art history aesthetics, art history analysis mothed based control scales are formed. In other words ; concept aesthetics, concept analysis and control scale are the 3 main groups of theme-oriented learning.

Fig.2. Theme-oriented learning
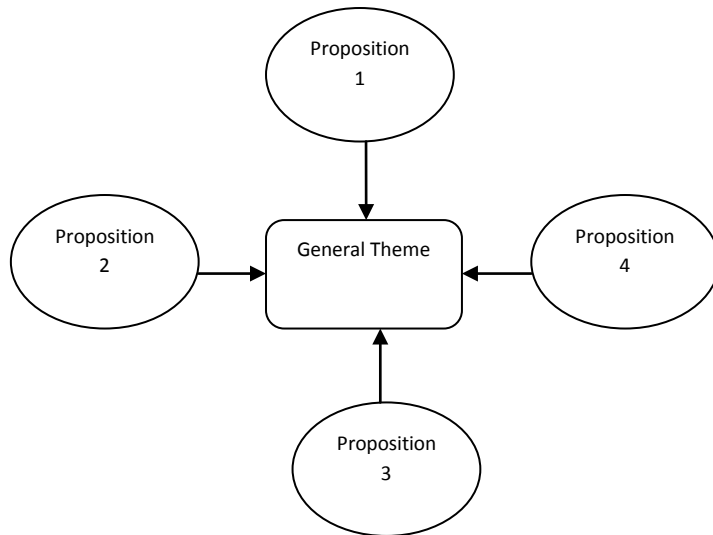
As stated in the figure-2, the main target that students must be reached to is at center. In order to make directions to the main center and complete the learning process, center is divided by propositions and each proposition is analyzed within. With this method, brain will internalize the new information by adding it up to the previous years' knowledge. As long as the internalization is complete, a significant visualization, composition and color balance can be formed in the application process. Visual propositions can form directives with questions through the learning process. Below, a sample learning process directives and example questions have formed concepts and subjects. Questions are formed of visual directives that are accepted as directives in the learning process. Lesson and learning process continues with simultaneous questions and visual directives with student participation. As a result of the completion of these processes, learning level should be measured with class-level adapted materials.

Fig.3. Activity formation method

A
- Defining the method
- Differentiation among age groups
- Abstract-Concrete
- Defining the conveying method to support the learning process

B
- Doing the application based on the topic and the age group
- On a sample work
- Acting through drama

C
- Activity
- The area that all the absorbed knowledge is used
- Subject Studies
- Creative Process
- Doing the activities

D
- Activity
- Improves the creativity
- Meaning relations
- Gets results
- Improves the ability to judge

Group activities in visual arts education; is made in 4 groups based on both the theme and application, considering the heterogeneous distribution in class after the method and propositions are defined. This phase based study plan maintains an efficient study method for class studies in 4 groups for student study plan and application.

Center oriented methods given in different stages will lead to more certain results for targeted conceptual or visual shaping processes. In the learning process, students never should pass on to the next phase without achieving a complete learning. Otherwise, students won't internalize the knowledge and will struggle to combine the knowledge, shapes and their own designs. This 4 group, center-oriented approach can be used in any stage of the education to avoid the obstacles that give students a a hard time learning.

In figure-3, there are four sections as ; a, b, c and d. In phase A, firstly the method should be chosen. If the method is chosen based on the class' average level, students will participate more in the analysis and criticisms in the class. After the method is chosen, differences based on age groups or perception levels should be considered. This is an effective method for higher student participation in class activities. Concepts should be separated to 2 groups as abstract and concrete, and the information should flow from abstract to concrete. Thus, students will be able to combine the knowledge with similar previous knowledge. According to these, conveying method should support the learning process of the students. Way of teaching is the conveying of the knowledge and it should be based on the emotional differences among the class. Thus student oriented education can be performed.

In phase B, the topic is based on the age groups and perception differences. In this process, students should be able decide on how to express themselves and use which tools and which visual expressions. By using the art history analysis and art history criticism, students should analyze a sample artwork. Students are conveyed with color, pattern, shape, composition and concepts and learn how to combine them with subtext. This process is

supported with dramatically expression method. Again with the dramatically expression method, students are encouraged to participate in the activity and feel free and creative to express themselves by plays or enactions on the sample artwork.

Phase C is the application phase. In this phase, students use all the knowledge, are able to criticize, analyze, use the tools and emotional expressions. To sum up, this is the phase where the students start to express themselves. Creativity, altered thinking and tool using also begin with this phase. This is a long and very important phase in which students start to improve their creativity. This phase should be a long phase. Analysis and characterization in this phase will lead the student to use the knowledge by signifying it and thus, will lead to a result. When the concept bonds with visual shaping, the creation process will lead the student to characterization and expressions. In characterization phase, emotional identity is used in visual works.

Combination of the emotional identity and application leads to the phase D. In this phase students express themselves much more comfortably and creativity is improved. This leads to meaning associations. After building meaning associations, comes the result phase ; judgment. In judgment phase, students tell which stages they have completed, which concepts they have chosen and which techniques they have used. This improves the judging ability. Application studies improve the ability to get to the result and judging ability by using the knowledge, learning the concepts and topics. The aim is to form a student model who analyzes and criticizes by thinking in different ways with new point of views. During these phases, students should be followed closely and a control scale must be created.

1.3. Applied studies and methods

In art education, art practices, how the students must design their personal identities and the approach of the process must be analyzed. Art Education can reconcile both personal applications and cultural structure of the child (Atkinson, 2002; p:8). In the process of artistic development, children should be introduced to process of arrival periods in all artistic fields (Conant,1964; p:89). In art education programs, the perception of education should take place in a modelized process (Barett, 1979; p:45). In the art education model, aesthetical education and curriculum based aesthetical education, artistic works based on cultural diversity should be used to form an association with the development of the child (Smith, 2006). Students will succeed by associational approach in art history, with aesthetic discipline and recognizing and interpreting their works, and by coming to a result with concepts (Dobbs, 1998, p:5)

1.4. Methods to fellow in-class activity applications

To make applied practices based on a determined artwork. First, lesson materials are prepared. Then, learning and application process is formed based on the art period, artists and their works.

Contrast colors study for 12 year olds (6th grade)

1-Verbal Knowledge : Expression and presentation, question and answer

2- Application (Visual-spatial) : (Sample event : 8 drama) Analyzing artworks

3- Free Activity

THEME : Cubism ; Lesson Plan ;

Phase 1 : Conveying the general information about Cubism. (Center Topic)

Phase 2 : Art History, Aesthetics

Directives :

How did Cubism arise ?

2 Leading figures in Cubism ?

When did Cubism arise ?

Phase 3 : Art History, Analysis

Directives :

Which oil painting is considered to be the starting point of Cubism ?

How did Cubists use the natural images and materials for composing and choosing a topic ?

A puzzle prepared with all the directives is used as an example of the result of theme-oriented process for overall repeating.

The example material used for students in İzmir Yayakent Elementary School Second Level visual arts class about analyzing the artworks, is given below.

1.4.1. Activity evaluation: Sample plan and student control list

| 1 | 2 | 3 | 4 | 5 | 6 |

Name the paintings above.

7. Which period do these paintings belong to ?

8. What was the name of the group that was founded in 1933 and used Cubism technique ?

9. What is their work dated 1937 which tells the Spanish Civil War with Cubism technique ?

10. What is the name of the artist whose still-life painting resembles Braque's Playing Cards ?

VISUAL ARTS CLASS	Tried different application methods and techniques	Analyzes his/her own, his/her classmates and other students works.	Associates the information about the artist with the artist's life, society he/she lived in and time he she lived in	Compares the artworks from different cultures or time periods and shows their differences	Creative Process	
Observation Form						

Class: NAME- SURNAME																		T OP

Table-1 : Student Control List

Conclusion

Control scales will help to follow the student for each and every practice. This is essential for determining the suitable activities and teaching ways for the class. At this level, some factors that will restrains learning and creativity may be encountered. In fact, students go through a certain type of struggles and emotional changes like expressing themselves and studying at elementary school 2nd level while they try to adapt to the new system. Efficient learning methods help form activities suitable to the class's average level by following the students' development and reactions to the topic by evaluations. Activities that are not suitable for the average level of the class don't get good enough reactions and don't help the improvement. Every school year is a learning process. From the start to the end, learning is a united process. Students should add the knew knowledge upon the previous knowledge that they can complete the learning process. Students must build and improve their abstraction and analysis skills with their emotional identities and knowledge, and form their own compositions. Students do this under 2 main topics. First is the conveyance and teaching methods suitable for the class, and the second topic is the control scale which allows the teachers to track the children at each phase and evaluate their development. Thus, which topics to use and how to use them at next phase will be determined.

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A UNIFIED EDUCATIONAL PLATFORM OF MULTIMEDIA SUPPORT IN EDUCATION AT MEDICAL FACULTIES OF MEFANET PROJECT

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Abstract

The paper presents an educational network of medical faculties in Czech Republic and Slovakia. Its activities started within the project Medical faculties educational network in 2007 and the main role is to support modern multimedia information technologies usage in clinical and health care study programs. The network is based on open cooperation among faculties with respect to effective medical teaching and learning. To achieve this goal, an original and uniform platform for educational web portals was developed and it is used, together with central gateway, to offer and share digital educational content. The fundamental principles of this innovative solution are described. Both the authors and the users may utilize a wide range of sophisticated functionalities that make the processes of publication and accessibility more intuitive than ever.

1. Introduction

Multimedia such as pictures, audio, or movies, has become an important tool in the provision of education at many levels. Teaching and learning multimedia materials are offered through the web-based systems and thanks to the recent network technologies the educators use them more trustworthy than ever. Educational potential of multimedia was explored mainly by higher education institutions as traditional leading players in this area (Schwarz, 2010; Allen, 1998). Each stage of multimedia application corresponds to a certain level of computer technology as well as a certain pedagogical approach. The benefits to a learning process result from the flexibility offered by new technologies. However, an initial difficulty to apply such electronic tools into the real praxis comes from apprehensions of educators. It is also difficult to encourage the usage of new technologies when computer resources are restricted by the financial constraints. Fortunately, this becomes an unessential factor because of falling costs of personal computing. On the other hand, the principles of education based on multimedia should motivate educators to use them at least as assisted materials always when convenient. The main advantage of using multimedia in education is to convey information or knowledge quickly and effectively to all students and keep them interested in learning.

A relatively short history proved the multimedia learning materials enhance learner performance even in the form of animated cartoons, engineering laboratory exploration, complex decision-making paradigms or concept development (Remus, 2008; Austin, 2009). Various multimedia technologies were applied to specific disciplines and demonstrated the pedagogical value of multimedia in terms of learning improvement (Stelzer, 2009; Cochrane, 2007; Macura, 2011). The visual presentation of ideas has been proven to be particularly important as it helps the educational process in a critical way (Dalacosta, 2009).

Using multimedia in on-line systems allows teachers to prepare attractive courses that can be easily accessed and organized as real-time two-ways interactions between remote teacher and students, but also more popularly as simpler lecture-on-demand learning models (Chen, 2008; Shi, 2003). The students often use them rather than those two-ways as they can review online materials several times without restrictions. Teachers also fill advantages as they can easily revise individual materials to offer students the most actual information. Other advantages of the web-based systems include increased students' learning efficacy through dynamic media presentation of lectures, abilities to measure students' performance by on-line self-assessment tools or

possibilities to create own courseware and questions. Moreover, education using computer-based instruction appears to be associated with consistent time savings, in some cases students learned with it in more than 70% less time than students in traditional classrooms (Parlangeli, 1999). Research in the multimedia learning field assume that after applying the optimization principles such as cognitive load theory principles and multimedia learning theory principles the web-based learning will be beneficial for both younger and older learners (Pachman, 2012).

The use of multimedia presentations was accepted by physicians in education of students of medicine too. Individual multimedia education outputs can be utilized also for patients' education and counseling (Ihring, 2012; Levett-Jones, 2011; Kodama, 2000; Penhaker, 2011). Here, the successful clinical implementation of multimedia support necessarily depends on high acceptance and appreciation by the physicians in charge. It is because of their everyday clinical practice and/or relevant pressure to realize clinical examinations and interventions. The purpose of this paper is to present an original approach to the collaboration of professionals from different medical faculties and countries.

2. Medical faculties educational network

The very first idea to create the MEdical FAculties educational NETwork (MEFANET, www.mefanet.eu) project has arisen as initiative of cooperation between the Faculty of Medicine at Masaryk University Brno and the 1st Faculty of Medicine at Charles University in Prague in 2006 (Schwarz, 2009). The pilot results of this cooperation that was primarily oriented on sharing of electronic and multimedia educational materials convinced other medical faculties to join this perspective project. Therefore, all seven medical faculties in Czech Republic and all three medical faculties in Slovakia have expressed the interest to be the members of the MEFANET. They were accepted by the MEFANET council and formally joined the network in 2007. Thereafter, the project MEFANET got new dimensions and represents the brand of academic cooperation between individual partners.

The main role of MEFANET is to support improvement in education of medical and health care disciplines using modern information and communication technologies (ICT). It represents an optimal platform to meet experts from different faculties who may join their forces to create qualitative better teaching materials. These materials can be accessible across the network for both the teachers and the students. To do this, several supporting activities have been initiated by the MEFANET. On the other hand, the MEFANET is voluntary network where the independence of the faculties is fully respected and where no restrictions in organization of teaching activities are stated. The activities are supported only by the grants and no expenses are required from individual faculties to cumulate certain central budget. Nowadays, the network covers teachers and medical and health care students at all medical faculties in Czech Republic and Slovakia.

Benefits of this academic cooperation include:

- horizontal cooperation and sharing the results of work from authors of multimedia teaching tools and on-line educational resources,
- unification of methods to create and publish multimedia teaching tools and on-line educational resources, in order to assure availability of these materials to the students of all involved medical faculties,
- putting together human resources and potential to develop complex technological solutions in an effective manner, and to solve possible problems with creation and/or publication of multimedia teaching tools and on-line educational resources,
- more effective usage of acquired financial resources, possibility of inter-university cooperation on awarded grants.

All the activities realized within the project are managed by the coordination council where each medical faculty has its two or three representatives. The council establishes the priorities of MEFANET activities, decides on generally acceptable standards for individual types of outputs, and helps to define and solve common projects. One of the most important outputs of the MEFANET is standardized web publication platform that was accepted and implemented by each participating medical faculty.

3. Web-based portal platform

Electronic pedagogical works that are created at individual faculties are collected and published at faculties' web portals. All faculties decided to operate unified standalone portals rather than one centralized system, hosted for the whole network. However, a central gateway was built to integrate all the information presented on the portal instances into one common place on the web. Thus, the independence of the faculties is ensured and the users are still allowed to find education materials on one place. Interconnection of all these faculties' portals and the central gateway compose the MEFANET e-publishing platform. The list of faculties and their portals is summarized in the table 1.

Unified web portal for multimedia support of education at medical faculties represents universal solution supporting education of medical disciplines. Each portal has its own ISSN code as well as editorial board to make sure the needs and the requirements of particular faculty are fulfilled and no restrictions are given by the MEFANET and/or by other members of the network. Web portals are installed in two language versions. It is Czech and English language combination at medical faculties in the Czech Republic and Slovak and English at medical faculties in Slovakia. Education materials prepared in Czech/Slovak language and materials prepared in English are published independently and there is no equality between the content of these versions. It is fully up to the authors' decision whether they prepare the material in one or in both languages. Each published work may be associated to the particular course/subject taught at the faculty assigning it in the body of education material. This may be used by the users to filter the content of the portal according to the materials intended for specific course/subject.

Table 1. List of medical faculties connected to the MEFANET and their portals.

Faculty	Portal
Faculty of Medicine at Masaryk University in Brno	http://portal.med.muni.cz
1st Faculty of Medicine at Charles University in Prague	http://portal.lf1.cuni.cz
2nd Faculty of Medicine at Charles University in Prague	http://mefanet-motol.cuni.cz
3rd Faculty of Medicine at Charles University in Prague	http://portal.lf3.cuni.cz
Faculty of Medicine in Hradec Kralove at Charles University in Prague	http://mefanet.lfhk.cuni.cz
Faculty of Medicine in Pilsen at Charles University in Prague	http://mefanet.lfp.cuni.cz
Faculty of Medicine at Palacky University in Olomouc	http://mefanet.upol.cz
Faculty of Medicine at Comenius University in Bratislava	http://portal.fmed.uniba.sk
Jessenius Faculty of Medicine in Martin at Comenius University in Bratislava	http://portal.jfmed.uniba.sk
Faculty of Medicine at Pavol Jozef Safarik University in Kosice	http://portal.lf.upjs.sk

3.1 Filter of medical disciplines

To ensure better orientation at the portals a systematic map of medical disciplines was created. Each published work must be assigned to the one of these disciplines so the map categorizes the content of the portals and is also used as the main filter. This is one of three directives that are unchangeable across the faculties and is used to export information to the central gateway. Other two rigid directives include authentication/authorization framework and multidimensional quality assessment. The other features, properties and functionalities of the unified portal platform can be adapted or localized to meet all the needs of particular medical faculty connected to this cooperation. Figure 1 shows the map of specified medical disciplines.

Anaesthesiology and Intensive Care Medicine	Genetics	Nephrology	Physiology and Pathophysiology
Anatomy	Geriatrics	Neurology	Psychiatry, Psychology, Sexology
Biology	Haematology	Neurosurgery	Public Health Care, Social Medicine
Biophysics	Health Care and Nursing	Nuclear Medicine	Radiology and Imaging
Cardiology, Angiology	Histology, Embryology	Obstetrics, Gynaecology	Rehabilitation, Physiotherapy, Occupational Therapy
Dentistry	Immunology, Allergology	Occupational Medicine and Toxicology	
Dermatology	Infectology	Oncology, Radiation Therapy	Respiratory Medicine
Diabetology, Dietetics	Internal Medicine	Ophthalmology and Optometry	Rheumatology
Emergency Medicine	Laboratory Diagnostics	Other	Sports medicine
Endocrinology, Metabolism	Medical Ethics and Law	Otorhinolaryngology	Surgery, Traumatology and Orthopaedics
Epidemiology, Preventive Medicine, Hygiene	Medical Chemistry and Biochemistry	Paediatrics, Neonatology	Urology
Gastroenterology and Hepatology	Medical Informatics and Information Science	Pathology and Forensic Medicine	
General Practice Medicine	Microbiology	Pharmacology	

Fig. 1. Medical disciplines map used to categorize and filter published education materials.

At the beginning of the project the single-level or multilevel list of medical specializations were considered as well as the possibility to adapt an existing scheme from the National library of the Czech republic, which is based on the standard Conspectus method. However, the medical disciplines mapping according to the Conspectus method showed to be inapplicable for MEFANET purposes. Thus, an own medical disciplines map was composed, based on various taxonomies adapted from significant medical publishing organizations. Since first release of the portal it has been reedited several times. The change in this filter has to be approved by MEFANET Coordination Council as it must be applied on all faculties' portals as well as on the MEFANET Central Gateway (http://portal.mefanet.cz).

3.2. Authorization and the users' groups

The access to the faculty portals is not restricted and is opened to everybody. All pages, sections and education contributions published at the portals are accessible for anyone who searches the content of the portals. Therefore, everyone interested can get an overview of educational materials available on the particular medical faculty. The content of the portal is presented as a list of articles described by the title, annotation picture and

short annotation. The educational content of the article is included in attachments and/or hypertext links that contain also information about the group of users who have access to these materials. This is specified solely by the authors of published educational content who can choose one of the user groups to permit/deny access to their materials. Web portals specify several groups of users that are listed in the table 2.

Table 2. Groups of user specified at web portals.

User	Description
non registered user	anonymous and not registered user
registered user	usually anonymous user, who accepts the terms of use within his registration
MEFANET user	user of the MEFANET network, i.e. student or teacher from any Czech or Slovak medical faculty
university member	user, whose affiliation to the university has been verified at the portal via the local information system of that university
faculty member	user of local medical faculty, whose affiliation to that faculty has been verified at the portal via the local information system of the respective university or faculty

Table 3. Roles of users registered at the portals.

Role	Description
dummy	registered user who may access and use education materials according to his/her users group affiliation, dummy is able to create articles and to communicate with redaction
editor	administrator of assigned part of the educational content at the particular faculty, the role allows basic editing of articles but has no rights to publish it, communicates with authors and guides the publication process
guarantee	expert of associated medical discipline, checks the materials to be published and organizes review process to verify quality according to the local rules of the faculty
reviewer	user who reviews particular article and recommends or refuse its publication as reviewed material on the portal and the central gate
master	main administrator of the portal responsible for all functionalities, master also publishes individual articles on the portal

Once the users are registered they may be assigned to the one of the users roles. The basic role is role "dummy" that is added automatically to all newly registered users. This role also allows users to send and article into the redaction of educational portal. Other higher-level roles relate to the management of particular portal instance and are specified according to the list presented in the table 3.

3.3. Structure of published education materials

To make the process of publication easier the portal offers an intuitive article submission form. The authors may use it as one of the features of the main menu under the name Submit contribution. A unified structure was adopted to present all articles in the same way and to be ensured that all compulsory parts are filled in. The submission form consists of three steps in which the author offers information about his/her topic. The field like title, annotation, authors and the text are required in the first step. The second step consists of information that classifies the article to be submitted. The attachments, links and other electronic materials as well as keywords and comments for portal redaction are entered in the last step. Individual parts of published contributions are described in the table 4.

Table 2. Fields of the contributions published at the MEFANET web portals.

Field name	Compulsory	Description
title	Y	the title of the contribution, the length should be 10 or more characters
language	Y	specification of the language of the contribution as well as the language version of the portal in which the contribution will be published
annotation	Y	brief characteristics of the contribution in the size of at least 300 characters
first author	Y	name of the first author, it is also used to filter content of the portal according to the first author
other authors	N	other authors of the contribution separated by commas
participating department	N	information about affiliation of author/authors, the field is also used to filter content of the portal according to the authors' workplaces
text	N	the body of the contribution with more detailed information about the work
medical disciplines	Y	assignment of the contribution to one or more medical disciplines, it is also used to filter content of the portal
courses	N	information about course/courses taught at the faculty in which the contribution can be used, it is also used to filter content of the portal
associated contributions	N	associated contributions already published at the portal, used as links to move on contributions with similar topics
portal category	N	assignment to one of the portal categories (may vary across faculties)
section of portal	N	assignment to one of the portal sections (may vary across faculties)
4-D assessment	N	specification of the type and the level of contribution for review process
attachments	N	files with education content
links	N	hyperlinks to education materials
annotation image	N	picture related to the content of the contribution
creative commons	N	information about copyright
keywords	N	comma separated keywords of the contribution
comments	N	additional information for redaction and editors

After the contribution is send to the redaction it can be published as non-reviewed material (but not send to the central gate) or the review process will be opened. Depending on the author's decision all the attached materials and the links can be offered to the appropriate group of users. The network prefers quality of contribution rather than the quantity and therefore the quality of all published education materials is controlled.

3.4. Quality assessment

Several control mechanisms were designed and applied within the portal instances to assess the quality of published materials. The current version of quality assessment is based on multidimensional processes as shown on figure 2.
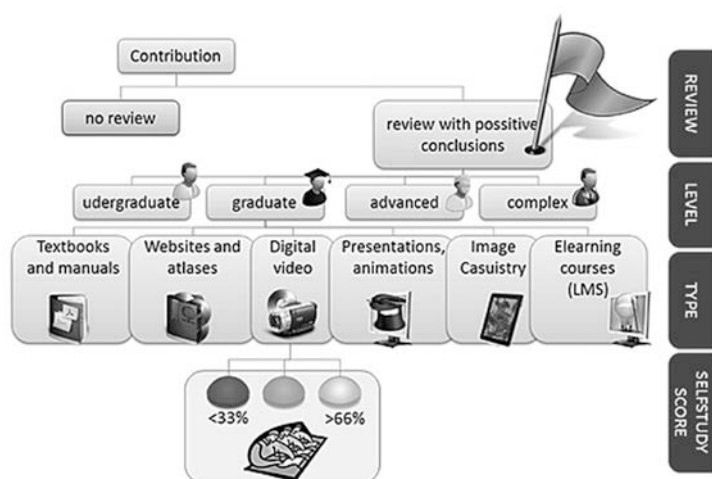
Fig. 2. The principle scheme of four-dimensional quality assessment of the contributions published at the portals of medical faculties in the MEFANET network.

According to the scheme shown on figure 2 the quality assessment methodology consist of four different dimensions. These are labeled as review, level, type and self-study score.

The first dimension of the system is an expert review. This ensures that only the contributions with positive conclusion from reviewers can be published on the central gateway. The contributions with no review can be published only on local portal instances and users are informed about this when using such unreviewed study materials. The review procedure includes both the binary questions as well as the open questions. The structure of the review-form can be localized by modifying an XML template file.

The second dimension is represented by the educational level of the target group (undergraduate, graduate, advanced and/or complex level) of the teaching material, which is a useful piece of information for users as well as for reviewers.

The third dimension specifies a multiple-choice classification according to the types (textbooks and manuals, websites and atlases, digital video, presentations and animations, image casuistry, e-learning courses) of used attachments. Here, the enumerated scale includes static files for web-based learning as well as interactive e-learning courses encapsulated in the learning management systems (LMS).

The last dimension of the quality assessment system represents a self-study scoring mechanisms. This is the users' feedback and shows what the users think about the usability of particular contribution for their self-studies.

There is also an open discussion of users available on the portals. It is located at the end of contributions and using it, the users can response to the presented information. This functionality of the MEFFANET web portals is moderated by the user with the role masters, but it can be disabled if there are no human resources to keep the discussion polite and presentable.

4. Conclusion

This paper presented basic ideas of the MEFANET network and main features of educational web portals which are one of the networks' fundamental outputs. Web portal is designed as e-publishing platform with the aim to share electronic and multimedia materials created across medical faculties. The unified platform is used at ten medical faculties in Czech Republic and Slovakia and involves over 4,000 potential authors (teachers), over 22,000 potential users (students) and many other interested users from all around the world. Local portals are managed independently and do not replace other existing systems established at medical faculties. Information from these portals is exported to the central gateway where all the reviewed educational contributions are summarized. Educational portal platform offers a lot of unique features and functionalities that were developed to meet the needs of all participated medical faculties. The priority is given to the quality of published materials which may be assessed by the well-defined rules. Further development will be oriented on implementation of standards that allow wider cooperation with other teaching institutions as well as with significant international repositories of reusable learning objects.

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BASIC DESIGN AND ARCHITECTURAL PROJECT: A CASE STUDY ON THE UNIVERSITY OF KARABÜK

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Abstract

In the artistic activities, 'imagination', taking shape in the human memory and representing freedom, is a guiding light actualizing the ability to be able to create... Architecture combines this infinite imagination with existing information.

Objective of 'Basic Design' course, teaching the alphabet of architecture and predominating visual aspect, is to expose the creativity of architect candidate and continuously improve it.

In this paper, in the experience of the University of Karabük Faculty of Safranbolu Fethi Toker Fine Arts and Design Department of Architecture, will be discussed evaluation on an architectural project of the design principles acquired by the basic design education.

Keywords: basic design; design principles; architectural project; Karabük University

Basic Design

Basic Design was taught for the first time in 1919 at the Bauhaus School which was established by the architect Walter Gropius in Weimar city of Germany (Özer, 1993). The aim of the course was to combine art and craft with mass production. Therefore, knowledge was gained in the workshops by way of learning by doing. At this school, the fragmented creative works were made into a whole by proposing the methods of the new approach to problems; rationalist, geometric, plain, functional, standard products were created.

'Basic Design' course is adopted by many schools of architecture in the world today as well. The plan of the University of Karabük Department of Architecture is located below (Table 1):

Table 1. European Credit Transfer System (ECTS) form of 'Basic Design' course, University of Karabük Department of Architecture

INFORMATION

code	MIM129	title	Basic Design					year/semester	1/1
lecture	2	recite	2	laboratory	0	credit	3	ECTS credit	4
level	bachelor's degree	language	Turkish	type	compulsory	teaching system	formal education	prerequisites	none
objective		to be able to gain the ability of visual perception, analysis, interpretation, and transfer depending on design elements and principles; to be able to reveal creativity							
content		It contains studies related to conceptual explanation of the design elements and their applied works, conceptual explanation of the design principles and their applied works, create a three-dimensional functional abstract composition depending on design element/s and design principle/s to be selected.							
learning outcomes and competences		1.students are informed about design elements and principles. 2.they can bring in three-dimensional to two-dimensional forms. 3.they learn individual study. 4.they question, make abstract analysis and synthesis, produce. 5.they organize and plan. 6.they look for the quality and aesthetic. 7.they use the time efficiently.							
recommended or required reading		1.http://www.tulaycellek.com/tulay/eserlistesi.asp?alttur=dersnot2 2.Gürer, L. (1990). *Temel tasarım*. İstanbul: İTÜ Matbaası. 3.Gence, C.D., & Orhon, B.İ. (2006). *Temel sanat eğitimi*. İstanbul: Gerhun Yayınları. 4.Balcı, Y.B., & Say, N. (2005). *Temel sanat eğitimi*. İstanbul: Ya-pa Yayınları. 5.Alpaslan, S.A. (2003). *Tasarım*. İstanbul: Ya-pa Yayınları. 6.Yılmaz, M. (2009). *Görsel sanatlar eğitiminde uygulamalar*. Ankara: Gündüz Eğitim ve Yayıncılık. 7.Odabaşı, H.A. (2006). *Grafikte temel tasarım*. İstanbul: Yorum Sanat Yayınları. 8.Öztuna, H.Y. (2007). *Görsel iletişimde temel tasarım*. İstanbul: Tibyan Yayıncılık.							
lecturer		assist.prof.dr. Süheyla BİRLİK							

WEEKLY SUBJECTS

1. week	basic design education program and its content; general objectives, principles, points to be took care in practice; list of equipment and materials to be used in applied works
2. week	light-shadow, tone/value
3. week	point, line
4. week	texture
5. week	colour (grading of measure, cover)
6. week	colour (transparency, direction)
7. week	colour (reiteration, rhythm)
8. week	colour (harmony, contrast)
9. week	colour (hierarchy, dominance)
10. week	balance, structure (three-dimensional abstract works); determination of the project subject
11. week	sketch works
12. week	plan, model
13. week	plan, sections, facades
14. week	situation plan, plan, sections, facades, model

CATEGORY

basic occupational course	√

ASSESSMENT METHODS AND CRITERIA

midterm exam	%20
quizzes	%20
homeworks	
project	%40
term paper	
laboratory work	
other	
final exam	%20

CONTRIBUTION TO PROGRAM OUTCOMES

program qualifications	contribution level				
	1	2	3	4	5
to be able to express intellectual thoughts as verbal and written					X
to have information about environment, art, architectural history; to be able to pursue current developments				X	
to be able to use different tools in the concrete explanations of the abstract thoughts					X
to conserve historical environment and to be able to apply architectural restoration techniques	X				
to be able to show the physical environment control data in their works	X				
to be able to create original designs taking advantage from traditional and new concepts related to architecture					X
to be able to transfer to their designs of information acquired from single structure scale to urban environment				X	
to be able to show innovations in the construction technology and material fields in their designs	X				
to be able to think critically in the design subject; to be able to produce alternatives for changing conditions					X
to control the scientific research process, to make report and to be able to present in required places information and findings obtained			X		
to able to make disciplinary and interdisciplinary studies in a specific subject				X	
to have social sensibility and professional ethics explanation					X

ECTS WORKLOAD

activity	hour	week	total workload (hour)
course duration (excluding the exam week)	4	14	56
duration of course work outside the classroom (pre-study, practice)	1	9	9
midterm exam	4	1	4
quizzes	0	0	0
homeworks	5	1	5
project	8	4	32
term paper	0	0	0
laboratory work	0	0	0
other	0	0	0
final exam	4	1	4
total workload (hour)			110
total workload/27.5 (hour)			4
ECTS credit			4

Design Principles

Below, the design principles and two-dimensional student works -applied during 'Basic Design' course at the University of Karabük Department of Architecture in 2009-2010 academic year- of these principles are located:

Repetition

. repeatedly use of same or similar elements within a specific order

. spaced-out rhythmic pattern providing continuity and consistency, and creating emphasis

By using the low relief technique in your working area, create a warm-cool contrast arrangement with variable repetition of the unit forms in shape, size, texture and direction you want (Fig. 1).

| Merve Güneş | Gamze Çifçi | Hatice Akosman |

Fig. 1. the repetition works

Rhythm

. systematic, harmonic, aesthetic repetition of visual motion that occurs between similar units

By using the paper cutting technique in your working area, create a rhythmic arrangement with saturation contrast repetition of the unit forms in shape, size, texture and direction you want (Fig. 2).
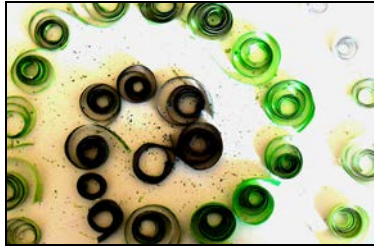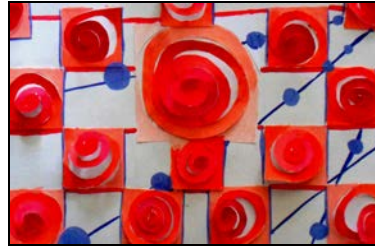
Gamze Çifçi   Esra Hacılar   Orhan Dağtekin

Fig. 2. the rhythm works

Harmony

. match with each other of the similar parts composing the whole

. coalescence obtained through passages reducing differences between different elements

. conformity that is sensed in all respects-congruence

By using shape, size, direction, interval elements in your working area in the way you want, create an arrangement giving the effect of harmony with adjacent colors (also called analogous colors) in whole of the design (Fig. 3).
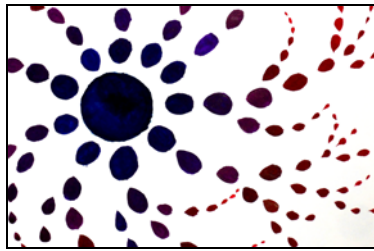
Batuhan Kumru   Yeliz Ercan   Burcu Ceren Acar
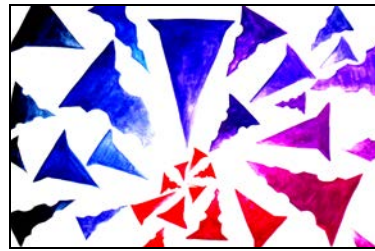
Fig. 3. the harmony works

Contrast

. dynamic variety provided with elements are not same or similar, are double interactive

. the antithetical harmony in all respects

By using shape, texture, size, direction, interval elements in your working area in the way you prefer, create an arrangement giving the effect of simultaneous contrast in whole of the design (Fig. 4).

Batuhan Kumru   Nalan Yurt   Uğur Kırbıyık
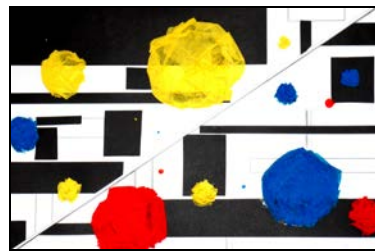
Fig. 4. the contrast works

Gradation

. combining of the two opposite ends by being repeated with proportional gradations within an order

. visual hierarchy-harmonization-measurable echelon

Create a contrast of hue environmental gradation connected to minimum two centers that would provide a meaningful and aesthetic echelon in terms of shape, size, direction, interval in your working area (Fig. 5).

| Deniz Aydemir | Eyyüp Türker | Özgen Genç |
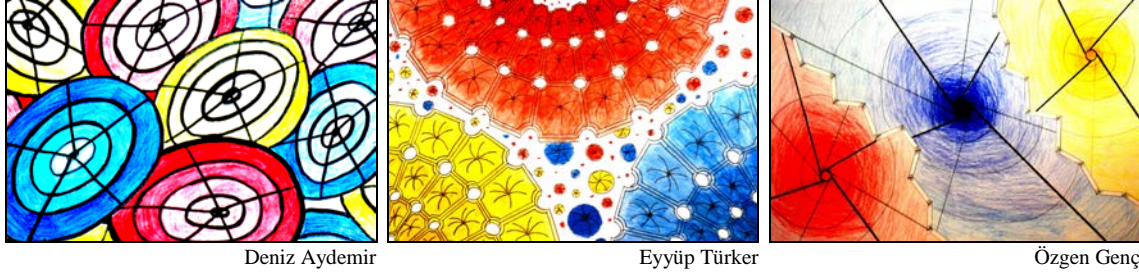
Fig. 5. the gradation works

Dominance

. the most opposite and effective one among the parts constituting the whole-dominant

. variable-attractive center, focal point

By using the design elements in your working area, create an arrangement that achieved unity through dominance (Fig. 6).

| Zeynep Kübra Çıtlak | Orhan Dağtekin | Gamze Çifçi |
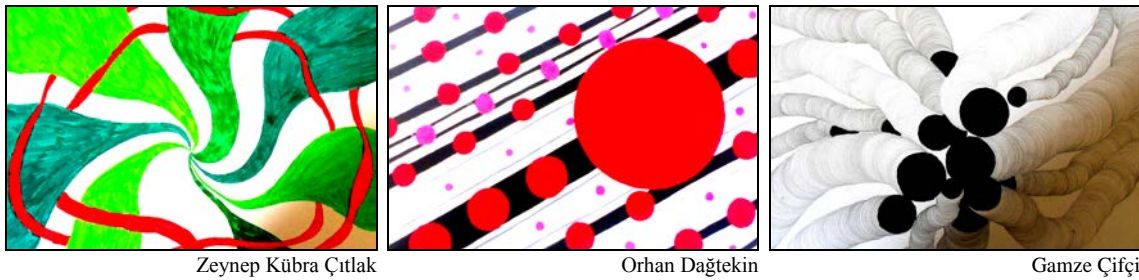
Fig. 6. the dominance works

Balance

. equivalence of forces which don't create tension, equivalent distribution and harmonic order of items

. the relative influence providing unity by bringing closer to each other opposite values

By using the design elements in your working area, create an arrangement giving the effect of asymmetric balance (Fig. 7).
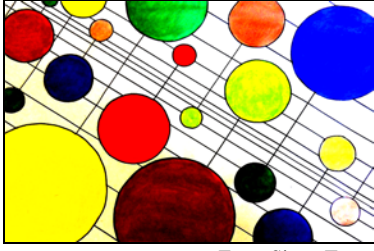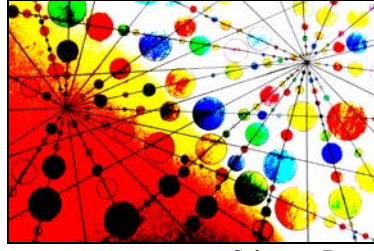
| Emre Sinan Totan | Süleyman Beştaş | Ceren Deniz |
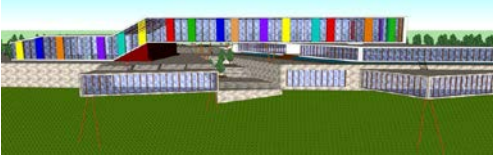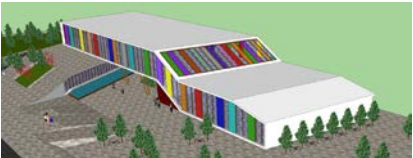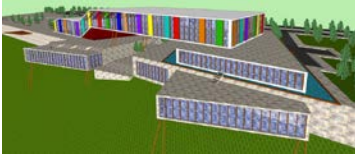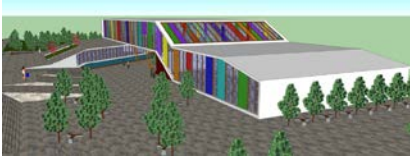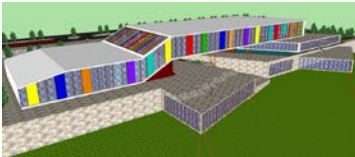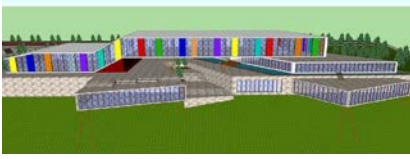
Fig. 7. the balance works

Architectural Project

Below, the evaluation in terms of design principles of the three-dimensional works of a student project titled 'University of Karabük Student Culture Center' has been designed during 'Architectural Project IV' course at the University of Karabük Department of Architecture in 2010-2011 academic year spring term is located (Table 2):

Table 2. Evaluation of the University of Karabük Student Culture Center project in terms of the design principles

REPETITION	linear pattern formed by the repetition of vertical elements	
	similar spatial themes opened outward	

RHYTHM	horizontal continuity created at the beginning and ending connection	
	surface repetitions interdependent	

HARMONY	similar coalescence of spatial arrangements with different functions	

CONTRAST	variety created through the horizontal and vertical lines motion revealed visually and conceptually	
GRADATION	consecutive line up or visual axial organization coming into prominence with its size, shape, position and assuming a symbolic role	
DOMINANCE	unified and differentiated horizontal visual emphasis facilitating the perception of separate parts and establishing superiority over the other areas	
BALANCE	visual unity created through the fragmentation and integration with each other of locational variables harmonic asymmetric distribution in the bright and neutral color areas	

Eyyüp Türker

Conclusion

Basic design education, comprising of stages related to conceptual explanation of the design elements and principles and presentation to the students of samples which has been applied, definition of problems which would create new works, transformation into the analytic compositions of impressions based on the creativity and ability to comment, presentation of the resulting works, proves that the known may change or can be changed. It ensures creation of new concrete products by generating techniques unknown as far as possible, through trial and error or making and destroying, in a creative attitude far from functionality. Therefore, it requires the expansion into the outer world or a workshop atmosphere where diversities are exhibited. It brings in the practice experience, both alone and together. It improves the ability to use time efficiently within a limited time.

However, these workshop activities are performed with only first-year students architectural visions of whom haven't formed yet. In other words, we can observe that information gained through 'Basic Design' course are not always used in architectural projects or these data are not a guiding factor and even, it takes place spontaneously and coincidentally -just as in the above example-; therefore, a bridge can not be built between basic design and architectural project. However, the visuality is the most dominant feature of the architecture and according to contemporary education, the design principles should take place within the design concept in the other semesters as well.

Acknowledgments

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BİLGİSAYAR DESTEKLİ EĞİTİMDE ÇOKLU ORTAM UYGULAMALARI

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Özet

Bu çalışmanın amacı, gelişen teknoloji ve artan ihtiyaçlar doğrultusunda hayatımızın bir parçası olan çoklu ortam teknolojileri ve bilgisayar destekli eğitimde uygulamalarının incelenmesi üzerinedir. Bu çalışma gerçekleştirilirken çoklu ortam öğrenme kuramları, çoklu ortamların tasarım ilkeleri ve bilgisayar destekli çoklu ortamların neden kullanılması gerektiği ile ilgili bilgiler verilmiştir. Son olarak günümüz çoklu ortam uygulamaları ile ilgili bilgiler verilmiştir.

Anahtar Kelimeler: Bilgisayar destekli eğitim, çoklu ortam, çoklu ortam uygulamaları.

Abstract

In this study, multimedia technologies and computer based education with multimedia which is a part of our daily life due to increasing needs and technology were investigated. Multimedia learning theories, multimedia learning design principles and why we should use computer-based multimedia informations was given. Finally, recent multimedia applications' information was given.

Keywords: Computer based education, multimedia, multimedia applications.

1. Giriş

Çoklu ortam kavramı günümüzde oldukça yaygın olarak kullanılan bir kavram halini almıştır. Özellikle bilişim teknolojilerinin gelişmesiyle beraber çoklu ortamlar oluşturmada bilgisayarlar teknolojilerinden yararlanma oranımız artmaktadır. Özellikle bilgisayar destekli eğitim uygulamalarında çoklu ortam kullanımı oldukça ilgi görmektedir. Çoklu ortam; metin ile birlikte müzik, video, fotoğraflar, grafikler, yüksek çözünürlüklü grafikler veya canlandırmaların bulunduğu bilgisayar programlarından oluşmaktadır (Maddux, Johnson, ve Willis, 2001: 253, Akt: Aldağ ve Sezgin, 2003: 123). Çoklu ortamı (multimedia) oluşturan kelimeler incelendiğinde "çoklu (multi)" kelimesinin birden fazla forma sahip olma, "ortam (media)" kelimesinin ise, bilginin aktarıldığı ortamı ifade ettiği görülmektedir (Marmara Üniversitesi, 2003, Akt: Akkoyunlu ve Yılmaz, 2005: 9-10). Basit bir anlatım ile göze, kulağa, dokunma duyusuna hitap eden çevreler çoklu ortam olarak ifade edilmektedir (Akt: Akkoyunlu ve Yılmaz, 2005: 9-10). Mayer'e (2001) göre çoklu ortam kelimelerin ve resimlerin materyal olarak bir arada kullanılarak sunum yapılmasıdır. Mayer'e göre (2001) yazı, resim, animasyon vb. her biri birer ortamdır ve bunların bir arada kullanılması çoklu ortam kavramını meydana getirmektedir. Ayrıca Mayer (2001), sözel ve görsel öğelerin birlikte kullanılmasının öğretimi daha kalıcı ve verimli kıldığını savunmaktadır ve bu şekilde öğrenmenin gerçekleşmesine Çoklu ortam öğrenme kuramı adını vermiştir. Mayer (2001), Çoklu ortam öğrenme kuramını Pavio'nun (1986) ikili kodlama kuramından yola çıkarak; Baddeley'in Çalışan Bellek Modeli'nden (Model of Working Memory), Sweller'in Bilişsel Yük Kuramı'ndan (Cognitive Load Theory), Wittrock'un Türetimci Kuramı'ndan (Generative Theory) ve Mayer'in Anlamlı Öğrenme Modeli'nden de (Model of Meaningful Learning) yararlanarak Çok Ortamlı Öğrenmede Bilişsel Modeli (Cognitive Model of Multimedia Learning) geliştirmiştir (Akt: Aldağ ve Sezgin, 2003: 127). Nitekim çoklu ortam kavramının başlangıçtaki ve bugünkü tanımları arasında ciddi farklılıklar vardır. Geçmişte

birden fazla teknolojinin birbirlerini destekleyecek biçimde işe koşulması çoklu ortam kullanımı olarak değerlendirilmiştir. Oysa bugün çoklu ortam öğretim, sistemin merkezinde bilgisayarın yer aldığı ve öğretimin birbirini tamamlayan tümleşik kaynaklarla sunularak öğrencinin etken kılındığı eğitsel bir uygulama olarak tanımlanmaktadır (Kuzu, Uysal ve Kılıçer, 2008: 44). Bugün bilgisayar destekli ve internet tabanlı birçok öğrenme içerisinde çoklu ortam barındırmaktadır.

2. BDE'de Çoklu Ortam Tasarımında Nelere Dikkat Edilmeli

Mayer'in (2001) çoklu ortam tasarımına ilişkin tasarım ilkeleri şunlardır;

Çoklu ortam ilkesi (multimedia principle): Öğrenenler, sözcüklerle ilişkili resimlerin birlikte sunulduğu öğrenme ortamlarında, sadece sözcüklerin sunulduğu öğrenme ortamlarına göre daha iyi öğrenmektedirler (Akt: Ocak, 2008: 7).

Uzamsal bitişiklik ilkesi (spatial contiguity principle): Öğrenenler, ilişkili sözcük ve resimlerin birbirine yakın olduğu ortamlarda, uzak olduğu ortamlara göre daha iyi öğrenmektedirler (Akt: Ocak, 2008: 7).

Zamansal bitişiklik ilkesi (temporal contiguity principle): Öğrenenler, birbiriyle ilişkili anlatım ve animasyonların aynı anda sunulduğu ortamlarda, sıra ile sunulduğu ortamlara göre daha iyi öğrenmektedirler (Akt: Ocak, 2008: 7).

Tutarlılık (mantıklılık) ilkesi (coherence principle): Öğrenenler, konu ile ilgisi olmayan sözcük, resim ve seslerin ortamın dışında tutulduğu durumlarda daha iyi öğrenmektedirler (Akt: Ocak, 2008: 7).

Sıraya koyma ilkesi (modality principle): Öğrenenler animasyon ve seslendirilmiş sözcüklerden (anlatım), anlatım ve yazı ile sunulmuş sözcüklere göre daha iyi öğrenmektedirler (Akt: Ocak, 2008: 8).

Gereksizlik ilkesi (redundancy principle): Öğrenenler, animasyon ve anlatımın birlikte sunulduğu ortamlarda, animasyon, anlatım ve yazılı sözcüklerin (on-screen text) birlikte sunulduğu ortamlara göre daha iyi öğrenmektedirler (Akt: Ocak, 2008: 8).

Bireysel farklılıklar ilkesi (individual differences principle): Tasarımın etkisi, daha az bilgiye sahip öğrencilerde, daha çok bilgiye sahip olanlara göre daha yüksek ayrıca, yüksek uzamsal kavramaya sahip olanlarda, düşük uzamsal kavramaya sahip olanlara göre daha fazla olmaktadır (Akt: Ocak, 2008: 8).

Mayer ve Moreno (2002) yaptıkları bir çalışmadı bilgisayar destekli çoklu ortamların potansiyel zengin mesajlar içerdiğini ancak her mesajın etkili olmadığını belirtmişlerdir. Ayrıca gerçekleştirdikleri çalışmada çoklu ortam öğretimsel mesajlarının bilişsel yükü minimize ettiğini belirtmektedirler. Panagiotakopoulos ve Ioannidis (2002) yaptıkları bir çalışmada, çoklu ortam yazılımlarında çocukların öğrenmelerinde bir farklılık yaratmadığını ancak karar verme süreçlerini daha açık ve iyi bir tasarım ile öğrenme motivasyonlarını yüksek tutulabileceğini söylemektedir. Inkpen (1997) gerçekleştirdiği bir çalışmada bireylerin bilgisayarı farklı şekilde kullandıklarını ve bilişsel farklılıklarının olduğunu göz önüne alarak insan bilgisayar etkileşiminin çoklu ortam geliştirmede dikkate alınması gereken bir faktör olduğunu belirtmiştir. Mayer ve Moreno (1998) gerçekleştirdikleri çalışmada çoklu ortamların tasarımında şu adımlara dikkat edilmesi gerektiğini belirtmişlerdir; Birlikte sunma prensibi: Açıklamaları kelime ve resimle sunmak, yalnızca kelimeler ile sunmaktan daha etkilidir. Bitişiklik prensibi: Birbiriyle ilişkili kelimeleri ve resimleri birbirine yakın tasarlamak, birbirine ayrı tasarlamaktan daha etkilidir. Bölünmüş-dikkat prensibi: Bir çoklu ortam açıklaması verirken kelimeleri sesli olarak sunmak, görsel olarak sunmaktan daha etkilidir. Resim tasarımında ise şunlara dikkat edilmelidir; Görsel malzeme çok yoğun ve gereksizce kullanılıp öğrenciyi yormamalı ve dersi anlamadaki bilişsel akışı engellememelidir. Metinleri/sesleri destekleyici ve tamamlayıcı görsel malzeme ayrıntıyla verilmelidir. Metaforik görsel malzemenin seçiminde ve işlevinin tanımlanmasında tasarımcı, öğretmen ve programcılarla birlikte karar verilmelidir (Akpınar, 2005: 115). Ses tasarımında ise şunlara dikkat edilmelidir; Yazılımı hazırlanacak bilgilerin bir kavramsal analizi yapılmalıdır, bu işlemde yapay zeka uygulamacılarının da işe koştuğu "kavram haritaları" çıkarılmalı, kavram ve süreçlerin konuşma gösterimi ile ifadelerinin ne derece kritik olduğuna bakılmalıdır (Akpınar, 2005: 117). Diğer

bilgi gösterim biçimleri ile sözel söylemin birlikte ya da bunların birbirlerinden bağımsız olarak ifade edilip edilmeyeceğine karar verilmelidir. Çünkü farklı öğrenme yöntemlerinde, söylemlerin farklı stratejilerle ilişkilendirilmesi öğrenciden istenebilir veya belli aşamalar geçildikten sonra belli söylemlerin kullanımına izin verilmesi gerekebilir. Dil söylemi, öğretme metodunun ilkeleri ile çatışmayacak ve onlarla uyumlu olacak şekilde işe koşulmalıdır (Akpınar, 2005: 117). Eğer bir gösterim biçiminden diğerine bir geçiş yaptırılacaksa bu geçişin yazılım ortamı içinde ve bilişsel etkinlikte, geçiş bağlarının öyle programlanması gerekir ki sözel söylem ile diğer söylem arasındaki geçiş "yumuşak" (öğrenci bilginin değil sadece temsil biçiminin değiştiğini fark etsin) olmalıdır. Austin (2009) gerçekleştirdiği bir çalışmada çoklu ortamlardaki ekran tasarımının dikkat edilmesi gereken önemli bir prensip olduğunu ve bilişsel farklılıkların dikkate alınması gerektiğini belirtmiştir. Stemler (1997) gerçekleştirdiği bir çalışmada çoklu ortam tasarımında dikkat edilmesi gerekenleri şöyle belirtmiştir; ekran tasarımı, öğrenen kontrol ve rehberliği, geri bildirim kullanımı, öğrenen etkileşimi, ses ve video tasarımı.

Günümüzde bilişim teknolojisinin en çarpıcı gelişmelerinden birisi WWW; normal yazı, grafik, görüntü ve sesin Internet üzerinden iletildiği çoklu ortam ağıdır. Çeşitli ortamlardan, değişik formatlarda alınan malzemeleri bütünleştirme yeteneğine sahip olan Web, eğitmenlerin etkin ve verimli bir ders hazırlamalarına olanak sağlamaktadır (Çetiner, Gencel ve Erten, 1999: 5). Çetiner, Gencel ve Erten'e göre (1999) uzaktan eğitimde çoklu ortam uygulamalarının yararları şunlardır:

Öğrenme zamanının kısalması: Yapılan araştırmalar göstermektedir ki ilgili konunun öğrenilme süresini önemli düzeyde azaltmaktadır.

"Akılda Tutma" seviyesinin artması: Etkileşimli çoklu ortam uygulamaları öğrencinin öğrenme sürecine aktif katılım olanağı vermektedir.

Etkin iletişim imkânı vermesi: E-posta, tartışma listesi ve hatta video konferans sistemi sayesinde eğitmen-öğrenci ve öğrenci-öğrenci iletişimi mekandan bağımsız olarak yüz yüze gerçekleştirilmektedir.

Öğrencilerin etkileşimli eğitimden hoşlanması: Etkileşimli çoklu ortam uygulamaları, bilginin aydınlatıcı ve eğlenceli bir şekilde ifade edilmesine yardım etmektedir (Çetiner, Gencel ve Erten, 1999: 5).

3. BDE'de Çoklu Ortam Uygulamaları ve Neden Bilgisayar Destekli Çoklu Ortam

Bilgisayar destekli eğitimde çoklu ortam uygulamaları oldukça çeşitlidir. Çoklu ortam uygulamaları çevrimdışı olabildiği gibi çevrimiçi de olabilir. Metin, görsel, ses, animasyon, video her biri birer ortamdır ve bunların bir arada kullanılması çoklu ortam anlamına gelmekte olduğu düşünüldüğünde günümüz internet teknolojileri için birer çoklu ortamdır denilebilir. Sosyal paylaşım siteleri, wikiler, web 2.0 araçları sıradan internet kullanıcılarının karşılaştığı çoklu ortamlardır. Bunların dışında LMS, yani öğrenme yönetim sistemleri, uzaktan eğitim, e-öğrenme için özelleşmiş senkron ve asenkron programlar birer çoklu ortamdır. Tüm bunlara ilave olarak bilgisayar oyunları ve sanal dünyalarda etkili çoklu ortamlardır. Son yıllarda özellikle MMORPG, yani, çok oyunculu dev sanal dünyalarda rol yapma oyunları oyuncularına oldukça gelişmiş ve interaktif bir çoklu ortam sağlamaktadır. Yapılan bazı çalışmalar bireylerin bu oyunlar aracılığı ile yüksek oranda motivasyon sağlayıp öğrenmelerini kolaylaştırabileceğini iddia etmektedir. Aldrich (2002), günümüzde 30 yaş altı ve gelecekteki kuşakların bilgisayar oyunları oynayarak büyüdüğünü belirtmektedir ve söz konusu bireylerin bilgisayar ile etkileşime geçtiklerinde nasıl öğreneceklerini bildiklerini, bileceklerini ifade etmektedir (Akt: Anetta, Folta & Klesath, 2010). Özellikle World of Warcraft adlı MMORPG oyununun güçlü ve etkili bir çoklu ortam çevresine sahiptir. Gee, (2005); New Media Consortium & EDUCAUSE Learning Initiative, (2007) e göre World of Warcraft oyunu eğlence amaçlı tasarlanmasına karşın ekonomi, matematik, fen bilimleri, takım olarak çalışabilme, liderlik ve sosyal becerileri geliştirmek amaçlı kullanılabileceğini öngörmektedir (Akt. Anetta, Folta & Klesath, 2010).

Sonuç olarak bilgisayar destekli çoklu ortamlar günümüzde önemli görülen öğrenme ortamları haline gelmişlerdir. 2007 Horizon Project raporunda belirtilen teknoloji ile öğrenmedeki yeni trendler ile; kullanıcıların

oluşturdukları içerikler, sosyal ağlar, mobil cihazlar, sanal dünyalar, ciddi bilgisayar oyunları, çoklu ortam uygulamalarının önemi artmıştır (Anetta, Folta & Klesath, 2010). Günümüz öğrenme ihtiyaçları da dikkate alındığında eğitimde bilgisayar destekli, internet destekli çoklu ortamların kullanılması ihtiyacı kendini göstermektedir.

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BILGISAYAR DESTEKLI EĞITIMDE EĞITSEL OYUN

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Özet

Bilgisayar destekli eğitim içerisinde eğitsel oyunlar önemli bir yer tutmakta ve etkinlikleri gün geçtikçe artmaktadır. Bilindiği üzere oyun çocuk gelişimi açısından olmazsa olmaz bir unsurdur. Çocuklar oyunlar sayesinde zihinsel , duyuşsal ve pskomotor gelişim gösterirler. Özellikle Prensky 'nin görüşleri bilgisayar destekli eğitsel oyunlar sayesinde yeni bir eğitim kültürünün oluşacağı yönündedir. Bu nedenle bildirimizde eğitsel oyunları incelemeye çalıştık.

Anahtar Kelimeler: Eğitsel Oyun, Bilgisayar Destekli Eğitim, Educational Games

Abstract

Computer aided education holds an important place in the educational games and activities are increasing day by day. As is known, game is an essential element in terms of child development. Children develope mental, emotional and pskomotor with playing games. Especially the view of Prensky says, computer-assisted educational games will occur a new educational culture. In this paper we therefore tried to examine the educational games. envorment.

Bilgisayar destekli eğitim içerisinde eğitsel oyunlar önemli bir yer tutmakta ve etkinlikleri gün geçtikçe artmaktadır. Bilindiği üzere oyun çocuk gelişimi açısından olmazsa olmaz bir unsurdur. Çocuklar oyunlar sayesinde zihinsel , duyuşsal ve pskomotor gelişim gösterirler.

Oyun (Game): Oyun, katılımcıların belirli kurallara (gerçek dışı) uyarak, belirli hedeflere (meydan okuyucu) ulaşmaya çalıştıkları bir aktivitedir. (Heinich, Molenda ve Russell,1993,Akt. Çeliköz ,1995)

Burdan yola çıkaran bir oyunda bulunması gereken özelliklerin şunlar olduğu sonucuna varabiliriz.

Her oyunda oyunculardan varmaları beklenen bir hedef vardır.

Oyuncular hedefe ulaşırken oyun kurallarını göz önünde bulundururlar

Her oyunda güdüleyici unsurlar bulunur.

Özellikle güdüleyici unsurların varlığı oyunların eğitsel alanda kullanılması bakımından en önemli avantajların başında gelmektedir.Öğrencilerin eğitsel bilgisayar oyunlarını klasik öğrenme biçimlerine tercih etmesibu bakımdan şaşırtıcı değildir. Bilinmektedir ki öğrenme ortamında aktif öğrenme için en önemli gerekliliklerden biri öğrencilerin dikkatinin öğrenme faaliyetine yöneltilmesidir. Bu nedenle eğitsel oyunların kullanımının öğrenme ortamında derse katılımı arttıracağı açıktır.

Bireylerin oyunlara olan ilgisine baktığımızda ise bu ilginin eğitimde kullanım için oldukça avantaj sağlayan bir özellik olduğu göze bakmaktır. Literatürde incelendiğinde; öğrencilerin derslerde eğitsel oyun kullanımına olumlu yaklaştığı ve oyun‐tabanlı öğrenmeyi klasik öğrenme yöntemlerine (kitaptan okumak, öğretmeni dinlemek gibi) tercih ettikleri görülmüştür. (Bakar, Tüzün ve Çağıltay, 2008; Karakuş, İnal ve Çağıltay, 2008)

Şahin ve Yıldırım'a (1999) göre eğitsel oyunlar öğrenenin, öğrenme ortamında sürekli aktif olmasını sağlamaktadır. Bununla birlikte eğitsel oyunlar; öğrenenlerin yaratıcılıklarını, ilkeleri sorgulama ve yeni ilkeler araştırma ve oluşturma yeteneklerini geliştirmektedir (Öztürk, 2007).

Eğitsel oyunların öğrenene sağladığı katkılar genel olarak eğlenerek öğrenme, problem çözme kritik düşünme, kavram öğretimi, strateji geliştirme ve olgunlaşma olarak sıralanabilir.

Teknolojinin gelişmesi ile birlikte eğitsel oyunlar bilgisayar destekli olarak sunulmaya başlanmıştır. Bu sayede bilgisayar öğrenciye rakip olarak ayarlanabilmekte ve her öğrenci kendi seviyesine uygun zorlukta oyunu oynayabilmektedir.Böylece öğrenci kendi hızında öğrenme şansına da sahip olacaktır.

Hayatımızın vazgeçilmezi olan oyunlar, teknolojik gelişmelere bağlı olarak değişim göstermişlerdir. Çocuklar geçmişte oyunlarını sokaklarda oynarken, günümüzde çoğunlukla bilgisayarlarda oynamaya başlamışlardır. Her ne kadar vazgeçilmeyen oyunlar kalsa da çoğunlukla bilgisayarlar üzerinden oynanabilen oyunlar tercih edilmeye başlanmıştır. Bu durumun sonucu olarak film ve müzik endüstrilerine rakip olabilecek elektronik oyun sektörü ortaya çıkmıştır (Yılmaz ve Çağıltay, 2004)

İnal ve Kiraz'a(2008:6) göre ise bilgisayar oyunları bir yandan öğrenme için zengin bir etkileşim ortamı sağlarken diğer yandan öğrencilerin akademik, sosyal ve bilgisayar okuryazarlık becerilerinin gelişmesine katkıda bulunan bir güce de sahiptir. Ayrıca günümüzde internetin de devreye girmesiyle bu eğitsel oyunlar bir ağ üzerinde birden fazla öğrenciyi bir oyunu birlikte tamamlamayı sağlayacak şekilde programlanabilir. Bu da öğrencilerin sosyal öğrenme ile öğrenmesini de teşvik edecektir. Üstelik çevrimiçi oyunlar sayesinde öğrenciler farklı kültürlere sahip insanlarla da iletişim kurmakta, hoşgörü ,empati vb. duyuşsal alan özelliklerini de kazanmaktadırlar.Çevirimiçi oyunlarım bir başka katkısı da toplumsal sorumluluk oluşturabilmek olarak ifade edilebilinir. Bazı eğitsel oyunlar bu yönüyle de öne çıkmaktadırlar.

Quest Atlantis ve Enverimental Detectives oyunları öğrencilerin sosyalleşmesi ve kendilerine verilen görevleri toplumsal sorumluluk ilkeleri dâhilinde yerine getirmeleri açısından önemlidir. Bu açıdan bakıldığında oyunun toplumsal sorumluluk fikrini öğrencilere öğretmeye çalıştığı ve sosyal çevreye ve sorumluluklarına daha

bağlı ve duyarlı insanların yetişmesi amacı ile öğrencilere bu ortamın uygulanmasının amaçlandığı söylenebilir. (İnal ve Kiraz,2008,13)

Garris, Ahlers ve Driskell (2002) ise yaptıkları çalışmada bilgisayar oyunlarının eğitimde kullanılmasını şu nedenlere bağlamaktadırlar.

- Öğretim yöntemlerinin öğrenen merkezli yapıya geçmesi,

- Literatürdeki bazı araştırmaların bilgisayar oyunlarının karmaşık konuların öğretilmesinde etkili bir araç olarak kullanılabileceğini göstermesi,

- Bilgisayar oyunlarının öğrenenlerin ilgi ve motivasyonlarını artırarak eğitsel hedeflerin yakalanmasında yardımcı olması olarak belirtmişlerdir. (Esgin ve diğerleri,2011)

Öğrenen merkezli bir yapıya geçilmiş olması öğrencinin derste aktif olmasını da gerekli hale getirmiştir.Whelan (2005)'a gore öğretmen merkezli öğrenme ortamlarındaki öğrenciler kendilerine öğretilen konuları akıllarında tutmak için çaba sarfederken oyunla öğrenenler yaptıkları üzerinde yetki sahibidir ve dolayısıyla öğrendiklerini akıllarında tutmak için daha çok güdülenmişlerdir.Eğitim materyalinin kalıcılığı bakımından da eğitsel oyunlar olumlu bir etki göstereceklerdir.

Eğitsel oyunlar çeşitli türlerde hazırlanabilmektedirler.Bu türler macera ve rol oynama, ticaret oyunları, pano oyunları, mücadele oyunları, kelime oyunları olarak sıralanabilirler. Carmen Sandiego gibi profesyonel oyunlar bir seri olarak farklı türlerde ve farklı dersler için hazırlanabilirler.Bunun yanında Adobe Flash gibi araçlarla hazırlanan bir derse yönelik çoğunlukla tek bölümden oluşan oyunlar oldukça yaygındır.

Peki özel anlamda eğitsel oyunları genel olarak ise video oyunlarını öğrenciler nezdinde çekici yapan nedir? Bu konuda da literatürde bazı görüşler bulunmaktadır.

Oyunların okullardaki kullanımının artacağını öngören Gee (2003) iyi tasarlanmış bilgisayar ve video oyunlarının gerçek önemini oyunların içindeki sanal dünyalarda insanların kendilerini yeniden yaratması ve hem eğlenme hem de öğrenmenin eş zamanlı olarak elde edilebilmesi olarak göstermektedir. (Bakar, Çağıltay, Tüzün,2009)

Oyun ile gerçek arasındaki fark, oyundan eğlenceli yapar. Bu nedenle bir çok insan bazen günlük hayatın mantıki kurallarını bir tarafa bırakarak yapay ortamlarda bulunmaktan zevk alır. Hemen hemen bütün oyunlar, bilgisayar oyunları da dahil yarışmaya dayalı olarak gerçekleşir ve kazanma-kaybetme unsurlarım içerir. Bu yüzden, eğitsel oyunlar yüksek motivasyona dayalı olarak tasarlanır ve öğrenciler maksadlı aktiviteler içerisinde bir amacı başarmak için ödül ya da puan kazanma işiyle meşgul olurlar (Geisert and Futrell, 1989,Akt. Çeliköz).

Eğitsel oyunların tasarlanmasında kullanılan çeşitli modeller bulunmaktadır. En çok kullanılan modeller şu şekilde sıralanabilirler.

EFM: Eğitsel Oyun Tasarımı İçin Bir Model

FİDGE Modeli

Deneyimsel Oyun Modeli

Oyun Nesnesi Modeli

Dijital Oyun-Tabanlı Öğrenme-Öğretme Modeli

Alanyazın Taramasına Yönelik Sarmal Eğitsel Oyun Tasarımı Modeli

Eğitsel oyunları sınıfta kullanılmasında dikkat edilmesi gereken durumlar da oluşabilmektedir. Öğrenciler bilgisayar oyunlarının eğitimsel amaçlarını bir yana bırakıp sadece eğlenceye odaklanabilebilirler. Bakar ,Tüzün

ve Çağıtay (2008) bu ve benzeri durumların öğretmenin sınıfta bulunmasıyla azaltılabileceğini savunmaktadır. Şüphesiz ki sınıf yönetimi eğitsel oyunlarla işlenen derslerde de dersin amacına ulaşması bakımından kritik bir rol oynamaktadır. Sınıf yönetimi dışındaki nedenlerde de bilgisayar destekli eğitsel oyunlara karşı görüşler öne sürülmektedir.

Kansas (2003) bilgisayar oyunlarının kullanımının; gereksiz zaman harcamaya neden olduğunu, oyunların ve internetin içerdiği güvenilir olmayan ve yanlış bilgilerle öğrencileri doğruyu ve gerçeği bulmaları yönünde olumsuz etkilediğini ve e-öğrenme ve sanal öğrenme ortamlarının gerçekle hiçbir bağlantısı olmadığı yönündeki görüşleriyle dikkat çekmektedir.(Demirbilek ve Yücel, 2006)

Sonuç olarak bakıldığında bilgisayar destekli eğitsel oyunların eğitim açısından oldukça büyük bir fırsat yarattığı görülmektedir. Denilebilir ki education ve entertainment kelimeleri birleştirilerek geleceğin eğitim yönelimlerinden en güçlüsü " edutainment " olucaktır. Eğlenirken öğrenme içerisinde güdülenme , sorumluluk duyma , grup çalışması , eleştirel düşünme gibi pek çok faktörü de beraberinde getirmektedir. Bu konuda özellikler Prensky de eğitsel oyunların yeni bir öğrenme kültürü oluşturabileceğini belirtmektedir.

Prensky'e (2002) göre 21. yüzyılda eğitime damgasını vuracak yenilik ne bilgisayar destekli öğretim ne de uzaktan öğretimdir; eğitimde devrim yaratacak yenilik eğlenceli eğitimi tam anlamıyla sunan eğitsel oyunlar olacaktır. Prensky (2002), öğrenmenin çaba istediği ve bunu sağlamak için de öğrencinin gönüllü öğrenme aktivitesinde bulunması gerektiği görüşündedir. Öğretmenlerin öğrencilerinin öğrenmelerini istiyorlarsa onları derse karşı motive etmeleri ve derse karşı olan ilgilerini artırmaları gerekmektedir. Bilgisayar oyunlarınsa doğası gereği motive edici ve ilgi çekici olduklarını savunmaktadır.(Esgin ve diğerleri,2011:3)

Bu bağlamda oyunların okullardaki kullanımının artacağını öngören Gee (2003) iyi tasarlanmış bilgisayar ve video oyunlarının gerçek önemini oyunların içindeki sanal dünyalarda insanların kendilerini yeniden yaratması ve hem eğlenme hem de öğrenmenin eş zamanlı olarak elde edilebilmesi olarak göstermektedir.(Bakar, Çağıltay, Tüzün, 2009)

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BİLGİSAYAR DESTEKLİ EĞİTİMİN PROGRAM GELİŞTİRME İÇİNDEKİ ROLÜ

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Abstract

Bu makalede, bilgisayar destekli eğitimin program geliştirme içindeki rolünden bahsedilmiştir. Program geliştirme; eğitim programı, öğretim programı, ders programı gibi temel kavramlardan oluşur. Bilgisayar destekli eğitim ise, eğitimde bilgisayarın aktif olarak kullanılmasıdır. Bilgisayar destekli eğitimin program geliştirme içerisine dahil edildiği yeni bir model önerisine makale içinde yer verilmiştir.

Keywords: BDE, Bilgisayar Destekli Eğitim, Program Geliştirme

Program Geliştirmede Temel Kavramlar

Eğitim Programı : Bir görev veya bir mesleğe hazırlamaya veya okuma, yazma, hesaplama gibi temel becerileri geliştirmeye yönelik, kapsamının farklı olmasına bakmaksızın, bireyi amaçlara ulaştıracak ülkenin ve bölgenin ihtiyaçları ile tutarlı tüm etkinliklerdir. (Doğan, 1997: 3)

Öğretim Programı: Okulda ya da okul dışında bireye kazandırılması planlanan bir dersin öğretimiyle ilgili tüm etkinlikleri kapsayan yaşantılar düzeneğidir. (Demirel, 2002: 6)

Ders Programı: Bir ders süresi içinde planlanan hedeflerin bireye nasıl kazandırılacağını gösteren tüm etkinliklerin yer aldığı bir plandır. (Demirel, 2002: 7)

Program Geliştirme: Eğitim programının hedef, içerik, öğrenme-öğretme süreci ve değerlendirme öğeleri arasındaki dinamik ilişkiler bütünüdür. (Demirel, 2002: 5)

Program Tasarımı Yaklaşımları

Konu Merkezli Program Tasarımları

1. Konu Tasarımı :

En eski yaklaşımdır.

Tüm eğitimciler tarafından en iyi bilinendir.

Nedeni, eğitimcilerde bu yaklaşımla yetiştirilmiştir.

2. Disiplin Tasarımı :

II. Dünya Savaşı sonunda çıkmıştır ve 70'li yıllarda öğrenci protestolarına kadar sürmüştür.

Eğitim programı, akademik disiplinler üzerinde yoğunlaşmasına karşın, aslı yine de konu tasarımı ile aynıdır.

Bu yaklaşımda konuların ne şekilde verildiği ve bu bilgilerin nasıl kullanılabileceği önemlidir.

3. Geniş Alanlı Tasarım:

Komu merkezli tasarımın neden olduğu parçalanmayı gidermiştir.

Amacı, konuları mantığa uygun bir şekilde bir araya getirmektir.

Örn: tarih ve coğrafya, Sosyal Bilgiler ismiyle bir araya getirilmiştir.

4. Süreç Tasarımı:

Tüm konular için ortak bir öğrenme yolunu ön plana çıkartır.

"Eleştirici düşünce" bu yaklaşımın en önemli ürünlerindendir.

Ornstein ve Hunkins'e (2003) göre eğitim programını üç anahtar düşünme stratejisinden oluşmuştur. Bu stratejiler; problem çözme, karar verebilme ve kavramadır.

<u>Öğrenen Merkezli Tasarımlar</u>

1. Çocuk Merkezli Tasarımlar:

Bu tasarımın savunucuları, öğrencinin en iyi şekilde öğrenebilmesi için etkin duruma geçirilmesi gerektiğini öne sürmüşlerdir.

Öğrencinin ilgi ve ihtiyaçları ön plandadır.

Sadece, etkin, hedeflere dayalı ve denetim içerisinde kök salan öğrenme, istenilen davranışlara dönüşebilir.

2. Yaşantı Merkezli Tasarımlar:

Çocuk merkezli yaklaşım gibidir.

Farkı, çocukların ihtiyaçları ve ilgileri önceden tasarlanamayacağı fikrinin ön planda olmasıdır.

Bu nedenle, öğretmenler her öğrenciye uygun olanı, uygulama alanında vermelidir.

3. Romantik (Radikal) Tasarımlar:

Savunucuları, okulun işlev ve iş görüsünün tamamen gözden geçirilip değiştirilmesini hatta bazıları ise okulların tamamen kapatılmasını ileri sürmüştür. Çünkü okullar öğrencinin gelişmesini bizzat engellemektedir.

Her öğrencinin kendi doğasında ele alınmasının uygun olacağını öne sürmektedir.

4. Hümanistik Tasarımlar:

Hümanistik psikoloji ön plandadır.

50'li yılların davranışsal psikolojisi ve eğitim programı tasarımlarına tepki olarak ortaya çıkmıştır.

İnsan davranışı basit bir etki-tepki ilişkisinden çok daha karmaşık olduğu ileri sürülmüştür.

Sorun Merkezli Tasarımlar

1. Yaşam Şartları Tasarımı:

Üç ana varsayım üzerine kurulmuştur.

1. Toplumun değişen yaşam ortamına uyum sağlanması ve bu amaca ulaşabilmek için eğitimde yapılması gerekenlerin ortaya konmasıdır.

2. Konular, toplumun yaşamına göre düzenlenecekse öğrencinin içinde bulunduğu çevresi ile programdaki konuların birbirleriyle bağdaştırılması.

3. Öğrenciler, yaşamı bizzat öğrenir ve uygulanırsa sadece toplumu ne şekilde geliştireceklerini öğrenmek ile kalmazlar; toplumun ilerlemesine de katkıda bulunurlar.

  2.   Çekirdek (CORE) Tasarımı:

Konu merkezlidir ve genel eğitim üzerine odaklaşır.

Tasarımlar, öğrenci sisteme girmeden önce yapılır.

Öğrencinin toplumun sorunlarını görmesini ve bu konulara eğilmesini amaç edinir.

Okullarda ayrı ayrı ders konularının öğretilmesine ve toplumsal gelişmenin işlevsel olmayışına bir tepki olarak ortaya çıkmıştır.

  3.   Toplumsal Sorunlar ve Yeniden Kurmacılık Tasarımı:

Bu tasarımcılar, toplumun sosyal, politik, ekonomik gelişmelerinin program tasarımı ile bağlantısı konusu üzerinde ilgilenirler.

Bu yaklaşıma göre zamanın, sürekli olarak toplumu değiştirmeye zorladığı savı ön plândadır.

Eğitim Teknolojisi – Öğretim Teknolojisi – Bireysel Öğretim Teknolojisi Ve Programlı Öğretim

Eğitim Teknoloji: Öğrenme sürecinde her öğrencinin bireysel nitelikleri göz önünde bulundurularak öğretmenin doğrudan karışmasına gerek kalmadan, öğrencinin kendi kendine öğrenmesine olanak veren bir öğrenme sürecidir. (Hızal, 1984 : 262)

Öğretim Teknolojisi:Öğrenme-öğretme ortamının en etkin şekilde düzenlenmesi için gösterilen sistematik ve planlı etkinlikler bütünüdür. (Şahin ve Yıldırım, 1999 : 4)

Bireysel Öğretim Teknolojisi: Tandoğan'a (1982: 23-26) göre, bireysel öğretimi büyük ölçüde öğrencinin çeşitli araçlardan oluşturulmuş bir ortamda kendi kendini yönlendirdiği ve kendi kendine uyguladığı öğrenme deneyimlerinden oluşan bir yöntem olarak tanımlamaktadır. (Akt: Uşun, 2000: 13)

Programlı Öğretim: Öğrenme psikolojisi alanında yapılan araştırmalara dayalı olarak ortaya çıkmış bir öğrenme öğretme tekniğidir. (Hızal, 1984: 162)

Program Hazırlama

Program hazırlama konusunda düşey ve yatay programlama olmak üzere iki yaklaşım vardır. Düşey Programlama Yaklaşımı; Çalışmaların tümü tek bir programcı tarafından yürütülür. Yatay Programlama Yaklaşımı; Çalışmalar bir ekip yaklaşımıyla gerçekleşir.(Uşun, 2000 : 31).

Program hazırlama çalışmaları genellikle; programlanacak konunun belirlenmesi için Hazırlık Aşaması, materyali kullanacak öğrencilerin düzeyine uygun, açık ve anlaşılır olması için Yazma Aşaması ve programın eksik yönlerini bulup saptamak için Deneme Aşaması olmak üzere üç aşama izlenmektedir. (Uşun, 2000 : 31)

Öğretim Araç Gereçleri

Öğrenme öğretme etkinliklerinde yerine getirdikleri işlevler dikkate alınarak üç ana grupta toplanmaktadır. (Büyükkaragöz ve Çivi, 1994) Bu gruplar; Az uyabilen öğretme makineleri, Kısmen uyabilen makineler ve Tamamen uyabilen öğretme makineleri

Programlı Öğretim Modelleri

Doğrusal Program Modeli: Skinner modeli" olarak da bilinir. Şartlanma öğrenme modelinin eğitimde kullanılması yönünde bir girişimdir. (Küçükahmet, 1997: 119). Bu program modelinde, öğrenilmesi istenilen bilgiler madde, çerçeve veya küçük adımlar halinde aşamalı olarak öğrenciye sunulur.

Dallara Ayrılan Program Modeli: "Crowder Modeli" de denilen dallara ayrılan program modelinde öğrenme kuramları ile herhangi bir varsayımdan hareket edilmez. Bu modelde, öğrenmede, her öğrenci aynı yolu izlememektedir.

Atamalı Dallara Ayrılan Program Modeli: Bu program modeline Karma Program Modeli de denilmektedir. Leiris tarafından geliştirilmiştir. Doğrusal program modeli ile dallara ayrılan program modelinin bir arada kullanılabileceği görüşü, karma programların ortaya çıkmasına yol açmıştır. (Uşun, 2000: 30)

Bilgisayar Destekli Öğretim

Bilgisayar destekli öğretim; bilgisayarların öğretimde kullanılmasının en zor fakat umut vaat edenidir. Diğer kullanım biçimlerine göre öğretmenlerin yetiştirilmesi, uygun donanımın belirlenmesi ve ders programlarıyla tutarlı ders yazılımlarının sağlanması gibi yetenek, uzmanlık, çaba, zaman ve para gerektiren karmaşık ve uygulanması oldukça güç bir kullanım biçimidir.

Bilgisayar Destekli Öğretimin Amaçları

Bilgisayar destekli öğretimini amaçları; Öğrenme sürecini hızlandırmak, ucuz ve etkili öğretimi gerçekleştirmek, öğretimde sürekli olarak niteliğin artmasını sağlamak ve bireysel öğretimi gerçekleştirmek gibidir.

Bilgisayar Destekli Öğretim Modelleri

Öğretimsel Model: Temelde programlı öğretime dayanmakta ve bilgisayar sabırlı bir yardımcı gibi kullanılmaktadır.

Hipotezci Model: Öğrenciye hipotez formüle etmede yardımcı olunmakta ve bu model bilginin, öğrencinin yaşantıları yoluyla yaratılması gerektiği düşüncesine dayanmaktadır.

Açıklayıcı Model: Bilgisayar, öğrenci ile gerçek yaşamın gizli modeli ya da benzeşimi olarak, ilerledikçe konuyu keşfederek öğrenmesi esas alınmaktadır.

Arındırılmış Model: Bilgisayar öğrencinin çalışma yükünü azaltma aracı olarak kullanılmakta ve öğrenciye hesaplama, bilgi işlem vb. olanaklar sağlamakta ve onu desteklemektedir.

Program Tasarısı Hazırlama

Hedef

Planlanmış ve düzenlenmiş yaşantılar yoluyla bireyde gözlenmesi kararlaştırılan istendik özelliklerdir (Demirel 2004; Sönmez 1994).

Bilgisayar destekli eğitimde Hedef saptamada istendik davranışların belirleyicileri teknoloji, bilgisayar, konu alanı ve bireydir. Bu belirleyiciler dikkate alınarak saptanan aday hedefler eğitim psikolojisi, eğitim felsefesi, eğitim ekonomisi ve eğitim sosyolojisi süzgeçlerinden geçirilmelidir.

İÇERİK

Eğitim programının içerik boyutunda "ne" öğretelim sorusuna yanıt aranmaktadır. İçeriğin düzenlenmesi sürecinde öğretilecek konular, içeriğin hedeflerle tutarlılığı ve aşamalı olması dikkate alınmaktadır. İçeriğin seçiminde ele alınması gereken temel ilkeler arasında somuttan soyuta, basitten karmaşığa, kolaydan zora, bütünden parçaya ya da parçadan bütüne, günümüzden geçmişe, olaylardan kavrama ve genellemelere, yakın çevreden uzak çevreye doğru bir düzenleme söz konusudur. İçeriğin seçiminde ele alınması gereken ölçütler aşağıdaki gibi belirlenmiştir (Demirel 2004):

Kendi kendine yeterlilik

Anlamlılık

Geçerlilik

İlgililik

Yararlılık

Öğrenebilirlik

Ekonomiklik

- 1. Doğrusal Programlama Yaklaşımı: Birbiri ile ardışık, yakın ilişkili ve zorunlu ya da önkoşul öğrenmelerin düzenlenmesinde kullanılmaktadır. Aşamalılık özelliği taşıyan dersler için kullanılır.

- 2. Sarmal Programlama Yaklaşımı: Konuların yeri geldikçe tekrar öğretilmesi söz konudur. Her konunun kendi içindeki konular arasında bir ardışıklık bulunmaktadır.

- 3. Modüler Programlama Yaklaşımı: Öğrenme üniteleri modüllere ayrılır. Her modül kendi içinde farklı bir programlama yaklaşımıyla düzenlenebilir ve kendi içinde anlamlı bir bütün oluşturur.

- 4. Piramitsel ve Çekirdek Programlama Yaklaşımı: İlk yıllarda geniş tabanlı konuların yer aldığı giderek uzmanlaşmanın küçük birimlerde olduğu ve daraldığı bir yaklaşım tarzıdır.

- 5. Konu Ağı-Proje Merkezli Programlama Yaklaşımı: Öğrencilere konuların ağı bir harita gibi çıkartılıp verilir ve belirli zamanlarda nerelerde olmaları gerektiği söylenir.

- 6. Sorgulama Merkezli Programlama Yaklaşımı: Öğrencilerin sorularına ve gereksinimlerine göre oluşturulur.

Öğrenme-Öğretme Süreci (Eğitim Durumları)

Öğrencilere istenilen davranışların kazandırılmasını sağlayan öğrenme yaşantılarının düzenlenmesi bu aşamada gerçekleşmektedir. Eğitim durumları öğrenci açısından öğrenme yaşantıları düzeneğini, öğretmen açısından öğretmen yaşantıları düzeneği olarak ele alınır. Eğitim durumlarının düzenlenmesinde ele alınan önemli özellikler bulunmaktadır;

Hedefe göre,

Öğrenciye göre,

Ekonomiklik

Diğer yaşantılar ile kaynaşık olmadır (Ertürk 1997; Demirel 2004).

Öğrenme Stratejileri

Öğrenme stratejileri bireyin öğrenme sırasında duyularına gelen uyarıları kısa ve uzun süreli belleğe transfer etmesini ve uzun süreli belleğe kodlamasını sağlayan teknikleri içerir. Öğrencinin güdülenmesini ve öğrenilen davranışların kalıcı olmasını sağlar (Erden ve Akman 1995). Öğrenenler yeni öğrendikleri ile geçmiş yaşantılarında kazandıkları bilgileri bütünleştirmek ve bilgiyi anlamlandırmak için "tekrar, anlamlandırma ve örgütleme" öğrenme stratejilerinden yararlanabilirler.

Sınama Durumları (Değerlendirme)

Değerlendirme ölçme sonuçlarını bir ölçütle vurup yargıya varma sürecidir (Özçelik 1992). Öğrencide gözlemeye karar verdiğimiz doğrudan ve dolaylı davranışları kazanıp kazanmadığını; kazandıysa ne ölçüde kazandığını, kazanmadıysa neden kazanamadığını, kazanabilmesi için eğitim sisteminde neler yapılması gerektiğini belirleme sınama durumunun kapsamı içindedir (Sönmez 1994).
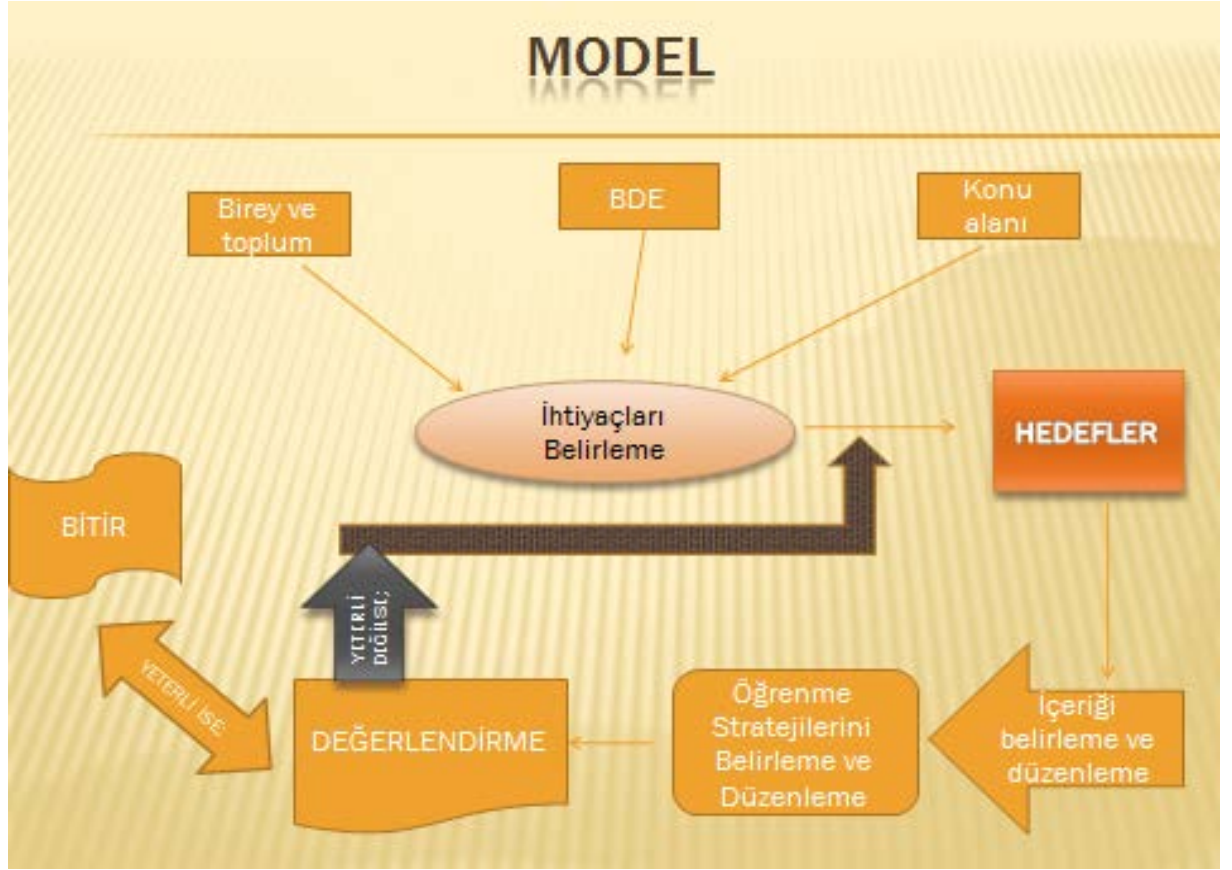
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BİLGİSAYAR DESTEKLİ EĞİTİMİN TANIMI

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BDE'ye Genel Bir Bakış

Her çağın kendine özgü gerekleri bulunmaktadır. Yirmi birinci yüzyılın ilk yıllarını geride bıraktığımız bu yıllarda hızla gelişen teknolojiye uyum sağlama çalışmaları halen devam etmektedir. Teknolojinin hızla gelişmesi için ne kadar çaba sarf ediliyorsa, bir o kadar da teknolojik çağa uyum ve teknoloji eğitimi için çaba sarf edilmektedir. Bu durum tüm ülkelerin eğitim sistemlerini derinden etkilemektedir.

Eğitimin alan çeşitliliği, bilgi donanımlı insan ihtiyacını artırmaktadır. Eğitimi daha yaygın, verimli ve kaliteli hale getirmek için teknolojinin imkanlarından fazlasıyla yararlanılmaya başlanmıştır. Bir çok araştırmacı yaptıkları çalışmalarda, bilgisayar destekli öğretim ile geleneksel eğitim karşılaştırıldığında bilgisayar destekli öğretimin başarısının daha yüksek olduğunu bildirmişlerdir. Yirminci yüzyılda eğitime neredeyse damgasını vuran Bilgisayar Destekli Eğitim, artık eğitimin temelini oluşturma yolundadır.

Öğretmen bilgisayar destekli eğitimde konuyu işlerken sahip olduğu donanım ve yazılım olanaklarına, öğreteceği konunun ve öğrencilerin özelliklerine, belirlediği öğretim hedeflerine göre bilgisayarı değişik yer, zaman ve şekillerde kullanabilir.

- Öğretmen konuyu sınıfta geleneksel yöntemlerle işler. Dersi kaçıran, başarısız olan ya da öğrenme ihtiyacında olan öğrencilere konuyu bilgisayar yardımıyla öğrenme fırsatı verebilir. Böylece bilgisayar özel öğretmen görevini üstlenebilir.
- Öğretmen konuyu sınıfta işledikten sonra, alıştırma, uygulama ve değerlendirme çalışmalarını bilgisayar yardımıyla yapabilir.
- Konu bilgisayar yardımıyla öğretilir, öğretmen danışmanlık yapar, öğrenme eksiklerini tartışma yöntemiyle giderebilir, öğrencileri denetleyerek hatalarını düzeltir (Aşkar & Erden, 1986, s. 23).

Eğitimde Teknolojinin Rolü Nedir?

Teknoloji insan oğlunun hayatının her alanında önemli bir yere sahip olmayı başarmıştır. Her alanda olduğu gibi eğitim alanında da büyük yenilik ve değişimlere vesile olmuştur. Uzmanlar bu değişimi anlama geliştirme için yoğun çalışmalar sürdürmektedirler. Eğitimde yapılan bu değişiklikler mali yük getirmesinin yanında bazı mali yükleri de kaldırmıştır. Örneğin okullarda bilgisayar sınıfı kurmak maliyet getirirken çocukların ödevlerini elektronik ortamda hazırlayıp teslim etmeleri maliyet azaltıcı bir uygulamadır.

Eğitimde büyük devrim yapan teknoloji eğitimde görev alacak personel için gereken yeterlilikleri de değiştirmiştir. Teknolojinin kullanıldığı bir eğitim ortamında görev alacak personelin hem teknolojiyi hem de öğrencileri aynı anda yönetmesi gerekmektedir. Bu bakış açısıyla düşünürsek teknoloji öğretmenlerin yüklerini hafifletirken aynı zamanda da ek yükler getirmiştir.

Engler teknolojiyi eğitimin ayrılmaz bir parçası olarak görmektedir. Şöyle der: "eğer eğitim her yönüyle öğretmen, öğrenci, ve çevre arasındaki bir iletişim ağı olarak görülürse, o zaman öğretim teknolojisinin bu ilişkileri tanımlamada önemli bir görevi olduğu anlaşılabilir" (Engler, 1972).

Eğitim teknolojisi öğrenme sürecini geliştirmek için oluşturulan her türlü sistemi, tekniği ve yardımı içerir. Böyle bir yapıda şu 4 özellik önemlidir: öğrencinin ulaşması hedeflenen amaçların tanımlanması; öğrenilecek konunun öğretim ilkelerine göre analiz edilip, öğrenilmeye uygun şekilde yapılandırılması; konunun aktarılabilmesi için uygun medyanın seçilip kullanılması; dersin ve derste kullanılan araçların etkililiğini ve

öğrencilerin başarı durumlarını değerlendirmek için uygun değerlendirme yöntemlerinin kullanılması (Collier et al., 1971, Gentry 2004).

Bilgisayar Destekli Eğitime yol açan olgular nelerdir?

Eğitim isteğinin artması, öğrenci sayısının ve bilgi miktarının çoğalması, öğretilecek içeriğin karmaşıklaşması ve bireysel eğitimin önem kazanması gibi nedenlerle bilgisayarın eğitimde kullanılmaya başlaması, Bilgisayar Destekli Eğitim uygulamalarını başlatmıştır.(ODABAŞI, 2010)

Eğitimin temel öğelerinden biri, öğretme ve öğrenme etkinlikleridir. Eğitim amaçlarının gerçekleşmesinde öğretim ve öğretme süreçlerinin etkililiği ise büyük ölçüde öğretmene ve onun öğretme ortamında kullandığı materyaller (her türlü araç gereçler) ve uygulamış olduğu yöntemlere bağlıdır. İnsan hayatındaki en önemli süreçlerden biri olan eğitim, günümüzün gereksinimlerine yanıt verebilmek için gelişen teknolojinin olanaklarıyla donanmak ve düzenlenmek zorundadır.

Bilgisayarın eğitimde kullanılması bu yolda atılmış gerekli bir adımdır. Eğitimin bireylere daha etkili ve verimli bir şekilde verilebilmesi için çeşitli eğitim materyallerinden yararlanılmaktadır. Günümüzde eğitim kurumlarında geleneksel yöntemlerle ve araç gereçlerle yapılan eğitimin ve öğretimin yerini bilgi teknolojilerinden faydalanılarak oluşturulan çoklu öğrenme ortamına bırakmaktadır. Bu durum eğitim faaliyetlerinde etkili olmakta ve bilgi teknolojileri kullanımının bu alana özellikle bilgisayar aracılığıyla girmesine neden olmaktadır.

Bilgisayarların öğrenme ve öğretme ile ilgili bütün faaliyetlerde kullanılması bilgisayar destekli eğitim olarak tanımlanabilir. Bilgisayar destekli eğitim denildiğinde eğitim öğretim etkinlikleri sırasında eğitimi zenginleştirmek ve kalitesini yükseltmek için öğretmene yardımcı bir araç olarak bilgisayardan yararlanılması anlaşılmaktadır. Bilgisayar destekli eğitimin amacı, eğitimi bireyselleştirmektir. Bilgisayar destekli eğitim, diğer eğitim ortamlarından farklı özelliklere ve farklı değişkenleri kontrol edebilme yeteneğine sahiptir. Ayrıca bilgisayar destekli eğitimde, öğretmen veya öğrencilerin mekândan bağımsız, kişiden bağımsız, zamandan bağımsız olarak bilgisayar teknolojilerini eğitim-öğretim amaçları doğrultusunda kullanmalarını da amaçlamaktadır .

ABD'deki Texas Üniversitesinde Philips tarafından yapılan araştırma sonuçlarına göre insanlar; okuduklarının %10'nunu, görüp işittiklerinin %50'sini,işittiklerinin %20'sini, söylediklerinin %70'ini, gördüklerinin %30'unu, yapıp söylediklerinin %90'ını hatırlamaktadırlar. Zaman faktörü sabit tutularak elde edilen bu oranlar, sınıf içinde çok ortamlı öğretme durumunun düzenlenmesi gerektiğini göstermektedir.

Çoklu ortamlı öğretme durumunun gerçekleşmesi ise bilgisayar destekli eğitim ile mümkün olabilmektedir .Yine yapılan araştırmalara göre, bilgisayar destekli eğitim sayesinde verimlilik %10-%90 arasında artmakta, sınıf ortamına göre ise %60 daha hızlı öğrenme gerçekleşmekte ve hatırlama süresinde ise %25 ile %60 arasında artma olmaktadır .

Eğitim Teknolojisinin Yararları

Eğitim teknolojisinin yararları ile ilgili birçok araştırma yapılmıştır. (Alkan 1997, s.41) Bu konuda yapılan araştırmaların ortaya koyduğu verilere göre, eğitim sistemi için eğitim teknolojisinin genel olarak sisteme ve özel olarak bireye sağlayabileceği yararları; serbesti, birinci kaynaktan bilgi, fırsat eşitliği, çeşitlilik ve kalite, yaratıcılık, kopya edilebilen bir sistem, üretken eğitim ve hızlı öğrenme ve bireysel öğretim şeklinde sıralamıştır. (Rıza 1997, ss.67–79) eğitim teknolojisinin yararlarını dolaylı ve dolaysız olarak iki sınıfa ayırarak ele almıştır.

Rıza'ya göre eğitim teknolojisinin dolaylı yararları şunlardır:

1. Yaratıcılığa sevk eder.

2. Öğretmenin rolünü genişletir.

3. Fırsat eşitliği yaratır.

4. Motivasyon yaratır.

5. Eğitimi bireyselleştirir.

6. Serbest eğitimi sağlar.

7. Birinci kaynaktan bilgiyi sağlar.

8. Kopya edilebilen bir sistem oluşturur.

Eğitim teknolojisinin dolaysız yararları ise aşağıda maddeler halinde sıralanmıştır:

1. Öğrenmeyi kolaylaştırır

2. Aktif öğrenmeyi sağlar.

3. Somut öğrenmeyi gerçekleştirir.

4. Aşamalı öğrenmenin temelini kurar.

5. Düşüncede sürekliliği sağlar.

6. Üretimi artırır.

7. Değişik sınıf ve düzeylerde özel hedefleri gerçekleştirir.

Özbilgin (1991) ise, eğitim teknolojisinin yararlan konusunu eğitimde nitelik geliştirme açısından ele almış ve okullarda öğrencilere belirlenen niteliklerin (hedeflerin) eğitim yoluyla kazandırılmalarında eğitim teknolojisinin işlevinin, "tam öğrenme" yi (belirlenen niteliklerin tümünü) gerçekleştirmek ve eğitim sürecindeki öğrencilerin tümüne istenen nitelikleri kazandırmak olacağını belirtmiştir.

Eğitim-öğretimde teknoloji uygulamaları;

1. Merak, tasarımcılık ve ekip çalışmasını gerçekleştirmek,

2. Öğretmenin rolünün değişmesi,

3. Çıraklık modelinin yeniden ortaya çıkması,

4. Öğrencilerin korku ve çekingenliğini azaltması,

5. Davranış problemlerinin azalması ve konsantrasyonla kendine güvenin geliştirilmesi,

6. Daha fazla bilgiye erişim,

7. Medyanın aşırı yüküne erişmek için daha zengin bilgi ortamı sağlaması,

8. Sınıfın duvarlarını yıkarak ev, şehir ve dünyayı bir araya getirmek gibi kolaylıklar sağlamaktadır (Şimşek, 1999, s.14).

Yukarıdaki açıklamalardan da anlaşılacağı üzere eğitim teknolojisi, eğitim uygulamalarında oldukça önemli yararlar sağlamaktadır. Eğitim teknolojisinin yararları genel bir yaklaşım ile;

1. Genel olarak eğitim bilimleri ve eğitim sistemine,

2. Özel olarak bireye (öğrenciye),

3. Eğitimde insan gücüne (öğretmen, uzman, yönetici v.b.),

4. Öğrenme-öğretme sürecine,

5. Kitle eğitimine getirdiği yararlar şeklinde sınıflandırılabilir.

Bu çerçeve içinde, eğitime teknolojiyi yerleştirmeye karar vermiş olan çeşitli disiplinlerden bir dizi araştırmacının yapması gereken çok çeşitli araştırmalar olduğu söylenebilir. Bunlar yazılımın, donanımın ve uygulayıcı öğretmenlerin sahip olması gereken niteliklerden uygulama yaklaşımına kadar geniş bir yelpazeye yayılan araştırma konularıdır.

Donanım konusunda; bilgisayarın sahip olması gereken hız, bellek gibi temel özelliklerin değerlendirilmesi ilk akla gelen araştırma konuları arasında sayılabilir. Ancak bunlardan daha önemli olarak, farklı özelliklere sahip, hatta farklı kuşaklardan bilgisayarların uyum sorunlarının araştırılmasının gerekliliği vurgulanabilir. Bu arada bilgisayarların girdikleri alanın ihtiyaçlarına göre şekil değiştirebilme potansiyelleri dikkate alınmalı ve eğitim dünyasının donanım üreticilerinden ne istediği sürekli olarak değerlendirilmelidir. Yazılım konusunda yapılması gereken araştırmaları sadece sıralamak bile yeterince zor görünmektedir.

Ekranda kullanılacak renkler yada resimlerin ve yazıların ekrandaki konumları gibi *estetik-ergonomik* sorunların yanı sıra, yazılımların farklı bilgisayarlarda çalışabilmelerini sağlamak gibi *teknik,* yazılım maliyetlerini makul düzeyde tutmak gibi *ekonomik* sorunlardan söz edilebilir. Yazılımların bakımı ve yönetimi başlı başına bir araştırma alanı olarak görülebilir Ama kuşkusuz en önemli problem alanı, yazılımların üretilmesi ve değerlendirilmesinde kullanılabilecek *eğitsel* ilkelerde ortaya çıkmaktadır. Programın eğitim ilkelerinin ne ölçüde geçerli olduğundan, kullanılacak dilin sahip olması gereken özelliklere kadar birçok araştırma konusu, BDE'nin *nasıl daha verimli hale getirebileceğini* araştırmak isteyen araştırmacıları beklemektedir.

Uygulamada görev alacak öğretmenlerin sahip olması gereken niteliklerin nasıl kazandırılacağı da temel problem alanları olarak görülmektedir. Bu anlamda bir dizi soru cevaplandırılmayı beklemektedir. Bu soruların bir bölümü aşağıdaki gibi sıralanabilir: Öğretmen donanımdan ne kadar anlamalı, işletim ve programlama dilleri konusunda ne kadar bilgi sahibi olmalı? Mevcut öğretmenlere bu bilgiler nasıl kazandırılır? Yeni öğretmen adaylarına nasıl bir eğitim programı uygulanmalı ve bu eğitim programlarını uygulamak için gerekli olan araç-gereç ve personel nasıl sağlanmalıdır?

Son olarak, donanım, yazılım ve öğretmenlerden meydana gelen temel kaynakların nasıl örgütleneceği ve zaman içinde nasıl iyileştirileceği gibi sorunları içeren uygulama yaklaşımına değinilebilir. Sınıf içinde mekânsal düzenlemeden, farklı hızlardaki öğrencilerin aynı müfredatı bireysel bir yaklaşımla izlemesinin nasıl sağlanacağına kadar bir dizi sorun henüz çözülememiştir. Ama sadece sınıf içindeki uyulama sorunlarının çözümü yeterli değildir.

Bilgisayarların bakımı gibi veya okullar arasındaki farklılıklara uygun tepkiler geliştirmek gibi *teknik* düzeyde problemlerin yanı sıra, öğretmenlerin motivasyonunu sağlamak gibi *taktik* ve eğitim sisteminin top yekûn şekillenecek imkân ve ihtiyaçlara göre düzenlenmesi gibi "stratejik" sorunlara da çözüm aramak gerekmektedir (Taşçı, 1990, s.102).

Bilgisayarların Öğretim Alanında Kullanımı

Bilgisayarlar okul sistemlerine girerek öğretim alanında da kullanılmaya başlanmıştır. Öğretme-öğrenme etkinliklerini bireysel ihtiyaçlara cevap verecek şekilde düzenlemek, eğitim hizmetlerini daha verimli ve etkili bir biçimde yürütmek ve çağdaş bir öğretme-öğrenme ortamı yaratmak amacıyla diğer araçlar gibi bilgisayarlar da geniş ölçüde kullanılmaktadır. Kullanım şekillerine baktığımızda iki boyut ortaya çıkmaktadır;

1.Bilgisayar için eğitim: Bu kendi içinde üç bölümde incelenebilir:

a.Bilgisayar okur-yazarlığı: Toplumun bütün kurum ve süreçlerini etkileyen bilgisayarla bir arada yaşayabilmek için zorunlu bilgi ve anlayışı kapsar.

b.Yazılım eğitimi: Bireyin kendisi yada başkaları için gerekli yazılımları geliştirme, geliştirilmiş olanları kullanma ve kullanacaklara yardımcı olma gibi yetenek ve becerileri kazandırır.

c.Donanım eğitimi: Bilgisayar donanımlarının tasarımından bakım ve onarımına kadar uzanan akademik ve mesleki yeterlilikleri amaçlar.

2.Eğitim için bilgisayar: Bu da kendi içinde üç bölümde incelenebilir:

a.Bilgisayar denetimli öğretim: Herhangi bir konuda öğrencinin öğrenme süreçlerinin bilgisayarla yönetilmesidir. Her öğrencinin öğretimin amaçladığı davranışları kazanıncaya kadar yapması gerekenleri gösterir ve yaptıklarının kaydını tutar.

b.Bilgisayara dayalı öğretim: Herhangi bir konuda diğer öğretim donanımlarından bağımsız, tek başına yeterli bir öğretici kaynak olarak bilgisayarın eğitimde kullanılmasıdır. Cooper (1988, s.207) BDÖ ve bilgisayar yönetimli öğretimi bilgisayara dayalı öğretimin iki temel fonksiyonu olarak ele almıştır.

c.Bilgisayar destekli öğretim (BDÖ): Öğretim sürecinde bilgisayarın seçenek olarak değil, sistemi tamamlayıcı, sistemi güçlendirici bir öğe olarak kullanılmasıdır. Bilgisayarların öğretimde kullanılması konusunda yapılmış olan uluslar arası düzeydeki çeşitli araştırmalarda (Gleoson, 1981; Taber, 1983) konu; okul sistemi, öğrenci, öğretmen, öğrenme ortamı, geleneksel yöntemle kıyaslama ve araştırma gereksinimi gibi açılardan ele alınmıştır.

Araştırmalarda şu alanlarda daha çok araştırma gereksinimi olduğu üzerinde durulmuştur:

1. Bilgisayar kullanımında öğretmenin rolü,

2. Öğretim uygulamalarında bilgisayarın etkisi,

3. Bilgisayar kullanımının mevcut program içine bütünleşmiş edilmesi (Slaughter ve Brown, 1993hs.10 ve 15).

Gleason (1981, s. 7 -18) ise çeşitli araştırma sonuçlarına göre şu yargılara varmıştır:

1. Bilgisayar öğrencilerin öğretim hedeflerine ulaşmasına yardımcı olmaktadır.

2. Geleneksel öğretimle karşılaştırıldığında; bilgisayar programları, öğrenme zamanında % 20 ile % 40 arasında tasarruf sağlamaktadır.

3. Bilgisayarın öğretim alanında kullanılması, geleneksel öğretime oranla, öğrenci başarısını olumlu yönde etkilemekte ve motivasyonu arttırmaktadır.

4. Bilgisayar destekli öğretimin başarısında eğitsel (ders) yazılımların etkililiği önemli rol oynamaktadır.

Bde'nin İçindeki Tanımlar

Eğitim Nedir?

Bireyin ve toplumun yaşantısını şekillendiren en önemli öğe eğitimdir. Bu nedenden dolayı insanlığın var oluğundan bu yana eğitim üzerinde düşünülmektedir. İnsanlık var olduğundan beri eğitim bir şekilde devam etmektedir. En iyi eğitimin sağlanabilmesi için ise öncelikle eğitimin ne olduğu tanımlanmalıdır. Eğitim sözcüğü sürekli olarak çok farklı anlamlarda kullanılmıştır. Değişik tanımlardan sadece birini benimsemek diğerlerini yok

saymak eğitimin ne olduğunu anlamayı zorlaştıracaktır. Eğitimin tanımını yapan araştırmacılardan bazılarının tanımları aşağıda verilmiştir.

Klasik anlamda eğitim, belli bir konuda, bir bilgi ya da bilim dalında yetiştirme ve geliştirme işidir (Hançerlioğlu, 1992).

Eğitim bireyin zihninde ve davranışlarında kalıcı izli gelişme gösterdiği süreçler bütünüdür (İşman, 2005). Alkan ise eğitimi davranış geliştirme, yetenek geliştirme, bilgi-beceri ve tutum kazanma süreci olarak tanımlamıştır (Alkan, 2005).

Eğitim, bireyin toplumsal yeteneğinin ve en elverişli düzeyde kişisel gelişmesinin elde edilmesi için seçilmiş ve denetimli bir çevreyi içine alan toplumsal bir süreçtir (Tezcan, 1996).

Eğitim, planlı, programlı, belirli bir amaçla belirlenmiş, toplumsal ve bireysel hedeflere doğru yapılan ve yaşam boyu devam eden uygulamalı bir süreçtir (Baytekin, 2004).

Eğitim, bireyin davranışında kendi yaşantısı yoluyla ve kasıtlı olarak istendik değişme meydana getirme sürecidir (Ertürk, 1988).

Eğitim, toplumun genç üyelerinin, var olan kültüre, yetişmiş üyeler tarafından bilinçli, amaçlı ve düzenli bir biçimde hazırlanması sürecidir (Ozankaya, 1984).

28 Eğitim yoluyla kişinin amaçları, bilgileri, davranışları ve ahlak ölçüleri değişmektedir. (Varış, 1988).

Eğitim bir süreçtir. Eğitim bugünden yarına başlayıp bitmez. Zaman ve kapsam bakımından çok geniş ve çok yönlü bir süreçtir (Gültekin, 2005).

Yukarıdaki tanımlardan yola çıkarak eğitimi bireyin yetişmiş üyeler tarafından yönlendirerek toplumun arzu ettiği özelliklere sahip olması, toplumsal ve bireysel hedefleri gerçekleştirebilmesi için yaşam boyu devam eden bilgi-beceri ve tutum kazanma süreci olarak tanımlayabiliriz.

Teknoloji nedir?

Günlük hayatta teknoloji kelimesi çok fazla kullanılmakta ve gerçek anlamının dışında birçok anlamı içinde taşımaktadır. Teknoloji bilimsel bilgi ve gelişmelerin pratik amaçlara uygulanması, bu uygulamanın sonucunda elde edilen metot, süreç ve araçların tümü ve malzeme ve nesnelerin, gereksinimleri karşılamak için her türlü araç olarak kullanımı şeklinde tanımlanabilir. Böyle birkaç tanımı içinde barındırması yüzünden günlük hayatta çok geniş anlamlarda kullanılmaktadır. Teknoloji denildiği zaman birçok kişinin aklına gelişmiş makineler gelmektedir. Ama teknolojinin bundan çok farklı bir anlamı vardır.

Uluslararası Teknoloji Eğitimi Birliği (International Technology Education Association - ITEA) (2007) tarafından teknoloji, algılanan insan ihtiyaçlarını ve isteklerini karşılamak üzere doğal çevrenin değiştirilmesi, yenileştirilmesi ve dönüştürülmesi olarak tanımlanmıştır. İşman teknolojiyi "Teknoloji kelimesi kullanıldığında hemen hemen herkes fiziksel donanım anlamaktadır. Hâlbuki teknolojinin kuramsal boyutu da bulunmaktadır. Teknoloji, fiziksel donanım ve kuramsal boyutları ile birlikte değerlendirilmelidir." şeklinde tanımlamıştır (İşman, 2005).

Teknoloji makine kullanımının yanı sıra sistemler, işlemler, yönetim ve kontrol mekanizmaları yardımıyla, hem insandan hem de eşyalardan kaynaklanan sorunlara, teknik çözüm olasılıklarına ve ekonomik değerlerine uygun çözüm üretebilmek için bir bakış açısıdır (Finn, 1960).

Alkan''a göre teknoloji en genel anlamda kazanılmış yeteneklerin işe koşulmasıyla doğaya egemen olmak için gerekli işlevsel yapılar oluşturma olarak ifade edilebilir (Alkan,2005).

Teknoloji, insanın bilimi kullanarak, doğaya üstünlük kurmak için tasarladığı rasyonel bir disiplindir (Simon, 1983). Teknoloji, kapsadığı makineler, işlemler, yöntemler, süreçler, sistemler, yönetim ve kontrol mekanizmaları gibi çeşitli öğelerin bir araya getirilmesiyle oluşan ve bilim ile uygulama arasında köprü görevi gören bir disiplin olarak tanımlanabilir (Alkan, 1997). Teknoloji, belirlenen hedefleri gerçekleştirmede, gereksinimleri karşılamada ve yaşamı kolaylaştırmayı sağlamada kullanılan bilgileri organize etmek için yapılan pratik uygulamalardır (İşman, 2005).

Tanım olarak teknoloji kavramı "bir mal veya hizmeti üretmenin toplumsallaşmış bilgisidir" (Atabek, 2001).

Teknoloji somut ve deneysel anlamda temel olarak teknik yönden yeterli küçük bir grubun örgütlü bir hiyerarşi yardımıyla bütünün geri kalanı üzerinde denetimi sağlamasıdır (McDermott, 1981).

Eğitim Teknolojisi nedir?

Eğitim teknolojisi kavramı eğitim ve teknoloji kavramlarının kesişim noktasını oluşturmaktadır. Yukarıda ayrı ayrı eğitim ve teknoloji terimlerini inceledik. Bu terimlerden yala çıkarak eğitim teknolojisi kavramını bireylerde istendik davranış değişikliğini en kolay ve en etkili şekilde oluşturabilmek için işe koşulan pratik uygulamalardır şeklinde tanımlayabiliriz. Eğitim teknolojisi kavramı ile ilgili uzmanların tanımları ise şöyledir.

Eğitim teknolojisi; Davranış Bilimlerinin iletişim ve öğrenme ile ilgili verilerine dayalı olarak, eğitimle ilgili ulaşılabilir insan gücünü ve insan gücü dışı kaynaklarını uygun yöntem ve tekniklerle akıllıca ve ustaca kullanıp sonuçları değerlendirerek, bireylere eğitimin özel amaçlarına ulaştırma yollarını inceleyen bilim dalıdır (Çilenti, 1988).

Eğitim teknolojisi, öğrencilerin, kendileri için söz konusu olan eğitimin özel amaçlarına ulaşmalarını sağlayacak yaşantıları saptama ve onlara bu yaşantıları kazandıracak eğitim durumlarını seçip uygulama sürecidir (Çilenti, 1998 akt:İşman, 2005).

Eğitim teknolojisi öğrenmeyle ilgili sorunların analizi ve çözümünde insanları, yöntemleri, düşünceleri, araç-gereçleri ve organizasyonu içeren karmaşık ve tümleşik bir süreçtir (Ergin, 1991). Eğitim teknolojisi, değişik bilimlerin verileri, özel hedef, yöntem, araç ve gereç, ölçme ve değerlendirme gibi eğitimin geniş alanlarında uygulamaya koyan, uygun maddi ve manevi ortamlarda insan gücünün en iyi şekilde kullanılmasını, eğitim sorunlarının çözülmesini, kalitenin yükseltilmesini, verimliliğin arttırılmasını sağlayan bir sistemler bütünüdür (Rıza, 2000).

Eğitim Teknolojisi bireyde istendik davranışları meydana getirmek ve programın belirlediği özel amaçlara ulaşma sürecinde kullanılabilecek araç, gereç ve tekniklerin tümüdür (Çorlu ve diğer, 1991).

Eğitim teknolojisi; öğrenmenin her aşamasında, sorunların çözümlenmesi, tasarımlanması, uygulanması, değerlendirilmesi ve sorunlara çözüm üretilmesi için insan, yöntem, amaç ve örgütlenmeyi içeren karmaşık bir süreçtir (Yurdakul, 1996).

Eğitim teknolojisi eğitim programının bütünü ile ilgilenen, belirlenen hedeflere erişebilmek için gerekli yol ve yöntemlerle birlikte öğretme-öğrenme süreçlerini sistematik biçimde tasarlama, uygulama, değerlendirme ve geliştirmeyi esas alan bir disiplindir (Özkul, 2001).

Genelde eğitime, özelde öğrenme durumuna egemen olabilmek için ilgili bilgi ve becerilerin işe koşulmasıyla öğrenme veya eğitim süreçlerinin işlevsel olarak yapısallaştırılmasıdır (Alkan, 2005).

Öğrenme-öğretme süreçlerinin tasarlanması, uygulanması, değerlendirilmesi ve geliştirilmesi işidir (Alkan, 2005).

National Academy of Engineering's Instructional Technology Committee on Education, eğitim teknolojisini şöyle tanımlar: "eğitim teknolojisi öğretme/öğrenme biliminin sınıf ortamı aracılığıyla gerçek dünya şartlarına uygulanmasıyla elde edilen bilgiler bütünüdür" (Dieuzeide, 1971). 33

Öğretim Teknolojisi

Öğretimin, eğitimin bir alt kavramı olduğu düşüncesinden yola çıkılarak "öğretim teknolojisi" de eğitim teknolojisinin bir parçası olarak ele alınabilir. Bu doğrultuda yapılan bir tanıma göre öğretim teknolojisi; "özel amaçların gerçekleştirilmesinde etkili öğrenme sağlamak için 'iletişim ve öğrenmeyle' ilgili araştırmalardan hareketle, insan gücü ve insan gücü dışı kaynaklar kullanılarak öğretme-öğrenme sürecinin tasarımlanması, yürütülmesi ve değerlendirilmesinde sistematik bir yaklaşım"dır (Ergin, 1995, s.6).

Alkan (1997)'a göre "öğretim teknolojisi", öğretimin eğitimin bir alt kavramı olduğu anlayışına dayalı olarak ve belirli disiplinlerin (fen, yabancı dil, biyoloji vb.) kendine özgü yönlerini dikkate alarak düzenlenmiş teknolojiyle ilgili bir terimdir. Öğretim teknolojisi kavramının tanımını tarihsel bir değişim ve gelişim içerisinde ele alıp inceleyen Şahin ve Yıldırım (1999. s.4) bu kavramı "öğrenme-öğretme ortamının en etkin şekilde düzenlenmesi için gösterilen sistematik ve planlı etkinlikler bütünü" olarak tanımlamışlardır.

Commission on Instructional Technology, öğretim teknolojilerini iki şekilde tanımlamaktadır: "(1) iletişim devrimi ile birlikte şekillenen medyanın, öğretmen, kitap, yazı tahtası ile beraber öğretimsel amaçlar için kullanılmaya başlamasıdır. Belirlenmiş hedefler uyarınca, daha etkili bir öğretim elde etmek için, öğrenme ve iletişim konusundaki araştırmaların ve ayrıca insan kaynakları ve diğer kaynakların beraber kullanılmasıyla tüm öğrenme/öğretme sürecinin sistematik bir yaklaşımlatasarlanması, uygulanması ve değerlendirilmesidir" (Commission on Instructional Technology, 1970, s.19).

Bilim ve Teknoloji

Bilim ve teknoloji arasındaki fark, bilmek ve yapmak arasındaki farka benzetilebilir. Kısa bir ifadeyle Bilim bilme; Teknoloji ise yapma ve geliştirmedir. Eğitim Teknolojisi bireyi geliştirme ve ona öğretme için etkili yöntemler, ortamlar bulmak görevini üstlenmiştir. (VAROL,1997)

Çeşitli seviyelerdeki kullanışlı uygulamaları ve bu uygulamaların vaat ettiklerini incelerken, düşünce ve yorumlar da kötümserlikten sıyrılıp iyimserliğe doğru kayıyor. Engler 1972'de eğitim teknolojilerinin durumunu şöyle anlatıyor: "şu anki öğretim yöntemlerimiz hakkında söylenebilecek en doğru söz eski teknoloji ürünü olduklarıdır. Kitap, tebeşir, öğretmen gibi temel öğretim araçları ve yöntemleri çok uzun zamandan beri kullanılmaktadır. Bugün öğretmenler daha iyi hazırlanmakta, kitaplar daha iyi tasarlanıp daha iyi yazılmakta, ve renkli tebeşirler kullanılmaktadır; ama bu araçların işlevleri ve öğrenci için anlamları yüzyılı aşkın bir süredir hiç değişmeden kalmıştır. Ayrıca bu süre zarfında öğretimin nasıl uygulanacağına ilişkin her hangi bir temel değişiklik de yapılmamıştır. duyacaklardır.

Bilgisayar ve Eğitim

İlkel toplumlarda bireyin eğitimi toplumsal kurallara ve geleneklere bağlı kalmış, ilerleyen yüzyıllarda özellikle bilim ve teknolojide meydana gelen gelişmeler, toplumları etkilemiş ve her alanda olduğu gibi eğitim alanında da değişime zorlamıştır (Gültekin,2004).

Bilgi toplumunun lokomotifi olan "bilgisayar" ve "bilgi" ile toplumsal yaşamın değişmekte olduğunu ve buna dayalı olarak yetiştirilmekte olan insan modelinin değiştiğini görmekteyiz. Yeni insan modelini yetiştirmekte eğitimin görevidir (Numanoğlu, 1999).

Teknoloji, insanoğluna birçok alanda olduğu gibi eğitim alanında da kolaylıklar getirmiştir. Eğitimdeki rolü tartışılmaz bir konuma gelen teknoloji, donanımsal ve kuramsal boyutuyla eğitimin bütün yönlerini etkilemektedir (İşman, Baytekin, Balkan, Horzum ve Kıyıcı, 2002).

Günümüz teknolojileri bilginin ulaşılmasını, yayılmasını ve yeniden üretilerek paylaşılmasını olanaklı hale getirmiştir. Bilgi toplumları, teknolojiyi kullanarak daha güçlü bir hale gelmekte ve hayatı her yönüyle kolaylaştırmaktadırlar. Teknolojinin eğitimde kullanılması da buna bir örnek teşkil etmektedir. Teknoloji sayesinde yaşam boyu eğitim de öncelikli hale gelmektedir. Teknoloji eğitiminin temelinde de bilgisayar eğitimi bulunmaktadır. Bilgisayar eğitimi sonucu bilgisayar okur-yazarı bireyler yetiştirmek amaçlanmaktadır.

Bilgisayar okur-yazarı bireyler bilgiye nasıl ulaşacağını bilir, gerektiğinde ulaştığı bilgiyi kullanır ve yeni bilgiler oluşturur. Zamanımızda bireylerin teknolojik anlamda usta birer okur-yazar olmaları, geleneksel akademik okuma, yazma ve sayısal beceriler kadar gereklidir. Çağdaş ve gelişmiş topluluklarda başarılı bir öğrenci teknolojik araçları ustalıkla kullanır. Eğitim kurumları, toplumsal değişme ve gelişmeleri hem başlatan hem de yönlendiren kurumlardır. Eğitim kurumlarının toplumun gereksinmeleri doğrultusunda, öğrencileri bilgi çağına uygun, bilgi toplumunun özelliklerini göz önünde tutarak geliştirmelidir (Akkoyunlu, 1998).

Niçin BDE?

Bilgisayar destekli eğitim yetişkin öğrencilere sunduğu avantaj nedeni ile kullanılmaktadır. BDE yalnızca mantık çerçevesinde beceri geliştirme, problem çözme ve verilen talimatları takip etmeyi sağlamaz (Askov ve Bixler, 1996), aynı zamanda okuma ve kelime bilgisi, dil, yazma, dinleme gibi alanlarda akademik yeterlilikleri iyileştirmede yardımcı olur (Askov ve Bixler, 1996: Huss, Lane, ve Willets, 1990: Tousignant, 1996, akt. Osei, 2001). Bir çok yetişkin öğrenci BDE'yi sever çünkü öğrenme ilgi çekici ve eğlencelidir (Tousignant, 1996, akt. Osei, 2001).

Yetişkinler gün süresince kendi istedikleri zamanlarda kendi hızlarında, akşamları veya haftasonları bilgisayarları kullanabilirler (Applications of Computer-Aided Instruction in Adult Education and Literacy Report, 1992, s.3).

Eğitmenler ve öğrenciler BDE ile rahat hissederler. Öğrenciler PCler ile büyürler. Çünkü onlar(PCler) son derece sabırlıdır, asla yorulmaz, asla sinirlenmez ya da kızmaz ve öğrencilerin hata yapmasından rahtsızlık duymamasını sağlarlar. Bütün bunlar öğrenciye doğru bir deneyim sağlar, hatalarından dolayı utandırmaz, farklı seçenekler ile çalışmayı mümkün kılar, ileriki hayatlarında değerli olabilecek bilgisayar kullanımındaki yeterliliğini arttırır (Romanenko ve Nikitina, 2011, s.548).

Genel olarak, literatür, BDE (Computer Assisted Instruction)' nin bilgisayar-tabanlı uygulamalar ve İnternet gibi kullanımının geleneksel öğretim eğitim tekniklerine nazaran ortaya daha başarılı sonuçlar çıkardığını göstermektedir. (Dalton ve Hannafin, 1988; Schacter ve Fagnano, 1999; Fletcher, 1990; akt: Cain ve Pitre, 2008)

Davis ve Shade (1994), bugün öğretimde çok verimli bir yöntem olarak kabul edilen bilgisayarların, bireysel öğretim yönteminin uygulanmasına fırsat vermelerinin yanı sıra, öğretim süresinin de kısalmasına yardımcı olduklarını gözlemiştir.

Bilgisayar destekli öğretimdeki öğrenci-bilgisayar etkileşimi eğlenceli olabilir ve öğrenciye somut yaşantılar kazandırabilir. Anında pekiştirme, dönüt sağlayarak dikkat çekici, heyecanlı gösterilerle oyun ortamı oluşturarak öğrencileri güdülemektedir. Bütün bunları geleneksel yöntemle öğretim aracılığıyla yapmak zordur.

Ayrıca B.D.Ö.'nün öğrenmeyi, geleneksel öğretimden daha kısa sürede sağladığına ilişkin birçok araştırma bulgusu vardır ve yapılan çalışmalar, genellikle B.D.Ö.'nün öğrenci başarısını yükselttiğini göstermektedir (Senemoğlu, 2003, s. 437-438).

Yapılan araştırmalar şunu göstermektedir, öğrenilenlerin;

%83'ü görme,

%11'i işitme,

%3,5'i koklama,

%1,5'i dokunma,

%1'i tatma duyusuyla gerçekleştiğini göstermektedir (Halis, 2002)

Bilgisayar Destekli Eğitimin Yararları

Bilgisayar destekli öğretimin birçok yararları vardır. İlgili literatüre göre BDE'in yararları şunlardır (Doğan, 1988; Keser, 1989; Demirel, 1994; Gleason, 1981; Kent, 1983; Bemadatte, 1983; Gregory, 1985; Fiber, 1987; Kennett, 1990; Ely, 1993).

1. Bilgisayar destekli öğretim, öğrencileri sürekli aktif tutar. Öğrenci bilgisayarın üreteceği sorulara yanıt vermesi gerektiği ve ancak konu üzerinde düşünerek bir sonraki adıma geçebileceği için sürekli aktif olmak zorundadır.

2. Her öğrenciye kendi öğrenme hızında bir öğrenim sağlar.

3. Bu yöntemde her öğrenci, öğrendiği konu ile ilgili olarak sorduğu sorulara yanıt alabilir. Sınıfların kalabalık olması, zamanın sınırlı olması ve bireysel farklılıklar nedeniyle öğrencilere soru sorulmayabilir. Bilgisayar destekli öğretimde öğrenci bilgisayarla etkileşim kurarak, istediği anda konu ile ilgili sorular sorarak yanıtlarını alabilmekte ve istediği kadar tekrarlayabilmektedir.

4. Laboratuar ortamında yapılması tehlikeli ve pahalı olan deneyler benzetişim yöntemi ile kolaylıkla yapılabilmektedir.

5. Bilgisayar destekli eğitim ile ilgili konular öğrencilere daha kısa sürede ve sistemli bir şekilde öğretilebilir.

6. Öğrenci, kendisine ait kişisel bir öğrenme ortamında rahatlıkla çalışabilmektedir.

7. Öğretim programı öğrencinin öğrenme ile ilgili gereksinimine göre hazırlanabilir. Öğretim amaçlarının sıralanışı öğrencinin öğrenme davranışlarıyla belirlenir.

8. Öğrenim küçük birimlere indirildiği için, başarı bu birimler üzerinde sıralanarak gerçekleştirilir.

9. Öğrenci kendi çalışmasına rağmen, öğretmen tarafından sürekli denetlenebilir ve gerektiğinde müdahale edilebilir.

10.Bedensel yada zihinsel özürlü öğrenciler, özel olarak düzenlenen bilgisayar destekli öğretim ortamında bireysel öğrenme hızlarına göre ilerleyebilirler (Eggen ve Kauchak).

11.Öğretmeni, dersi tekrar etme, ödev düzeltme vb. görevlerden kurtararak ona öğrencilerle daha yakından ilgilenme ve verimli çalışma zamanı ve olanağı tanır.

Bde'nin Tanımları

Bilgisayar Destekli Eğitimin çeşitli tanımları verilmektedir. Bu tanımlardan ilkine göre Bilgisayar Destekli Eğitim bilgisayar teknolojisinin öğretim sürecindeki uygulamalarının her biridir. Bu uygulamalar bilgi sunmak, özel öğretmenlik yapmak, bir becerinin gelişmesine katkıda bulunmak, benzeşim gerçekleştirmek ve sorun çözücü veri sağlamak olabilir.

Başka bir tanıma göre ise, Bilgisayar Destekli Eğitim, öğrencilerinin bilgisayar sistemine programlanmış olan dersleri etkileşimde programlanmış olan dersleri etkileşimde bulunarak, doğrudan alabilmeleridir. Bu tanımların bir sentezini ise bu ünite için kabul edilecek bir başka tanım vermektedir.

Bu tanıma göre; Bilgisayar Destekli Eğitim, bilgisayarların ders içeriklerin doğrudan sunma, başka yöntemlerle öğrenilenleri tekrar etme, problem çözme, alıştırma yapma ve benzeri etkinliklerde öğrenme-öğretme aracı olarak kullanılmasıyla ilgili uygulamalardır.

Bilgisayar Destekli Eğitimin temelinde uyarı, yanıt ve pekiştirme öğeleri bulunmaktadır. Öğrenciye bilgisayara bağlı terminal veya monitörde uyarıcı olarak bilgi sunulmakta, bu bilgiye ilişkin soruya öğrenci yanıt vermekte, yanıtın niteliğine göre de kendisine pekiştirme sunulmaktadır. Bu etkinliklerin tekrarı belirli konularda öğrenci davranışında değişiklik yapmaktadır. Bu da öğrenmenin oluşması anlamına gelmektedir.

BDE İçin Yurtdışından Uzmanların Yaptığı Tanımlar

Bilgisayar destekli eğitim, eğitim materyallerinin sunumunca bir bilgisayarın kullanıldığı, öğrenimin izlendiği ve bireysel öğrenim ihtiyaçlarına uygun ek eğitsel materyallerin seçilebildiği bir interaktif eğitim tekniğidir. BDE ayrıca bilgisayarı bilgiyi bulmak için bir veri kaynağı gibi kullanan (Computer Supported Learning Resources-CSLR) bilgisayar destekli öğrenme kaynakları içerebilir. CSLR öğrenenler tarafından öğrenme sürecinde kullanılan bir araçtır. (Cain ve Pitre, 2008, s.33-34).

Eğitim kurumlarının geleceğini doğru bir şekilde tahmin etmek imkansızdır. Ama bilgisayarın sorunlarına çözüm olmayacağı açıkça gözlenmektedir. Eğitim yazılımlarındaki kademeli bir geliştirme bilgisayar destekli eğitimi şuan ki durumuna göre gelecekte çok daha yararlı bir eğitim aracı yapabilir. İletişimi desteklemek için bilgisayar ağlarının kapasitesinin artması bir çok öğretmeni televizyon stüdyoları örneği gibi BDEyi geleneksel eğitime tercih etmelerini sağlar. (McDonnell, Turner, 1984, akt. Cingi, 2010)

Gayeski'ye Göre; Bilgisayar destekli öğretim ise öğretmen de dahil, diğer ortamlar aracılığı ile yapılan öğretimin; kendine özgü potansiyelini işe koşmak suretiyle, bilgisayarla desteklenmesidir (Gayeski, 1985, ss. 82-83, Akt. Şimşek, 1995).

Alessi ve Trollip'ye Göre; Bilgisayarın eğitim alanına verdiği destek değişik biçimlerde ifade edilebilmektedir (Alessi ve Trollip, 2001)

Hannafin ve Peck (1989) ise Bilgisayar Destekli Öğretimi, öğretimsel içerik veya etkinliklerin bilgisayar yoluyla öğrenciye aktarılması olarak tanımlamaktadır. Burada bilgisayar, öğretme sürecine öğretmenin yerine geçecek bir seçenek olarak değil, sistemi tamamlayıcı ve güçlendirici bir araç olarak girmektedir

BDE İçin Türkiye'den Uzmanların Yaptığı Tanımlar

Hızal'a Göre; Bilgisayarla öğretim, öğrenilmesi söz konusu içeriğin öğrenciye bilgisayarla sunulmasını esas almaktadır. Bu araçla yapılan öğretme-öğrenme etkinliğinde, bireysel hıza saygı göstererek ilerlenmekte, öğrenme sonucu hakkında hemen geribildirim alınıp, bunun sonucuna göre öğrenci yönetilmektedir (Hızal, 1989, s. 45, akt. Aksin, 2006).

Bilgisayar destekli eğitim bilgisayarın ders içeriklerini doğrudan sunma, öğrenilenlerin tekrar etme, problem çözme, alıGtırmalar yapma vb. etkinliklerde bulunduğu sürecinin önemli bir öğrenme-öğretme aracı olarak kullanılmasıyla ilgili uygulamaları kapsamaktadır (Hızal, 1989).

ODABAŞI'na Göre; Bilgisayar Destekli Eğitimin temelinde uyarı, yanıt ve pekiştirme öğeleri bulunmaktadır.Öğrenciye bilgisayara bağlı terminal veya monitörde uyarıcı olarak bilgi sunulmakta, bu bilgiye ilişkin soruya öğrenci yanıt vermekte, yanıtın niteliğine göre de kendisine pekiştirme sunulmaktadır. Bu

etkinliklerin tekrarı belirli konularda öğrenci davranışında değişiklik yapmaktadır. Bu da öğrenmenin oluşması anlamına gelmektedir. (ODABAŞI, 2010)

YILMAZ'a Göre; Çağdaş eğitim anlayışı, öğretmeni, öğrenmeyi maksimum düzeyde gerçekleştirecek öğretim metodunu seçme ve uygulama zorunluluğu ve sorumluluğu ile karşı karşıya bırakmaktadır (Yılmaz, 2001).

Cingi'ye Göre; Bilgisayar teknolojisinin gelişmesi, eğitim sektöründe derin bir etki yaratmıştır. Bilgisayar destekli eğitim okullarda müfredatın bir parçası haline gelmiştir. Bugün herkesin hayatında yer alan bilgisayar, insanlar için gittikçe vazgeçilmez bir kaynak olmaktadır. (Cingi, 2010)

ÖZDEN'e Göre; Öğretim etkinliklerinin görsel ve işitsel araçlarla desteklenmesi teknolojik gelişmelere ve tabii ki, teknolojinin elde edilebilirliğine bağlı olarak giderek zenginleşmektedir (Özden 2000).

BÜYÜKÖZER'e Göre; Bilgisayarlar klasik eğitim araç ve gereçlerinin yetersiz kaldığı pek çok konuda önemli bir boşluğu doldurmaktadır. Klasik eğitim ortamında gerçekleştirilmesi zor veya olanaksız olan pek çok iş, bilgisayarlarla başarılabilmektedir (Büyüközer, 1990).

GÜROL'a Göre; Bilgisayar Destekli Eğitim kavramı halen bazı kavram karışıklığına neden olmaktadır. Bilgisayar eğitimi, bilgisayarla eğitim, bilgisayardan öğretim, bilgisayarla düşünmeyi öğrenme gibi kavramlar ileriye sürülmüştür. Ancak bu alternatifler Bilgisayar Destekli Eğitim bileşenlerdir (Gürol, M., 1997).

AŞKAR'a Göre; Farklı bilgi, beceri ve tutum düzeyindeki bireylerden oluşan bir sınıfta, bilgisayar aracılığıyla her bireye kendi yeteneğinde gelişmelerine olanak sağlanmakta, çeşitli beklentileri karşılanabilmektedir (Aşkar, 1992).

BAKİ'ye Göre; Öğrencinin karşılıklı etkileşim yoluyla eksiklerini ve performansını tanımasını, dönütler alarak kendi öğrenmesini kontrol altına almasını; grafik, ses, animasyon ve şekiller yardımıyla derse karşı daha ilgili olmasını sağlamak amacıyla eğitim ve öğretim sürecinde, bilgisayardan yararlanma yöntemine Bilgisayar Destekli Öğretim, kısaca BDÖ denir (Baki, 2002).

DEMİREL'e Göre; Bilgisayarların öğrenme - öğretme ve okul yönetimi ile ilgili bütün faaliyetlerde kullanılması "Bilgisayar Destekli Eğitim" olarak tanımlanabilir. Bilgisayar Destekli Eğitim (BDE) denildiğinde eğitim - öğretim etkinlikleri sırasında eğitimi zenginleştirmek ve kalitesini yükseltmek için öğretmene yardımcı bir araç olarak bilgisayarlardan yararlanılması anlaşılmaktadır (Demirel, 2001).

KÖKSAL'a Göre; Bilgisayar destekli eğitim öğrencinin bir bilgisayarın basında öğrencilerin gösterebilecekleri türlü tepkiler göz önünde tutularak hazırlanmış bir ders yazılım ile etkileşim içinde bulunarak, kendi öğrenme hızına göre kullanabildiği öğretim türü, bu soruna ilişkin uygulama ve araştırma alanıdır (Köksal, 1981).

ARSLAN'a Göre; Bilgisayar destekli eğitim denildiğinde eğitim öğretim etkinlikleri sırasında eğitimi zenginleştirmek ve kalitesini yükseltmek için öğretime yardımcı bir araç olarak bilgisayarlardan yararlanılması anlaşılmaktadır (Arslan, 2003).

ALKAN'a Göre; Bilgisayarın eğitimde kullanılma gereksinimi eğitim sisteminin aşırı derecede artması, öğrenci sayısının hızla çoğalması; bilgi miktarının artması ve içeriğin karmaşıklaşması, öğretmen yetersizliği ve bireysel kabiliyet ve farklılıkların önem kazanması gibi nedenlerden doğmaktadır. Bu uygulamanın amacı sadece öğretme - öğrenme sürecinin otomatikleştirilmesi değildir. Öğretme - öğrenme süreçlerinde etkililik, süreklilik ve bütünlük sağlamak temel hedef olup, otomasyon bu faktörlerin sonucudur (Alkan, 2005).

HIZAL'a Göre; Bilgisayar destekli eğitim bilgisayarın ders içeriklerini doğrudan sunma, öğrenilenlerin tekrar etme, problem çözme, alıştırmalar yapma vb. etkinliklerde bulunduğu sürecinin önemli bir öğrenme-öğretme aracı olarak kullanılmasıyla ilgili uygulamaları kapsamaktadır (Hızal, 1989).

KAYA'ya Göre; Diğer bir tanıma göre Bilgisayar Destekli Eğitim, ders içeriğini sunmak için bilgisayarın öğrenciyle doğrudan etkileşime girmesi için kullanılmasıdır (Kaya, 2005).

REİS'e Göre; BDE; her türlü öğretimsel içeriklerin ve faaliyetlerin bilgisayar kullanılmak suretiyle öğrenciye aktarılmasıdır. Farklı amaçlarla olsa dahi, eğitim ortamında bilgisayar kullanımı genelde BDE olarak kabul edilir (Reis, 2004).

ŞAHİN ve YILDIRIM'a Göre; Bilgisayar Destekli Öğretim, öğretim sürecini ve öğrenci motivasyonunu güçlendiren, öğrencinin öğrenme ilkelerinin bilgisayar teknolojisi ile birleşmesinden oluşmuş bir yöntemdir (Şahin ve Yıldırım, 1999).

GÜRAN'a Göre; Eğitimde bilgisayar aracılığı ile konuların öğrencilere tanıtılıp öğretilmesi, bilgilerin ölçülüp değerlendirilmesi olayına bilgisayar destekli eğitim denir (Güran, 1988).

ŞAHİN VE YILDIRIM'A Göre; Bilgisayar Destekli Öğretim, öğretim sürecini ve öğrenci motivasyonunu güçlendiren, öğrencinin öğrenme ilkelerinin bilgisayar teknolojisi ile birleşmesinden oluşmuş bir yöntemdir (Şahin ve Yıldırım, 1999).

GÜVENDİ ve GÜVEN'e Göre; BDÖ, öğrencilerin bireysel hızı dâhilinde bilgisayar başında eğitsel yazılımlar ya da diğer web uygulamaları (forum, mail grupları vs.) ile edinmiş olduğu formal ve informal davranış değişikliği ve ihtiyaçlarını karşıladığı yönetimsel yazılımların(e-okul vs.) bir bütünüdür(2012).

Bilgisayar destekli eğitimin temelinde bilgisayarların yardımcı kaynak olarak kullanılması vardır. Bilgisayarlar, eğitimde verimi, öğrenci motivasyonunu arttırmak, derslerin işlenişini kolaylaştırmak ve öğrencilerin farklı öğrenme biçimlerine uygun eğitim vermeyi kolaylaştırmak için yardımcı bir araç olarak kullanılır.

Bde Ne Değildir?

BDE;

Öğretmenlere ve öğrencilere rapor veya ödev hazırlamaya yarayan kelime işlem programları (Kelime İşlemci- WORD gibi).

Kayıtları düzenlemek, ve saklamak için bir veritabanı programının kullanılması (Veritabanı gibi- ACCESS).

Hesap tablolarının sayısal bilgileri tutmakta, hesaplama yapmakta veya grafik oluşturmada kullanılması (Hesap Tablosu gibi-EXCEL).

Sunum programları yoluyla asetat ya da bilgisayar yoluyla sunum hazırlanması (Sunu Hazırlama Programı gibi-POWERPOINT). değildir.

Bilgisayar Destekli Eğitimle Karıştırılan Bilgisayar Temelli Eğitim Nedir?

Bilgisayar temelli eğitim genel olarak isminde de anlaşıldığı gibi eğitim-öğretim faaliyetlerini bilgisayarın uyguladığı sistemdir. Bu kavram birçok araştırmacı tarafından tanımlanmaya çalışılmıştır. Bu tanımlardan bazıları aşağıdaki gibidir. Bilgisayar temelli eğitimde dersin ve belirlenen hedef ve davranışların öğrencilere temel öğreticisi bilgisayarlardır. Bütün eğitim-öğretim faaliyetleri, hazırlanan bilgisayar programları tarafından gerçekleştirilir. Öğretmen, eğitim-öğretim faaliyetlerinde geri planda kalarak organizasyon işlerini yönetir (İşman, 2005).

Bilgisayar sisteminin öğretimi planlama, öğrenmeleri ölçme, öğrencilerle ilgili verileri kaydetme ve öğrenme verileri üzerinde istatistiksel analizler yapma gibi etkinliklerini yönetmek için kullanılması anlamına gelir (Yalın, 2004).

Öğrenciler, bilgisayar karşısına geçip bütün bilgileri çeşitli etkinlikler yaparak öğrenebilir. Öğretmen, bu faaliyetlerde yardımcı eleman ya da rehber olarak görev alabilir (İşman, 2005). Bilgisayar temelli eğitim çeşitli derslere ait bilgisayar programları ile sağlanır. Bilgisayar temelli eğitime ilişkin etkili bir program, aktif ve yaratıcı süreçlerde öğrencilerin ilgisini çekmeye eğilimlidir. Bu tür programlar aynı zamanda zihinsel ifadelerin gerçek dünyayla bağlantısını kolaylaştırmayı sağlayacak özelliklere sahiptir (Kozma, 1991).

Sonuç

Genel olarak ortaöğretim öğrencilerinin bilgisayara yönelik tutumları olumludur. Bu durumun, diğer derslerin işlenişinde de bir avantaj olarak bilgisayardan yararlanılması öğrencilerin o derse ilgisini arttırabilir. Eğitim-öğretim ortamlarında öğrencilerin çoklu zekâ alanlarının gelişiminde bilgisayardan aktif olarak faydalanılmalıdır. Bilgisayarın derslerde aktif olarak kullanılması öğrencilerin farklı zekâ alanlarına hitap edebilmek için önemlidir.

Öğrenme ürünleri üzerinde, bilgisayar destekli öğretim yönteminin, geleneksel öğretim yöntemine göre öğrencilerin başarı düzeyi ve kalıcılık düzeyleri üzerinde daha olumlu etkilere sahip olması nedeniyle, öğretme-öğrenme süreçlerinde bilgisayar destekli öğretim yöntemine daha fazla yer verilmelidir. Öğretmen adaylarına, üniversite düzeyinde, bilgisayar destekli öğretim uygulamaları yapabilmeleri için, bilgisayar okuryazarlığı, bilgisayar donanımı, web sayfası hazırlama, görsel programlama dersleri okutulmalıdır.

Okullarda, bilgisayar laboratuarında olası arızaları ve sorunları giderecek teknik personel bulundurulmalıdır. Bilgisayar destekli öğretim konusunda öğrenci velileri aydınlatılmalı, öğrenmenin sadece okulla sınırlı kalmaması gerektiği ve uygun yazılımlar ile öğrenmenin okul dışında da gerçekleşebileceği anlatılmalıdır.

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BİLGİSAYAR DESTEKLİ EĞİTİMİN TARİHSEL GELİŞİMİ

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Özet

Bu çalışmanın amacı, bilgisayarların ve bilgisayar destekli eğitimin tarihsel gelişim süreçlerini incelemektir. İlk bilgisayarlardan başlanarak, günümüze kadar olan süreç zamana göre incelenmiştir. Araştırma daha çok bilgisayarların eğitimde kullanılması üzerinedir. Gelişen teknoloji ile bilgisayarlar tüm alanlarda aktif bir şekilde kullanılmaya başlanmıştır. Süreç böyle olunca da bilgisayarların eğitimde kullanılması da kaçınılmaz olmuştur. Bilgisayarlar nesil nesil değişen bir süreçle oluşmuştur. Abaküsle başlayan süreç şu an mikroişlemcilere kadar ilerleyerek bir devrim yaratmıştır. İnsanlığı derinden etkileyen, bilginin kullanımını ve erişimini kolaylaştıran bilgisayarlar çok kısa bir zamanda insanları etkisi altına alarak, onları kendine bağlamıştır. Bu çalışmamızda tüm bu süreci ve özellikle bilgisayarın eğitime girişi, eğitimde kullanılması ve getirdiği yenilikleri inceleceğiz.

Anahtar kelimeler: Bilgisayar Destekli Eğitim, B.D.E, Bilgisayar, Bilgisayar Tarihi ve Gelişimi

Bilgisayar Destekli Eğitimin Tarihsel Gelişimi

Giriş

Bilişim sistem ve teknolojilerinin aktif olarak kullanıldığı günümüze bakıldığında, bilgisayar dünyasının baş döndürücü bir hızla geliştiğini ve değiştiğini gözlemlemekteyiz. Bu hız günden güne daha da hızlanarak devam etmektedir. Her gün yeni bir cihaz ve ürünle karşılaşmaktayız. Daha öncelere bakıldığında bu süreçler daha yavaş ilerliyordu. Peki ne oldu da bilişim ve bilgisayar bu kadar dünyamızın içine girdi. Tüm bu süreçleri inceleyebilmemiz için bilgisayarın tarihçesine ve gelişimine bir göz atmamız gerekmektedir.

Bilgisayar tarihine bakınca bilindiği üzere ilk bilgisayarlar abaküsler olarak kabul edilmektedir. Abaküs ise taşların yan yana dizimden oluşan bir tür nesnedir. Elektrikle çalışmaz ve teknoloji barındırmaz bir yapıya sahiptir. Sadece sınıflandırma mantığı vardır. Zamanla bu altyapı elektronikleşti ve mantık değişmeden daha üst düzey cihazlar oluşturuldu. Bugün bile aynı mantık geçerli. Tek fark daha karışık işlemlerin daha kısa sürede gerçekleştirilebilmesi.

Biz bu çalışmamızda bilgisayarların bu değişim sürecini, özellikle de eğitim içinde bilgisayarın bir destek olarak kullanılmasının eğitime sağladıklarını inceleyeceğiz. Amaç olarak değil araç olarak eğitimde bilgisayar kullanımı nasıl gerçekleştirilir sorusunun üzerinde duracağız.

Bilgisayarların Kısa Tarihçesi

İnsanoğlunun ilk zamanlarda ihtiyaçları çok basit ve azdı. Zaman geçtikçe nüfusun artmasıyla ihtiyaçlar da arttı. İnsan bu ihtiyaçlarını karşılamak için değişik araçlar ve aletler üretmeye başladı. İlk başta insanlar hesap yapmak için parmaklarını kullanırken yetmediği yerde taşları, fasulye, vs.. kullandılar.

Bunlarında yetmediği nokta da, 2000 yıldan fazla zamandır hesaplama aleti olarak bilinen abaküsü icat ettiler. Abaküs, bilgisayarın ilk temel hali olarak bilinmektedir. Teller üzerine dizili boncuklardan oluşan bu hesaplayıcı M.Ö.1000 yılında ilk kez Çinliler tarafından kullanıldığı bilinmektedir.

İnsanoğlu, sayı sayma ve aritmetik işlemleri gerçekleştirme ihtiyacı duyduğundan beri bu ihtiyaçları karşılayacak bir takım cihazları icat etmeye çalışmıştır. Bu icatlar, M.Ö. Abaküs ile başlayıp günümüze gelene kadar hesap makinesi, bilgisayar ile sürdürülmüştür (Yıldız, Gündüz, Baykan ve Uğuz, 2001:1).

Alman Kondrad Zuse 1936 yılında Z1 adında ikili sayı sistemiyle çalışan ilk mekanik bilgisayarı yapmıştır. 1947'de transistorün bulunması ve 1952'de ticari amaçla kullanılması bilgisayar alanında hızlı bir gelişme başlatmıştır. 1955 yılında üç önemli gelişme olmuştur. Bunlar: radyo yerine transistör kullanılması, çekirdek belleğin üretilmesi ve programlama dillerinin gelişmesidir. 1958 yılında bütünleşik devrelerin kullanılmasıyla bilgisayarlar küçülmüş ve kapasiteleri artırılmıştır (Kaya, 2006).

1960'lı yıllarda hafızalama ve kodlama sistemleri üzerine çeşitli çalışmalar yapıldı, IBM bilgisayarları geliştirildi. 1970'li yıllarda kişisel bilgisayar olan PC'ler geliştirildi. Pascal, C dilleri ve disketler geliştirildi. 1980'lerde CD-ROM teknolojisi geliştirildi. Bireysel bilgisayarların hızı ve kapasiteleri gelişmeye başladı. 1990'lı yıllarda Laptop bilgisayarlar geliştirildi. Pentium bilgisayarlar piyasaya sürüldü. Telekonferans çalışmaları yapıldı. 2000 yılları ve sonrasında çok hızlı işlem yapan bilgisayarlar geliştirildi. Günümüzde yapay zekanın kullanılacağı bilgisayarlar geliştirildi (İşman, 2003).

Bilgisayarların Dönüşümleri

Abaküs: bilgisayarın ilk temel hali olarak bilinmektedir. Teller üzerine dizili boncuklardan oluşan bu hesaplayıcı M.Ö.1000 yılında ilk kez Çinliler tarafından kullanıldığı bilinmektedir.

Pascalline:1642 yılında Fransız Blaise Pascal tarafından ilk hesap makinesi sayılabilecek bir icattır. Pascal, bu aleti abaküsten yola çıkarak yapmış ve daha büyük sayıların hesabını yapabilecek hale getirmiştir. Değişik çarkları olan bu makine toplama ve çıkartma yapabiliyordu.

Fark makinesi: 1830 yılında ilk bilgisayarın temel prensibini oluşturan mantıksal işlem birimi, veri depolama birimi, giriş çıkış üniteleri içeren Fark Makinesi bilgisayarın babası olarak da adlandırılan Charles Babbage tarafından icat edildi.

İkili Sayı Sistemi: Günümüz bilgisayarlarının temel mantığını oluşturan ikili sayı sistemi George Boole tarafından 1848 yılında geliştirilmiştir. Bu cebir prensibine göre sayılar ikili sayı sisteminde kullanılırlar. Yani bu sistemde 0 ve 1 sayısından başka sayı yoktur. Bilgisayarda her türlü bilginin işleniş ve saklanış şekli 1 ve 0 sayılarından oluşmaktadır.

Mark I denilen ilk analog sayılacak bilgisayarlar 1890'lı yıllarda Herman Hollerith tarafından geliştirildi. Bu bilgisayarların işleme mantığı kart sistemine dayanıyordu. Bilgisayar verilen kodlara göre kartları delerek bilgiyi saklıyor, tekrar okuyabiliyor ve kullanabiliyordu. İnsan müdahalesi ile işlem gördüğünden yarı otomatikti.

ENIAC: Mark–I den kısa bir süre sonra Pensilvanya Üniversitesinde John Mauchly ile ENIAC (Elektronik sayısal Hesaplayıcı ve Doğrulayıcı) isimli sayısal elektronik bilgisayarı 1946 yılında tamamladı. Yapımında 18,000 adet elektronik tüp kullanılan ENIAC; 150 kwatt gücünde idi ve 50 ton ağırlığıyla 167 m2 yer kaplıyordu. Saniyede 5000 toplama işlemi yapabiliyordu. Mark-I'den 1000 kat daha hızlıydı. Eniac askeri amaçla üretildi ve top mermilerinin menzillerini hesaplamak için kullanıldı.

EDVAC: Aynı yıllarda matematikçi John Von Neumenin görüşleri doğrultusunda EDVAC (Elektronik Soyut Değişken Otomatik Bilgisayar) adli yeni bir bilgisayar ürettiler. Bu bilgisayar ENIAC 'dan on kez daha küçük ve yüz defa daha hızlı çalışabiliyordu. Edvac, komutların diğer veriler gibi bilgisayara dışarıdan girilmesini sağlıyordu. Bu özellik programcılıkta büyük kolaylıklar sağlamıştır.

UNIVAC: EDVAC' dan sonra 1951 yılında UNIVAC isimli bilgisayar yapıldı. UNIVAC, ENIAC bilgisayarlarını yapan kişiler tarafından geliştirildi. UNIVAC ilk defa manyetik teyp kullanarak verileri depolayan bilgisayar idi.

IBM 700 SERISI: 1950'den sonra vakum tüplerinin sık olarak kullanılmaya başlandığı dönemlerdir. Univac ve IBM 700 serisi vakum tüpler kullanılarak yapılan elektronik bilgisayarlardır. Vakum tüplerinin çok enerji harcaması, ısınması bu bilgisayarın sürekli arıza yapmasına sebep oluyordu. Vakum tüplerin boyutlarının da büyük olması baska bir sorundu. Bu yıllarda program yazabilmek için kullanılan bilgisayar donanımının çok iyi bilinmesi gerekiyordu. Program yazmak için makine dili kullanılıyordu.

PHILCO TRANSAC S-200 IBM 1401: 1947 yıllarında transistörün kullanılmaya başladığı yıllardır. Transistörler vakum tüplere göre az enerji harcayan, az yer kaplayan, fazla ısınmayan elektronik devre elemanlarıdır. Transistörlerin kullanılmaya başlanması bilgisayar dünyasına değişik bir renk kattı. Philco Transac S-200 IBM 1401, transistör kullanılarak üretilen ilk bilgisayarlardır.

IBM 360: 1960 'dan dan sonralar entegre devreler üretilmeye başlandı. Entegreler binlerce transistörü içerisinde bulunduran devre elemanları idi. Entegrelerin kullanılması; bilgisayarın boyutlarının küçülmesinin, maliyet azalmasına ve işlem hızının artmasına sebep oldu. Bu yıllarda manyetik diskler üretildi, entegrelerin kullanımı ile merkezi işlem birimleri üretilmeye başladı. IBM 360 entegre devre elemanının kullanıldığı ilk bilgisayarlardır.

INTEL 4004 MIKRO İŞLEMCİSİ: 1970'den sonra entegre devre teknolojisi gelişimine devam etti. Ve entegreler birleştirilerek cipler üretilmeye başlandı. Intel 4004 entegrelerin birleştirilmesiyle hızlanan ilk merkezi işlem birimi sayılabilir.

APPLE: 1977 yılında piyasaya çıkan apple iki üniversite öğrencisi tarafından bir evin garajında üretilmiştir. Apple'de klavye ve monitör bulunmuyordu.

IBM PC: Günümüzde de söz sahibi olan IBM firması ilk kişisel bilgisayarını 1981 yılında piyasaya sürdü. Kısa bir zaman diliminde standart haline gelen IBM PC'lerin 4 yılsonunda bir milyonuncusu satıldı. Artık dünyanın her tarafında IBM uyumlu bilgisayarlar üretilmeye başlandı. Üretimi uzak doğu ülkelerinde daha yaygın olarak yapıldı. Yazılımlar da IBM PC uyumlu olarak yazılmaya başlandı. (Kesici & Kocabaş, 2005)

BİLGİSAYARLARIN GEÇİRDİĞİ EVRELER

Birinci Kuşak (Vakum Tüplü) Bilgisayarlar (1946-1959) İlk programlama dili makine dilinde yazılmaya başlandı ve bilgiler bellekte saklanıyordu.

İkinci Kuşak (Transistörlü) Bilgisayarlar (1959-1964) İlk dönemde kullanılan Vakum Tüplerinin yerine transistörler kullanılmaya başlandı. Bununla beraber daha hızlı ve daha az elektrik harcamaktaydı. ASSEMBLY makine dili kullanılmaktaydı

Üçüncü Kuşak (Entegre Devreli) Bilgisayarlar (1964-1970) Transistörler bir araya getirilerek Entegre Devreler yapıldı. İlk Merkezi İşlem birimi CPU yapıldı.

Dördüncü Kuşak (Mikroişlemcili) Bilgisayarlar (1970-?) İşlem ve kontrol birimlerinin tümünün bir arada bulunduğu chipler geliştirildi.

Beşinci Kuşak (Yapay Zekâlı) Bilgisayarlar (1990-?) Yapay zeka yapma yönünde çalışmalar yapılmaktadır. Bilgisayar teknolojisinde yeni bir araştırma konusu olan yapay zekâ **"kendi kendini denetleyebilen, daha akıllı ve insanlarla tam bir uyum içerisinde olabilen zeki makineler yapmak"** şeklinde tarif edilebilir. (Madran,2006)

Türkiye'ye Bilgisayarın Gelişi

Türkiye'ye ilk bilgisayar 1960 yılında yol yapımında gereken hesaplamaları daha hızlı yapabilmek için Karayolları Genel Müdürlüğü'ne gelmiştir. IBM-650 Veri İşleme Makinesi (Data Processing Machine) adlı bilgisayar 12 yıl kullanılmıştır ve elektrikle çalışan ve elektronik veri işleme kapasitesine sahip 167 m² bir alana sığan ve ağırlığı

30 tonluk ilk bilgisayar ENIAC' tan tam 15 yıl sonra edinilmiştir. İkinci bilgisayar ise akademik amaçlı kullanmak için İstanbul Teknik Üniversitesi'nin Taşkışla binasına geldi. Bu bilgisayar IBM 1620 idi. İ.T.Ü' den sonra ise Orta Doğu Teknik Üniversitesi bilgisayara sahip oldu. Türkiye'deki dördüncü bilgisayar ise Devlet Planlama Teşkilatı'na geldi.(Altınkaya,2004)

Görüldüğü üzere bilgisayarın ülkemizde çok kısa bir tarihi vardır. Henüz 50 yıllık bir geçmişe sahiptir. Durum böyle olunca da halen bile belli kuşağın bilgisayara çok uzak olduğu gözlemlenmektedir. Devlet dairelerindeki memurlardan bile hala bilgisayar kullanamayanlar vardır. Bırakın memurları bilgisayarı çok amatör kullanan öğretmenlerimizin olması eğitim sistemimiz için çok acıdır.

Bilgisayar Destekli Eğitimin Tarihsel Gelişimi

BDE' de bilgisayar teknolojisinin öğretim sürecindeki uygulamalarının her biridir. Bu uygulamalar bilgi sunmak, özel öğretmenlik yapmak,bir becerinin gelişmesinde katkıda bulunmak olabilir. Başka bir tanıma göre ise BDE bilgisayar sistemine programlanmış olan dersleri etkileşimde bulunarak ,doğrudan alabilmesidir.50'li yılların sonlarında ABD'nde gelişmiş bazı üniversitelerde,bilgisayar yönetsel amaçlarla kullanılmaktaydı. 70'li yıllarda maliyeti daha düşük bilgisayarların devreye girmiştir.

Eğitim kurumların özel olarak bilgisayarın kullanımın aşamaları ise şu şekilde sıralanabilir (Özden, 2003):

1950'li yıllarda bilgisayarlar büyük üniversitelerin yönetimsel amaçlı kullanımları ile eğitim kurumlarına girmiştir.

1960'larda bilgisayar temelli öğretim programlarının geliştirilmesi çalışmaları başlatılmıştır. Bu projelerden birisi de PLATO'dur.

1970'li yıllarda daha fazla sayıda okul bilgisayarları idari amaçlı olarak kullanmaya başlamıştır.

1972 yılında TICCIT(Zaman Paylaşımlı ve Etkileşimli Bilgisayar Kontrollü Öğretici Televizyon) sistemi geliştirilmeye başlanmıştır.

1970lerden sonra internetin gelişimi ile kişisel bilgisayardan, ağ sistemlerine ve internete doğru bir yönelim başlamıştır.

Türkiye'nin de 1993 yılında dahil olduğu internet omurgası NFSNET ağ omurgasına ülkelerin hızla katılması ve çok hızlı artan ve bir teknoloji yarışının başlaması ile yeni bir döneme girilmiştir.

1950'li yılların sonlarında Amerika Birleşik Devletleri'nde, Stanford ve Illinois gibi gelişmiş Üniversitelerde, bilgisayar yönetsel amaçlarla kullanılmaktaydı. 1960'lı ve 1970'li yıllarda maliyeti daha düşük bilgisayarların devreye girmesiyle, eğitim uygulamaları ile ilgili projeler de geliştirilmeye başlanmıştır. Bu projelerden en önemlileri IBM 1500, PLATO ve TICCIT sistemleridir.(Odabaşı, 2000)

Florida Eyalet Üniversitesi'nce gerçekleştirilen IBM 1500 projesi ile önceleri üniversite düzeyinde bilgisayar destekli fizik ve istatistik öğretimi, daha sonraları 1960'ların ortasında ise okuma ve matematik becerilerinin yükseltilmesine ilişkin öğretim yapılmıştır.

Bilgisayarın eğitimde kullanılmasına ilişkin ilk geniş kapsamlı proje sayılabilen PLATO ise Illinois Üniversitesince, Control Data Corporation işbirliğiyle gerçekleştirilmiştir. Projenin amacı, üniversitelerde değişik disiplin alanında öğrencilerin bilgisayar destekli öğretim gereksinimini karşılamaktır. Plato sistemi yıllardır başarı ile uygulanmakta ve günümüzde de geçerliliğini korumaktadır. TICCIT sistemi ise, 1977'de Texas ve Brigham üniversitelerince ortaklaşa geliştirilen ve özellikle Matematik ve İngilizce derslerine yer veren bir projedir. Amerika'daki bu projelerin etkisiyle, 1970'li yıllarda İngiltere, Fransa ve Federal Almanya'da bilgisayar destekli öğretim konusunda aşamalar kaydedilmiştir. İngiltere' de 1980 yılında yürürlüğe konulan "Mikro-Elektronik Eğitim Programı; Fransa'da 1983'te "100.000 Bilgisayar" hedefinin belirlenmesi ve bu hedefe kısa sürede varılması üzerine 1985'te "Herkes için İnformatik" programının başlatılması; Federal

Almanya'da 1975'te orta öğretimin üst kademelerine bilgisayar eğitimi verilmesi ve daha sonra alt kademelerine de yaygınlaştırılması bu gelişmelere örnek olarak verilebilir. (Odabaşı, 2000)

Bilgisayar Destekli Eğitimin Ülkemizde Gelişimi

Türkiye'deki gelişmeler ortaöğretim kurumlarına 1100 mikrobilgisayar alınmakla başlamıştır. Daha sonraları ise bilgisayar eğitimi yerine bilgisayarın bir eğitim aracı olarak kullanıldığı bilgisayar destekli eğitim uygulamalarının başlatılması uygun görülmüştür .milli eğitim bakanlığı dünya bankası katılımı ile 53 bilgisayar deneme okuluna 1666 adet bilgisayar alınmıştır ve bu okullarda bilgisayar laboratuarları kurulmuştur. Ayrıca bu okullara denemek üzere Bilim ve Teknik ansiklopedisi İngilizce, matematik, fizik, kimya ve biyoloji konularında ders yazılımları temin edilmiştir. Donanım ve alt yapı çalışmalarına ek olarak 1996 yılı içersinde 256 yeni formatör öğretmeninin eğitimi yapılmıştır.

Türkiye'de ise teknoloji kullanımından 1970lerde 3. Beş Yıllık Kalkınma Planı ile yaygın eğitim için radyo ve televizyon kullanımından bahsedilmiş, ardından 4. Beş Yıllık Kalkınma Planı ile açık yükseköğretim ve yaygın eğitim için ikinci kanal televizyonun açılmasına karar verilmiştir. 1995 yılından sonra ise yeni ileri teknoloji ürünü bilgisayarlar ve internetin kullanımının artması sonucu eğitim sisteminin içerisine de teknoloji hızla girmiştir. 1990'lı yılların sonunda ise MEB'in ortaya koyduğu MLO, ILSIS ve MEBSIS çalışmaları eğitimde teknoloji kullanımında idari süreçlerin yapısını değiştirmeye ve teknolojinin işlerliğinden ziyade sayısına odaklanmaya neden olmuştur (Aksoy, 2003).

1984 yılında Türkiye'de ortaöğretim kurumlarına 1100 mikrobilgisayar alınmış ve bilgisayar eğitimine başlanmıştır. Daha sonraları ise bilgisayar eğitimi yerine bilgisayarın bir eğitim aracı olarak kullanıldığı bilgisayar destekli eğitim uygulamalarının başlatılması uygun görülmüştür. 12-13 Ekim 1987 tarihlerinde İstanbul'da "Türkiye'de Bilgisayar Destekli Eğitim Konferansı" düzenlenmiştir. (Akgün,2011)

Türkiye'de bilgisayar destekli eğitim çalışmaları ilk olarak bu konferansta bilgisayar destekli eğitim konusunda devlet eğitim sektörü temsilcileri ve yabancı uzmanlar görüş alışverişinde bulunmuşlardır. Aynı toplantıda dönemin Başbakanı tarafından belirtilen "Bilgisayar Destekli Eğitimde Bir Milyon Bilgisayar" hedefi Türkiye'de bilgisayar destekli eğitime verilen önemin bir göstergesi olmuştur.

Bilgisayar destekli eğitim konusunda 5-6 Ağustos 1989 tarihlerinde İstanbul'da toplanan "BDE Birinci Danışma Kurulu'nda uygulama modeli, yazılım, öğretmen yetiştirme, donanım ve BDE deneme planlanması konuları tartışılmıştır. 26-27 Haziran 1990 tarihlerinde İstanbul'da toplanan "BDE Projesi Değerlendirme ve Danışma Kurulu II. Toplantısı'nda ise Bakanlığın hedefleri doğrultusunda BDE'ye yapılan ve yapılacak yatırımlar görüşülmüştür.(Akgün, 2011)

Şu an ise okullarda bilgisayarlar aktif bir şekilde kullanılmaktadır. Eğitimde "FATİH" projesinden bahsedilmektedir.

FATİH projesi beş ana bileşenden oluşmaktadır. Bunlar: 1- Donanım ve Yazılım Altyapısının Sağlanması, 2- Eğitsel e-İçeriğin Sağlanması ve Yönetilmesi, 3-Öğretim Programlarında Etkin BT Kullanımı, 4- Öğretmenlerin Hizmet içi Eğitimi, 5- Bilinçli, Güvenli, Yönetilebilir ve Ölçülebilir BT Kullanımının sağlanmasıdır. Fatih Projesi Milli Eğitim Bakanlığı tarafından yürütülmekte olup, Ulaştırma Bakanlığı tarafından desteklenen bir projedir. 3 yılda tamamlanması planlanmaktadır. 1. Yıl ortaöğretim okulları, 2. Yıl ilköğretim ikinci kademe, 3. Yıl ise ilköğretim birinci kademe ve okul öncesi kurumlarının BT donanım ve yazılım altyapısı, e-içerik ihtiyacı, öğretmen kılavuz kitaplarının güncellenmesi, öğretmenler için hizmet içi eğitimler ve bilinçli, güvenli, yönetilebilir BT ve internet kullanımı ihtiyaçlarının tamamlanması hedeflenmektedir (MEB).

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BİLGİSAYAR DESTEKLİ EĞİTİM VE ÖĞRENME ÖĞRETME KURAMLARİ

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Özet:

Günümüz teknolojilerinde meydana gelen gelişmeler eğitim ortamlarında bilgisayarın etkin ve etkili bir şekilde kullanılmasını beraberinde getirmiştir. Kısa zamanda öğrenciyi merkeze alan yaklaşımlar önem kazanmış olup; bilginin akış yönü yapılandırmacı yaklaşım ile beraber öğreticiden-öğrenene olmaktan çıkmıştır. Öğreticinin yeni büründüğü rehberlik rolü daha da önem kazanmıştır. Ayrıca farklı öğrenme stillerine sahip öğrenciler için bilgisayar destekli eğitim ortamlarında farklı öğrenme kuramlarının uygulanmasıyla daha kalıcı öğrenmeler gerçekleştirmek amaçlanmıştır. Bu çalışma ile bilgisayar destekli eğitim tanımı yapılmış, öğrenme kuramları incelenmiştir. Her kuramın bilgisayar destekli eğitim ortamlarında kullanımı ayrıntılı olarak betimlenmiştir.

Anahtar Kelimeler: Bilgisayar destekli eğitim, bde, bilgisayar destekli öğretim, öğrenme kuramları

Öğrenme Kuramları Nedir?

Öğrenme kuramı canlıların nasıl öğrendiğini ortaya çıkarmak için bugüne kadar yapılmış bir çok araştırma sonucunda ortaya çıkarılan sistemli ilkeler bütünüdür. Öğrenme kuramlarının her biri gerek bakış açısı ile gerekse altını çizdikleri çeşitli kavram ve açılımları ile eğitim bilimine katkı sunmuşlar ve sunmaktadırlar (Bozdoğan, 2003, s.12).

Bir diğer tanıma göre öğrenme kuramı, canlıların öğrenmesine ilişkin benimsenmiş, birbiriyle ilişkilendirilmiş ve bütünleştirilmiş denenceler dizisidir. Öğrenme kuramları, eğitim teknolojisini kullanacak olan öğretmenlere ve eğitim uzmanlarına öğrencilerin eğitim teknolojisi ile nasıl öğrenebilecekleri konusundaki bilgilerine derinlik kazandıracak ve verimli bir öğrenme-öğretme için uygun olan koşulları hazırlamada yol gösterici olabilecek niteliktedir (İşman, s. 127, 2008).

Genel Olarak öğrenme kuramları;

1-Davranışçı kuramlar

2-Bilişsel kuramlar

3-Duyuşsal kuramlar

4-Yapılandırmacı kuramlar

5-Nörofizyolojik kuramlar olmak üzere 5 ana grupta incelenir.

Davranışçı Kuramlar Ve Bde'de Uygulanması

Davranışçı öğrenme ilkelerinin birçoğu kapalı laboratuar ortamlarında ve hayvanlar üzerinde gerçekleştirilen deneyler sonucu üretilmişlerdir. Bu çalışmalardan en iyi bilinenleri Pavlov'un Klasik Koşullaması ve Thorndike'in Edimsel Koşullaması'dır (Alkan, 1995, s. 54).

Davranışçı kuramlar;

- Klasik Koşullanma

- Bağ Kuramı

- Edimsel Koşullanma

- Gözlem Yoluyla Öğrenme

- J. B. Watson ve Davranışçılık Kuramı olmak üzere 5'e ayrılır.

Klasik Koşullanma

Klasik Koşullanma yoluyla öğrenme, ilk kez Rus bilim adamı I.Pavlov tarafından ortaya atılmıştır. Pavlov kontrollü bir deneysel ortam oluşturduktan sonra, köpeğe düzenli olarak, yiyecek vermeden hemen önce zil sesi vermiştir. Bu ilişkiyi pek çok kere tekrarladıktan sonra, yiyecek vermediği durumlarda da zil sesini duyduğu zaman, köpeğin salya salgıladığını görmüştür. Diğer bir deyişle köpek zil sesine salya akıtmasını öğrenmiştir(Erden ve Akman,2002,s.133). Pavlov organizmanın başlangıçta nötr olan ve herhangi bir tepkiye yol açmayan bir uyarıcının organizmanın herhangi bir tepkisine neden olan bir uyarıcıyla birlikte verilmesi durumunda nötr olan uyarıcıya organizmanın tepki verebileceğini ileri sürmüştür.

Bağ Kuramı (Bağlaşımcılık)

Thorndike; öğrenmenin temelinin, duyusal uyarıcılar ile harekete geçiriciler arasında kurulan bir bağ olduğunu kabul etmektedir. Alışkanlıkların meydana gelmesini ya da yok olmasını, bu duyusal uyarıcılar ile tepkiler arasındaki bağların güçlenmesine ya da zayıflamasına bağladığından Thorndike'ın kuramı "bağ" psikolojisi ya da "bağlaşımcılık" (connectionism) olarak adlandırılmaktadır (Ülgen, 1995, s.162-165).

Edimsel (Operant Koşullanma)

Edimsel koşullanma klasik koşullanmadan farklı olarak bilinçli ve kasıtlı hareketlerle ilgilidir. Edimsel koşullanma kuramcısı Skinner, öğrenmeyi kapalı kutu içine koyulan fare davranışları ile açıklamıştır. Kapalı kutu içindeki fare rastgele bir yere basmış ve bastığı yerden yemek gelmiştir. Bir süre sonra fare aynı düğmeye direkt olarak basmaya başlamıştır (İşman, 2008, s. 135). Skinner'e göre, tepkisel ve edimsel olmak üzere iki çeşit davranış vardır. Tepkisel davranışa neden olan uyarıcı her zaman bilinirken, edimsel davranışa neden olan uyarıcı çok belirgin değildir. Koşulsuz uyarıcının neden olduğu koşulsuz tepkiler birinci tür davranışa girer. Bunlar refleks türü davranışlardır. Tepkisel davranışlar klasik koşullanma ile öğrenilir. Günlük hayatımızda gösterdiğimiz davranışların büyük bir kısmı ise edimseldir. Edimsel davranışlar, davranışın sonucu ile kontrol edilebilir (Hergenhahn, 1988 Akt. Erden ve Akman, 2002, s.136-137).

J.B. Watson ve Davranışçılık

Watson; yürüme, konuşma, koşma gibi karmaşık becerilerimizin hep uyarıcı-davranım arasında bağ kurma yoluyla öğrenilmiş davranışlar olduğunu ve bütün davranışların klasik koşullanma yoluyla öğretilebileceğini savunmuştur. Hatta düşünmenin bile bu süreç yoluyla analiz edilebileceğini ileri sürmüştür. Watson, "bana bir düzine sağlıklı çocuk verin, gelişigüzel seçtiğim her bir çocuğu kendi seçtiğim herhangi bir alanda doktor, sanatçı, hâkim, uzman yapacağıma garanti ederim. Hatta dilenci ve hırsız bile yaparım, yetenekleri ve becerileri ne olursa olsun" demiştir (Demirel, 2004, s.30).

Watson, öğrenme olayını iki ilke çerçevesinde açıklamıştır. Bu ilkeler frekans ve tazeliktir. Watson'a göre insanların ne düşündükleri ve ne duydukları önemli değil, ne yaptıkları önemlidir. Davranış, çevreye uymak için yapılan bir eylemdir (Kazancı, s.92, 1989 Akt. İşman, 2008, s.139).

Bilişsel Kuramlar Ve Bde'de Uygulanması

Bilişsel kurama göre öğrenme, hem zekânın, hem güdülemenin hem de transferin ürünüdür. Bu kuramı savunanlar öğrenmeyi bir ürün olarak değil de daha çok bir süreç olarak ele almışlardır (Sönmez, 1994 Akt. Yıldız, 2002).

Bilişsel öğrenmeler, zihinsel etkinliklerin ağırlıkta olduğu davranışları kapsar (Yalın, 2002, s.27).Birçok psikolog insan davranışının çok karmaşık bir örüntü olduğunu ve değiştirilmesinin uyarıcı-tepki yaklaşımıyla çoğu zaman olası olmadığını iddia etmiştir. Örneğin bilişsel psikolojinin ilk temsilcilerinden olan Wertheimer (1945) bir davranış örüntüsü, kendisini oluşturan alt davranışlara ya da birimlere ayrıldığında o davranışın bütünsel anlamının ortadan kalkabileceği uyarısında bulunmuştur. Köhler (1925) gibi Gestaltçı psikologlarsa uyarıcı-tepki ilişkisinin organizma tarafından kurulduğunu ve bir davranışın anlaşılması için bu ilişkinin kritik olduğunu kabul etmişlerdir.Bilişsel psikoloji bu yüzden algısal ve bilişsel sistemlerdeki uyarıcılarla çalışan zihinsel süreçler üzerine odaklanmıştır. Bilişselcilerin öğrenmeye asıl katkıları "anlayış" ve "bilişsel süreç" modelleriyle olmuştur.

Bu kuramın temsilcileri Geştalt Okulu psikologları (Max Wertheimer, Wolfgang Kohler, Kurt Koffka ve Kurt Lewin), Gagne, Piaget ve Bruner'dir.

Kohler de Skinner gibi deneylerinin hayvanlar üzerinde yapmıştır. Bu deneyler, şempanzelerin muzlara uzanabilmek için onlara verilen sopaları birleştirerek veya ortamda bulunan kutuları üst üste koyarak problemi çözmeyi öğrendikleri deneylerdir. Kohler, hayvanların ilgili problemlerin çözümünü bir anda keşfettiklerinin gözlemlemiş ve bu bir anlık, tekrarlanabilir ve transfer edilebilir davranışa da "anlayış" demiştir. Kohler'in vurgulamak istediği olgu, bireyin uyarıcı-yanıt bağlarını mekanik olarak tekrarlayarak kurmasından ziyade yeni anlayış ve kavrayışlar oluşturmak için zihninde var olan bilgileri esnek olarak kullanmasıdır (Akpınar, 1999, s.24-25).

Gestalt Yaklaşımı

Bu kuram bilişsel kuramın ilk yaklaşımlarındandır. Bu yaklaşımı, Max Wertheimer, Kurt Koffka, Kurt Lewin ve Wolfgang Kohler adlı bilim adamları kurmuşlardır. Kuram, adını Almanca bir sözcük olan Gestalt'tan (biçim, şekil, form anlamında) almıştır. Kurama göre bütün, parçaların toplamından daha fazladır ve birey, bütünü parçalara ayrıştırarak değil, bütünlük içinde algılar. Örnek: senfoni orkestrasını dinlerken, her bir müzisyenin katkısını analiz ederek değil, bütün olarak dinleyip, anlamaya çalışırız (Demirel, 2002, s. 39).

Lewin ve Alan Kuramı

Alan kuramı (field theory), sosyal psikolojinin önemli isimlerinden biri olan Kurt Lewin tarafından ortaya atılmıştır. Lewin, fiziksel alan kavramını (manyetik alan, çekim alanı, vb.), psikolojiye taşıyarak, birbiriyle karşılıklı bağımlı olan ve dinamik bir sistem oluşturan psişik süreçler bütününü ifade eden psikolojik alan kavramını geliştirmiştir.

Lewin'in çalışmaları Gestalt yönelimlidir. Ancak Gestalt psikologları algı ve öğrenme üzerinde dururken; Lewin, ihtiyaçlar, kişilik ve sosyal faktörler üzerinde durmuştur. Gestalt psikologları davranışı açıklamak amacıyla fizyolojik yapılar üzerinde dururken, Lewin psikolojiyi bir sosyal bilimden daha fazlası olarak görmüştür.

Bilgiyi İşleme Süreci Yaklaşımı

Bu yaklaşımın temsilcileri Nevell, Gagne ve Briggs'tir. Bilgiyi işleme kuramı bireyin bilgiyi toplama, örgütleme, depolama ve hatırlama aşamalarıyla ilgilenir. Bilgiyi işleme kuramına göre öğrenmeye etki eden iki temel unsur vardır. Bunlar bilginin depolandığı bellekler ve bu belleklere bilginin işlenmesini, saklanmasını ve hatırlanmasını sağlayan yürütücü kontrol süreçleridir. Bilginin depolanmasını sağlayan bellekler, işlevlerine ve bilgiyi saklama kapasitelerine göre duyusal, kısa süreli ve uzun süreli olmak üzere üç çeşittir (Erden ve Akman, 2002, s.159-160).

Keşif Yoluyla Öğretim (Buluş Yoluyla Öğretim)

Bilişsel kuramın diğer bir yaklaşımı da keşif yoluyla öğrenmedir. Keşif yoluyla öğrenme yaklaşımının kurucusu Bruner'dir. Bruner'e göre bilişsel gelişimin temel amacı, bireyin içinde yaşadığı topluma ve çevresine uyum içinde yaşamasını sağlamaktır. Belli bir problemle ilgili verileri toplayıp analiz ederek soyutlamalara ulaşmayı sağlayan etkinliğe dayalı, güdüleyici bir yöntemdir.

Bruner'e göre birey, bilişsel gelişim sırasında eylemsel, imgesel ve sembolik olmak üzere 3 farklı şekilde bilgi edinir.

Bruner'e göre konunun temel yapısı basit bir şekil, şema, ilkeler kümesi ya da formülle ifade edilebilir. Bruner'e göre öğrenciler konunun temel yapısını tümevarım yoluyla keşfederler. Tümevarım yaklaşımı sezgisel düşünmeyi gerektirir(Erden ve Akman,2002,s.172-173).

Bruner'e göre öğretmenin rolü paketlenmiş bilgiyi öğrenciye sunmaktan çok, öğrencinin kendi kendine öğrenebileceği ortamı oluşturmaktır. O'na göre bunu sağlamanın yolu da buluş yoluyla öğretimdir. Çünkü bu yaklaşım düşünme, deneme ve bulmayı esas alır. Bunun için de öğretmen öğrencilere kavramları, ilkeleri kendisinin vermesi yerine, öğrencileri deney yapmaya, ilkeleri ve kavramları bulmaya teşvik etmelidir (Taşdemir, 2000 Akt. İşman, 2008). Öğrenciyi belli alanlarda öğretime tabi tutmak, onların belleğine bazı sonuçları yerleştirmek değil, ona bilginin elde edilmesine imkân verecek sürece katılmasını öğretmektir.

Sunuş Yolu ile Öğretim

Sunuş yolu ile öğretim yaklaşımını Ausubel kurdu. Sunuş yolu ile öğretim yaklaşımı, keşif yolu ile öğretime alternatif olarak geliştirilen bir öğretim modelidir. Ausubel' e göre, birey bilgileri keşfetmekten çok, hazır olarak alır. Bu nedenle geliştirdiği model, sunuş yoluyla öğretim olarak adlandırılır.

Sunuş yoluyla öğretme, eğitim durumunda hedef davranışlarla ilgili bilgi, tutum ve becerileri kazandırmak üzere daha önceden hazırlanan bilgilerin dinleyici durumunda olan öğrenci veya öğrenci grubuna aktarılmasıdır (Tan ve Erdoğan, 2002,s.54)

Kuramın BDE'de Uygulanması

"Tanıma" kavramı; BDE'de öğrencilere anlatılacak konu ile ilgili ön bilgiler, temel kavram ve kuramlar anlamlı ve zengin uyarıcılarla öğrencinin hafızasına uyarıcı olarak gönderilerek kullanılabilir. Böylece öğrenci o konu ile ilgili bilgileri tanımaya başlar.

BDE'de "Hatırlama" kavramı; öğrencilere ders materyali olarak dağıtılacak örnek videolarla öğrenilenler istendiği kadar tekrar edilerek, pekiştirilir ve hatırlama kolaylaşır.

"Değişiklik gösterme" kavramı; bireye çevresi hakkında çeşitli sezgiler geliştirmesi için görsel bilgiler sunulur. Bireyin kazandığı etkili sezgiler ile hayatında sosyal ve kültürel değişimler meydana gelir. BDE'de toplumsal hayat ile ilgili çoklu ortam tasarımları yada eğitsel yazılımlar hazırlanıp, öğrenci sezgisi geliştirilebilir.

"Yeniden Kurma" kavramı; Etkili genelleme yapmayı öğrenen birey kendi davranışlarını tanımlamaya başlar, böylece davranışlarını yeniden düzenleyebilir. Öğrenci BDE ders materyali olarak aldığı trafik işaretleri cdsinden gerekli bilgileri aldıktan sonra, trafikte davranışlarını yeniden düzenleyebilir.

Kısa süreli belleğe gönderilen bilgiler tekrar edilmezse unutulur. Bilginin canlı tutulması için BDE'de öğrenciye öğrenilen konu ile ilgili problem verilir ve "tekrar" yapması sağlanır.

BDE programları öğrencilerin gelişim evreleri dikkate alınarak hazırlanmalı, bu evrelere uygun olarak farklı eylem ve semboller hafızaya uyarıcı olarak gönderilmelidir.

BDE programlarında kullanılacak yöntem ve teknikler çeşitli olmalı, öğrencilerin öğrenmelerini kalıcı sağlayacak şekilde imkânlar sunulmalıdır. Konular video, resim, grafik vb. ile birden fazla duyu organını öğrenmeye katacak şekilde çeşitlendirilmelidir.

Duyuşsal Kuramlar Ve Bde'de Uygulanması

Kuram daha çok öğrenmenin benlik ve ahlak gelişimi olan duyuşsal sonuçlarıyla ilgilenir. Bireylerin, etkili öğrenme sonuçları ortaya çıkarmak için kendilerini ahlaki ve toplumsal olarak gerçekleştirmeleri gerekir yani bireylerde benlik tasarımı gerçekleşmelidir. Birey, benlik tasarımını gerçekleştirirken çevresinden, içinde yaşadığı toplumda karşılaştığı olaylardan ve yaşamda edindikleri deneyimlerinden yararlanmaktadır. Çünkü birey içinde yaşadığı çevresi ile sürekli iletişim halindedir. Bunun sonucunda bireyin kendine öz güveni artar. Kendi öz güveni artan birey özsaygısını geliştirir. Özsaygısı gelişmiş olan bireylerin zihinsel sağlığı gelişir. Zihinsel sağlığı gelişmiş birey kendinin eksiklerini ve hatalarını görüp düzeltmeye çalışır. Bunun sunucunda bireyin gelişim evresine uygun olarak öğrenmeler gerçekleşir.

Kuramın BDE'de Uygulanması

BDE'de hazırlanan ders materyalleri, bireylerin gelişim evrelerine uygun olmalıdır.

BDE programları bireylerin içinde yaşadıkları toplumun değer yargılarına uygun hazırlanmalıdır. Birey, toplumun değer yargılarını öğrenirken ken¬di değerine bağlı düşüncelerini de gerçekleştirmelidir

BDE programları öğrencilerin, benlik gelişimine, ahlak gelişimlerine uygun, öğrencilerin kendilerine saygı ve güvenlerini artıracak, zihinsel sağlıklarını destekleyecek deneyimler sunmalıdır.

BDE programları, eğitim alan bireylerin öğrenmede eğitimin ihtiyaç olduğunu ve kendilerine kolaylık sağladığını duyuşsal olarak hissettirecek şekilde planlanmalıdır. Eğer bireyin duyuşsal gelişimleri BDE programlarına olumsuz ise BDE kullanılmasının herhangi bir etkisi olmaz.

BDE programları içerisinde bireyin gelişim evresine uygun olarak video yada multimedya programlar hazırlanabilir. Hazırlanan multimedya programlarıyla öğrencilere yeni bilgiler kazandırılırken öğrencilerin akademik, sosyal, duygusal ve fiziksel gelişimlerini yani bireylerin benlik gelişimleri sağlanabilir.

BDE'de "ahlak gelişimi" kavramı, öğrencilere ahlak gelişimi ile ilgili multimedya programları hazırlanıp sunulmasıyla sağlanabilir. Örneğin öğretmenin bir konu hakkındaki kendi davranışları eğitim yazılımı içersinde öğrencilere sunulabilir.

Öğrencilerin hazırlanan multimedya cdlerinden, sahip oldukları bilgilerden eksik olanlarını öğrenerek, ders saatleri dışında da, günlük yaşamlarında kullanmaları ile BDE'de "ahlak gelişimi" sağlanmış olur.

BDE, öğrencilerin "kendilerine güven duymalarını sağlayabilir. Öğrenci geleneksel eğitim- öğretimde öğrenemediği bilgileri, BDE ile öğretmen rehberliğinde edindiği internet adresleri ya da hazırlanmış eğitim

yazılımları ile daha kolay öğrenebilir, birçok kez tekrar edebilir ve daha önce öğrenemediği konuları öğrenmeye başladıkça zoru başarma duygusu ile kendini iyi hissetmeye başlar. Böylece öğrencilerde "öz saygı" ve "kendine güven duygusu" gelişir ve kendini değerli hissetmeye ve yeteneklerine güvenmeye başlayan öğrencinin "zihinsel sağlık" gelişimine yardımcı olur.

Nörofizyolojik Kuram Ve Bde'de Uygulanması

Nörobilim alanında yapılan çalışmalar ve elde edilen bulgular, öğrenmenin bilişsel ya da duyuşsal öğrenmelerden çok farklı bir şekilde tanımlanması sonucunu doğurmuştur. Buna göre öğrenme, yeni dentritler ya da yeni beyin yapısı oluşturmaktır (Wortock, 2002). Başka bir deyişle insan öğrenmektedir, çünkü beyin kendi nöral devrelerini değiştirebilmektedir (Thomas, 2001).

Beyin gelişimi hakkında ne öğrenildiyse, bu öğrendiklerimiz fareler, maymunlar ve diğer hayvanlar üzerinde yapılan yoğun ve saldırgan deneyleri içeren çalışmalardan alınmıştır. Bu deneyler, araştırmacılara, doğru yoldan çeşitli durumlar altındaki hayvanların fizyolojik olarak karşılaştırılması ya da ölçülmesiyle beyin gelişimlerinin gözlemlemelerine yardımcı olmuştur (Hall, 2007).

Kuramın BDE'de Uygulanması

Nörofizyolojik kuramın öğrenme ile ilgili yedi kavramı bulunmaktadır. Bu kavramlar eş zamanlı faaliyet, öğrenmeyi kolaylaştırmak, anlam yükleme, ilişki kurma, bütünü aynı anda algılama, süreç ve bireysel farklılıktır. (İşman,2008)

1. Eş zamanlı faaliyet: İnsan beyni birçok işlevi eş zamanlı olarak yerine getirebilir. Etkin öğretimde aynı anda yapılması gereken işlemler ahenk içerisinde verilmelidir.

2. Öğrenmeyi kolaylaştırmak: Bilgisayar destekli öğrenmede kullanılan materyaller ve yazılımlar ile biyokimyasal reaksiyonlar ile sinir sisteminde bulunan sinaptik bağların oluşmasını sağladığı için öğrenmeyi kolaylaştırır. Çünkü beyin bilgisayar ile birden fazla duyu organına hitap eder. Beyin her türlü uyarıcıya karşı bir tepki gösterebildiği için renkli, işitsel, hareketli yazılımlar beyinde güçlü miktarda reaksiyona neden olacak ve öğrenmeyi kolaylaştıracaktır.

3. Anlam yükleme: Beyin kendisine ait özgün ve yaratıcı yapılara anlam veren örüntüleri ortaya çıkarmaya ve örüntüler oluşurken onları sezip anlamaya çalışan bir sanatçı ve bilim adamı gibidir. Örüntüleme; bilginin anlamlı organizasyonu ve sınıflandırılmasına işaret eder. Beyin bu örüntüleri algılamak ve yaratmak için donatılmış olup kendisine dayatılan anlamsız örüntüleri de reddeder. Anlamsız örüntüler, öğrenci için bir anlam ifade etmeyen, yalıtılmış bilgi parçacıklarıdır. Bilgiyi bütünleştirmek için görünüşte ilişkisiz birçok bilgi ve faaliyet eğitim ortamına getirilip değerlendirilebilir. Etkili bir öğrenme için anlamlı ve birbiriyle ilişkili olabilecek örüntüler yaratılmalıdır.

4. Eğitim açısından doğurgular: Öğrenenler şu veya bu biçimde her zaman örüntüler, algılar ve anlamlar yaratırlar. Onları durduramayız, ama yönlerini etkileyebiliriz. Hayal kurma, gündüz rüyası, eleştirel düşünme ve problem çözme gibi durumlar birer örüntüleme yoludur. Öğrencinin neyi öğrenmek zorunda olduğunu seçmemize karşın, istenen süreç bilgiyi öğrenciye zorla kabul ettirmekten çok beynin herhangi bir yolla örüntüleri özetlemesine izin vermek olmalıdır. Bunun için zaman harcanması, uygun örüntülemeyi garantilemez, çünkü öğrenci aklı başka bir yerde iken bu işle gerçekten ilgilenmez. Eğitimdeki çoğu sorun anlamsızlığın göz ardı edilmesinden ya da yanlış anlaşılmasından kaynaklanır. Öğrenme sonuçları ve hedefleri açısından eğitimciler ezber ile anlamlı öğrenme arasındaki farkı yeniden değerlendirmelidir. Dolayısıyla tüm öğrencilere, öğretmenlerinin görüşlerinin ötesine geçme konusunda izin verilmelidir. (Tüfekçi,2005)

5. İlişki Kurma: Bilgisayar destekli eğitimde kullanılan materyaller belirli bir sıra ile ve bireyin kişisel hızına göre düzenlendiği için, birey bilgisayar destekli eğitim sayesinde beyninde öğrendikleri arasında ilişki kurabilir.

6. Bütünü aynı anda algılama: Gestaltçıların da ısrarla üstünde durdukları gibi, beyin bütünü algılamaya çalışır. Bir masada oturan insanı, insan beyni tam olarak algılar. Bilgisayar destekli eğitimde ilişkisel olarak insan beynine gönderilen uyarıcıları tam olarak algılayabilmesi için yazılım bir bütün halindedir.

7. Süreç ve bireysel farlılıklar: Bilgisayar destekli eğitimde kullanılan yazılımlar, materyaller bireysel çalışmaya, bireysel hıza ve belirli bir sürece imkân tanır. Bu da insan beynini gereksiz uyaranlarla yormaz, bireysel öğrenmeyi kolaylaştırır.

Yapisalci Kuram Ve Bde'de Uygulanması

Yapısalcı kuramda, bireyin çevresindeki olay ve nesnelerle etkileşimi sonucunda elde ettiği bilgileri, kendisinde varolan eski bilgilerle ilişkilendirerek yeni bilgi olarak yapılandırması amaçlanır (Bodner, 1986;Fosnot, 1996;Limon,200 1;Sherman,2000;Özden, 1999; Akt: Akpınar ve Ergin,2005)

Öğrenmenin Yapısalcı teorisinde öğrenenler şimdiki ve geçmişteki bilgilerine dayanarak aktif bir öğrenme sürecindedirler.(Payne ve diğ., 2009)

(Wink, 2006) yapısalcılığın tanımını epistemolojik ve pedagojik olarak ikiye ayırıyor. Epistemolojik yapısalcılık, Birey ya da gruplar bilgilerini muhtemelen insani olmayan etkileşimlerle kendi tercihleri sonucunda yapılandırırlar, "Doğru", bilgiyi yapan anahtar adımdır. Çok iyi yapılandırılmış bir bilgi bile insan faktörüne muhtaçtır. Bilginin oluşumunda tarih, cinsiyet ve etnik gruplar gibi sosyolojik faktörlerde etkilidir. Pedagojik yapısalcılıkta ise, öğrenen bilginin üretildiği ve elde edildiği yerdedir. Bilgi, onu üreten insanın sınırlarındadır. Bir insanın bilgisi, bilgiyi öğrenme aktivitesine ve onu elde etme süreçlerine bağlıdır. Başka bireylerle etkileşim öğrenenin bilgiyi yapılandırmasında etkilidir. Öğretmen, Öğrenci ve eğitim sistemi, içeriğe ve öğrenmenin temel süreçlerine şekil verir.

Demirel (2011:233)'e göre yapısalcı yaklaşım, "öğretimle ilgili bir kuram değil, bilgi ve öğrenme ile ilgili bir kuramdır. Bu kuram bilgiyi temelden kurmaya dayanır". Bu düşünceye göre öğrenci yeni kazandığı bilgileri eski bilgileri ile karsılaştırarak zihninde yeniden yapılandırır ve böylece etrafındaki dünyayı anlamlandırır. Öğretmen merkezli ve öğrencilerin pasif dinleyiciler oldukları geleneksel öğretim yöntemlerinin aksine bu model, öğrencinin öğrenmede çok aktif olması gerektiğini savunur. Bu teoride, bilginin her bir öğrenen tarafından bireysel olarak yapılandırıldığı, öğrencinin kendisine ulasan bilgileri aynen almadığı ve öğrenmede bireyin ön bilgilerinin, kişisel özelliklerinin ve öğrenme ortamının son derece önemli olduğu vurgulanmaktadır. Genel olarak incelendiğinde yapılandırmacı öğrenme, var olanlarla yeni olan öğrenmeler arasında bağ kurma ve her yeni bilgiyi var olanlarla karsılaştırarak yeniden biçimlendirme sürecidir.

Yapısalcı kuramın temel özelliği, öğrencilerin rolünün tanımlanmasında yatmaktadır. Bu süreçte öğrenci fikir ve algılarını oluştururken onları pasif olarak diğer kaynak veya öğretmenlerden almak yerine, etkin olarak kendisi yapılandırır. Yapılandırma, öğrenenin daha önceki deneyimleri ile şekillenmiş düşünce ve algılarını yeni deneyimleri ile ilişkilendirmeleri ve genişletmede kullanmaları anlamındadır. Bu, zihinsel etkinlikler yoluyla sağlanabileceği gibi bazen de fiziksel etkinlikler yoluyla, yani yaparak ve yaşayarak da sağlanabilir (Harlen, 2000; Akt: Anagün ve Anılan,2005).

Kuramın BDE'de Uygulanması

Öğrenme ortamlarında teknoloji kullanımı ile öğrencilere daha zengin öğrenme ortamları sunulmakta, ilgi uyanmakta, motivasyonlarının artması ve konuya ilişkin eski bilgileri hatırlamalarını sağlamaktadır. Yapısalcı yaklaşımda öğrenci merkeze alındığı ve öğrenme süreçlerinde öğrenci aktif olarak rol aldığı için öğrenci yeni öğrenme ürünlerini ortaya çıkarırken, iletişim kurarken, öğrenme öğretme süreci içerisinde teknolojinin rolü büyüktür. Öğrenme süreçleri içerisinde öğrencilerin anlamalarını kolaylaştırmak için teknoloji kullanılabileceği gibi, öğrenme ürününü meydana getirilirken ve bu ürünün kalıcı hale getirilmesi için teknoloji kullanılabilir.(İşman ve diğ.,2002)

Bilgisayar Destekli Eğitim (BDE), her türlü öğretimsel içeriklerin ve faaliyetlerin bilgisayar kullanılmak suretiyle öğrenciye aktarılması olup eğitimde bilgisayar kullanımı için kullanılan en eski kavramlardan birisidir. Bu yüzden, farklı amaçlarla olsa dahi, eğitim ortamında bilgisayar kullanımı genel olarak BDE olarak kabul edilir. Eğitim kavramı ile eğitim sürecinin alt sistemlerinden birisi olan öğretim kavramının sürekli olarak karıştırılmasından dolayı Bilgisayar Destekli Eğitim (BDE) ile Bilgisayar Destekli Öğretim (BDÖ) kavramları da karıştırılmakta ve çoğu kez birbirinin yerine kullanılmaktadır.(Bodur, 2006)

Bilgisayar teknolojisinin son yıllarda yaygınlaşmasıyla birlikte bu teknolojiden eğitimde daha etkili bir biçimde yararlanmanın yollarının araştırılması gerekliliği ortaya çıkmıştır. Bu bağlamda, öğrenenin önceki bilgilerini temel alarak yeni düşünce veya kavramları yapılandırdığı aktif bir süreç olarak tanımlanan yapılandırmacı öğrenme yaklaşımı ile bilgisayar teknolojisinin birleştirilmesinin eğitim durumlarına önemli katkılar sağlayacaktır. (Özcan ve Asker,2005)

Ramos (1999; Akt. Özcan ve Asker,2005) yapısalcılığın popülaritesinin artması ile bilgisayar teknolojisindeki gelişme ve kullanımındaki yaygınlaşma arasındaki paralelliğe dikkat çekmektedir.

1980'lerden beri Bilgisayar Destekli Eğitimde, Pedagojik yapısalcıları destekleyen yeterli sayıda araç geliştirilmiştir. Mulle Meck gibi Multimedya CD'leri, LOGO gibi çocuklar için programlama dili, E-Slate gibi yeniden kullanabilen parçalar örnek olarak sayılabilir. Son zamanlarda sanal gerçeklik ve geliştirilmiş gerçeklik teknolojileri ile kubaşık öğrenme çevrelerine de giriş yapılmıştır.(Taxén, 2004)

Yapısalcı kuramın öğrenme ile ilgili toplam olarak yedi önemli kavramı bulunmaktadır. Bu kavramlar, yaparak-yaşarak öğrenme, yaratıcılık yeteneğinin geliştirilmesi, bireysel yorum, gerçek yaşantılar, kubaşık öğrenme, öğrenci-merkezli öğretim ve bireysel öğretim yaklaşımlarıdır. (İşman,2008)

1. Yaparak- yaşayarak öğrenme: Öğrenmede yaparak ve yaşayarak kavramları öğrenmenin kilit noktalarıdır. Öğrencinin kalıcı öğrenmeler meydana getirebilmesi için konu ile ilgili bizzat kendisi yapmalı ve yaşamalıdır.(İşman,2008)

2. Yaratıcılık yeteneğinin geliştirilmesi: Düşünebilen her insanın az veya çok yaratıcılık yönü vardır. Bireylerin kendini gerçekleştirmesine çok büyük katkısı olacak bu yönümüzün geliştirilebilmesi için öncelikle yaratıcılığımızı engelleyen faktörlerin ortadan kaldırılması gereklidir. Yapılan çalışmalar, yaratıcılık yönü gelişmiş insanların şu iki hususa özen gösterdiklerini oraya koymuştur: birincisi, soru sorma ortamını geliştirmeleri,ikincisi ise, seçim yapma olanağı sağlayacak çeşitli fikirlere sahip olmadan karara varmamayı öğrenmiş olmalarıdır.

Sonuç olarak, yaratıcılık kişinin konuya ilişkin bilgi ve tecrübesinin yanı sıra, hayal gücü ile de çok yakından ilgili olan bir konudur. Bu nedenle, yaratıcılığı geliştirmek üzere önerilen metotlar tek başlarına yaratıcılığı sağlayamazlar. Bunlar, yaratıcılık yeteneğimizi engelleyen unsurları ortadan kaldırmak için sadece bizlere yardım eden tekniklerdir. Bilgisayar destekli eğitimde kullanılan yapısalcı materyaller ve programlar bireylerin yeni şeyler üretmeye teşvik etmekte ve yaratıcılıklarını geliştirmektedir.

3. Bireysel yorum: Bilgiler ya doğru ya da yanlıştır. Öğrenen, gereksiz ayrıntıları sınavda çıkacak korkusu ile ezberler. Yapılandırmacılıkta ise temel amaç çözümleme, birleşim, değerlendirme gibi üst düzey bilişsel becerileri kullanmak olduğundan öğrenen bilgiyi bireysel olarak yapılandırır ve bilgiye ilişkin yorumunu yapar.

4. Gerçek yaşantılar: Yapılandırmacılıkta öğrenenlerin bilgiyi anlamlı ve kullanışlı yapabildikleri yapılandırmacı öğrenme ortamları teknoloji temellidir. Bu ortamlar; gerçekçi, etkili, işbirlikli ve gönüllü çalışmaları gerektirir. Öğrenenler, teknolojiyi günlük yaşamlarında etkin bir şekilde amacına uygun olarak kullanırlar(Erdem ve Demirel,2002).

5. Kubaşık öğrenme: Bilgisayar destekli öğrenmeyle yapılan projeler öğrencileri işbirliğine dayalı gruplarda öğrenmeye teşvik etmektedir. Öğrenciler bir projenin çeşitli bölümlerini bilgisayarda yapabilmektedir. Zamandan yarı bağımsız ya da bağımsız olarak çalışabilme olanağına da sahiptirler.

6. Öğrenci-merkezli öğretim: Yapısalcı öğretimin savunduğu en önemli ilkelerden biri de öğrenci merkezli eğitimdir. Yapısalcı öğretimde her öğrencinin öğrenme yeteneğine uygun eğitim verilmelidir. Bilgisayar destekli eğitimde öğrenciyi ön plana alan, öğrencinin ihtiyaçlarına uygun ve öğrenme hedeflerine uygun materyaller ve yazılımlar hazırlanabilir.

7. Bireysel öğretim yaklaşımı: Bilgisayar destekli eğitimde bireysel öğretim sunulabilmektedir. Her öğrenci kendi bireysel yeteneği ve öğrenme hızıyla öğrenme imkanına sahiptir. Zamandan ve mekandan bağımsız olarak çalışabilmekte, anlamadığı konuları tekrar tekrar çalışarak öğrenmesini pekiştirebilmektedir.

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BOLOGNA SÜRECİ ÇERÇEVESİNDE HAZIRLANAN EĞİTİM ÖĞRETİM BİLGİ SİSTEMİNDE DERS BİLGİLERİ MODÜLÜ TASARIMI

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Özet

Avrupa Birliği, Bologna süreciyle, üye ve aday ülkelerin yükseköğretim kurumlarını yeterlilikler çerçevesinde değerlendirmeyi ve Avrupa yükseköğretiminde ortak bir kalite anlayışını oluşturmayı hedeflemektedir. Bu kapsamda web tabanlı olarak geliştirilen Eğitim Öğretim Bilgi Sistemi (EÖBS) yazılımı ile üniversitelerin eğitim-öğretim süreçlerinin tanımlı, şeffaf ve sürekli geliştirilebilir bir çerçeveye taşınması hedeflenmektedir. EÖBS ders bilgileri modülü sayesinde, Bologna sürecinde program-ders uyumu için uygulanması esas tutulan yöntem ve araçların karmaşık işlemlerini basitleştirerek, süreç yönetimiyle ilgili çalışmaların etkin şekilde yürütebilmesini sağlayacak bir ortam sunulmaktadır.

Anahtar Kelimeler: Eğitim Öğretim Bilgi Sistemi; Bologna Süreci; Ders Bilgileri Modülü; Çerçeve Yazılımı; Avrupa Kredi Transfer Sistemi; Web Tabanlı Bilgi Sistemleri

Abstract

Within the Bologna process, European Union aims to create a common European Higher Education Quality Standards for evaluating the higher education institutions of member and candidate countries by using qualifications framework. By this context developed web based application of Software Framework of Education and Training Information System was aimed for bringing education and training processes into defined, transparent, continuously developable category. Prominent feature of Education and Training Information System is satisfaction of the action titles of Bologna processes.

Keywords: Educational Information System; Bologna Process; Course Information; Software Framework; European Credit Transfer System; Web Based Information System

Giriş

Bilgi sistemleri işletmelerin özellikle örgüt içi iş süreçlerinde bilgi paylaşımının daha hızlı ve yaygın olarak yapılması ve bunun modern toplumlar yararlarına da açılması hedeflerine odaklanmıştır (Srinivasan, 1999; Krajnc, & Hericko, 2003). Bilhassa bilgisayar tabanlı bilgi sistemleri kişi ve kuruluşların verileri toplamak, işlemek, veriler üzerlerinde filtre oluşturmak ve dağıtmak gibi işlemlerin gerçekleştirildiği yazılım ve donanım bileşenleri içeren tamamlayıcı ağlardır (Jessup, & Valacich, 2008, p.416). Günümüzde kurumlar, bilgi sistemleri projelerini ağırlıklı olarak web tabanlı mimariler kullanılarak geliştirme eğilimindedirler (Denning,2007). Web tabanlı bilgi sistemleri mimarileri tasarlanırken kaynak tüketimlerinin makul sınırlar dâhilinde oluşturulması, mimarinin genişletilebilir bir yapıya sahip olması ve tasarlanan yazılım mimarisinin belli standartlar ölçüsünde geliştirilmesi önemlidir (Kelly, & Gibson, 1999 v.b). Tasarlanan sistem mimarisinin geliştirilen her uygulama için geliştiriciler tarafından tekrar tekrar öğrenilmesi, tasarlanması, geliştirilmesi ve bakımının yapılması kaynakların verimsiz kullanılması anlamına gelecektir.

Bologna Süreci kapsamında, Türkiye'de ulusal yükseköğretim sistemlerinin ve kurumlarının uyumlulaştırması çalışmaları hususunda ortak bir planlama, uygulama ve karşılaştırma dili kullanılması için bir dizi yöntem ve araç geliştirilmektedir. Ulusal anlamda; Avrupa Nitelikler Çerçevesi'nin yükseköğretim aşamaları ile uyumlu Ulusal Yeterlilikler Çerçeveleri'nin geliştirilmesi ve belgelendirilmesi bu yöntem ve araçların en önemlilerinden birisidir. Yükseköğretim kurumları içerisinde paydaşların katılımı oluşturulan amaç, hedef ve çıktılar, iç ve dış kalite güvencesi sistemleri ile denetlenmektedir. Ulusal Yeterlilikler Çerçevesi'nde belirtilen yükseköğretim öğrenme çıktılarını sağlayacak öğretim programları geliştirme ve öğrenci iş yüküne dayanan ortak bir kredi toplama, biriktirme ve transfer sistemine geçiş (AKTS - Avrupa Kredi Transfer Sistemi) diğer önemli yöntem ve araçları oluşturmaktadır (Edinsel, 2008, s.8).

Bu kapsamda web tabanlı olarak geliştirilen Eğitim Öğretim Bilgi Sistemi (EÖBS) yazılımı ile üniversitelerin eğitim-öğretim süreçlerinin tanımlı, şeffaf ve sürekli geliştirilebilir bir çerçeveye taşınması hedeflenmektedir. Eğitim Öğretim Bilgi Sistemi (EÖBS) Web Yazılımı ders bilgileri modülü sayesinde, Bologna sürecine program-ders uyumu için uygulanması esas tutulan yöntem ve araçların karmaşık işlemlerini basit hale getirerek, süreç yönetimiyle ilgili çalışmaların etkin ve verimli şekilde yürütebilmesini sağlayacak bir ortam sunulmaktadır.

Bologna Süreci ve Program-Ders İlişkileri

Bologna süreci eylem başlıkları arasında ifade edilen Avrupa Kredi Transfer Sisteminin (European Credit Transfer System, ECTS) uygulanması, kolay anlaşılır ve birbirleriyle karşılaştırılabilir yükseköğretim diploma ve/veya derecelerinin oluşturulması ana hedeflerdir. Sürece dâhil olan ülkelerin ulusal yeterlilikler çerçevelerini tanımlama süreçleri ve bu süreçleri oluşturmada yapılması gereken çalışmalar alt çalışma grupları oluşturularak belirlenmeye devam etmektedir. Ülkelerin, ulusal yeterlilikler çerçevesi (UYÇ) çalışmalarını bu aşamaları takip ederek bir takvim doğrultusunda sürdürmeleri ve en geç 2012 yılına kadar tamamlamaları hedeflenmektedir(Edinsel, 2008, s.33).

Şekil 1. Bologna Süreç İlişki Diyagramı

Şekil 1'de görülen Bologna süreci ilişkilerinden "Program Çıktıları", ve altındaki adımlar doğrudan üniversitelerde yürütülmesi gereken çalışmalar olarak karşımıza çıkmaktadır. Bu kapsamda her program için amaç ve hedef belirleme, yeterliklerin ve öğrenme çıktılarının belirlenmesi, ders planlarının oluşturulması ve her bir ders için işyüklerine bağlı ölçme ve değerlendirme sisteminin uygulanarak ilgili ders için AKTS hesaplamala çalışmaları yapılmaktadır.

Eğitim Öğretim Bilgi Sisteminde Ders Bilgileri Modülü Tasarımı

Çalışmanın bu bölümünde, AKTS'nin uygulanması, program öğrenme çıktılarının ve ders ilişkilerinin kurulması, ders tanımlamalarının yapılması, temel ders bilgilerinin oluşturulması, haftalık ders konu dağılım listelerinin çıkarılması ve derslerle ilgili değerlendirme oranlarının belirlenmesi gibi süreçlerin web tabanlı olarak yönetilmesini sağlayacak yazılım çerçevesi mimarisine sahip bir bilgi sisteminin tasarım aşamaları anlatılmıştır.

Hazırlanan bu yazılım çerçevesi, Şekil-1 de gösterilen Bologna Sürecinin uygulanmasını kapsadığı gibi doğrulama (authentication), yetkilendirme (authorization), işlem kayıtları tutma (logging), hata yakalama (error handling) ve raporlama (error reporting), kullanıcı dostu arayüz (user-friendly interface) sunulması, sağlıklı ve düzenli bir hesap yönetimi (account administration) gibi özellikleri de gerçekleştirmektedir. Doğrulama, yetkilendirme ve raporlamaların yapıldığı modüller üniversitenin diğer bilgi sistemleri ile entegre çalışabilecek şekilde esnek bir mimariye göre çok dilli olarak tasarlanmıştır.

Eğitim Öğretim Bilgi Sistemi, program ve ders bilgileri olmak üzere iki temel süreç üzerine inşa edilmiştir. Düzeye bağlı (önlisans, lisans, yüksek lisans, doktora) bir ağaç yapısı şeklinde programlar ve altında dersler tanımlanmıştır. Ders bilgileri güncelleme çalışmaları, önceden belirlenmiş takvime uygun olarak bir çevrim dâhilinde yapılır. Ders bazlı işlemlerle ilgili modüller üzerinde yapılan bütün veri giriş işlemleri, önceden tanımlanan yetkiler çerçevesinde ilgili birim sorumlularınca yapılır. Yazılım çerçevesinin esnek yapısı sayesinde kullanıcı yetkileri modüler bazlı tanımlanabilirken, aynı zamanda belli bir zaman aralığına bağlı olarak da etkinleştirilebilir.

Yeni Ders Tanımlama Arayüzü

Yeni Ders Tanımlama arayüzü üzerinden bir programın ders listesine eklenecek ders; dersin İngilizce/Türkçe adı, dersin ilgili programda okutulacağı yarıyıl, ortalamaya girip girmeyeceği durumu, dersin zorunlu/seçmeli mi olduğu, dersin saati (uygulama+teorik), dersin kredisi ve dersin kodu gibi tanımlamaları yapılarak oluşturulur. Oluşturulan derslerin ilgili programdan çıkarılması veya bilgilerinin güncellenmesi Şekil-2'de gösterilen aynı arayüz üzerinden yapılır.

Şekil 2. Ders Bilgileri Modülünde Yeni Ders Tanımlama Arayüzü Gösterimi

Temel Ders Bilgisi Güncelleme Arayüzü

Temel Ders Bilgisi Güncelleme arayüzü üzerinden bir programın ders listesine eklenmiş olan dersin; varsa önkoşul dersleri, dersin zorunlu/seçmeli mi olduğu, dersin dili, dersin koordinatörü, dersi verenler, dersin yardımcıları, dersin amacı, dersin öğrenme çıktıları ve dersin içeriği gibi bilgileri güncellenir. Şekil-3'te, Temel Ders Bilgisi Güncelleme arayüzü gösterilmiştir.

Şekil 3. Ders Bilgileri Modülünde Temel Ders Bilgisi Güncelleme Arayüzü Gösterimi

Ders Akışı ve Ders Kaynakları Güncelleme Arayüzü

Ders Akışı ve Ders Kaynakları Güncelleme arayüzü üzerinden bir programın ders listesine eklenmiş olan dersin; 14 haftalık konuları, ön hazırlık çalışmaları, ders notları ve ders kaynakları bilgileri hem metinsel olarak hem de sistem üzerinden ilgili alana dosya yüklemek suretiyle güncellenir. Şekil-4'te, Ders Akışı ve Ders Kaynakları Güncelleme arayüzü gösterilmiştir.

Şekil 4. Ders Bilgileri Modülünde Ders Akışı ve Ders Kaynakları Güncelleme Arayüzü Gösterimi

Dersin Program Öğrenme Çıktılarına Katkısını Güncelleme Arayüzü

Ders Program Öğrenme Çıktılarına Katkısı Güncelleme arayüzü üzerinden bir programın ders listesine eklenmiş olan dersin; mevcut programın öğrenme çıktıları ile ilişkileri kurulur. Buna göre ilgili programın ne kadar öğrenme çıktısı varsa, bu dersin tüm çıktılarla ayrı ayrı ilişki puanlaması yapılır. Şekil-5'te Ders Program Öğrenme Çıktılarına Katkısı Güncelleme arayüzü gösterilmiştir.

Şekil 5. Ders Bilgileri Modülünde Dersin Program Öğrenme Çıktılarına Katkısını Güncelleme Arayüzü Gösterimi

Ders Değerlendirme Sistemi Güncelleme Arayüzü

Ders Değerlendirme Sistemi Güncelleme arayüzü üzerinden bir programın ders listesine eklenmiş olan dersin yıliçi ve yılsonu etkinliklerinin başarı üzerine etkisi oranlanır. Yıl içi çalışmaları kapsamında arasınav, kısa sınav, ödev, devam, uygulama, laboratuvar, proje, atölye, seminer ve arazi çalışması gibi etkinlik seçenekleri vardır. Ders ile ilişkisi kurulacak herbir etkinlik seçeneğine ilişkin sayı ve yüzde oranı değerleri bu arayüz üzerinden girilir. Bundan başka yıl içinin başarıya oranı ve yılsonunun başarıya oranı alanları üzerinden genel değerlendirme ve puanlama tamamlanır. Şekil-6'da gösterilen Ders Değerlendirme Sistemi Güncelleme arayüzü üzerinden aynı zamanda dersin kategori ilişkisi de kurulur. Örneğin bir mühendislik fakültesi programı için Matematik ve Temel Bilimler, Mühendislik Bilimleri, Mühendislik Tasarımı ve Sosyal Bilimler olmak üzere dört ayrı kategori vardır. İlgili dersin bu kategorilere uyum oranı yüzdesel olarak toplamda %100 puanı sağlayacak şekilde dağıtılır.

Şekil 6. Ders Bilgileri Modülünde Ders Değerlendirme Sistemi Güncelleme Arayüzü Gösterimi

Ders AKTS-İşyükü Güncelleme Arayüzü

Avrupa Kredi Transfer Sistemi, AKTS kredisi adı verilen birim ölçüsünün, dersin öğrenimi esnasında yapılan etkinliklerin sayısı ve saat olarak harcanması gereken süre temel alınarak işyükü hesabına dayalı olarak hesaplanması gerektiğini öngörmektedir (Oktik, Ş., 2007). Bu bağlamda Eğitim Öğretim Bilgi Sistemi Web Yazılımının Ders AKTS-İşyükü Güncelleme arayüzü üzerinden bir programın ders listesine eklenmiş olan dersin AKTS-İşyükü değeri hesaplanır. AKTS-İşyükü hesaplaması kapsamında dersin süresi, sınıf dışı ders çalışma süresi, ödevler, sunum/seminer hazırlama, arasınavlar, laboratuvar, proje, atölye, yarıyılsonu sınavı ve arazi çalışması gibi etkinlik seçenekleri sayı ve süre olarak işlenir. Bu seçeneklerinden hesaplamaya dahil edilen etkinliklerin sayı ve süre kümülatif toplamları üzerinden toplam işyükü hesaplanır ve 30 saate bölünüp en yakın tamsayıya yuvarlaması yapılarak dersin AKTS puanı hesaplanır. Hesaplanan bu AKTS değeri program ders planı ve ders bilgilerinin tüm arayüzlerinde aynı anda otomatik olarak güncellenir. Şekil-7'de Ders AKTS-İşyükü Güncelleme arayüzü gösterilmiştir.

Şekil 7. Ders Bilgileri Modülünde Ders AKTS-İşyükü Güncelleme Arayüzü Gösterimi

Sonuçlar

Geliştirilen Eğitim Öğretim Bilgi Sistemi (EÖBS) web yazılımı ile üniversitelerin eğitim-öğretim süreçlerinin tanımlı, şeffaf ve sürekli geliştirilebilir bir çerçeveye taşınması hedeflenmektedir. Eğitim Öğretim Bilgi Sistemi (EÖBS) Web Yazılımı ders bilgileri modülü sayesinde, Bologna sürecine program-ders uyumu için uygulanması esas tutulan yöntem ve araçların karmaşık işlemlerini basit hale getirerek, süreç yönetimiyle ilgili çalışmaların etkin ve verimli şekilde yürütebilmesini sağlayacak bir ortam sunulmaktadır. Geliştirilen sistem, öğretim elemanlarını da Bologna sürecinin içerisine dâhil ederek, bu bilincin tabana yayılmasını sağlarken aynı zamanda sürecin öğrenen ve gelişen üniversiteler misyonunun pekişmesine katkıda bulunmaktadır. Yazılım çerçevesi mimarisinde tasarlanan Eğitim Öğretim Bilgi Sistemi, aynı zamanda bir yazılım çerçevesinin sahip olması gereken nitelikler arasında yer alan diğer bilgi sistemleriyle entegre çalışma, taşınabilir ve geliştirilebilir olma gibi özellikleri de bünyesinde barındırmaktadır.

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CASE ABOUT ORIENTATION OF PRIMARY SCHOOL STUDENTS TO OUT-OF-SCHOOL TIME ACTIVITIES

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Abstract

Purpose of this study is to determine primary school students are mainly orientated out-of-school time activities by whom. Sample of the research consists of 42 schools and 1530 students. Findings of research: 1- Students generally are not orientated out-of-school time activities. They participate in activities which they have selected. 2- There is no significant relationship between gender and orientation of students to out-of-school time activities. 3- There is a significant relationship between school, friend and self orientation of students to out-of school time activities and number of siblings. However there is no significant relationship with family orientation. 4- There is no significant relationship between school, friend and self orientation of students to out-of-school activities and residential area of students. But there is a significant relationship between family orientation and residential area. 5- School orientation to out-of-school activities and economic condition of family has no significant relationship. There is a significant relationship between friend, family orientation, self-orientation and economic condition of family. 6- In orientation of students to out-of-school time activities, there is a significant relationship between educational status of family and school, friend orientation and self-orientation.

Keywords: Leisure time, spare time, primary school, school, student

Introduction

For students who spend most of their time by learning, how they spend their time after school is so important for their personality development. The purpose of school education is to improve all aspects of students but it is succeeded partially through lessons. Personality formation of students is provided through out-of-school activities which are the supplementary of education (Binbaşıoğlu, 1983: 209- 210). Making a habit of evaluating out-of-school time with useful activities and transforming it into an attitude are founded in primary school. For primary school students, evaluating out-of-school time are so important for their personality formation, disorientation to bad habits, protection of physical and mental health and preparation to a better future (Karataş, 2006).

According to research, in our country individuals from all ages and genders spend their spare time at home by doing passive activities which do not need active participation. As a member of the society, children form their recreation habits and attitudes by looking at families and schools which are important units of society. However, researches show that recreation habits of parents and teachers is passive. This situation is an important deficiency for improvement and reconstruction of our society and formation of active individuals (Binarbaşı, 2006; Saygın, 1999; Tuncel, 1999; Yılmaz, 2002).

When out-of-school time is not evaluated correctly, it causes making bad habits and acquiring behaviors like slackness, laxness, laziness, carelessness, irregularity, and hooliganism. (İnan, 1973: 325). Research of Saföz (2008) shows that aggression of students, who do not evaluate out-of-school time correctly, is higher than the others. Milus (1998) finds out that absence and dropout rate is lower, disciplinary problem is absent and future expectation is higher for student who spends their out-of-school time with correct activities.

Society always appraises students according to their achievement of lesson in school. In our country, importance of out-of-school activities for students is ignored because of exam traffics, intensity of lessons. However, researches show that out-of-school time and how productive students spend that time is as important as success in school at character formation of students. But primary school students are not mature enough to decide how they spend their out-of-school time. Therefore, schools and families are the most important factors for programming out-of-school time of students and orientating them out-of-school activities.

Family is the smallest social unit that education starts and child learns socialization. Child's habits of spending his spare time is started to shape by modeling family members at small ages. Therefore, family factor has an important role at students' habits of spending their out-of-school time. In our country, child's selection of action generally depends on the desires of family members and sometimes authoritarian intervention of mother and father (Tezcan, 1976). Families of primary school students, who have a great impact on decision process of out-of-school activities, seem social activities as idleness and orientate students to studying lesson even in their spare time. Studies on this subject show that students do not participate in any activities in their spare time principally because of their busy study schedule. Furthermore, studies show that families are inadequate at orientating to activities (Dikici, 1994; Yavaş Karataş, 2006; Yetiş, 2008).

Schools are the most important institutions for families and students to get spare time evaluation education and acquire awareness about it. Schools are the most suitable places to develop necessary skills for spending spare time (Tezcan, 1994: 78). However, researches made on this subject show that in our country, schools underwhelm on filling students' out-of-school time because of facility and opportunity inadequacies. Furthermore, study results show that school administration and staff members do not show enough interest on this subject (Çakıroğlu, 1998; Dikici, 1994).

In our country, unfortunately family and school orientation for students is inadequate for evaluation of out-of-school time. This situation leads students to social circle. Social circles surrogate family and school in formation of spare time habits and selection of out-of-school time activities of students. In his study Seçgin (1996) reached the finding that students prefer out-of-school time activities, which they will participate, by the impact of their social circle.

In our country major deficiencies, which cover individuals from all ages and all professions, come to light about spending spare time. Families, which children may receive training about spending their spare time, utilize their spare time with passive activities; from primary school to university, schools cannot fulfill vacant hours after the school. Not utilizing out-of-school time is one of the important issues in our country. Therefore, in this study impact of families' unconsciousness and schools' facility deficiencies on this issue is highlighted. The purpose of this study is to provide necessary information for manager, researcher and planners about utilization of out-of-school time effectively by primary school students.

In the light of this information main problem of this research is to determine "primary school students are orientated out-of-school time activities by whom?" In accordance with this main problem, sub problems of this research are alteration of orientation to out-of-school time activities connected with gender, residential area of family, economic status of family, educational background of mother, educational background of father and number of siblings.

Methodology

2.1. Methods

In this research descriptive research method is used. Descriptive research method is a method which makes it possible to define a given situation exactly and carefully.

2.2. Study group

Population of research consists of 26622 fifth grade students of 344 primary schools in Kocaeli province. Sample of this research is assigned at two phases. At first phase, according to the economic level of schools' regions 42 schools, which have low, medium or high level of resources, are determined by using stratified sampling method. At second phase, 1530 students are selected from these schools by using proportional sampling method as the sample of research.

2.3. Data Collection

At this research a questionnaire, which is designed by Tutkun, Arısoy and Okay, is used as a data collection tool for assigning who orientates primary school students to out-of-school time activities. First part of the questionnaire contains personal information. Second part contains 29 cases for assigning students are orientated by whom to out-of-school time activities. These cases are classified as "my family-my friends-my school-myself-I am not interested."

Findings and Suggestions

3.1. "Fifth grade students in primary school are orientated out-of-school time activities mainly by whom?" findings about this main problem.

Average orientation frequencies to out-of-school time activities of fifth grade primary school students, who participate in this study, are given at Table 1.

Table 1 Average orientation frequencies to out-of-school time activities of fifth grade primary school students who participate in this study

	N	Ort.	S.s	Min.	Max.
Frequency of activity with family	1409	6,776	3,356	1,000	28,000
Frequency of activity with friends	1104	4,044	2,956	1,000	22,000
Frequency of activity at school	762	2,451	1,945	1,000	19,000
Frequency of activity by himself	1464	12,449	5,566	1,000	29,000

When analyzing the average frequency rates of doing activities in fifth grade primary school students who participate in study; it is found that average frequency rate of activity with family is $6,776 \pm 3,356$, average frequency rate of activity with friends is $4,044 \pm 2,956$, average frequency rate of activity at school is $2,451 \pm 1,945$ and frequency rate of activity by himself $12,449 \pm 5,566$. According to this, fifth grade primary school students are generally orientated out-of-school activities which are their choices. Students are least orientated by schools to out-of-school time activities.

3.2. Differentiation due to gender variable

Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study due to gender variable seem at Table 2.

Table 2. Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study due to gender variable

	Group	N	Ort	Ss	t	P
Frequency of activity with family	Female	788	6,844	3,397	0,850	0,395
	Male	621	6,691	3,305		
Frequency of activity with friends	Female	617	3,812	2,682	-2,886	0,004
	Male	487	4,339	3,248		
Frequency of activity at school	Female	431	2,387	1,947	-1,036	0,300
	Male	331	2,535	1,942		
Frequency of activity by himself	Female	819	12,512	5,533	0,481	0,630

There is no significant relationship between gender variable and average points of frequency rate of activities which are done with family, at school and by themselves of fifth grade primary school students as a result of t-test (t=0,850; p=0,395>0,05). There is a significant relationship between gender and activities which are done with friends. Males participate in activities with friends more than females.

3.3. Differentiation due to residential area of family variable

Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study due to residential area of family variable seem at Table 3.

Table 3. Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study due to residential area of family variable

	Group	N	Ort	Ss	F	P
Frequency of activity with family	Province	227	6,877	4,054	2,843	0,037
	District	1012	6,755	3,214		
	Town	123	7,228	3,211		
	Village	47	5,574	2,764		
Frequency of activity with friends	Province	169	3,604	2,633	2,057	0,104
	District	800	4,075	2,999		
	Town	100	4,350	3,147		
	Village	35	4,600	2,714		
Frequency of activity at school	Province	125	2,328	1,698	1,244	0,293
	District	530	2,419	1,861		
	Town	81	2,827	2,692		

	Group	N	Ort	Ss		
	Village	26	2,538	1,944		
Frequency of activity by himself	Province	242	12,909	5,338	1,854	0,136
	District	1047	12,475	5,636		

At the orientation of fifth grade primary school students who participate in this study, there is a significant difference between residential area of family and frequency rates of activities done with family (p>0,037). According to this, while residential area of family is getting bigger, orientation of students to out-of-school time activities is increasing.

3.4. Differentiation due to number of siblings variable

Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study due to number of sibling variable is given at Table 4.

Table 4. Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study due to number of sibling variable

	Group	N	Ort	Ss	F	p
Frequency of activity with family	1-2 sibling	830	6,813	3,408	0,859	0,462
	3-4 sibling	456	6,825	3,301		
	5-6 sibling	78	6,205	2,774		
	7 and more sibling	45	6,600	3,852		
Frequency of activity with friends	1-2 sibling	655	3,802	2,762	3,748	0,011
	3-4 sibling	364	4,363	3,253		
	5-6 sibling	55	4,564	2,767		
	7 and more sibling	30	4,533	3,192		
Frequency of activity at school	1-2 sibling	445	2,288	1,592	5,484	0,001
	3-4 sibling	252	2,520	2,046		
	5-6 sibling	41	3,366	3,520		
	7 and more	24	3,208	2,519		
Frequency of activity by himself	1-2 sibling	874	13,100	5,702	10,651	0,000
	3-4 sibling	466	11,592	5,295		
	5-6 sibling	79	11,456	4,851		
	7 and more sibling	45	10,444	4,993		

At the orientation of fifth grade primary school students who participate in this study, there is a significant difference between number of siblings variable and frequency rates of friends' orientation, family orientation and self orientation (p>0,011;0,000; 0,000).

3.5. Differentiation due to economic condition of family

Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study to out-of-school time activities due to economic condition of family variable is given at Table 5.

According to Table 5, there is a significant difference between economic condition of family variable and frequency rates of orientation of fifth grade primary school students to activities by family orientation, friends orientation and self orientation (p>0,010;0,048;0,024). According to this, frequency rates of family orientation, friends' orientation and self orientation of students to the activities is increasing when the economic conditions of family is higher.

Table 5. Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study to out-of-school time activities due to economic condition of family variable

	Group	N	Ort.	Ss	F	P
Frequency of activity with family	Good	641	7,070	3,422	4,663	0,010
	Medium	722	6,547	3,278		
	Low	46	6,283	3,377		
Frequency of activity with friends	Good	502	4,008	2,756	3,055	0,048
	Medium	567	4,002	3,072		
	Low	35	5,257	3,567		
Frequency of activity at school	Good	337	2,415	2,056	0,105	0,901
	Medium	401	2,479	1,859		
	Low	24	2,500	1,818		
Frequency of activity by himself	Good	662	12,687	5,758	3,721	0,024
	Medium	756	12,364	5,377		
	Low	46	10,435	5,472		

3.6. Differentiation due to educational background of mother variable

Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study to out-of-school time activities due to educational background of mother variable is given at Table 6. According to Table 6, there is a significant difference between educational background of mother variable and frequency rates of orientation of fifth grade primary school students to activities by friends' orientation, school orientation and self orientation (p>0,002;0,000;0,000). According to this, frequency rates of activities which are done with friends, at school and by themselves is increasing when the educational background of mother is rising.

Table 6. Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study to out-of-school time activities due to educational background of mother variable

	Group	N	Ort.	Ss	F	P
Frequency of activity with family	Uneducated	124	6,565	3,153	1,770	0,116
	Primary school graduate	656	6,732	3,101		
	Middle school graduate	176	6,994	3,968		
	High school graduate	306	7,092	3,473		
	Üniversity graduate	113	6,389	3,617		
	Other	34	5,735	3,222		
Frequency of activity with friends	Uneducated	40	5,925	3,640	3,710	0,002
	Primary school graduate	359	4,262	2,986		
	Middle school graduate	166	3,982	2,955		
	High school graduate	329	3,809	2,826		
	Üniversity graduate	180	3,544	2,704		
	Other	30	4,867	3,298		
Frequency of activity at school	Uneducated	71	3,324	2,466	4,908	0,000
	Primary school graduate	364	2,500	2,125		
	Middle school graduate	101	2,505	1,701		
	High school graduate	160	2,069	1,284		
	Üniversity graduate	49	1,959	1,443		
	Other	17	2,471	2,125		
Frequency of activity by himself	Uneducated	127	10,559	4,936	10,207	0,000
	Primary school	678	12,170	5,161		

	Group	N	Ort	Ss	F	P
	graduate					
	Middle school graduate	180	12,039	5,791		
	High school graduate	325	12,905	5,926		
	Üniversity graduate	119	15,210	5,829		
	Other	35	13,229	6,184		

3.7. Differentiation due to educational background of father variable

Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study to out-of-school time activities due to educational background of father variable is given at table 7.

Table 7. Differentiation of frequency rates of orientation of fifth grade primary school students who participate in this study to out-of-school time activities due to educational background of father variable

	Group	N	Ort	Ss	F	P
Frequency of activity with family	Uneducated	51	6,922	2,841	1,508	0,184
	Primary school graduate	451	6,590	3,119		
	Middle school graduate	208	6,606	3,496		
	High school graduate	408	6,939	3,246		
	Üniversity graduate	250	7,092	3,895		
	Other	41	5,976	3,158		
Frequency of activity with friends	Uneducated	40	5,925	3,640	5,674	0,000
	Primary school graduate	359	4,262	2,986		
	Middle school graduate	166	3,982	2,955		
	High school graduate	329	3,809	2,826		
	Üniversity graduate	180	3,544	2,704		
	Other	30	4,867	3,298		

Frequency of activity at school	Uneducated	31	2,968	2,373	2,150	0,058
	Primary school graduate	240	2,608	2,236		
	Middle school graduate	127	2,457	1,708		
	High school graduate	216	2,454	1,902		
	Üniversity graduate	127	2,000	1,458		
	Other	21	2,571	1,748		
Frequency of activity by himself	Uneducated	53	10,038	5,543	6,823	0,000
	Primary school graduate	466	11,955	5,174		
	Middle school graduate	217	12,147	5,701		
	High school graduate	425	12,642	5,457		
	Üniversity graduate	262	13,893	5,964		
	Other	41	11,561	5,710		

There is a significant difference between educational background of father variable and frequency rates of orientation of fifth grade primary school students to activities by friends' orientation, and self orientation (p>0,000;0,000). According to this, frequency rates of activities which are done with friends and by themselves is increasing when the educational background of father is rising.

Suggestions

According to findings which are acquired this research, fifth grade primary school students tend toward out-of-school time activities generally by their choices. However at those ages student are not mature enough to decide activities, which they will participate, without guidance. Schools have least role at orientation of students to activities. Impact of family is also low. Main cause of this is that in our country families do not acquire awareness about utilizing spare time yet. But educating student and family is the responsibility of school. Schools should be places that students spend their out-of-school time easily. Schools should organize seminar to increase awareness of families.

At orientation of students to activities, economic condition and educational background of family are especially important factors. When educational level increases, knowledge level of parents is enhancing on time management and they behave more consciously at orientation of child to activities. When economic level of family increases, financial difficulties like bad straits is decreasing and families allocate more time to their children then they fulfill the needs of their children. Unfortunately, in our country leisure time activities which need active participation are perceived as luxury by society and this luxury is just provided by families who have

good economic condition. This situation reaches a solution if schools turn into places that students utilize their spare time. By doing this, every students have right to spend their spare time like having right to go to school.

When number of children increases at families, attention for each child is decreasing. Therefore, students, who have more siblings, are generally impressed by friends and school.

As a result, family and school are the most important factors at adoption of utilizing spare time habits and attitudes. However, findings of research show that these two factors are inadequate to orientate student out-of-school time activities. One of the causes may be unawareness of families on this subject. In such a case, schools step in. Because by opening schools out-of-school time, there may be places where students spend their out-of school time and conscious level of society may increase through organizing seminar to families.

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ÇEVRESEL YAKLAŞIMLARIN TÜRKİYE'DE İÇ MİMARLIK EĞİTİMİNE YANSIMALARI

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Özet

Çevreye duyarlı iç mimarlık pratiğinin gelişimi için ise mesleki eğitimin kazandırdığı bilgi birikimi ve bilinç düzeyi belirleyici olmaktadır. Bu nedenle bu makalenin amacı Türkiye'deki mimarlık eğitiminin çevresel bağlamı üzerine bir durum saptaması yapmaktır. Bunu gerçekleştirebilmek çevresel tasarımın Türkiye'deki iç mimarlık bölümlerinin eğitim programlarına ne ölçüde yansıdığı araştırılmıştır. Araştırmada yöntem olarak müfredatın yapısının ders türleri, ders kredi ağırlıkları ve ders içerikleri üzerinden analiz edilmesi uygun bulunmuştur. Araştırmanın bulgularına göre Türkiye'deki içmimarlık eğitiminde çevresel tasarımın eğitim programının yapısında oldukça sınırlı bir biçimde yer aldığı saptanmıştır.

Anahtar Kelimeler: Sürdürülebilirlik, Çevresel Yaklaşım, İç Mimarlık, İç Mimarlık Eğitimi

Abstract

For environmentally sensitive interior architectural practice, knowledge and consciousness on this subject is important for students who are future interior architects. Therefore the purpose of this article is to make a determination of the current state of environmental design in interior design education in Turkey. The degree to which environmental design is reflected in the curricula of interior design departments was studied. The research was conducted by analyzing the curricula in terms of course types, course content and course-credit ratios. According to the research, it was discovered that environmental design exists in a very limited fashion within the curricula of interior design.

Keywords: Sustainability, Environmental Approaches, Interior Design, Interior Design Education

Giriş

Günümüz toplumlarının en büyük sorunu olarak görülen çevre sorunlarının hızla artması, insanları bu konuda araştırma yapmaya ve çözüm arayışına yönlendirmektedir. Çevresel tahribatı durdurmak için yeşil, ekolojik, eko ön ekli ve son olarak da tüm bu kavramları içerecek ve kapsamını genişletecek şekilde sürdürülebilirlik terimi altında çevresel yaklaşımlar geliştirilmektedir. Çevresel yaklaşımlar aracılığıyla çevre sorunlarını önleyecek uygulamalar, araştırmalar ve çözümler önerilmektedir. Hangi terimle ifade edilirse edilsin temel amaç çevre tahribatını önlemektir. Çevresel yaklaşımlar aracılığıyla tüm disiplinler doğaya olan etkileri bağlamında sorgulanmakta ve bu alanlara dair yeni tanımlar yapılmaktadır. Yapılı çevreyi şekillendiren tüm disiplinlere olduğu gibi iç mimarlığa da bu değişim süreci yansımakta ve iç mimarlara büyük sorumluluk düşmektedir.

Çevresel yaklaşımların iç mimarlık alanında önemi her geçen gün artarken ve farklı boyutlarda ele alınırken, bu tavrın eğitimde de yer almasının gereği anlaşılmaktadır (Ruff ve Olson, 2009). Bu bağlamda eğitim programlarında çevresel yaklaşımların nasıl ele alınabileceği veya alınması gerektiğiyle ilgili çeşitli araştırmalar ön plana çıkmıştır. Gürel (2010) makalesinde, çevresel yaklaşımlar çerçevesinde yürütülen iç mimarlık proje stüdyosunu analiz etmiştir. Proje sürecinde öğrencilerden çevresel tasarım kriterleriyle ürünler şekillendirmeleri beklenmiş, sonuç ürünler ve süreçte karşılaşılan sorunlar irdelenmiştir. Ayrıca farklı seviyedeki öğrencilere, anket çalışması uygulanarak çevreye duyarlı tasarım konusundaki bilgi birikimleri saptanmaya çalışılmıştır. Bir

başka çalışma ise Zuo vd. (2010) tarafından yapılmıştır. Araştırmacılar, iç mimarlık süreçlerinde enerji etkin tasarım amacıyla geliştirilmemiş olan Autodesk VIZ ve Sketchup programlarının, mekan tasarımının ilk evrelerinde geleneksel tasarım yöntemleriyle birleştirilerek pasif aydınlatma girdilerine yönelik olarak kullanılabildiğini, bunun da enerji verimli mekan tasarımına katkısı olduğunu saptamışlardır. Ayrıca çalışmalarında, performansa dayalı tasarım çerçevesinde kurguladıkları iç mimari proje stüdyosunda öğrencilerinin enerji etkin tasarım farkındalığı kazandıklarını belirtmişlerdir.

Yukarıda yer verilen araştırmalarında gösterdiği üzere çevreye duyarlı iç mimarlık ürünlerinin gelişmesi için gelecekteki uygulamaları yapacak bugün eğitim almakta olan iç mimar adaylarının, bu konudaki bilgi ve birikimleri önem taşımaktadır. Bu kapsamda öncelik Türkiye'deki iç mimarlık bölümlerin eğitim programları ve yapısal özellikleri analiz edilmiştir. Analizler doğrultusunda çevresel yaklaşımların iç mimarlık eğitim programlarındaki yeri ortaya konmuştur. Böylelikler öğrencilerin çevresel yaklaşım bilincinin eğitimde gelişmesine yönelik bulguların tartışılması hedeflenmiştir.

Araştırmanın amacı, kapsamı, sınırlılıkları

Makalenin amacı çevresel yaklaşımların Türkiye'deki iç mimarlık bölümlerinin eğitim müfredatına ne ölçüde yansıdığına dair bir durum saptaması yapmaktır. Çevresel yaklaşımların Türkiye'de bulunan iç mimarlık bölümlerinin eğitim programlarına yansımaları, ders türleri, ders listeleri, ders kredi ağırlıkları ve ders içerikleri üzerinden niceliksel yöntemlerle incelenmiştir. Eğitim programlarının zorunlu ve seçmeli dersleri bu bağlamda analiz edilen olgulardır. Bu bağlamda makalede, çevreye duyarlı tasarım anlayışının iç mimarlık eğitimindeki yeri ve öğrencilerin çevresel tasarım bilinç düzeyinin eğitimde geliştirilmesine yönelik öneriler tartışılmaktadır.

Bilindiği gibi iç mimarlık proje stüdyosu, eğitim programında en yüksek kredi ağırlığına sahip derstir. İç mimarlık eğitiminde proje stüdyoları teorik derslerde öğrenilenlerin harmanlandığı ve mesleğin pratiğine yönelik bütüncül bilgileri içinde barındırarak, eğitim programının merkezinde yer alır. Bu nedenle çevresel yaklaşımların proje süreçlerini ve ürünlerini etkilemesi kaçınılmazdır. Ancak, proje dersi yapısı gereği her yıl stüdyonun uygulanma yöntemine ve konusuna bağlı olarak içeriği yenilenmekte ve güncellenmektedir. Birçok girdiyi ve farklı bilgiyi içeren stüdyo sürecinin her öğrencinin farklı şekilde anlamlandırmakta olduğu düşünüldüğünde proje stüdyoları niceliksel yöntemlerle incelenen bu araştırmanın dışında bir alanı nitelemekte olduğu saptanmıştır.

Araştırmanın ikinci sınırlılığı da özellikle dersler ve içerikleri üzerinden yapılan okumanın biçimsel bir değerlendirme olduğudur. Dersin işleniş süreci ve bu süreçteki öğretim görevlisi öğrenci etkileşimi de çok önemli olgulardır. Ancak bir ölçme ve değerlendirme yapmanın güçlüğü, araştırmanın kapsamı dışında bırakılmasına neden olmuştur. İncelenen iç mimarlık[i] bölümleri 2011 Öğrenci Seçme ve Yerleştirme Sistemi Yüksek Öğretim Programları ve Kontenjanları Kılavuzuna göre öğrenci alan okullardır. Çalışmada iç mimarlık bölümlerin eğitim programlarına ait bilgilere internet üzerinden ulaşılmış ve bölüm bilgilerin güncelliği ve eksik bilgiler için iç mimarlık bölüm başkanlarıyla elektronik posta yoluyla iletişim kurulmuştur. Ders listelerinin, kredi ağırlıklarının ve içeriklerinin tümüne eksiksiz olarak ulaşılan iç mimarlık bölümleri çalışma kapsamında analiz edilmiştir. Fakat bu şekilde bilgilerine ulaşılamayan ve yeni bir yapılandırma içinde olduklarından güncel bilgileri eksik olan bölümler araştırmaya dahil edilememiştir[ii].

Türkiye'deki İç Mimarlık Eğitiminin Çevresel Yaklaşım Bağlamında İncelenmesi

Türkiye'deki iç mimarlık eğitiminin çevresel yaklaşım bağlamında incelenmesi iç mimarlık eğitiminde yer alan zorunlu ve seçmeli dersler üzerinden yapılmıştır. İç mimarlıkta çevresel yaklaşımların tartışıldığı konularla doğrudan veya dolaylı olarak ilgili dersler incelenerek konunun hangi boyutlarda ele alındığı ortaya konmuştur. Bu incelemeler derslerin kredi ağırlıkları ve ders içerikleri üzerinden yapılmıştır. Türkiye'de otuz altı iç mimarlık bölümü bulunmaktadır. Bu bölümlerin yirmi dördünün güncel ders kredi ve içerik bilgilerine eksiksiz ulaşılabildiği için araştırma kapsamında incelenebilmiştir[iii].

Çevresel Yaklaşım Üzerine Zorunlu Derslerin İncelenmesi

İç mimarlık bölümlerinin eğitim programında zorunlu dersler içinde doğrudan çevresel yaklaşımla ilgili derslere rastlanmamıştır. Çevresel yaklaşımla dolaylı olarak ilişkili zorunlu dersler belirlenerek, kredi ağırlıkları ve içerikleri incelenmiştir.

Fiziksel çevre kontrolü konularını içeren, enerji, iç mekan çevre kalitesi, su kullanımı konularına ilişkin dersler Yapı Fiziği Dersleri olarak ifade edilerek incelenmiştir. Hammadde kullanımı, yaşam döngüsünde enerji tüketimi ve iç hava kalitesine etkileri açısından Malzeme Derslerinin çevresel yaklaşımla kurgulanıp kurgulanmadığı analiz edilmiştir. Çevre-İnsan İlişkilerine Yönelik Dersler olarak tanımlanan "insan ve çevre, çevresel psikoloji, çevre ve insan ilişkileri" dersleri iç mimarlığın çevre ve insan etkileşimi boyutuyla değerlendirilmiştir. Böylece çevresel yaklaşım konuları zorunlu dersler içinde "Yapı Fiziği Dersleri", "Malzeme Dersleri" ve "Çevre-İnsan İlişkilerine Yönelik Dersler" başlıkları altında incelenmiştir.

Yapı Fiziği Dersleri

Yapı fiziği dersleri iç mekan çevre kalitesine etki eden aydınlatma, sıhhi tesisat, akustik, ısıtma ve havalandırma konularını içerir. Bu konu başlıkları düşünüldüğünde yapı fiziği dersleri enerji ve su gibi doğal kaynakların tüketimi ve iç mekan hava kalitesi açısından önemlidir. Bu bağlamda yapı fiziği derslerinde öğrencilere çevresel tasarım anlayışı kazandırabileceği düşünülerek incelenmiştir. Ders isimleri; bölümlere göre farklılık gösterebildiği için yapı fiziği dersleri belirlenirken ders içerikleri incelenmiştir.

Yapı fiziği ders içerikleri incelenerek, çevresel yaklaşım konuları doğrultusunda şekillenip şekillenmediği saptanmaya çalışılmıştır. İç mimarlık bölümlerinin eğitim programında yapı fiziği derslerinin klasik tasarım yöntemleriyle kurgulandığı, çevresel yaklaşım olarak adlandırılan tasarım süreçleriyle ilişki kurmadığı görülmüştür. Yapı fiziği derslerinde aydınlatma, akustik, tesisat ve ısıtma-havalandırma konularına ait bilgiler aktarılmakta; çevresel tasarım anlayışıyla ortaya çıkan yeni tanımlara yer verilmemektedir. Fakat üç iç mimarlık bölümünün yapı fiziği ders içeriğine çevresel yaklaşımla ilgili konuları dahil ettiği saptanmıştır.

Doğuş Üniversitesi, İç Mimarlık Bölümü, yapı fiziği ders grubunda incelenen Fiziki Çevre dersi geleneksel yapı fiziği konuları dışında "güneş enerjisi ve kullanımı" konusunu da içermektedir.

İstanbul Ticaret Üniversitesi, İç Mimarlık ve Çevre Tasarımı Bölümü, yapı fiziği ders grubunda incelenen Yapı Fiziği ve Fiziki Çevre I dersi içeriğine "alternatif enerji kullanımı ile ilgili bilgiler" de dahil edilmiştir.

İstanbul Teknik Üniversitesi, İç Mimarlık Bölümü, Yapı Fiziği Ders grubu içinde incelenen Fiziksel Çevre Kontrolü I dersi içeriği "Türkiye'de geçerli olan çevresel standartları ve yönetmelikleri" kapsamaktadır.

İç mekan çevre kalitesine yönelik çalışmalar artarken ve bu konunun insan sağlığı üzerindeki önemi farklı kesimler tarafından paylaşılırken, yapı fiziği derslerinin güncel gereksinimler karşısında revize edilmesinin gereği anlaşılmaktadır. Ayrıca, yapı fiziği derslerinin enerji etkin tasarım anlayışı, yenilenebilir enerji kaynaklarının kullanılması ve farklı enerji türlerinin araştırılması konularını içermesi, öğrencilerin çevresel bilgi ve bilinç düzeyini artıracaktır. Diğer yandan toplumlar yakın gelecekte su sıkıntısı nedeniyle önemli sorunlar (Erengezgin, 2006) yaşayacaktır. Bu nedenle çevresel yaklaşımla su kullanımını minimize eden ve kirli suyun arıtılarak yeniden kullanılmasını sağlayan teknolojiler (Hart, 1994 ve Jones, 2008) geliştirilmektedir. Yapı fiziği ders konularının bu kapsamda öğrencilere aktarılması, öğrencilerinin çevre bilincine katkı sağlayacaktır.

Malzeme Dersleri

Çevresel yaklaşımlar düşünüldüğünde en önemli ağırlığı malzeme alanı oluşturmaktadır. Çünkü çevre sorunları karşısında malzemenin, yerel, yaşam döngüsünde az enerji tüketmek ve geri dönüştürülebilmek gibi özellikleri taşıması gerekmektedir. Ayrıca iç mekan bitirme malzemeleri iç mekan hava kalitesini ve yaşam döngüsünde enerji tüketimiyle çevreyi olumsuz etkilemektedir (Kwok and Grondzik, 2007; Wilson, 2000; EPA,

2011a; EPA 2011b). Bu doğrultuda öncelikle iç mimarlık bölümlerinin ders içerikleri incelenerek malzeme konularını kapsayan dersler Malzeme Dersleri olarak nitelendirilmiştir.

İç mimarlık bölümlerinin eğitim programlarında malzeme dersleri, malzemelerin fiziksel ve kimyasal özeliklerini, mekanik etkiler karşısındaki davranışlarını içerecek ve cam, plastik, metal, gibi malzeme türlerini açıklayacak biçimde kurgulanmaktadır. Bu ders içeriklerine çevresel yaklaşımla malzeme alanında tartışılan konuların dahil edilmediği görülmektedir. Yalnızca İstanbul Teknik Üniversitesi İç Mimarlık Bölümü eğitim programında Yapı Bilgisi ve Malzeme II dersinin içeriği "malzemenin üretim, uygulama, bakım ve kullanım aşamalarına ait bilgilerin verilmesi; performans, malzeme özellikleri ve sürdürülebilirlik kriterleri bağlamında en uygun malzeme seçimi, malzeme standartları, malzeme sınıflandırma ve enformasyon sistemlerine" yönelik tasarlanmıştır. Bu derslerin içeriğinden malzemenin çevresel olmasıyla ilgili konuların hangi açılardan ele alındığı anlaşılmamaktadır. Öğrencilere bu konudaki temel bilgilerin verildiği görülmektedir. İç mimari tasarımının odak noktalarından biri olan malzeme konusunda çevresel yaklaşımlarla birlikte yaşanan değişimin bölümlerin eğitim programına gerekli ölçüde yansımadığı, ancak bu konuya ait bir bilincin; bazı bölümlerde öğrencilere aktarıldığı söylenebilir.

Çevre-İnsan İlişkilerine Yönelik Dersler

Çevre sorunlarının çözümünde insan merkezli yaklaşımlar yerine çevre merkezli yaklaşımlar önerilmektedir (Kang and Guerin, 2009). Bu doğrultuda iç mimarlık eğitim programında yer alan çevre-insan etkileşimine yönelik derslerin incelenmesi gerekli görülmüştür. Bölümlerin eğitim programındaki "çevre psikolojisi, çevre ve insan ilişkileri, insan ve çevresel faktörler, çevre ve insan, çevre ve kültür" dersleri bu kapsamda çevre-insan ilişkilerine yönelik dersler şeklinde adlandırılarak incelenmiştir.

Çevre-insan ilişkilerine yönelik dersler çevresel algı ve biliş konularını ve bunların iç mimari tasarıma yansımalarını içermektedir. Bu derslerde insan algısını ve davranışını etkileyen çevre, hem kişisel hem de sosyal açılardan ele alınmaktadır. Çevre-insan ilişkilerine yönelik dersler psikolojiyi temel alarak insan merkezli kurgulanmakta, doğal çevre, yapay çevreye olan etkileri üzerinden ele alınmaktadır. Bu anlayışla çevre sorunları sonucu ortaya çıkan değişimlerle bağlantı kurulamayacağı düşünülmektedir. Fakat çevre-insan ilişkilerine yönelik ders içeriğine çevreyle ilgili yeni tanımlamaların dahil edildiği üç iç mimarlık bölümü bulunmaktadır.

Başkent Üniversitesi, İç Mimarlık ve Çevre Tasarımı Bölümü eğitim programında zorunlu ders olarak bulunan İnsan ve Çevre 1 dersinin içeriğinde geleneksel çevre tanımlamalarının dışında çevre sorunları, çevre konusunda güncel tartışmalar ve sürdürülebilirlik konularına da bulunmaktadır.

Kadir Has Üniversitesi, İç Mimarlık ve Çevre Tasarımı Bölümü eğitim programında zorunlu ders olarak bulunan Çevresel Tasarım ders içeriğinde "tasarımın insan sağlığına etkileri, katılımcı tasarım yöntemleri, sürdürülebilirlik, herkes için tasarım" gibi genel modüller ve çevresel analiz teknikleri yer almaktadır.

Okan Üniversitesi, İç Mimarlık Bölümü eğitim programında zorunlu ders olarak bulunan Tasarımda Çevre Etkeni dersi sosyal, doğal ve yapılı çevre kavramlarını kapsamakta, ayrıca "doğal çevre alanları, sınırlı doğal kaynakların yönetimi ve sürdürülebilir çevre vurgusu da dersin yapı taşlarından" olmaktadır.

Sözü geçen bölümlerin dışındaki iç mimarlık bölümlerinde çevre-insan ilişkilerine yönelik ders içeriklerinde çevreyle ilgili güncel tartışmalara yer verilmektedir. Kuşkusuz, bu dersler insan psikolojisi ve algısı üzerinden farklı bir alan tanımlamakta ve zorunluluk arz etmektedir. Ancak insanın yaşamını daha iyi sürdürebilmesi için doğayı merkez alarak hareket etmesi gerekmektedir. Çevre sorunlarına tüm sistemleri içerecek ve dahil edecek şekilde bütünsel bir anlayışla bakıldığında çözüme ulaşılabileceği öngörülmektedir. Yapılan incelemeler sonucu bu değişimlerin iç mimarlık eğitim programlarında bir farklılaşmaya neden olmadığı, çevre-insan ilişkilerine yönelik ders içeriklerinin insan merkezli kurgulanmaya devam ettiği anlaşılmaktadır.

Çevresel Yaklaşım Üzerine Seçmeli Derslerin İncelenmesi

Seçmeli derslerin içerikleri incelenerek doğrudan çevresel duyarlılık ve bilinç kazandırmaya yönelik "ekoloji, ekolojik tasarım, sürdürülebilirlik, sürdürülebilir tasarım, güneş enerjisi, akıllı bina sistemleri" konularını içeren dersler belirlenmiş ve Çevresel Yaklaşım Odaklı Dersler olarak ifade edilmiştir. Seçmeli derslerin kredileri ve içerikleri incelenerek, doğrudan çevresel tartışma alanlarıyla ilgili dersler saptanarak Tablo 1'de ortaya konmuştur.

Bilgileri incelenen 24 iç mimarlık bölümünün 14'ünde seçmeli dersler türü içinde çevresel yaklaşım odaklı ders bulunmaktadır. Bu da iç mimarlık bölümlerinin %58,33'üne denk gelmektedir. Öte yandan ders isimlerinden de anlaşılabileceği üzere dersler farklı çevresel yaklaşım konularına yöneliktir. Bu derslerin içerikleri çevresel yaklaşımların tartışıldığı konular çerçevesinde analiz edilerek ana başlıklar altında gruplandırılarak incelenmiştir.

Tablo 1. Çevresel Yaklaşım Odaklı Ders Kredi Ağırlıkları

Üniversiteler	Çevreyle İlişkili Kuramsal Dersler	Çevresel Teknolojiye Yönelik Dersler	Enerji ve Kaynak Kullanımına Yönelik	Çevresel Ekonomiye
Atılım Üniversitesi	Ekolojik Tasarım Prensipleri / Ekolojik Tasarım Prensipleri	-	-	-
Bahçeşehir Üniversitesi	Ekolojik Restorasyon ve	-	-	-
Başkent Üniversitesi	-	-	Mekanlarda Kontrollü	-
Bilkent Üniversitesi	-	-	-	Çevresel
Gediz Üniversitesi	Ekoloji / Sürdürülebilir Tasarım	-	Enerji Etkin Yapı	-
Hacettepe Üniversitesi	Sürdürülebilir Tasarım	-	-	-
Işık Üniversitesi		Akıllı Binalar ve Yarının		
İstanbul Arel		Akıllı Mekanlar		
İstanbul Kültür Üniversitesi	Doğal Verilerle tasarım	Bilgisayar Yardımı ile Yerleşme ve Bina Gölge Analizi	Güneş Evi / Binalarda Rüzgar / Bina, İklim, Enerji	
İstanbul Ticaret Üniversitesi	Kentsel gelişim ve Sürdürülebilirlik ve Ekoloji	Akıllı Mekanlar	-	
İzmir Ekonomi	Ekolojik ve Biyo-iklimsel	Akıllı ve Etkileşimli		
Karadeniz Teknik	-		Güneş Kontrolü	-
Yaşar Üniversitesi	Sürdürülebilir Mimarlık / Ekolojik İç Mekan Tasarımı	Akıllı Binalar	-	-

Çevreyle İlişkili Kuramsal Dersler

İç mimari tasarım ve uygulamalarının estetik açıdan insan gereksinimlerini karşılarken çevresel yaklaşım özelliklerine de sahip olması beklenmektedir. Sürdürülebilir, ekolojik, ekolojik tasarım ve sürdürülebilir tasarım gibi terimler altında konun kuramsal ve uygulamaya dönük temeli kurulmaya çalışılmaktadır. Böylesi bir anlayışla öğrencilere çevresel yaklaşımların aktarılmasının hedeflendiği dersler, altı iç mimarlık bölümünde bulunmaktadır.

Çevreyle ilişkili kuramsal dersler bölümlerinin çevresel yaklaşım odaklı dersleri içerisinde en yüksek sayıya sahiptir. Böylelikle bölümlerin eğitim programında, seçmeli derslerde çevrenin kurumsal boyutuna yer verildiği söylenebilir. Çevreyle ilişkili kuramsal derslerin içerikleri farklılık göstermekle birlikte, genel kurgu çevresel sorunları ve nedenleri, doğal kaynak kullanımı, ekoloji, ekosistem tanımları ile ekolojik ve sürdürülebilir tasarımın ne olduğunun açıklaması şeklindedir. Derslerde çevresel yaklaşımlar zaman boyutuyla birlikte incelenmekte ve doğal kaynakların gelecek kuşaklara da iletilmesine değinilmektedir.

Çevresel Teknolojiye Yönelik Dersler

Çevresel yaklaşımlarla birlikte teknoloji alanında da değişimler yaşanmaktadır. İç mimarlıkla doğrudan ilişkili, kullanıcı konfor koşullarını, enerji ve su verimliliğini sağlayan akıllı bina teknolojileri bulunmaktadır. Ayrıca, kaynak kullanımıyla ilgili kararların iç mimari tasarım sürecinde daha kolay alınmasına olanak tanıyan bilgisayar simülasyon programları mevcuttur. Bu doğrultuda çevresel yaklaşım odaklı dersler içerisinde çevresel teknoloji konularıyla ilgili dersler tartışılmıştır.

Akılı mekan tasarımına yönelik dersler, çevresel yaklaşım odaklı ders içinde çevreyle ilişkili kuramsal derslerden sonra en yüksek sayıya sahiptir. Çevresel yaklaşımla birlikte tanımı ve uygulama şekli geliştirilen akıllı bina kavramının iç mimarlık eğitim programında yer alması; öğrencilerin çevre bilinç düzeyinin artırılmasında önem taşımaktadır. Ayrıca iç mimarların akıllı bina ve mevcut yapıların akıllı mekanlara dönüştürülmesi uygulamalarında çalışıyor olması bu derslerin gerekliliğini artırmaktadır.

İç mimarlık bölümleri içinde bilgisayar teknolojilerinin çevresel anlayışla kullanımına yönelik olarak yalnızca İstanbul Teknik Üniversitesi'nde Bilgisayar Yardımı ile Yerleşme ve Bina Gölge Analizi dersi bulunmaktadır. Bu dersin içeriği güneşe göre yapının araziye yerleşmesi ve değerlendirmesi şeklindedir. İç mimari tasarımın temsilinde kullanılan bilgisayar programlarının ara yüzlerinden çevresel tasarım amacıyla da yaralanılabilir. Bu da öğrencilerin çevresel bilgi ve bilinç düzeyine katkı sağlamaktadır.

Sonuç olarak az sayıda iç mimarlık bölümünde çevresel yaklaşımla tanımı ve uygulama şekli değişen akıllı bina sistemleri konusunda derslerin olduğu anlaşılmaktadır. Çevresel yaklaşımla geliştirilen güncel bilgisayar teknolojileri konusu iç mimarlık eğitimine henüz yansımamıştır.

Enerji ve Kaynak Kullanımına Yönelik Dersler

Enerji konusu çevresel tasarımın başlıca konularından biridir. Çevresel yaklaşımla geliştirilen yapı teknolojilerin çoğu enerji gereksinimini azaltmaya yöneliktir. İç mimarlık alanında enerji kullanımı malzemenin gömülü enerjisinin dikkate alınması, aydınlatma ve iklimlendirme tasarımda enerji verimli araç ve donatıların seçilmesiyle minimize edilebilir (Jones, 2008; Keonil and Sahachaisaeree, 2010).

İç mimarlık bölümlerinin sadece ikisinde enerji ve kaynak kullanımına yönelik derslerin bulunduğu görülmektedir. Konun önemi düşünüldüğünde bu sayı ve oranlar yetersiz kalmaktadır. Enerji gereksiniminin her geçen gün artığı göz önünde bulundurularak, bu alandaki derslere iç mimarlık eğitim programında daha fazla yer verilmesinin zorunluluk haline geleceği düşünülmektedir.

Çevresel Ekonomiye Yönelik Dersler

Çevre sorunları artıkça ekonomik gelişmeler ve üretim süreçleri; çevre odaklı olarak yeniden değerlendirilmektedir. İç mimarlık alanında mevcut yapının yeniden kullanılmasına imkan vermesiyle çevresel anlamda ekonomik bir yaklaşım sunmaktadır. Ayrıca iç mimari tasarım ve uygulamalarda maliyet analizlerinin çevreyi de kapsayacak biçimde genişletilmesi, çevreye ve ekosisteme zararın azaltılmasını sağlayacaktır. Bu doğrultuda sadece Bilkent Üniversitesi, İç Mimarlık ve Çevre Tasarımı Bölümü'nde Çevresel Yönetim dersi bulunmaktadır.

Çevresel Yönetim dersi iç mimarlığın çevresel ekonomi boyutu çerçevesinde kurgulanmıştır. Ders çevre yönetimi, çevresel kararlarının ekonomik ve örgütsel boyutu ve bina ekonomisi konularını içermektedir. Çevresel Yönetim dersi, bölümün çevresel yaklaşım odaklı ve iç mimarlık bölümleri içinde çevresel ekonomi alanına yönelik tek derstir.

İç mimari tasarım süreçlerinin maliyetine ve iş süreçlerinin hesaplanmasına yönelik olarak eğitim programında bulunan derslerin çevresel ekonomi konularını da içermesinin gereği anlaşılmaktadır. Ancak, incelemelerden de anlaşıldığı üzere çevresel ekonomi konusunu içeren derslere iç mimarlık eğitim programında yeterli ölçüde yer verilmektedir.

Çevresel Yaklaşım Üzerine Zorunlu ve Seçmeli Derslerin Değerlendirmesi

İç mimarlığın temel bilgisine yönelik olan ancak çevresel yaklaşımlar çerçevesinde yeniden tanımlanan konular, iç mimarlık eğitim programında Yapı Fiziği Dersleri, Malzeme Dersleri, Çevre-İnsan İlişkilerine Yönelik Dersler başlıkları altında incelenmiştir. Bu incelemeler öncelikle derslerin kredi ağırlığı, zorunlu dersler içerisindeki oranı ve ders içeriği üzerinde yapılmıştır. Sonrasında; çevresel yaklaşımlarla bu derslerin kurgulandığı iç mimarlık bölümleri aynı yöntemle analiz edilmiştir. Bu veriler doğrultusunda bölümlerin çevresel yaklaşımla kurgulanan zorunlu dersleri ve bu derslerin zorunlu dersler içerisindeki oran dağılımı Tablo 2'de ortaya konmuştur.

Tablo 2. Çevresel Tasarımla Kurgulanan Zorunlu Derslerin Kredi Oranları

Üniversiteler	Yapı Fiziği/ Zorunlu Ders Oranı %	Malzeme/ Zorunlu Ders Oranı %	Çevre-İnsan İlişkilerine Yönelik Dersler/ Zorunlu Ders Oranı %	Toplam %
Başkent Üniversitesi	-	-	1,79	1,76
Doğuş Üniversitesi	3,94	-		
İstanbul Ticaret Üniversitesi	6,28	-	-	6,28
İstanbul Teknik Üniversitesi	4,08	4,08	-	8,16
Kadir Has Üniversitesi	-	-	2,65	2,65
Okan Üniversitesi	-	-	2,27	2,27

Tablo 2'de görüldüğü üzere incelenen 24 iç mimarlık bölümünün sadece altısında zorunlu dersler içinde çevresel yaklaşımla kurgulanan dersler bulunmaktadır. Eğitim programdaki zorunlu derslerde, çevresel yaklaşım konuları az sayıda derslerle kısıtlı kalmaktadır.

Seçmeli derslerin analizine göre Türkiye'deki iç mimarlık bölümlerinin ortalama yarısında doğrudan çevresel tasarımla ilgili, çevresel duyarlılık ve bilinç kazandırmaya yönelik seçmeli dersler bulunmaktadır. Bu dersler çevresel tasarımın farklı konularını içermekte ve çeşitlilik sunmaktadır.

İç mimarlık bölümlerinde en yüksek orana sahip çevreyle ilişkili kuramsal dersler, çevresel yaklaşım konusunun sürecini, tanımını, tartışma alanlarına ait temel bilgilerin verilmesine ilişkindir. Sonrasında ders sayısı açısından, içerikleri akıllı bina sistemleri ve bilgisayar simülasyon programları olan çevresel teknolojiye yönelik dersler gelmektedir. Çevresel tasarım tartışmalarının odağında olan enerji sorunu ve bunların çözümüyle ilgili dersler sadece üç iç mimarlık bölümünde bulunmaktadır. Çevresel ekonomi alanındaki konuları ve tartışmaları içeren tek ders Bilkent Üniversitesi'ndedir. Çevresel yaklaşım odaklı en fazla sayıda ders olan İstanbul Teknik Üniversitesi'nde; çevresel yaklaşımla ilgili tasarım, enerji ve teknoloji alanlarına yönelik dersler bulunmakta ve enerji konulu dersler en yüksek sayıda olmaktadır. Bu dersler çevresel yaklaşımların farklı konularını içermesi açısından çeşitlilik sunmaktadır. Ancak incelenen iç mimarlık bölümlerinin yaklaşık yarısında, seçmeli dersler içinde çevresel yaklaşım konularıyla ilgili derslerin bulunması yetersiz bir değer ifade etmektedir.

Sonuç ve Öneriler

Çevre sorunları karşısında; disiplinlerarası araştırma ve uygulama alanlarını kapsayan çevresel tasarımların, farklı yapılı çevre ölçeklerinde tanımlanması ve tartışılması önem taşımaktadır. Ayrıca, çevresel tasarım anlayışının kentsel bağlamdan başlayarak alt birimlere inecek şekilde bina ve iç mekan tasarımına kadar analiz edilmesi gerekli görülmektedir. Çevreye duyarlı iç mimarlık ürünlerinin gelişmesi içinse, bugün eğitim alan geleceğin iç mimarlarının, bu konuda bilgi birikimi ve bilinci kazanmış olması önem taşımaktadır. Bu bağlamda araştırmada, çevresel tasarımların Türkiye'deki iç mimarlık bölümlerinin eğitim programlarına ne ölçüde yansıdığı, ders türleri, ders kredi ağırlıkları ve ders içerikleri incelenerek analiz edilmiştir.

Öncelikle eğitim programlarının yapısından söz etmemiz gerekir. Bu kapsamda ilk karşılaştığımız konu zorunlu derslerdir. Yapılan araştırmanın sonuçlarına göre Türkiye'deki iç mimarlık bölümlerinin eğitimin programında, zorunlu dersler içinde doğrudan çevresel yaklaşım konularını içeren çok az sayıda ders bulunmaktadır. İncelenen 22 iç mimarlık bölümünün yalnızca yedisinde, çevresel yaklaşımla kurgulanan veya çevresel yaklaşım konularının dahil edildiği iç mimarlığın temel bilgisine ilişkin olan az sayıda zorunlu ders bulunmaktadır. Bu bölümlerinin ortak noktaları hepsinin 2000 yılından sonra kurulmuş olmalarıdır. Bu kapsamda, bölümlerin yeni kurulmuş olmasının eğitim programlarının çevresel tasarım gibi güncel konuları içermeyi kolaylaştırdığı söylenebilir. Ancak, yine de bu bölümlerin dışında çevresel yaklaşım gibi güncel bir konunun eğitim programına yansımadığı çok sayıda yeni kurulmuş iç mimarlık bölümleri bulunmaktadır.

Eğitim müfredatının yapısına ilişkin incelenen ikinci konu ise seçmeli derslerdir. Buna göre Türkiye'deki iç mimarlık bölümlerinin %54,55'inde doğrudan çevresel yaklaşımla ilgili, çevresel duyarlılık ve bilinç kazandırmaya yönelik seçmeli dersler bulunmaktadır. Bu dersler çevresel yaklaşımların farklı konularını içermekte ve çeşitlilik sunmaktadır. Ancak burada ders türünün seçmeli olması, güz veya bahar dönemi ayrımının olması, açılmama olasılığı veya bölümün seçmeli dersler için önerdiği derslerin sayısının fazla olması ve öğrencilerin seçmeme olasılığı gibi çok sayıda soruna işaret edebilir. Bu nedenle, çevresel yaklaşım odaklı derslerin sadece seçmeli dersler içerisinde ve az sayıdaki üniversitede bulunması yetersiz bir değer olmaktadır. Türkiye'deki iç mimarlık programları açısından seçmeli dersler arasında çevresel tasarımın öne çıkan konularıysa çevresel yaklaşımların kuramsal bilgisinin verilmesi ve çevresel teknoloji bağlamında tartışılan akıllı bina teknolojileridir. Çevresel tasarımın kuramsal bilgisi çevreci mekan tasarımı nasıl olur sorusunun cevabı niteliğindedir. Çevresel tasarım konusunda detaylı kuram-eleştiri tartışmasının yapılmadığı, özellikle konunun eleştirel boyutunun geri planda kaldığı anlaşılmaktadır.

İç mimarlık eğitiminde, çevresel tasarım stratejileri ve yöntemleriyle ilgili bilgiler bir şekilde öğrencilere kazandırılmaya çalışılmaktadır. Ancak bunların ideal bir çözüm olarak öğrencilere sunulup sunulmadığının sorgulanması gerekmektedir. Bu tasarım stratejileri ve uygulamalarının değişken yapısı göz önünde bulundurulduğunda öğrencilerin anlama ve yorumlama becerileri arasındaki fark önemli bir etken olarak ortaya çıkmaktadır. Eğitim programlarında, çevresel tasarımın nasıl olacağının yanında eleştirisinin de yapılması, öğrencinin konuyu anlamlandırmasına izin verecek detaylı kuramsal bilginin verilmesi önemli görülmektedir. Sonuçta, çevre sorunlarına çözüm arayışında geliştirilen terimlerin ve teknolojilerin moda ve tüketim nesnesi haline geldiği, çevre sorunlarının öneminin ikinci plana itildiği göz ardı edilmelidir. Bu kapsamda da çevresel tasarımları sorgulayabilecek kuramsal-eleştirel, bilgi ve bilincin öğrencilere verilmesinin gerekli olduğu düşünülmektedir.

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COLLABORATIVE LEARNING UNDERSTOOD TROUGH A MICRO-LEVEL ANALYSIS OF BUILDING COMMON PROFESSIONAL KNOWLEDGE IN MENTOR-MENTEE INTERACTIONS

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Abstract

The analysis proposed in this article is situated at the micro-level of inter-individual formative encounters between a teacher-mentor and a beginning teacher, participants in program for initial teacher education. Findings of this analysis indicate that whilst engaged in collaborative work on the object of their activity – building common professional knowledge as part of the professional identity formation process – the participants come to shape the space of their joint exploration of the tools available and engage in producing their professional culture, by generating between them a space of communication where tools are to be born, transformed, melted into practice, questioned and then transformed again. In return, the conceptual actions performed function as maps for participants' expanding professional agencies. This work has been supported by CNCSIS -UEFISCSU, project number PN II-RU 21/2010.

Keywords: beginning teacher, mentoring, collaborative learning

Introduction

The tendency to consider all collaboration and partnerships unequivocally valuable and commendable for the creation and transposition of teacher knowledge has been challenged over the past decade (Orland-Barak & Tillema, 2006; Baumfield & Butterworth, 2007). Potential characteristics, conditions and principles of collaboration along with models of professional development are beginning to be scrutinized in discourses within current educational research with a more critical intent.

In this article an analysis of collaboration within the space of the collaborative work of one teacher-mentor and one beginning teachers is proposed. The conversational act we'll be focusing on in this analysis is located in a program for initial teacher education arranged as a partnership between a university and schools. The conceptual tools provided by the taxonomic levels of collaboration elaborated by Engeström et al (1997) are employed to form an understanding of the manner in which individual participants engage in interactions and come to shape their collaboration as a space where questioning and transforming the available rules, actions and tools are possible and bound to shape collaborative learning as 'communication' (see Engeström et al., 1997).

The claim in the analysis presented here is that collaboration enacted as an opportunity to communication opens up opportunities for learners to engage with producing their professional knowledge and appropriate increasingly wider horizons of questioning, authoring and positioning in it by means of joint exploration of the motives, tools and rules available in the various sets of professional practice. Findings of this analysis indicate that whilst engaged in collaborative work with the object of their activity – building common professional knowledge as part of the professional identity formation process– the teacher mentor and the novice-teacher come to shape the space of their joint exploration of the tools available and engage in producing their professional culture, by generating between them a space of communication where tools are to be born, transformed, melted into practice, questioned and then transformed again. In return, the conceptual actions performed in the course of working with the tools of their profession function as maps for participants' expanding professional agencies. By means of questioning the tools available and possible actions with them in various contexts of professional practice, participants come to legitimately appropriate them and whilst it, affirm and explore their professional identities. Role-boundary erosion becomes visible as both teacher mentor and

intern-teacher engage in turn taking to question, author and position in the problem spaces they collaboratively work on.

Method

Tools for identifying learning in the discourse of the formative assessment meetings between intern-teacher and teacher-mentor

The conceptual tools for the proposed analysis were located in Stenning et al (2002)'s chains of actions uniting *problematizing*, *authorship* and *positioning* as indicators for participants engaging with the tools and object of activity. *Problematizing* stands for identification of contradictions or questioning the context of activity in its current functioning. Locating a problem presupposes the potential of opening a new problem space or exploring the object currently worked upon from a fresh new perspective. *Authorship* stands for participants positioning in conversational chains, so that their voices are heard; what could be authored is either arguments supporting a claim, explanations or any other expressions exploring alternatives for action relevant to the object worked upon. *Positioning* stands for actions expressing a stance in relation to the object being worked upon; recognizable in "I" statements, positioning becomes the sign of recognizing one's agency in the activity and of identity in the context.

The conceptual tools helping localize the language where collaborative actions set up as communication (Engeström et al, 1997) are present in the teachers' conversation were found in Edwards' notion of *dialogical reasoning* (Edwards, 2005b). Developed from the notions of *dialogic inquiry* (Wells, 1999) and *exploratory talk* (Mercer, 2004), the concept Edwards proposes places emphasis on the public (dialogical) character of reasoning – visible in language in the manner of structuring the lines of questioning, arguing and contradiction - for which internalizing (Vygotsky, 1987) dialogues with others is an essential constitutive dimension. Understood as exploration and dialogue, reasoning –as Edwards argues - escapes the privacy of the individual mind and becomes visible in language as a space where multiple voices engage in disputational, cumulative or exploratory (Mercer, 2004) actions on the activity object. *Disputational talk* is characterised by disagreement and individualized decision making. There are few attempts to pool resources, to offer constructive criticism or make suggestions. *Cumulative talk*, presupposes that speakers build positively but uncritically on what the others have said. Partners use talk to construct common knowledge by accumulation. Cumulative discourse is characterized by repetitions, confirmations and elaborations. *Exploratory talk* is considered that in which partners engage critically but constructively with each other's ideas. Statements and suggestions are offered for joint consideration. These may be challenged and counter-challenged, but challenges are justified and alternative hypotheses are offered. Partners all actively participate and opinions are sought and considered before decisions are jointly made. Compared with the other two types, in exploratory talk knowledge is made more publicly accountable and reasoning is more visible in the talk.

Engaging in dialogue and exploration (as arguing for alternatives of action and response) is considered in this analysis a form of participation confirmatory for both the activity and the engagement of participants with its object and tools. Both sets of conceptual tools proposed are employed in putting forth an understanding the activity of learning to be a teacher as one that is anchored in a context with which develops a reciprocity, visible in the interplay between tools transformation and participants transformation.

Setting up the study

The analysis presented here is part of a larger study aiming at exploring collaborative learning in the context of initial teacher education. The program of teacher education where the conversational episodes between teachers were taken from could be described as a program providing a formative experience that takes the student-teachers to practical school-based activities up to two thirds of its entire duration. For this reason, the program is often referred to in institutionally relevant documents (i.e. course books, mission statement, website,

etc) as 'an internship'. The program consists of a curriculum where the time spent by intern-teachers in school-based activities covers 24 out of the total 36 weeks of the program, while the time spent within the university is spread throughout the whole year and reference to these in the paper will be made through the phrase 'departmental weeks'. The beginning-teachers are gradually introduced in the space of the school during the first four months of the program, when the duration of their presence in the school increases from one day a week in the early stages of the program to full-time school-based activity by the end of the 14th week in the course of the program (early January in the university year). The full-time presence of the beginning-teacher in the school for two-thirds of the program justifies calling their experience an internship for teaching.

Participants in the data proposed for analysis in this article agreed to having me present in their weekly formative assessment sessions with the teacher mentors during the school based periods of the program (from March until end of May). In these sessions I have observed and voice-recorded conversations between the participants. The audio-data were transcribed at a later stage and then analyzed as micro-sequences of activity able to provide relevant information about the way(s) in which collaboration was structured within the formative context of the weekly assessment sessions. The participants in the analyzed episode are Dan – male, 23 years old, who pursued his undergraduate studies at the same university where he also took the post-graduate program in initial teacher education – and his teacher mentor – Dana – who was 26 years old and herself a graduate of the same university in both bachelor and masters degrees.

Collaborative learning objectified in intern-mentor speech interactions

Dan and Dana discuss one of the performance descriptors in relation to which the intern needs to show that he had produced relevant proof of work in the classroom exhibiting his accomplishment of the standard performance imposed by the national authority embodied by an Agency for Training and Development in Schools (ATDS). In the speech events analyzed in this paper, the two participants focus on the beginner's mastery of *pitch* – a metaphor signifying a set of teaching tools (clues, problems, concepts, questions, etc) used to stimulate students' participation in the classroom task at a superior level of comprehensive action and practical approach than the current one. The level of coordination between the pitch technique used and the students' actual needs must be perfect, as too low or too high pitches are equally inefficient, students' refusing to engage at the desired level of comprehensive and practical action, either because they lack the tools to do so (the pitch is too high) or because they trivialize the task by considering too easy (the pitch is too low).

The speech acts proposed for analysis are relevant for the way in which the teacher-mentor and the beginning teacher come to explore deeper theoretical facades of the various aspects of practical, classroom based actions. They start off at exploring a contradiction between what the beginning teacher believed was an appropriate level of difficulty for the year-group he used his *pitching* technique with. This contradiction proves generative enough for the two to engage in pursuing reflective action on two trajectories: one *vertical trajectory* of knowledge arising in the actions of exploring theory into practice and vice versa, and one *horizontal trajectory* of searching for arguments in spaces of action expanding from the confines of the classroom to those of the school and further of the community at large.

This exploratory work becomes visible in the language the two participants employ in their meetings when they problematize (question) the actions or parts of actions, author possible alternatives for building common knowledge and then position in relation to those alternatives.

Learning as participation to a collective discourse of practice

Learning appears as a shared responsibility and a public enterprise, an open space where multiple-voice discourses come into play in decision-making actions. In Excerpt 1 an example of teachers talk is presented; this example is relevant for how the multi-voiced exploratory talk is shaped in participants' discourse:

Excerpt 1 : Mentor [m]-Intern [i] formative assessment session during S1 [3]

```
1      M: Ok (.) ehm (.) pitch we've already talked about that one
2      M: I just put it in there because it happened a few times with year ten (.) but I have to say yest'day wasn-
3      I:                                              [yeah
4      M: an  issue (.) ehm so (.)
5      I:                        [yeah::
6      M:              I don't think this is really necessarily more
7      I:                                      [no no no no it was just with that (.) one or two lessons of Radiation 1
8      M:                                                                        [I think (.) I just tick a radiation topic
9      M: keep it really dumb down
10     I:               [yeah:::
11     M:            [an' I mean  (.) the thing is if you're not sure how far to go  in terms of  keeping it
12      M: down (.)
13     I:       [yeah
14     M: talk to the teacher of the group
15      I:                                    ok
16     M: I mean with year ten I would just say  as low as possible
17     I:                            [ yeah
18      M: and  NAME1   would say to me different for year seven and year twelve obviously NAME2 (.)
19     I:             [yeah I know
20      M:  she sort of said the pitches she approaches a bit like you're doing  (.) so you know
```

   The discourses of absent members of the relevant professional practice is evoked here and come as support and constitutive part of the mentor's argument in exploring reasons why should a certain differentiation strategy work in a certain pedagogical context. Dana employs in her speech the conditional mode of addressing (L6). Using this particular modal form makes Dana's utterance bare the significance of 'as if NAME1 was here and saying this now', thus creating the sense of an agora where multiple members of the professional practice voice knowledge, share meanings and permanently engage in dialogical thinking with absent others, considering the many positions and stances they may take in the matter under scrutiny. This action makes visible the collective enterprise that producing professional knowledge is, an activity in which beginner and mentor are engaged by committing to building common understandings of the pedagogical tools the teachers use in their work with various groups of students.

Participation as exercising agency through engagement in producing professional culture in the course of exploring available conceptual and material tools

   The language in the two teachers' talk shows learning to be an activity in which both teacher mentor and student teacher engage with comparable discursive means crossing stages of identifying problem spaces, authoring alternatives of action and positioning through 'I' statements in relation to the alternatives. In the course of engaging in building common knowledge, role-boundaries are eroded and the learner –teacher dyad appears in many shifting moves with both participants engaged in learning.

   Opened by the assertive positioning of the intern in assessing the efficiency of the pitch used with one year-group, the conversational episode is imbued with examples of exploratory talk between mentor and beginner in which through turn-taking to authoring practice based observations about why the specifications of a scheme of work concerning one particular pitch didn't fit with the year group it was recommended for, the two participants

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join in a variety of attempts to problematizing available tools (specifications in schemes of work). This turn-taking episode in exploring shared knowledge (explicit in 'we' statements the mentor uses, in the supportive manner of emphasizing shared emotions through paraverbal characteristics of mentor's speech and many confirmations in both intern's and mentor's speech) is conducive of the beginning teacher's use of the common ground created in the conversation through linguistic tools in order to exhibit professional agency through language packed with 'I' statements indicative of position taking about his field observations related to his use of available teaching tools. In Excerpt 2 an example of this sort of teachers' talk is presented.

Excerpt 2: Mentor [M]-Intern [I] formative assessment session during S1

44   I: I saw the bias on my supervision (.) like the higher the lower (.) they just need to know 'bout
45   I: the chain reaction and that's 'bout it
46   M: [yeah yeah
47   I: and it was kind of like right uhm I wish I'd know that
48   M: [an' the thing is they've got that 'cause your room analogy was excellent
49   I: [yeah
50   M: and that was really positive because I've actually I've never heard that analogy before
51   I: [ok
52   M: and I'm gonna use that (.) because it's <u>such an easy</u> way to explain it

Whilst exploring the contradiction between student-teacher's expectations as to what the teaching tools (i.e. textbooks, schemes of work) available in the planning phase of a lesson promise and what they actually cover as teaching information and suggestions needed, the mentor-teacher ends in exploration of a teaching tool (i.e. an analogy) the beginning teacher has successfully used in his practice with a group of pupils. The fact that the new tool becomes one to be included in the mentor's teaching repertoire shows that learning is far from reduced to a one-way enterprise. The novelty of the student-teacher's view on what could work in the classroom challenges mentor's old practices and provokes a widening of her own horizon of thinking about available teaching tools.

Another type of contradiction becomes visible due to the manner in which the two participants author and position themselves in relation to the tools and practices of their profession. The contradiction is at the level of the role played by the teacher-mentor. Traditional mastery-type conceptions of expertise and consequently of the mentoring role are incompatible with the fashion of structuring learning in this dialogical episode between the beginning-teacher and his mentor. Transfer of expertise from a more experienced to a novice member of a professional practice is not the point here, as it is engagement with building common knowledge, an enterprise by which the two embark on producing their professional knowledge. This is the object of their inter-actions.

In this manner of understanding and filling roles during formative sessions the beginner is afforded a more agentic role in the making of his learning trajectory which becomes an exploratory enterprise within the space of acting and thinking like a teacher. Through 'I' statements and using a succession of active verbs at present tense the student-teacher positions himself within the dialogical space used for displaying and exploring expert-like tools for pedagogical reasoning.

Learning as appropriation of expanding horizons for problematizing and exploratory participation to collectively producing professional knowledge

In the following turns in conversation, Dan takes leadership in opening a new problem space and firmly positions in how he feels towards the recommended usage of the pitch. Opened for explorations the problem of explicitly lowering the pitches elicits argumentative work that takes the teacher mentor and the beginner through various routes of reasoning and therefore exposing for exploration new objects and tools.

Whilst the teacher mentor argues for the school having to respond to the requirements of a program providing it with technological support in return of the science curriculum being inclusive of all children in the school, Dan opens a new problem space, expanding his questioning over the epistemological implications of the school's requirements. He positions unequivocally in what he thinks not to be a good assessment policy – that of communicating target grades to the students.   The 'target grades' refer to the school's policy of communicating

to pupils their results in tests and to emphasize the higher level of acquisition and performance they could reach out to. The beginning teacher attempts an exploration of an issue that emphasizes the *vertical dimension of building knowledge* – that of theory growing into practice and practice growing into theoretical tools for action. His language is fractioned and exploratory in both content and structure of phrasing. Many words are attempted, then dropped showing that in the search of what could be the best possible way to express his thoughts, his own thinking is organized in relation to the meanings of the many possible signifiers and possible phrasing. In this search, the idea he's looking for links to what looks like knowledge related to another culture - one that most likely relates to his readings at the university, and is rather research informed - than that of the context of practice which he subjects to reflection. The idea he's authoring is that consequential to the school practices of assessment, young people may not base their motivation for learning on anything other than extrinsic factors and may miss the satisfactions and rewards that learning encapsulates in itself.

A new problem space, wider than that of policies and practices objectified in the school, is identified by the mentor in the requirements of the national body for inspecting, assessing and regulating the activity in schools and institutions providing educational and care services in the country.

The horizon of exploring the implications of classroom teaching are thus expanded to the level of the national school system upon which the governing authority of control and regulation is exercised by a national agency. This does not mean that the explorations end for either the beginner or the mentor once the name of the authority figure has been thrown in the conversation. What follows is a series of disputational episodes in which both participants take the stage to problematise, author and position, creating opportunities for learning . Excerpt 3 presents one of the disputational episodes in the teachers' talk:

Excerpt 3 : Mentor [M]-Intern [I] formative assessment session during S1

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101  M: .hhh the problem you've got is [name]  (.)[name] insists we show them now where they are
102  I:                      [I don't think tha' givin' them in so much detail as like m- my
103  I: whole six A seven A and so on on the SATs (.) it's a little bit  too much detail
104  M:                    [I think is important tha' job (.) I don't wanna disagree  with you
105  I:                                      [I don't know
106  M:  but I think is really important  because a six C child is different from a six B child
107  I:                   [yeah yeah yeah yeah
```

In dept exploration of the assessment issue brings to light forms of thinking about the classroom practices, policies and pedagogy that present both beginner and mentor as engaged participants *appropriating* the object worked upon (reaching a shared understanding of the assessment policies and of the related practices in the school context) and the conceptual tools employed in the course of the conversation. As such, the debate presents both participants as equally engaged with the shaping of the problem worked upon and of the tools worked with. On one hand, the intern argues the excess of details in assessment reports, the importance of differentiating between the effects of information upon various actors in the learning setting (L 102) and, then, the relevance of the effects generated by labeling children's performance levels . As he completes his argumentation, the intern leaves open the space for authoring new ways for communicating assessment results to children. On the other hand, the mentor positions with a set of arguments placing emphasis on the relevance of correct differentiation between levels of performance, the need for children to become aware of the differences in value of increasingly complex knowledge, drawing attention on the so-called *transit* groups (groups of pupils who's grades are situated in an in-between levels position, presenting difficulties to be located along the lines of a week-medium-high type of hierarchy) and the importance of using suggestive and appropriate terms to name the levels of acquisition. The discourses the two participants bring in the conversation employ different sets of conceptual tools. Familiar with the academic culture of the teacher education program which she completed three years prior, the teacher mentor responds to the arguments the intern states with an understanding of the context of practice located in more than one discourse. In the teacher mentor's conceptual tools the culture of the classroom practice, long term observational experiences of children's progress, the pressure of being accountable both as an individual and as a member of a significant collective – the school - to the national agencies for control and regulation – all play important roles in informing her discourse. As such the histories of the conceptual tools the

two employ in their dispute needs consideration, as different meanings to the same issue (i.e. communicating assessment results to school students) are employed and explored by the two participants in the conversation.

Excerpt 4 is introducing teachers' language making visible a new horizon for exploration, one wider than any of the previous.

Excerpt 4: Mentor [M]-Intern [I] formative assessment session during S1

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142   I:  [it's not 'bout (.)they don't seem t- see it as self improvement (.) they just seem to see it as (.)I d - know
143   I:  I (.) hitting their target target group grade (.) they don't want to (.) work because they want to
144   M:      [I see what you mean
145   I: work (.) they want to work  because they want to (.) you know they get their target grade they  don't
146   I: want to do anything more(.) that's it (.) we're through now
147   M:  [yeah (.)  that's it that's  for cultural reason in this town (.)fo' town (.)  it's not about
148   M: achievement (.) it's about achievement in social aspects
149   I:          [ok (.) ok
[….]
165   M:  ideally (.)  I think your view (.) if children wanted to learn is better for themselves   it's perfect
166   I:                  [yeah
167   M: but you don't  get in most comprehensive in NAME-county  it's unfortunately not a good county fo'
168   M: that ok so yeah (.) I agree with you that *volumen*tation with the children is got (.) but I think  if we
169   M: could just move away from class competition to  individual ones with  yourself  that's  a tiny step in
170   M: the right direction
171   I:                  [yeah
```

The episode is relevant for the manner in which the speech and thinking of participants are intertwined in the course of being elaborated, as partners take turns in questioning actions on the problem-spaces authored by themselves or by others who become relevant non-present participants to their dialogical, collective reasoning. The discontinuities and multi-voicedness of the collaborative, discursive practices enacted by the two participants are generative of the transformations in the conceptual tools employed in the dialogical action of building common knowledge.

The mentor finds in the community's lack of support for the activity of the school a solid base to state her argument for the importance of developing correct assessment systems along with intrinsic motivations for learning and related type of competitiveness - the one with one's own performance. More than their own histories of learning concur to configuring the horizons of exploration. Both beginner and mentor place important emphasis on the implications that different understandings and employments of the tools available in the various practices of school-teaching and learning bare for their future actions in the classroom. Participants' own projections come into play when tackling the object and the tools worked upon in the course of learning. 'I' and 'we' statements spread throughout the entire episode indicate clear intentions for positioning and exhibiting agency.

Discussion and final considerations

Understanding how collaborative work was structured in the learning situated in teachers' talk meant understanding the nature and functionality of this space, where publicly ruled divisions of labor and structures of power enter the jurisdiction of private decision-making, judgment, engagement, will and responsibility. It was the meeting of these two planes that became visible in the contradictions located in participants' dialogic actions through problematizing entries. Participants' engagement visible in the attempts to author and situate in the myriad of possible contextualized meanings that the exploration of these contradictions made bring to the fore, put light on participants' moves towards inwardly and outwardly engaging with, revising, and developing the repertoire of tools mediating their actions in and with the world. An increasingly informed use of the tools afforded in the space of the activity and progressive engagement of newcomers (student teachers) with the development of existing tools bring along a sense of *legitimate questioning*, indicative of a sense of *legitimate appropriation* of the collective *where to* tools. The dialogical episodes proposed for analysis exhibit a language that is rich in problematizing – authoring – positioning sequences (Stenning et al, 2002) sustaining an image of

learning that emphasizes learners' increasingly informed engagement with the objects and tools of the various sets of practice that make their profession. This progressive sense of ownership of ground for thinking and acting professionally is suggested in language by the many 'I' phrased contradictions, authoring statements and positioning actions performed by both participants in relation to the increasingly wider perspectives for addressing common practical issues. This may be indicative of expanding senses of professional agency.

A beginning-teacher's exploration of a teaching technique (*pitch*) took him and his teacher-mentor across problem spaces for which a direct sense of responsibility, therefore appropriation, isn't required in approaches to teacher learning promoting a best-practice delivery type of curriculum. Striving to understand the interplay of movements and dynamics in the learning activity located in the encounter between the teacher mentor and the beginner, analysis has moved towards the moral-ideological dimension (cf. Engeström, 2010) of the object expansion, as participants engaged with questioning '*who else was responsible*' in the making of the pedagogical tools they employed in their classroom activity. In their dialogical actions, participants pushed the boundaries of their perspectives on the analyzed pedagogical tool (object worked upon) in the direction of instances and spaces of presumed shared responsibility expanding far beyond the confines of the classroom or school. The conversational episode proposed for analysis in this paper exhibits a teacher-mentor's and an beginner's struggle with an object – understanding a pedagogical tool related to their classroom activity – which presented participants in the conversational episode with the opportunity of addressing it from increasingly wider perspectives.

In the findings of this study, learning is reflected in the way participants explore meanings of certain conceptual tools in various contexts of practice. This manner of exploring led participants to broaden the horizon for their quests. Approaching the object worked upon from increasingly wider perspectives led to reshaping the conceptual tools the teacher mentor and her mentee were working with. Explored in language, these continuously reshaped conceptual tools help understanding the interplay of transformations of both the object worked upon in conversation and of the participants working on it.

Configured as participation to the production of professional knowledge, the communication-type of collaborative work between teacher mentor and beginning teacher opens up opportunities for participants to engage with the tools of the professional practice and appropriate increasingly wider horizons of questioning and positioning in relation to them through situated actions alongside others – partners in learning. Accommodating such an idea in the practices and curricular designs of teacher education programs implies reflection and conceptualizations going beyond simply predicating participatory and collaborative requirements. Deeper, contextualized understandings of participation and collaboration seem to be significantly important to tackle, as neither remains inconsequential to how learning is shaped in the work and learning settings. It implies, as Edwards (2005b) suggested that conceptualizations, approaches and assessments of teacher education shift towards an expanding understanding of this activity, going beyond the mere socialization of newcomers to a space of professional activity. Instead, interest in how worlds are being transformed through participants' increasingly informed actions on them is stressed.

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COMMUNICATION DESIGN EDUCATION: A NEW TREND IN SCHOOLING

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Abstract

Today we live in an era of design to which everything is relevant. The goal of this article is to relate current changes in economy and culture to design education. This paper seeks to discuss Communication Design education within neo-liberal enterprise culture in relation with marketization processes with reference to critical approach to education, by giving examples from 'Communication Design Departments' of universities. As a result, this paper suggests a necessity aiming at human-oriented education in order to create a better society than a market-oriented one.

Key words: neoliberal consumer culture; design culture; Communication Design education.

Introduction

In the early 21st century, not only economic, but also political, technological and cultural transformations in relation with neoliberal agenda make it essential to think on education. Neoliberal transformation of economy with global media culture together has caused the transformation of the education system as a response to the new conditions, in which we are faced with the "neoliberal domination of culture and education" (Stevenson, 2010, p.344). Education and reproduction of culture are interrelated since "neoliberal ideologies are seeking to remake common understandings through the reconstruction of education and popular media culture" (Stevenson, 2010, p. 343). With the aim of relating contemporary changes within economy, design culture and design education, this work first will look into the current changes in the economic, social circumstances and relate them to the rise of design culture. In the light of these, then, "communication design education" will be discussed.

1. Neoliberal Economy and Design Culture

Current changes in economic, cultural and technological conditions have shaped the world since the end of twentieth century. Digitalization, globalization and multi-culturalizm are main tendencies of today. In these new circumstances we are faced with

> "the transmutations of technology and capital work together to create a new globalized interconnected world. A technological revolution involving the creation of a computerized network of communication, transportation, and exchange is the presupposition of a globalized economy, along with the extension of a world capitalist market" (Kellner, 2012 b: p. 2).

Modern design in the latter half of the nineteenth century was a "value added" practise that was in relation with industrial capitalism. It had a mediating place connecting production and consumption to make products more competitive in the market place. As Julier says with reference to Dutta, "design was an ethical challenge that harnessed taste and control, produced differentiation of commodities, and the professionalisation of its practice" at that time (Julier, 2009, p.219). After 1980s, with the fundamental changes in economy under globalisation on the base of consumption and, during 1990s, with the emergence of new visual communication technologies, cultural role of contemporary design has changed. Its following history has been " a progression from its mediating place in a linear format linking production and consumption to its dispersed, multilevel distribution and intervention across a number of nodes that make up network economies" (Julier, 2009, p.219).

After 1980s with the implementation of neoliberal policies, rather than production, a consumption based economy has been grounded in many places of the world including Turkey. Consequently, the relations between state and market have changed. Public services including health and education become increasingly market-oriented. A shift from public sector to private causes marketization of public services. The state becomes the servant of the needs and values of the market (Kress, 2008, p.261 & Kress, 2000, p.137). With the marketization of public sectors, the culture of public services come closer to private sector. Such features as competition, performance measurement and ratings become criteria even in public sector. A new public administration model that is related to management emerges in connection with these criteria to achieve 'best value' and to follow continuous progress in the way functions are practised. "This provides opportunities for design consultancies to create money-saving systems. (…) The marketisation of public services also creates a denser landscape of management and indeed, design opportunities" (Julier, 2009, p.223). In the conditions of New Economy, design plays an important role "both for localities and the individual, it (design) carries a symbolic level in the way it points towards broader notions of capital in the New Economy" (Julier, 2009, p. 221).

Today's capitalism is not only globalised but also glocalised and individualized. In changing conditions not only mass production but localised and individualized production and consumption also become significant. In today's multicultural world, glocalisation processes require to consider local properties and markets. And individualized capitalism has to consider persons as consumers. While globalization has a homogenising effect on the one hand, glocalization and individualization encourage diversity and difference. While global capitalism stimulates homogenisation, multicultural consumer capitalism centralizes localities and individuals as consumers. In these new conditions of market oriented and consumer based neo-liberal economy, design and the principles of design become significant. In mass production conditions of the 'nation-state' model of the previous period, the commodity itself was its own ideology and its own advertising. As Foster indicates, our time that refers to a qualitative leap in the history witnesses the "flexible specialization" of post-Fordist production in which "the subjectivizing of the commodity is already apparent in streamlined design" (Foster, 2003, p. 19). The process of the 'subjectivizing of the commodity' causes 'personalization of design'. "Desire is not only registered in products today, it is specified there: a self-interpellation of 'hey, that's me' greets the consumer in catalogues and on-line" (Foster, 2003, p.19-20). In these new conditions, the meaning of design and the role of designer changes:

> "'Design' rests on agency; it takes agency for granted, still as work, but no longer as acquisition but now definitely as 'shaping work' . In this, design proceeds on the basis of a full knowledge of the resources available to the designer and the capacity of the designer to assemble these materials into designs expressing her/his intentions and interests in relation to particular demands" (Kress, 2000, p. 140).

The engine of design becomes 'branding' now. As a result of the growing competition to include more consumers to the market place in the process of diversification and the subjectivization of the commodity, the package becomes almost as important as product (Foster, 2003, p. 19). In the conditions of growing competition, the advantage is attained through 'branding' and 'being fashionable'. "The competition between brands (…) reflects and contributes to their distinctions through providing differentiated rules of engagement. Brands currently articulate fields of their respective practices" (Julier, 2006, p.76). In this case, 'brand value' gains a high symbolic power in the society, which becomes more of an issue any more. Julier finds "the rise of branding as the key focus and driver of much design practice" of today's design and he keeps saying that "the systems of branding inhabit much of the space of design culture, turning information into an "all around- us" architectonic form." (Julier, 2006, p. 75).

These changes and pressures not only coming from economy but also from the technology in connection with digitalization are related to each other. During 1990s technological revolution comes across the world that "centers on computer, information, communication, and multimedia technologies" and changes everything "from the ways that people work to the ways that they communicate with each other and spend their leisure time" (Kellner, 2012 b, p. 1).The improvement of digital technology and high-tech communication systems provide

"an infrastructure for the global economy" (Kellner, 2012 b, p.2). After 1990s the market-oriented neo-liberal economy goes hand in hand with this technological revolution, causing new information and knowledge-based market economy to develop. Kellner states that the synthesis of marketization of economy and digitalization processes create a new form of capitalism that can be called as "technocapitalism", which is marked by the combination of "capital and technology".

> *"The term technocapitalism points to a new configuration of capitalist society in which technical and scientific knowledge, computerization and automation of labour, and information technology and multimedia play a role in the process of production analogous to the function of human labour power, mechanization of the labour process, and machines in an earlier era of capitalism" (Kellner, 2012 b, p.5-6).*

As Foster states, as a result of the improvement in media technologies, media industries become more central in the economy. This is one of the reasons for the inflation of design today (Foster, 2003:21). As he indicates, this might hide a more fundamental development (Foster, 2003, p. 21-22) :

> *"the general mediation of the economy. I mean by this term more than 'the marketing of culture' ; I mean a retooling of the economy around digitizing and computing, in which the product is no longer thought of as an object to be produced so much as a datum to be manipulated –that is, to be designed and redesigned, consumed and reconsumed. This 'mediation' also inflates design, to the point where it can no longer be considered a secondary industry".*

In this case, design becomes the issue of a political economy. As Foster says, 1920s "conflation of the aesthetic and the utilitarian in the commercial" (Foster, 2003, p. 18) is still in effect in this current period but what differs this conflation is the extension of "exchange value" to all signs, forms and objects as "sign exchange value" in the name of design. In today's design not only aesthetic and the utilitarian are conflated but also contained in the commercial and everything seems to be regarded as design (Foster, 2003, p.17). With the development of knowledge economy by the late 1990s and 2000s, design issues become related to 'creative capital' which is significantly important in the production of 'symbolic value of knowledge' as a form of 'sign exchange value'. So today's design as a "knowing practise" is not only a matter of 'profit', but also an important part of the "creative industries" in connection with its power of producing 'sign exchange value' . In the new conditions of economy, we can talk about a growing 'design industry' as an important part of "cultural industries". Design industries are wealth of the economy today. For example, "By 1994, the Netherlands Design Institute was optimistically predicting a growth of the European design market from $9.5b. to $14b. by 2000" (Julier, 2006, p. 72).

Parallel to design industry, a design culture has emerged "with the massification of design production and consumption in the late-twentieth and early twenty-first centuries" (Julier, 2000, p. 72). It has a central role "as commonplace, in creating and articulating value, structuring the circulation of information and forming everyday practices. In either case, it seems apt to regard design culture as a key result and expression of our times" (Julier, 2006: 72). Today's contemporary design is seen by Kress as a kind of metaphor for shaping future (Kress, 2000, p.134).

So, the frames are: the frames of the neoliberal transformation of economy and globalisation of finance capital, changing frames of digital media technologies, the changing frames of transport (commodities, people or information), the changing frames of society (from homogeneously monocultural society to a pluricultural one), changing frames of social and individual communication all have effects on education (Kress, 2000, p.138) in restructuring process. The following part will concentrate on the relation among design education and economic, cultural or technological changes.

2. New Economy, New Labour Demands and Design Education

There are ties between market-oriented enterprise culture based on consumption, design culture and educational field. The need for "an economy based on consumption has an entirely different relation to an 'education system' than one that is based on production" (Kress, 2008: 261). Because "markets are interested in consumption and consumers rather than production, and therefore not interested in the development or the characteristics of a labour-force, local or global." (Kress, 2008:261). Technocapitalism and the logic of neoliberalism itself need a new type of individual and labour. In the previous industrial nation-state model, the state's purpose for the education system was to produce citizens and labor force for its economy, which provided "the means of constructing identities for individuals" (Kress, 2000: 143-144). But a market dominated, post-industrial consumer capitalism needs consumers rather than citizens; that's why it has a different relation with the individual for constructing identities.

> *"The market provides for those who have the means to participate, the possibility of identity making via choice-in-consumption (…) Choice-in-consumption is the expression of the individual' s interest (shaped, of course, in the environment of the society and its market) and becomes the expression of an individual aesthetic (shaped, of course, and met by the aesthetic of the market)" (Kress, 2000:144).*

As Kress states, "Style-as-aesthetics" is the condition of consumer capitalism now, which expands the field of aesthetics from the elite to all practices of everyday life and relates any commodity to any kind of text that are in connection with the consumption of all kinds of commodities. At this point, they all become the issue of design and design principles which overspread "every aspect of the aesthetics of the market" (Kress, 2000:144). In these new economic conditions, design becomes not only the issue of 'creative capital' but also 'creative labor' because "it could signal the transformation or regeneration of localities, but also of the self" (Julier, 2009, p. 223). The demands of the consumer capitalism and the new knowledge economy requires for a new kind of labour force. With the changing role of design in the society and economy, new labour demand is required. As Julier argues, design's new role

> *"fits the labour demands of the New Economy, hence, in turn, the symbolic power of design in representing its potential success. The organisation of the design industry may be viewed as paradigmatic of the kinds of labour arrangements and sensibilities that lie at the heart of the functioning of the New Economy" (Julier, 2009, p. 221).*

Design's role in the New Economy is related to individual's transformation on the base of **'**creativity'. Creativity is "a source of economic advantage but also a way of indicating the symbolic value of knowledge and creative capital at relatively low cost" (Julier, 2009, p.221). So, this property becomes a subject of "marketing" as a "saleable asset", which ties design sector and design education. Design's role here, "alongside other forms of creative labour, is a source of reskilling and employment in postindustrial contexts" (Julier, 2009, p. 221). We can see creativity criteria as an aim in introducing almost all of the Communication Design departments. For example, Communication Design Department of Bahçeşehir University -one of the private universities in Istanbul- states its aim as follows: "Bahçeşehir University's Communication Design Department aims to bring digital technology, creativity, systematic thinking, and theoretical and practical knowledge together to synthesize and create visual communication" (Communication Design, 2012).

This 'creative' designer works in the conditions of New Economy. The requirements of relatively stable, homogen, predictable, secure, less complex conditions of industrial nation-state model founded on mass production and a local economy is being replaced by unstable, mobile, hyper complex, less predictable, the highly fluid arrangements of lifestyle groupings, transnationally and transculturally controlled and ordered market conditions and demands (Kress, 2000, p.138 & Kress, 2008, p. 261). "The demands generated in this new arrangement are diverse and the new curricula consequently have no immediately available, secure basis for broadly integrative principles of coherence" (Kress, 2000, p.138).

There are educational impacts of this shift from stability to instability from homogeneity to diversity. In the conditions of mobility and instability neither knowledge nor values are secure and it is not possible to predict

coming. In this case, "different and distinct (curricular, conceptual, social and ethical) resources are required to deal with each" (Kress, 2008, p. 260). In contrast with the need for stability for the education systems of industrial nations, "the new arrangements seem to demand an education for a period of fluidity, for instability" (Kress, 2000:138). In terms of citizens and labor force, as a result of this social transformation, more flexible selfhood is grounded in the education. As Julier (2009, p. 221) says with reference to McRobbie, "flexible, project-focused, and socially networked worker" is embodied in the designer.

So, these demands of the New Economy explains the designer's integration to the market and business. This integration makes the design education to come closer to the marketing, management and public relations disciplines. This connection is stated by Design and Management Program of The Parsons New School for Design in New York - "a pioneer in art and design education since its founding in 1896" (Parsons, 2012)- as follows: "The BBA in Design and Management program educates students in the entrepreneurial and strategic aspects of design, as well as in design aspects of business" (Design and Management, 2012). The school explains its career pathways below:

> "Students graduate with skills and competencies that prepare them for lifelong personal and professional growth. Design and Management students master the conceptual and technical skills to develop innovative ideas and enable organizations to fulfill their missions and acquire competitive, design-driven advantage. Alumni succeed in a range of capacities: starting their own businesses, managing creative people and projects, marketing new products and services, devising design-driven business strategy, assuming leadership positions" (Career Pathways, 2012).

The connections between the School of Art, Media and Techonology of Parsons New School and the industry in learning process is indicated as follows: "Faculty also take advantage of New York's abundant design resources to create classes that support hands-on learning. These classes often take the form of partnerships with local and global firms including Time Warner, Microsoft, Apple, Electronic Arts, the United Nations, and Human Rights Watch" (Project-based Learning, 2012).

And also the opportunities that Parsons career services' offer for design students illustrate industry based connections of the school: "Parsons Career Services hosts portfolio-review events and puts potential employers and internship sponsors in touch with program participants. In addition, New York-based industry organizations like the Type Directors Club , AIGA, IxDA (Interaction Design Association), and The Art Directors Club, as well as research groups like Eyebeam Art and Technology Center, offer support and networking opportunities" (Networked New York, 2012)

3. The Rise in Communication Design / Visual Communication Design Departments and Related Issues

Consequently, the agenda of capital, expanding communication technologies, changing subjectivities, and the demands of networked society all have caused Communication Design/Visual Communication Design departments to emerge as a reaction or as a solution. In the restructuring of education, the emergence of a new department in response to these changes is expressed well by Bilkent University the first private university in Turkey. Founded in 1998 as one of Turkey's leaders in the field, the Department of Communication and Design of Bilkent University states its aim as follows: "The Department of Communication and Design is a response to the growing need of our increasingly globalized and networked world in which mass communications and visual technologies of various kinds play a fundamental role" (Department of Communication and Design, 2012).

Parallel to design inflation in life, demands on the need the ability to design and thus designers with new skills explain the importance of design education, especially Communication Design education. Sabancı University, one of the private universities in Turkey, Visual Arts and Visual Communication Design Department underlines this necessity for a designer with new skills:

"We live in a world where the role of the artist/designer is being redefined. Todays artists and designers need to be equipped with knowledge and vision which go far beyond the traditionally required skills of draughtsmanship. The individual's need to be conversant with social, scientific and technological evolution that surrounds him or her, and the ability to incorporate this evolution into the creative process, brings the issue of a visual education that has a wider based spectrum than before. The interdisciplinary educational approach embraced by Sabancı University aims to provide an ideal breeding ground for the education of the "new" artist and designer" (Undergraduate Program, 2012)

As a result of all the things discussed above, Design courses in the school programs and Design Departments have arisen rapidly during the last decades. For example, "Design and technology experienced massive expansion in the UK school curriculum in the late 1990s —the Design Council (1999) reported a 63% rise in students opting to study Design and Technology at secondary school" (Julier, 2009, p. 220). With the emergence of design culture and a growth of the design market, the number of design students have increased. For example,

"in the UK, the number of first-year design students increased by thirty five percent, from 14,948 to 20,225, between 1994 and 2001. It is in this decade that we see the emergence of the terms 'creative industries' and 'cultural industries'—of which design forms a significant proportion—and measurements and forecasts of them taking place. According to a 1998 European Commission report, 'cultural employment'—that is work in advertising, design, broadcast, film, internet, music, publishing, and computer games—grew by twenty four percent in Spain (1987–94), while employment in Germany of 'producers and artists' grew by twenty-three percent (1980–94). On the other hand, what is described here is a qualitative change in terms of how design is practiced, circulated, and perceived" (Julier, 2006, p.72).

From late 90s onwards, in Turkey Communication Design Departments or Visual Communication Design Departments have commenced to be established. Most of them are structured in the private universities. Universities are also offering design courses. And some private design education institutions have been opened recently. They are mostly a part of design industry.

In this restructuring of education to the changing demands under the logic of the global market that requires new labour, as Stevenson argues, "what is new is the way in which popular culture and transformations within education more generally are seeking to articulate a neoliberal project through politics, education and media culture " (Stevenson, 2010, p. 343). As Kellner says "the economic and cultural global restructuring going on in the world today is done on the basis of the most advanced sector of the new economy and culture (i.e. information and multimedia technology) penetrating ever more realms of life from entertainment to labour to schooling." Thus, the reconstruction of education on the grounds of "socio-economic, cultural, and the material conditions of everyday life and labour that are changing is a reasonable response to the great transformations now underway" (Kellner, 2012 c, p.13) Imposing neo-liberal, market-oriented agenda on education, schools have been reorganized according to the business model. With the neo-liberal restructuring of education "the language of markets, targets, and tests is (…) increasingly regulating education" (Stevenson, 2010, p. 342) and university is being grounded on a 'client base' with changing relations between work, leisure and pleasure (Kress, 2000, p.137).

There are some advantages of "new enterprise culture that speaks the language of possibility and transformation" (Stevenson, 2010, p. 355). Such kind of language is important to eliminate the boundaries in daily life between high art and popular art and between high culture and popular culture. This is important for the transformation of daily life practices and education compared to the previous period "defined by a conservative set of institutions concerned with the reproduction of a class-ridden industrial society" (Stevenson, 2010, p. 343). Despite these positive transformations, because the logic of market that promotes an entrepreneurial culture increasingly regulates education, market-oriented shifts cause some dangers:

"In this context, the danger is that the rule of money and power will seek to colonize artistic works, education, media and the relative autonomy of culture from the market. As this happens, public spaces that previously were open to experimentation and autonomy become closed. Notions of public culture and

value linked to ideas of service or the promotion of democratic dialogue inevitably become degraded, as
everything becomes linked to the needs of the knowledge economy" (Stevenson, 2010, p. 348).

In these conditions, design education and design curriculum become more integrated into the marketing and management in a consumer society more than before. As advertising and branding become significant in an age of image, design integrates more into the logic of market and consumption culture. In addition to this, turning into the graphic arts with the pressures coming from technology and economy, art becomes interrelated to the design, too. In a design age, in which the aesthetics and the utilitarian are conflated and "subsumed in the commercial" (Foster, 2003, p.17), the Art is losing its critical dimension in the society. Foster states that contemporary design has no resistance as in the past: "It delights in postindustrial technologies, it is happy to sacrifice the semi-autonomy of architecture and art to the manipulations of design" (Foster, 2003, p. 18).

The logic of Art and post-industrial design are quite different. Art dreams to produce other ways of thinking and experiencing, design dreams of persuading to sell other things. This difference is expressed in Parson New School For Design's website: "Communication Design majors examine the social and cultural ramifications of communication. Students learn the art of persuasion by creating compelling messages, narrating them in meaningful ways, and crafting strategies to broadcast them to the world" (Socially Minded Design, 2012). So, the need for the Art's critical look and its unique role in the society that is to "play in illuminating the constantly transforming relationships embedded in hypercomplexity" (Rutenbeck, 2006, p.19) is getting to disappear in today's design culture.

Conclusion

Education should serve democracy and social change for a better society in which humans will be more emancipated than today. In the restructuring of education a democratic and anthropocentric program should be applied. In this process, the demand for new literacies as in the case of Design Education should accompany "with a program of the democratization of education" (Kellner, 2012 c, p.14). Education should be seen as a dialogical and democraticizing process, leading to emancipatory, dialogical and experimental learning to empower students to be independently critical to create a better society. That question is still important in designing our future through education in general and Design education specifically, on the base of human needs : "whether education will be restructured to promote democracy and human needs, or whether education will be transformed primarily to serve the needs of business and the global economy" (Kellner, 2000, p. 247).

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COMPREHENSIVE HUMAN DEVELOPMENT THROUGH PHYSICAL AND SPIRITUAL: STUDIES ON THE NOVEL "*TENGGELAMNYA KAPAL VAN DER WIJCK*"

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Abstract

This article attempts to explain the form of human development that can be implemented through the medium of writing. In this context, this article tries to identify the human development elements present in Hamka's novel entitled "Tenggelamnya Kapal Van Der Wijck". To identify the elements of human development in the novel, this article will use ten domains of human development elements described by al-Banna. This article concludes that the novel "Tenggelamnya Kapal Van Der Wijck" suitable for reading materials in the process of human development on the reader.

Keywords: Human development; spiritual; physical; literature; Hamka.

Introduction

Every human being must go through the process of human development that will improve quality of life from a low level to a higher level, this process can be done in various ways. One of the most suitable ways for the process of human development is through the literature works that has human development goals.

In the Malay Archipelago, Southeast Asia, Hamka was a religious leader who has written many books with the goal of human development, the total number of books have been produced by Hamka is 118 books. Hamka's literature works covering the subject of religion, philosophy and literature. Literature works produced by Hamka was well received from readers around Southeast Asia like Indonesia, Malaysia, Singapore, Brunei and others, Also Hamka's literature works was reprinted several time. However Hamka's work also received bad criticism and accusations and claimed by some people as weak literature work, some of Hamka's literature works was banned and prohibited to reprint and distribute to mass reader. So this situation is a problem to Hamka's literature works was prompted me to do research on Hamka's literature work with respect to human development (Mohamed Anwar Omar Din, 2004; Abdul Rahman Abdul Aziz, 2007; Noriaki Oshikawa, 1997; Hamka, 2009; Nasir Tamara et al., 1984; A. Teuw, 1966).

I chose novel entitled "*Tenggelamnya Kapal Van Der Wijck*" because the novel is a Hamka's novel that has most popular response from readers around the Malay Archipelago, in addition, this novel was chosen by film producer and it becomes a story in visual form to shown on the viewers.

Theoretical background

Human development

Muhammad al-Buraey (1985) explained that development is a process to provide happiness to human, the happiness and well-being is achieved by balancing the needs of spiritual and the needs of material in humanity.

Since the creation of man is formed from two aspects means physical and spiritual aspects, al-Ghazali (2005) states in the process of human development, both sides of physical and spiritual aspect must be managed properly and correctly so that finally will form a person who have high personality. The desired result from the implementation of human development is can be formed a person that is qualified to be members of society who can perform the duties well, so that they can together develop a community and nation to a better level (Ab Aziz bin Mohd Zin, 2010). So Human development in this paper means the efforts of man to her/his self to change to a better condition and also maintain a good condition.

Human development through writing

A piece of writing is able to form a human, this process will happen to someone when he/she read a piece of writing work (Misran Rokimin, 2001; John F. Savage, 2000), however these writing works can form a reader towards good that lead to human development (Ismail Ibrahim, 1988), or even to damage the human (Shahnon Ahmad, 1994), hence the effort of writing indeed towards human development need to be intensified and multiplied so that the objective of developing the perfect human is achieved. So human development through writing is a process of developing a human by reading a piece of writing such as books, novels, short stories, poetry, magazines, newspapers, comics and so forth. Therefore in this paper, human development through writing is human development efforts being carried through writing a novel.

Methodological framework

This paper will try to identify elements of human development that exists on the main character in the novel "*Tenggelamnya Kapal Van Der Wijck*", the main character named Zainuddin (Hamka, 2010). The elements of human development that will be used to measure the character of Zainuddin are elements of human development presented by al-Banna. Al-Banna present ten comprehensives elements of human development that covers physical and spiritual aspect, so these elements must be present in a person through the process of human development. The Ten elements are first healthy body; second good behavior (*akhlak al-Karimah*); third highly knowledgeable (*'ilm*); four self-reliance; five authentic faith; the sixth implement the properly worship; seventh self-control; eighth effectively manage time; ninth disciplined man, and the tenth people who have contributed to the community (Hasan al-Banna, 1992).

Synopsis of the novel

This novel tells the story of the life of a young man named Zainuddin. Since the nine-month-old Zainuddin has lost his mother's love due to hir mother die and then Zainuddin brought up by his father. Not long after that when Zainuddin still was young, his father died. And then Mak Base takes responsibility to raise Zainuddin until Zainuddin become mature.

After adult Zainuddin want to go to a village in Minangkabau where his father origin, after making resolve Zainuddin began the journey to Minangkabau. After a difficult journey to the sea and the land finally Zainuddin arrived at the Batipuh village in Minangkabau. Zainuddin initially accepted as a nephew of his father's family, but gradually it is being marginalized because Zainuddin considered an outsider, which means not an originally Minangkabau people and dubbed as "Son of Bananas". In this Batipuh village, Zainuddin met the girl who appealed to him called Hayati, and Zainuddin acquainted with Hayati. But the love story between Zainuddin and Hayati blocked by the wall of Minangkabau custom or tradition.

Zainuddin was driven from Batipuh and travel to Padang Panjang to study theology, because in Padang Panjang there are many good an well known schools. After that, Zainuddin suffer because he received news that her lover "Hayati" was married to other people. At the same time Zainuddin got a new that Mak Base was dead. Due to two bad news, Zainuddin's life turned into a weakness. However, Zainuddin finally got up and moved to

Jakarta to develop himself until he became a famous writer in Indonesia and Zainuddin famous with his pen name "Z".

After a prolonged stay in Jakarta, Zainuddin decided to move to Surabaya because of Surabaya closer to his hometown in Mengkasar. In Surabaya, the love story of Zainuddin and Hayati tested again. Unfortunately the love story between Zainuddin and Hayati did not give happiness in the world and the novel ends with the death story of Zainuddin and Hayati (Hamka, 2010).

Findings

Healthy body

Zainuddin character suffered bad health consequences of his failure to accept that her lover was married to someone else, this condition suffered by Zainuddin for several months, however, after his health and his body was successfully recovered and became healthy, Zainuddin regained with his healthy body until Zainuddin became a famous writer in Indonesia.

Good behavior (akhlak al-Karimah)

Zainuddin character through the story in this novel never does anything contrary to the ethics and morals virtue of humanity, even if other people do something bad to him like a broken its promise, Zainuddin character still remains on the path of moral virtue until the end of his life. Moreover Zainuddin always did good behavior to all people that face to him and never did something bad to other people. Fineness of manner exists when Zainuddin was in thick and thin or when Zainuddin was in difficult or happy.

Highly knowledgeable ('ilm)

Zainuddin character is a character that has a high knowledge, since his early life was at the beginning of this novel Zainuddin had traveled far to seek knowledge around Indonesia, Zainuddin character used that knowledge as a capital in his writing works and also with that knowledge Zainuddin create so many book and novel. After that Zainuddin became a very famous writer throughout Indonesia.

Self-reliance

Zainuddin character also found in possession of self-reliance elements, this element significantly applied by Zainuddin character when he create his name as a writer in Indonesia, Zainuddin character use all his energy in terms of mental, physical, spiritual and so on to execute the work as a writer. With persistent efforts, Zainuddin successfully emerged as famous writer in Indonesia. What is more important in the context of self-reliance, Zainuddin character creates his name as a writer with done all the work of writing alone without seeking help from others. With his self-reliance elements Zainuddin successfully develop himself from an indignation people to a famous writer.

Authentic faith

Zainuddin character also has authentic faith element, the faith that held by Zainuddin is Islamic faith. Zainuddin character is always consistent and remains steadfast in his belief, Zainuddin never done something that violates the Islamic faith. In whatever situation, Zainuddin remains firmly with the Islamic faith. Whether in difficult and unlucky condition, Zainuddin still hoping the help of Allah, as well as in the ease and luxury condition, Zainuddin character grateful to the success granted by Allah.

Implement the properly worship

Zainuddin character in this novel, if observed properly the elements of properly worship, it is not featured with the characters that do special worship as contained in the five pillars of Islam, such as reciting the Syahadah, solat, Zakah, the fast and Hajj, this is because the specific worship is not to be a concentrate in the formation of this novel. But the character is always portrayed as a character who is implement properly worship as a general worship through the work of writing, writing work done by Zainuddin character not because to be popular, but the goal is to implement properly religious worship through writings, at the same time to educate and develop community towards the betterment through his writings.

Self-control

Zainuddin character also has self-control element, this elements applied by Zainuddin character in variety conditions either difficult or easy and also healthy or sick. Thus Zainuddin character seem highlighted with self-control element through two forms of self-control, first form exist when Zainuddin faced with life trial, so Zainuddin character always patient and not give up, but always accept the received distress. The second form is used when he faces the convenience and luxury of life, Zainuddin character is not arrogant and always humble moreover Zainuddin character always grateful to Allah for the wealth they possess.

Effectively manage time

Zainuddin character in this novel is not associated with the element of effectively manage time.

Disciplined man

Zainuddin character in this novel is not associated with the element of discipline man.

People who have contributed to the community

Zainuddin character in this novel is a great character in terms of contributing to others. Most significant contribution that given by Zainuddin is contribution to his society through writing efforts. Writing efforts by Zainuddin presented as an outcome that give positive impact on society, Zainuddin's literature works invite people to develop themselves, keep of religion, developing country, development of women status and so forth. Zainuddin character also highlighted as a character who also participate in community activities such as association with the aim to contribute and benefit society.

Conclusion

Can be concluded that through main character in this novel (Zainuddin character), a total of eight human development elements has been highlighted in Zainuddin character, and with these eight elements of human development, Zainuddin character has successfully changed his life from a state of weakness to a better condition. By highlighting all elements of human development in Zainuddin character, it shows that all these elements is important to the process of human development, besides that the readers of this novel can get good lessons from the Zainuddin character, so novel "*Tenggelamnya Kapal Van Der Wijck*" can be categorized as a novel that compatible with human development goals. Author of this novel "Hamka" may be one example or a model who wrote towards human development. Can also be concluded that a novel can be a medium of human development, but the novel must be loaded with the messages of human development so that readers can realize the importance of those messages in life.

Acknowledgements

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COMPUTER MODELLING OF FLEXIBLE CONNECTION WITH FREE HANGING WEIGHT OF THE BODY

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Abstract

This paper provides methodology that can be applied for students in classroom and individual work as well as by teachers that prepare and test homework assignments in the case of equilibrium of the flat forces system.

The methodology for preparing self-study assignments, homework activities and tests focused on in one point intersecting forces as well as checking the accuracy of solutions is provided in this article. This methodology integrates the courses of Mechanics and Informational Technologies. Examples of exercises with different external loadings and cases of analyzed are also included in this work.

Keywords: Force ; Equilibrium ; Flexible connection ; Angles ;

1. Scheme And Equations

With the rapid development of Informational Technologies, this tool (IT) is more widely integrated into delivery of the content of different academic subjects. This is the main reason why it is purposeful to have the methodology for immediate acquisition of the assignment scheme, results of calculation and graphical solution entering initial data.

Problem. With the small amount of contact hours and time consuming assignments there are no possibilities to introduce alternative solution models during the lectures.

The aim. To apply the Excel programme and the principles of mechanics in order to develop the methodology for flexible modelling of assignments depending on the curriculum content and aims as well as an individual student's abilities. To provide a student with a possibility to model the assignment independently, starting from the simpler and moving towards more complicated tasks.
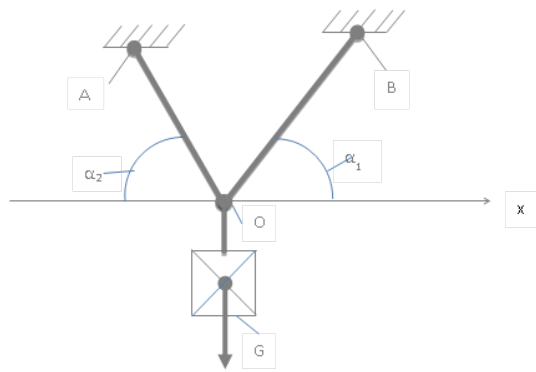
Fig.1.1. Task model

Calculation data. In the scheme provided in Fig. 1.1 two joined cables *(AO and BO)* subjected to free hanging weight of the body *G*. Angles, which cables form with x-axis, are as follows, respectively – α_1, α_2.

Reaction forces within the cables, RA and RB are shown in fig.1. 2, and can be computed on the basis of statics argument[1]
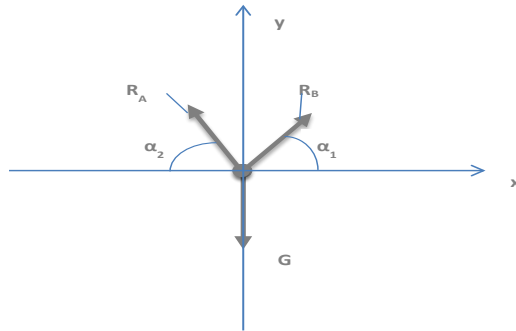
Fig.1.2. Calculation scheme

For mathematical description of the task, we use the following statics equilibrium equations in the coordinate axes x and y:

$\Sigma F_x = 0$ *(1)*

$R_B * cós (\alpha_1) - R_A * cós (\alpha_2) = 0$

$\Sigma F_y = 0$ *(2)*

$R_B * sin (\alpha_1) + R_A * sin (\alpha_2) - G = 0$

By solving the system of equations with two unknown variables, we obtain values of reactions R_A and R_B:

$R_A = R_B * cós (\alpha_1) / cós (\alpha_2)$ *(3)*

$R_B = G / (sin (\alpha_1) + cós (\alpha_1) * tg (\alpha_1))$ *(4)*

2. Development Of The Applied Programme

Further solution of the task is performed by applying Eqs. (1– 4) and Excel spreadsheet [2,3,4]

Having used the general sketch for flat system of in one point intersecting forces and the table of initial data, one can create a wide range of tasks, changing the initial data parameters. This task is modelled in computer-aided addresses using an Excel spreadsheet, and all four mathematical equations.

Computer-aided task solution is presented on the Figs. 2.1 (a,b,c,d).

No	G	α_1	α_2	R_B	R_A
Ex	kN	degrees	degrees	kN	kN
Ex1	50	32	64	22,04	42,64

Fig.2.1a. Excel table with initial data and calculation of results
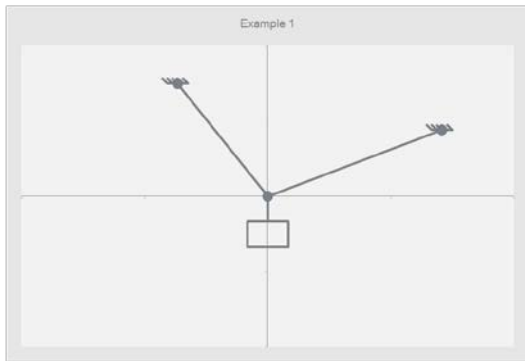
Fig.2.1b. Scheme of 2 cables with weight of the body
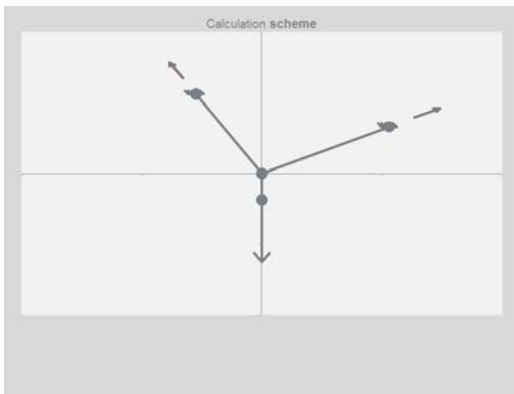
Fig.2.1c. Calculation scheme with directions of forces.

Solving the task manually, students have a possibility to verify the correctness of calculation, comparing with the computer solution. Changing initial data in the table in accordance with variation of angles range, one can obtain various variants of solution. Tasks modelling allows preparing assignments for control works of various complexities.

In figure 2.1d a graphical solution of the task is presented on the basis of forces balance condition, which states that in the case of equilibrium the closed triangle of forces must prevail. Solving the task graphically, student must not only accurately depict the known weight of the body G in the scale, but also correctly set directions of all three forces as well.
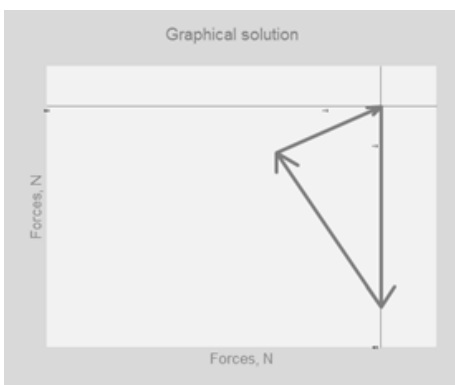
Fig.2.1d. Graphical solution – triangle of forces

With Excel spreadsheet it is easy to perform analysis of the selected task variables. Analysis has been created by steadily changing increments of 10-points. For the first study, reactions R_A and R_B were analysed, dependence

from weight of the body (by changing the weight of the load range of 10 kN), and other parameters (angles α_1 and α_2) stay stable.

No	G, kN	α1, o	α2, o	RB, kN	RA, kN
1	10	30	60	5,00	8,66
2	20	30	60	10,00	17,32
3	30	30	60	15,00	25,98
4	40	30	60	20,00	34,64
5	50	30	60	25,00	43,30
6	60	30	60	30,00	51,96
7	70	30	60	35,00	60,62
8	80	30	60	40,00	69,28
9	90	30	60	45,00	77,94
10	100	30	60	50,00	86,60

Fig2.2a. Excel table of reactions study R_A and R_B dependence on weight of the body

The results of the calculation, carried out in an excel spreadsheet (Fig.2.2a) show that the increasing weight of body *G* of the two reactions, increases. Diagram graphically shows the dependence of the growth chart in Excel and is presented in figure 2.2b.

Fig.2.2b. Graphical dependence of reactions on weight of the body G

The graph shows that increasing weight of the body of two reactions R_A and R_B increases by a linear dependence.

The second study investigates reactions' R_A and R_B dependence on the angle $α_1$ (angle was changed by a steady interval of 7 degrees), the other parameters -weight of the body *G* and angle $α_2$ remain stable (Figure 2.3a). The results of the calculation and graphical display, performed in excel spreadsheet, show that increasing the angle $α_1$, R_B reaction increases and the R_A - decreases by curvilinear dependence (Figure 2.3b).

No	G, kN	α1, o	α2, o	RB, kN	RA, kN
1	50	85	60	43,59	7,60
2	50	78	60	37,36	15,54
3	50	71	60	33,13	21,57
4	50	64	60	30,16	26,44
5	50	57	60	28,06	30,56
6	50	50	60	26,60	34,20
7	50	43	60	25,66	37,53
8	50	36	60	25,14	40,67
9	50	29	60	25,00	43,74
10	50	22	60	25,25	46,81

Fig.2.3a. Excel table of reactions study R_A and R_B dependence on angle α_1
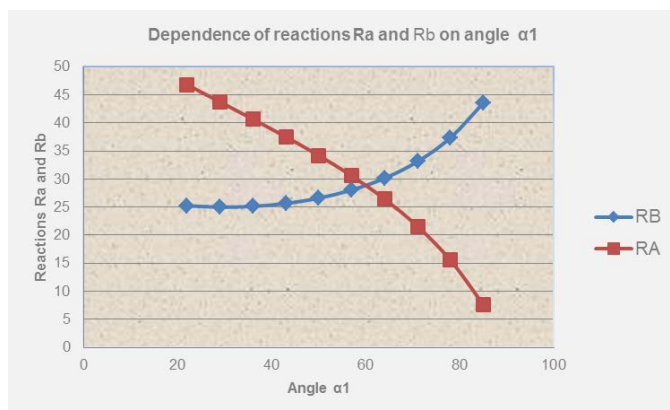
Fig.2.3b. Graphical dependence of reactions R_A and R_B on angle α_1

In the third study, reactions' R_A and R_B dependence from angles α_1 and α_2, were researched. Angles were changed at a steady interval of 7 degrees and the weight of the body G as a constant (Fig.2.4a)

No	G, kN	α1, o	α2, o	RB, kN	RA, kN
1	50	10	10	143,97	143,97
2	50	17	17	85,51	85,51
3	50	24	24	61,46	61,46
4	50	31	31	48,54	48,54

5	50	38	38	40,61	40,61
6	50	45	45	35,36	35,36
7	50	52	52	31,73	31,73
8	50	59	59	29,17	29,17
9	50	66	66	27,37	27,37
10	50	73	73	26,14	26,14

Fig.2.4a. Excel table of reactions study R_A and R_B dependence from angles α_1 and α_2

The graph 2.4b shows that increasing the angles α_1 and α_2, the reactions of R_A and R_B are decreasing by curvilinear dependence.
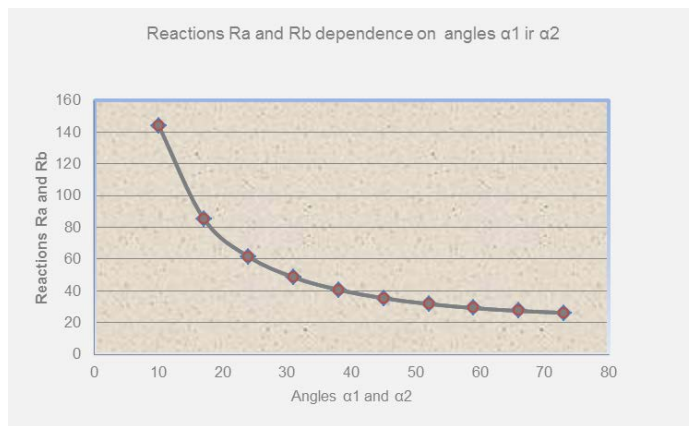
Fig.2.4b. Graphical dependence reactions R_A and R_B on agle α_1 and α_2

Conclusions

1. Provided examples prove that this methodology allows flexible modelling of basic/general model, starting from the simplest and moving towards more complicated assignments as well as.

2. Two ways of a task solution are possible:

a) Using values from the table of initial data, to calculate and draw a scheme manually (on paper) and compare it with computer-aided solution.

b) Using different modelling variants, to model correctly the table of data (applying the same scheme) and obtain the same computer-aided solution.

3. Application of IT helps to save time and leads to better quality of tasks of statically determined system of forces.

4. This methodology requires both a student and a teacher to have specific knowledge and skills in the fields of mechanics and informational technologies.

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DECISION-MAKING AND COGNITIVE STRUCTURING OF STUDENTS AT UNIVERSITY

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Abstract

In our paper, we focus on the relation of decision-making and cognitive structuring of students at university. In the introduction, we concern on various theories of decision-making, especially we concern on the theory of rational decision-making and the psychological theory of decision-making. In the centre of our attention is the theory of Janis and Mann, which is the resource of the research. Very important part of our paper is a section about cognitive structuring which consists of two elementary factors – the need for structure and the ability to achieve cognitive structure. Both processes, decision-making and cognitive structuring are based on information processing. We want to explore relations among the cognitive structuring components and the components of decision-making – self-esteem of decision maker, vigilance, shifting responsibility, procrastination, hypervigilance. The research question was if the ability to work with information is a condition of effective decision-making. In the end of the paper, we present conclusions connected with educational environment.

Keywords: decision-making; cognitive structuring; ability to achieve cognitive structure; need for cognitive structure; self-esteem; shifting responsibility; vigilance; hypervigilance; procrastination

Theories of decision-making

Decision-making process is a term which means a process of choosing one alternative out of more. Montgomery (1983 in Fábry et al., 1992) describes this term as a process of looking for some dominant structure, while one alternative is better than the other ones, at least in one attribute; moreover all its disadvantages are eliminated in different ways. From behavioristic point of view, decision-making process is defined as a process which happens in situations where it is possible to choose out of different stimuli and responses. (Edwards, Tversky in Fábry et al., 1992).

Decision-making process is a process which has its part in an everyday life and in a psychological research too. This process relates to the issue of cognitive styles, categorization (Sarmány-Schuller, 1998) and risk (Sarmány-Schuller, 1979, Sarmány-Schuller, Pavličková, 2005, Fandelová, 1996), coping strategies in Slovakia (Ruisel, Ruiselová, Prokopčáková, 1994). Big attention has been devoted to the procrastination in recent decades (Sarmány-Schuller, 2000; 1999), then to decision-making styles (Sarmány-Schuller, Pilárik, 2005; Pilárik, 2006), faulty decision making (Sarmány-Schuller, Skovayová, 1992) and personality dimensions (Sarmány -Schuller, 2000, Ficková, 1994) associated with decision-making process. Former research data are focused on the operators' decision-making and moral assumptions of optimal decision (Daniel, 1971; Daniel, Droppová, 1979; Zelman, 1979).

There are two dominant fundamental lines in the theory of decision-making – the theory of rational decision-making and the theory of psychological decision-making.

The theory of rational decision-making puts forward two basic questions: "How to decide in a rational way?" and "How to choose the optimal alternative?". This theory is based on studies of Lange and Sadowski. It is based on fundamental arguments that are firmly anchored in rational postulates. They are based on the definition of a

rational man who is able to analyze a situation in which he is, in accordance with the principles of logic. He takes into account all possible alternatives during decision-making process and can choose the best alternative. (according to Kozielecki, 1977; 1981)

The earliest models of how people decide are called a classical decision-making theory. A classical decision-making theory has advantages of an economic perspective in terms of creating and using of mathematical models for human behavior and is associated with terms an economic man and an economic woman. This model assumes a full awareness of possible alternatives and their consequences, sensitivity to slight differences between alternatives and rationality manifested of maximizing the value (according to Sternberg, 2002). We distinguish the following decision-making approaches within the classical decision-making models – approaches by Bayes, Fox, Newell and Simon (Fábry et al., 1992).

Solving of the problem of (un)bounded rationality of a decision maker is in psychology of decision-making dated back to the period of the fifties in the last century and is connected with the name Simon. Simon (1957) states that a person is not in a decision-making process necessarily an irrational one, but he/she reflects in the bounded rationality. Simon (1957) defined a decision-making process as satisfaction, in which we do not concern all alternatives through comparing it, because they maximize our profits and minimize losses. However, we consider the minimum possible number of alternatives in such a way to reach decision which we believe is satisfying for us. Eisenhardt and Zbaracki (1992 in Sarmány-Schuller, 2000) follow these ideas and add that current decision-making situations in various areas are characterized by the number of used criteria, type and use of search information, sources of information, using heuristics, as well as the number of alternatives generated by the heuristics.

Tversky (1972a, 1972b) developed Simon's idea of bounded rationality in the seventies of the twentieth century. He focused on situations in which a large number of alternatives are available for the decision maker and he is not able to consider them all. Tversky (1972a, 1972b) believes that the decision maker will use a method of elimination in this case. He focuses on one aspect occurring at different options and at the same time he creates the minimum criterion for it. He excludes all options which do not meet the criterion. He selects other aspect at the remaining options and he sets a minimum criterion to it and he will continue in elimination. This process finishes when there is only one alternative left.

The theory of rational decision-making is a normative theory, which takes into account rationality, which might be also called an instrumental theory. The principle of the instrumental rationality is the best achievement of the objectives and not the optimal goal itself. According to this theory the role of a decision maker is to choose methods to maximize the target regardless of the impact of its action on other individuals or institutions. Therefore Kozielecki (1977) suggests, along with the instrumental rationality, to take into account an axiological rationality which function is a focus on constructiveness of set targets considering a social environment.

Psychological decision-making theory was developed due to economical and statistical studies. The representatives of this theory are trying to answer the question of a descriptive character: "How do people decide?" Therefore they divert from the normative framework of the theory of rational decision-making which aims at optimizing of the process and results of decision.

The subject of the psychological theory of decision-making is an activity of a decision maker in a decision-making process, but also the structure of roles and personality characteristics of people (eg.: characteristics of the memory or the ability to transform information) in the decision-making process. Tasks placed on a decision maker are diverse, but their common feature is a set of alternatives from which a person selects only one. Each alternative, or a variant of solutions, belongs to a set of possible outcomes, consequences in decision-making process (Kozielecki, 1977).

There are applied so mechanisms in a decision-making process, such as achieving pleasure and avoiding pain. With these theories operate also SEU theories (subjective expected utility) (eg.: Hurwicz, 1953 in Křivohlavý, 1966, Savage, 1954 in Kozielecki, 1977, Edwards 1992, Sheffrin, 1983 in Sarmány-Schuller, 2000), on the base of which a decision maker tries to maximize a positive benefit (pleasure) and to minimize a negative

benefit (pain). The SEU theories therefore work with the concept of a subjective utility. They characterize a decision-making process by a subjective probability. If we know these variables, we should know to predict the optimal decision according to the SEU theory. Therefore, the SEU theories ate based on assumption of and unbounded rationality, the same way as a traditional theory of decision-making. However, people in decision-making process do not always seem fully rational. Traditional examples of utility theories always involve a time factor in itself. Experiments of decision-making realised at children and adults show that subjective utility is lower if the consumption time comes later, or if more time passes till utility time. This phenomenon is known as „gratification delay", it means an ability to resist a momentary pressure and withstand as long as the conditions are more favourable for a decision maker. According to results of such experiments we can assume that there exists a certain hierarchy of values in every person. It means there are also certain scales of subjective utility, which individuals bring to their decisions (Sarmány-Schuller, 2000).

Almost each decision is connected with a risk. The best-known theories that highlight aspects of risk in decision-making theories are those ones by Busemeyer and Townsend, Feather, Janis and Mann.

Busemeyer and Townsend (1993) developed a decision field theory (DFT), which illustrates a decision-making in conditions of uncertainty. DFT incorporated four interlinked factors – probabilistic search, steps and range, approach avoidance balance and time constraints. Elaboration of these criteria represents a shift in the implication of contextual and individual characteristics within the decision- making process.

Feather (1985 in Sarmány-Schuller, 2000) emphasizes the need of the application of dynamic aspects in decision-making process. He developed a model of a dynamic decision-making process concerning on the temporal sequence of decisions which may change the specification of tasks in time. There is changed information that acquires a different quality than in the first step of decision. Finally, implications of decision-making change; they are aimed to future.

Janis and Mann (1977 in Sarmány-Schuller, 2000) focused on the role of conflict in decision-making process. The theory of conflict analyzes the coping patterns used by individuals if he/she faces difficult life or working decisions. The core of the theory is in stress that enters the decision conflict as a major determinant of failure while achieving high quality decisions. The conflict model identifies five main coping patterns within the inducing stress which eventuates from different decisions of a decision maker.

Cognitive structuring

Cognitive structuring defines Neuberg and Newson (1993 in Bar-Tal, Kishon-Rabin, Tabak, 1997) as the creation and use of abstract mental representations, which are simplified by generalizations of previous experience.

The importance of cognitive structuring plays an important role in memory processes and the perception of people (Alba, Hasher, 1983; Allport, 1954; Anderson, 1983; Cantor, Mischel, 1979 in Bar-Tal, Kishon-Rabin, Tabak,1997), stereotypes (Kruglanski, Freund, 1983; Stephan, 1989; Taylor, 1981 in Bar-Tal, Kishon-Rabin, Tabak, 1997), cognitive processes (Kruglanski, Ajzen, 1983 in Bar-Tal, Kishon-Rabin, Tabak, 1997), stress and its coping (Epstein, Meier, 1989; Wheaton in Bar-Tal, Kishon-Rabin, Tabak, 1997), attitudes (Jamieson, Zanna, 1989; Schlegel, DiTecco, 1982 in Bar-Tal, Kishon-Rabin, Tabak, 1997), but especially when experiencing uncertainty and its removal (Bar-Tal, 1993, 1994; Bunder, 1962; Mayseles, Kruglanski, 1987 in Bar-Tal, Kishon-Rabin, Tabak, 1997).

Cognitive structuring assists a person effectively acquire a sense of security. If we define the uncertainty (the removal of which is the fundamental of cognitive structuring) in accordance with Bunder (1962 in Bar-Tal, Kishon-Rabin, Tobacco, 1997; Sarmány - Schuller 2001) as the inability to adequately categorize and structure information, we can find the effectiveness of cognitive structuring in its relative automaticity, speed and undeliberateness (Brewer, 1988; Shiffrin, Schneider, 1977; Taylor, Crocker, 1981 in Bar-Tal, Kishon-Rabin, Tobacco, 1997).

Cognitive structuring helps to develop reassurance in a sense that a person does not perceive inconsistent and irrelevant information.

Bar-Tal, Kishon-Rabin, Tabak (1997) assume that cognitive structuring consists of two components – need for structure and ability to achieve cognitive structure.

A need for structure is defined as the preference of cognitive structuring, which is understood as (1) an opposite towards a piecemeal processing of information and (2) a means leading to a reassurance (Bar-Tal, Kishon-Rabin, Tabak, 1997).

In the past, many authors devoted to the need for cognitive structure (for instance Bunder, Newson, Kruglanski), who, however, used the names such as tolerance for ambiguity, dogmatism, open mind, focus on confidence, the need for cognition, desire for a simple structure, personal need for a structure, the need for cognitive closure, the preference for consistency to describe this term.

We will focus on research findings of some authors mentioned above.

Frenkel-Brunswik (1949 in Bar-Tal, Kishon-Rabin, Tobacco, 1997) notes that people, who do not have a tolerance for ambiguity, prefer the familiar and confidential information, as well as symmetry, closure, permanent regularity. They tend to premature conclusions, black and white vision, simplifying dichotomisation.

Smock (1955 in Bar-Tal, Kishon-Rabin, Tobacco, 1997) adds Frenkel-Brunswik. Intolerance of ambiguity reflects the need of a person to become familiar with his/ her surroundings.

Rokeach (1960 in Bar-Tal, Kishon-Rabin, Tobacco, 1997) defines the difference between open-minded people and closed-minded people. Open-minded people have a system of cognitive beliefs which leads them towards new information. Close-minded people focus on known and predictable events.

Roney, Sorrentino (1987 in Bar-Tal, Kishon-Rabin, Tabak, 1997) point to differences between people oriented on certainty and people oriented on uncertainty. People oriented on certainty use clear and structured categories, they can see a world in black and white, and they can reach the certainty the way that they ignore inconsistency and ambiguity. People oriented on uncertainty dispose with richly developed and low differentiated categories. They cope with inconsistency in a direct way and do not avoid confrontation with it.

On base of above mentioned conclusions, we can generalize differences between people with high and low need for cognitive structure. People with high need for cognitive structure reduce the uncertainty in both non-systematic and heuristic ways and on base of created (Brewer, 1988; Fiske, Pavelchak, 1986 in Bar-Tal, Kishon-Rabin, Tabak, 1997). People with low need for cognitive structure reduce uncertainty in an individual way, in a piecemeal process which is systematic and based on meaningful search for relevant information which evaluates and assimilates to its system (Driscoll, Hamilton, Sorrentino, 1991 in Bar-Tal, Kishon-Rabin, Tabak, 1997). They tend to use piecemeal processes in information processing.

Table 1. Combination of need for cognitive structure and ability to achieve cognitive structure

		Need for cognitive structure	
		Low	High
Ability to achieve cognitive structure	Low	Low level of piecemeal structuring Unintended information processing Dysfunctional impulsivity Low self-efficiency High uncertainty Frequent use of stereotypes Low level of stress	Low level of cognitive structuring Hypervigilance Low self-efficiency High uncertainty Obsessions, compulsions High sensitivity Less frequent use of stereotypes Very high level of stress
	High	High level of piecemeal structuring Intended information processing Vigilance High self-efficiency Low certainty High level of stress	The high level of cognitive structuring Unintended information processing Functional impulsivity High self-efficiency High certainty High level of repression Frequent use of stereotypes Low level of stress

The ability to achieve cognitive structure relates to how the one is able to utilize the process of information processing, which is consistent with its need for cognitive structure. In the case of a high need for structure, it regards to (1) avoidance of information that the one cannot categorized in accordance with existing knowledge and (2) organizing of knowledge the way to be adapted to existing cognitive structure. In the case of a low need for structure, it regards to (3) active and systematic understanding of all available information. In general, the ability to achieve cognitive structure can be defined as the ability to use its categories the same way as analytical information processing in accordance with the tasks that are the man asked.

Need for cognitive structure and ability to achieve cognitive structure are components of cognitive structuring process, which combination we can get four types related to processing of information:

Low need for structure - low ability to achieve cognitive structure (in research is used abbreviation LPNS – LAACS),

Low need for structure – high ability to achieve cognitive structure (LPNS – HAACS),

High need for structure – low ability to achieve cognitive structure (HPNS – LAACS),

High need for structure – high ability to achieve cognitive structure (HPNS – HAACS).

Particular characteristics of mentioned types are displayed in Table 1.

Research

The sample consisted of 75 participants whose average age was 21. They were students of Faculty of Social Sciences and Health Care, Constantine the Philosopher University in Nitra. Their fields of study were social work and psychology. Women dominated in the research group.

We used the following questionnaires for data collecting (in alphabetical order):

AACSS – Ability to Achieve Cognitive Structure Scale

author: Bar-Tal

The questionnaire consists of twenty-four claims that a participant assesses in the 6-point scale. Items of the questionnaire include the following four fields: easy use of cognitive structure, difficulties with use of cognitive structure, easy use of a piecemeal information processing, and difficulties with use of a piecemeal information processing. The output is a single number that characterizes the individual ability to achieve cognitive structure.

MDMQ – Melbourne Decision Making Questionnaire

author: Mann et al.

Twenty-two-item questionnaire designed to identify a decision-making style. It has 5 factors in its extended version:

SED (evaluation of self-esteem as a decision maker in terms of ability of effective decision-making skills),

VIG (vigilance),

SR (shifting responsibility);

PRO (procrastination),

HYP (hypervigilance)

PNSS - Personal Need for Structure Scale

authors: Thopson, Naccarato, Parker

The questionnaire consists of 12 claims which are reviewed by a 6-point scale. Questionnaire items are designed to capture the organization and method of processing information, as well as stereotyped responses, external keys when creating judgments, processing of inconsistent information, efforts to enrich existing knowledge.

We hypothesis that:

H1   high ability to achieve cognitive structure is in relation with high self-esteem in decision-making.

H2   high ability to achieve cognitive structure is in relation with vigilance.

H3   low ability to achieve cognitive structure is in relation with shifting responsibility.

H4   low ability to achieve cognitive structure is in relation with procrastination.

H5   low ability to achieve cognitive structure is in relation with hypervigilance.

To test our hypothesis we used Statistical Program for Social Science 17.0. We used Kruskal-Wallis test to test differences among research groups. As a critical statistical value which indicates the statistical significance, we appointed the standard value of p = 0,05.

The results are presented in tables 2 to 6. All differences are significant at the level of α ≤ 0.001. The only exception is the vigilance in which we did not measured the significant difference among research groups. At this place we explain the abbreviations we used in tables. CS = cognitive structuring, AACS = ability to achieve cognitive structure, PNS = personal need for structure, H = high, L = low, N = count, Min = minimal measured value, Max = maximal measured value, Me = median, AM = average mean, SD = standard deviation, H = result of Kruskal-Wallis test, p = significance.

We allege that we can support all hypothesizes we designated except the hypothesis 2.

Conclusions and discussion

We found that the students with high ability to structure the information have also high self-esteem in decision-making. They do not have the tendency to use ineffective decisional styles in forms as shifting responsibility, procrastination and hypervigilance. On the other hand, we did not find the relation between high ability to structure information and vigilance as effective decisional style.

We can write that the crucial factor which determined decisional style was the ability to achieve cognitive structure. Personal need for structure was the factor which emphasizes the effect of the ability to achieve cognitive structure in case of shifting responsibility and procrastination.

So we cannot support the relation between high ability to process the information and effective deciding. But we can support the relation low ability to process the information and ineffective deciding.

And what are the implications to educational environment? In the present reform of educational system, there is the accent on the humanistic approach. It means the change of the relation educator – educant, curricular transformation and also the aspiration to emphasize non-intellectual factors of education. But the ability to process the information stays the base on which we have to build the education of the students. Information is not only concepts, theories, facts, but also the emotions, attitudes, beliefs, patterns of behavior. Maybe this is the reason why we think about putting back the math into the final exam in secondary school as an inherent part.

The limits of our research are evident. The research sample is small. It is representative for the faculty on which the research was realized, but it is not representative for whole population of students. But the results are clear.

There exists a tendency to decide ineffectively. It means the human has a tendency to deciding delay, to not accept own responsibility for own decisions or has neurotic symptoms because he has the problem to select important information and avoid the unimportant ones. It leads to disbelief to own competences, negative emotions and low self-esteem which was strong influence on own self-image.

If we do not want to learn the students who do not know to decide we have to support their ability to process the information as a part of cognitive effectivity and metacognitive factor.

Table 2. Differences in self-esteem among the groups of cognitive structuring

	groups of CS	N	Min	Max	Me	AM	SD	H	p
self-esteem	LAACS-LPNS	21	4	10	8	7.57	1.66	21.987	<0.001
	HAACS-LPNS	21	5	12	10	9.29	1.88		
	HAACS-HPNS	16	6	12	11	10.06	1.56		
	LAACS-HPNS	17	5	12	8	7.47	2.10		

Table 3. Differences in vigilance among the groups of cognitive structuring

	groups of CS	N	Min	Max	Me	AM	SD	H	p
vigilance	LAACS-LPNS	21	5	12	10	9.38	2.11	5.319	0.150
	HAACS-LPNS	21	6	12	10	9.57	2.14		
	HAACS-HPNS	16	7	12	11	10.81	1.52		
	LAACS-HPNS	17	7	12	10	9.94	1.95		

Table 4. Differences in shifting responsibility among the groups of cognitive structuring

	groups of CS	N	Min	Max	Me	AM	SD	H	p
shifting responsibility	LAACS-LPNS	21	1	12	6	5.76	2.81	21.112	<0.001
	HAACS-LPNS	21	1	8	5	4.57	1.83		
	HAACS-HPNS	16	0	6	2	2.50	2.13		
	LAACS-HPNS	17	0	12	7	6.76	2.93		

Table 5. Differences in procrastination among the groups of cognitive structuring

	groups of CS	N	Min	Max	Me	AM	SD	H	p
procrastination	LAACS-LPNS	21	1	8	5	4.95	1.96	28.417	<0.001
	HAACS-LPNS	21	1	6	2	2.81	1.78		
	HAACS-HPNS	16	0	4	2	1.75	1.29		
	LAACS-HPNS	17	2	9	5	4.94	1.98		

Table 6. Differences in hypervigilance among the groups of cognitive structuring

	groups of CS	N	Min	Max	Me	AM	SD	H	p
hypervigilance	LAACS-LPNS	21	0	10	5	5.19	2.34		
	HAACS-LPNS	21	1	7	4	3.67	1.83	22.043	<0.001
	HAACS-HPNS	16	1	5	4	3.31	1.30		
	LAACS-HPNS	17	3	9	6	6.12	1.62		

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DESAFIOS METAMODERNOS DA FILOSOFIA DA EDUCAÇÃO

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Modernidade e desconstrução pós-moderna

O projeto educativo no quadro da modernidade

A Modernidade poderá caracterizar-se como um movimento de rejeição do contexto em que o indivíduo aparecia dominado pela tradição e o sentido se encontrava monopolizado por uma autoridade. A rejeição moderna do pré-modernismo foi levada a cabo em nome da razão e da ciência, como instrumentos da emancipação humana, reclamada com base no reconhecimento das categorias antropológicas da liberdade e da dignidade. A sua hipótese fundamental era a atribuição ao indivíduo autónomo da prerrogativa de se constituir como fonte única do sentido e da verdade. No campo epistemológico, a garantia desta atribuição parecia ter sido encontrada com o cogito cartesiano, substancialista, a priori, solipsista e, supostamente, transcendente. Criando-se em seu torno um conjunto de ilusões insularizadoras e desnaturalizadoras, que tipificaram o humanismo tradicional (Carvalho, 1994).

No novo enquadramento, a forma de conceber a história infletiu no sentido antropocentrista, passando, então, a confiar-se nos poderes da razão humana para ir promovendo a sua própria emancipação, mediante os instrumentos que ela possa sacar de si mesma. Um processo otimista de irresistível progresso aperfeiçoador e de libertação de constrangimentos como a dependência (material e espiritual), a injustiça, a violência, a indigência, a fome e a ignorância.

Em si mesmo, o projeto emancipador e ilustrador apontava para valores que tenderam a universalizar-se: a liberdade, a igualdade, a solidariedade e a tolerância. Valores que ainda hoje se podem sustentar como um desiderato universal das sociedades. À educação haveria de confiar-se então uma ingente responsabilidade, pois o uso autónomo da razão, que seria a chave para a libertação de todas as limitações, reclamava-a de modo intrínseco. E daí que se lhe atribua o estatuto de direito universal, pois se lhe reconhece uma função antropológica constitutiva, que se alinharia com o Bildung, precisamente o processo pelo qual o humano adquiriria a competência racional distintiva da sua humanidade.

O conceito envolve a referência a um modelo e a um processo configurador, correspondente ao desenvolvimento que, de dentro para fora, há-de realizar num ser orgânico, a partir de uma situação indeterminada, a forma almejada (Cabanas, 2002). Trata-se de pôr em atividade a enteléquia humana, todas as suas forças e potencialidades, de modo a que estas possam desenvolver-se no seu próprio télos, segundo um jogo harmónico e proporcionado. Com o Bildung aponta-se à emergência da pessoa, cuja dignidade, racionalidade, condição moral e liberdade lhe permitem conceber-se como um fim em si mesma.

A desconstrução pós-moderna

Acabaria, no entanto, por ser contra este paradigma que o pós-modernismo viria a acometer desconstrutivamente. Seja rejeitando a ideia de um sujeito racional soberano e autónomo, seja rejeitando a metanarrativa do progresso, seja rejeitando o Bildung enquanto matriz normativa do programa educacional.

Segundo Eagleton (1998, p.7): "Pós-modernidade é uma linha de pensamento que questiona as noções clássicas de verdade, razão, identidade e objetividade, a ideia de progresso ou emancipação universal, os

sistemas únicos, as grandes narrativas ou os fundamentos definitivos de explicação. Contrariando essas normas do iluminismo, vê o mundo como contingente, gratuito, diverso, instável, imprevisível, um conjunto de culturas ou interpretações desunificadas gerando um certo grau de ceticismo em relação à objetividade da verdade, da história e das normas, bem como em relação às idiossincrasias e à coerência das identidades."

Lembremos também, para a genealogia desta mutação infraestrutural, os contributos dos "mestres da suspeita", segundo a expressão de Foucault (1987), e toda a série de críticas dessacralizadoras, desmistificadoras e desconstrutoras que, se por um lado deram continuidade ao trabalho emancipador moderno, por outro conduziram ao soçobro dos veios axiais do próprio projeto da modernidade. Mas não se pode esquecer que já antes estava em curso um trabalho de sapa de erosão dos seus pilares. A desconstrução conducente ao abate das metanarrativas, registado por Jean-François Lyotard (1989), tinha começado antes e foi preparando a pós-modernidade por diferentes vias.

Tendências pós-modernas e educação

O movimento pós-moderno em educação apresenta-se ambíguo, abrangendo uma pluralidade de aspetos: a conceção de educação, a organização e administração escolar, os métodos de ensino ou a natureza de certas disciplinas (Cooper, 2003). O pós-modernismo tem insistido sobretudo na necessidade de defender a diferença e a diversidade, mostrando uma forte hostilidade pelos processos de cariz universalizador, totalizador ou centralizador.

Lyotard (1989) tipificou a pós-modernidade como uma condição emergente nas sociedades mais desenvolvidas, marcadas pelo consumismo, a capitalização global, o ecletismo, o "anything goes" e a hegemonia da performatividade, em que se afirma o critério técnico-científico da otimização entre custos e benefícios. É neste ambiente que se desenvolve a crítica à modernidade, muito em especial a todo tipo de certezas, sejam elas metafísicas, religiosas ou políticas. Trata-se de uma mudança ideológica que comporta o fim da própria ideologia, a liquidação das crenças, dos ideais e do poder da razão e da moral: o niilismo.

A educação não escapou a este terramoto, registando o fim da crença na própria capacidade da educação para cumprir com o desígnio de perfectibilização dos sujeitos humanos, muito em proveito da procura do encaixe imediatista no mercado de trabalho, isto é, em perfeito alinhamento com a hegemonia performativista. O que expõe a deriva perversa do "fim da ideologia": o eventual ganho em afastamento das lógicas absolutizadoras parece esvair-se na entrega acrítica ao sistema, na generalização da apatia e no triunfo do relativismo, do individualismo rampante, do egoísmo, no quadro da entrega à procura do bem-estar e do divertimento, nos termos do desenvolvimento de mecanismos de uma certa regulação do vazio existencial correlativo.

É o tempo da Razão Cínica, segundo Sloterdijk (1987), em que vai medrando uma falsa consciência ilustrada: ilustrada ou esclarecida porque liberta das justificações tradicionais absolutizadoras; falsa porque inautêntica, pois continua, de facto, a entregar-se aos velhos modelos. Aliás, quando não recai nas velhas lógicas remete-se à vassalagem ao sistema, como acontece ao próprio pós-modernismo demasiadas vezes (Eagleton, 1998).

Segundo Cooper (2003), o relativismo pós-moderno não significa só que o conhecimento é relativo às suas condições contingentes de possibilidade e pode ser de dois tipos: subjetivista, quando relativiza a verdade ao sujeito; linguístico, quando a relativiza ao contexto da linguagem utilizada. Neste quadro, as noções de verdade e conhecimento universal objetivo estão destinadas a ser evacuadas pela sua suposta inutilidade e, sobretudo, pelo facto de constituírem verdadeiros obstáculos epistemológicos. O que representa, no campo da educação, o abatimento de todo horizonte normativo, a recusa dos modelos e dos fins.

Quanto à incredulidade nas metanarrativas, depois de afastado o projeto da teoontologia tradicional, ela incide transversalmente sobre toda a grande narrativa: a da dialética do Espírito; a das hermenêuticas do significado; a da emancipação do sujeito racional ou trabalhador; ou, ainda, a da criação da riqueza. Diferentes relatos, usados com o mesmo propósito: a legitimação dos discursos totalitários, isto é, absolutizadores e

normativos, quase sempre autodenominados "ciências". A partir daqui parece inaceitável a prevalência de qualquer narrativa fundadora, abrindo-se o mundo à pluralidade das narrativas, todas em pé de igualdade. O pós-modernismo desconfia do estabelecimento de hierarquias, pois desconfia que nelas se escondam relações de poder, mas o nivelamento absoluto (!) pode levar-nos a situações absurdas. Por exemplo, no campo da cultura, o pós-modernismo tende a confundir hierarquia com elitismo (Eagleton, 1998).

A hostilidade da pós-modernidade pela pressuposição de um nível de profundidade dos discursos desenvolveu-se no campo artístico onde emergiu a recusa de qualquer ambição por revelar a verdadeira natureza de um suposto real subjacente: o artista pós-moderno não aspira a ser o "senhor" do sentido escondido, nem à mestria da sua revelação, o que significaria admitir que existe "um" sentido, ou seja, significaria ceder à tentação absolutizadora e normativista; o artista pós-moderno devota-se às superfícies e ao pastishe (Keep, Mclaughlin & Parmar, 2011). Neste contexto, a funda(menta)ção da autenticidade é revogada em benefício do relativismo da colagem. No campo da arte e da vida quotidiana vemos emergir um padrão que se afasta dos modelos universais, abraçando a complexidade e a multidimensionalidade, e em que se assume a dissolução das distinções.

Mas o pós-modernismo não só rejeita o indivíduo autónomo e soberano como opta pela ênfase nas experiências anárquicas, coletivas e anónimas, através das quais melhor se podem realizar a diversidade, a colagem e o inefável. Com isto, assistimos à dissolução das distinções clássicas entre sujeito e objeto, o eu e o outro, rejeitando-se todas as tentativas de definir, reificar ou re-apresentar o sujeito humano.

A hostilidade da pós-modernidade face à preocupação com a profundidade resultou de uma descoberta da importância dos contextos, ou jogos de linguagem, para definir o sentido e o significado na sua imanência, daí que tão pouco fosse de admitir as ambições decorrentes da intenção universalizadora para estabelecer regras gerais do juízo ou normas morais *sub specie aeternitatis*. O postulado do plano subjacente ao discurso é desativado pelo facto de o sentido se encontrar tecido no agenciamento do jogo de linguagem em que se efetiva – pertence a uma superfície e não a qualquer tipo de profundidade–, o que dá abertura à ideia da incomensurabilidade dos discursos e culturas, bem como à dos diferendos insolúveis. De modo concomitante, a ideia do sujeito racional autónomo subjacente aos discursos e práticas, autor e agente, elemento unificador do seu sentido, deixa de ser uma referência aceitável, dando passo à ideia de um ser fragmentado, difuso e em contínua mutação. O que significa que no plano da educação acaba de esfumar-se a identidade definidora da personalidade que, na referência coerente a uma constelação de valores se expressa num carácter (Boavida, 2005), ou seja, o próprio elemento axial que articularia o *Bildung*.

Nietzsche e Foucault relativizaram as crenças com as suas genealogias, Heidegger relativizou os edifícios do conhecimento com a sua hermenêutica e Derrida, finalmente, abateu a suposta transcendentalidade do significado com a sua desconstrução: "quando abordagens tão destrutivas se conjugam, é evidente que não existe 'Conhecimento', apenas 'conhecimentos', não existe 'Razão', apenas 'razões', e que estes diversos conhecimentos e razões são 'construídos' e não descobertos. São construídos nas e através das práticas e discursos que apresentam a indelével marca de fatores afinal tão 'demasiado humanos', como a luta pelo poder" (Cooper, 2003, 210). Isto significa que também deve sair de cena o sujeito racional capaz de transcender tais práticas com vista à obtenção de um lampejo objetivo das verdades e das normas.

O reconhecimento da falência da Ilustração moderna está longe de ter produzido uma verdadeira alternativa crítica, pois, quando não se fica pela anomia alienante de qualquer tipo de intervenção, apenas tem dado passo a reações que oscilam entre a recaída nostálgica no apego às certezas perdidas e a obsessão cínica pelos mais pragmáticos interesses egotistas. Destruída a possibilidade de discursos ancorados e assumida que ficava a existência de diferendos irresolúveis, resta à pós-modernidade a celebração da diferença, no quadro de um pensamento assumidamente fraco, dado a exercícios lúdicos e à ironia. O maior ganho talvez tenha sido o desenvolvimento do respeito pelo local e as minorias, procurando conseguir com que se ouçam as vozes das diferenças fora do regime do discurso dominante, nela incluída a mania performativa.

Jean-François Lyotard propôs que se dê testemunho dos diferendos das vozes da diferença e se encontrem os idiomas adequados à sua expressão, sugerindo que a arte e o sentimento poderiam ser os melhores meios para abrir o enigma humano aos interlocutores (Dillon & Standish, 2000). Não só é a arte o melhor meio para abrir a

expressão do diferendo, que não pôde encontrar os termos para se expressar no jogo de linguagem dominante, como será pela arte que se poderá despertar as boas consciências insensíveis ao seu grito surdo.

A seu ver requer-se hoje um trabalho meticuloso e paciente de nada mais do que "apenas educação" (Dillon & Standish, 2000). O que nos leva a questionar se não há aqui um retorno à convocatória moderna da educação com vista ao projeto de emancipação individual e coletiva. O que nos deixa aberta a porta para reconstruir, *mutatis mutandis*, uma nova conceção de *Bildung*.

A filosofia dos limites e os limites do pós-modernismo

A recusa do absoluto pelos pós-modernos significa o reconhecimento dos limites das nossas linguagens e das razões e das práticas que as constituem e nelas se constituem, mas que ao mesmo tempo aponta para os próprios limites da orientação pós-moderna. Por todo o lado se abateram referentes, sem que se tenham reposto os efetivos e, entretanto, progrediu o deserto e a floresta definhou, começando a faltar o ar: assistimos já ao triunfo do hiperconsumismo (Lipovetski, 2007). Alastra o império do efémero na época do vazio, pululam os paradigmas vácuos assentes na fama que tomou o lugar do prestígio, o relativismo anda de mão dadas com a superficialidade, recuaram as éticas para o nível do indolor e da circunstância, e o divertimento casou-se com a procura do prosaico bem-estar, conformado com o sistema. No oceano do fim das ideologias, além de náufragos pouco mais se encontra do que "velozes sem rumo e poderosos sem causa" (Boavida & Sanches, 1997).

Não admira por isso que, após um período de hesitações e passos em falso, de regressos forçados ao passado e fugas para diante, de mais radicalização niilista, se tenha começado a procurar uma reconstrução, desde logo reconsiderando a real valia das abordagens pós-modernas. O questionamento do pós-modernismo pôs a nu uma série de deficiências, que Cooper (2003) elencou de forma precisa. Os pós-modernos espantaram pelo efeito bombástico das suas propostas, mas estas enfermam em muitos casos de sérias limitações: o facto de enveredarem por simples paródias da filosofia "tradicional"[4]; a fraqueza argumentativa que se descobria por trás da opaca linguagem de efeito sensacionalista; e o caráter auto-estupidificante de algumas abordagens.

Uma mitigação do pós-modernismo parece recomendar mais rigor, melhor referenciação histórica, melhor argumentação, maior qualidade nas formulações, de modo a que se veja claramente os seus reais contributos e se evite o resvalamento para o paradoxo e o absurdo. Uma posição moderada poderia ater-se ao critério de uma racionalidade dialógica, remetendo para critérios intersubjetivos abertos à revisão e em que, precisamente, faz sentido admitir para o campo da educação a referência aos valores democráticos e emancipatórios, ainda que, também neste caso, se reconheçam os limites da nossa compreensão do seu sentido.

Subsídios para a reconstrução dos paradigmas educacionais

Desafios im/possíveis da pós-modernidade

Cooper (2003) identificou os principais tipos de respostas dos pós-modernos para o campo educacional, que se podem aglutinar em torno do denominador comum da recusa dos enquadramentos absolutizadores e da afirmação do direito à diferença.

Um grupo muito radical chega a avançar no sentido do fim da crença na educação, muito em particular para realizar o projeto da emancipação. Em certos casos antevê-se mesmo o fim da educação, com o regresso à universidade da vida, em que a busca da emancipação se realizaria pela experiência direta de diferentes formas de viver.

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[4] Alguns (Buckingham, 2003) assumem explicitamente a paródia como instrumento para lidar com as relações de poder e dizer o indizível, isto é, dar lugar à voz da subversão.

Uma orientação mais otimista propõe uma reestruturação da educação de modo a refletir ao nível curricular a explosão da tradicional confiança na verdade e na objetividade, reconhecendo-se a natureza construída de todo corpo de conhecimentos. Para o plano organizacional prevê-se a descentralização, de modo a poderem afirmar-se as comunidades educativas específicas, definindo o seu próprio estilo, padrões de exigência e estrutura curricular.

Alguns chegam mesmo a avançar a rejeição da iniciação dos jovens nos corpos de conhecimentos estabelecidos, que reputam de totalitários e terroristas, recomendando um ambiente escolar de dissensão e resistência ao conhecimento e normas transmitidas. Esta abordagem, prescindindo de padrões de julgamento, pretende apoiar as decisões na simples adesão estética, um critério muito fraco quando se trata de questões epistemológicas e, eventualmente, éticas.

Uma outra corrente pós-moderna apresenta uma aparente moderação: não rejeita a necessidade de critérios de consensuação acerca da verdade, os conhecimentos e as normas morais, apenas insiste na hostilidade à profundidade e ao "fundacionalismo" da verdade. Impugnam, no entanto, o entendimento do fim da educação como iniciação a formas de conhecimento, supostamente, ancoradas e objetivas ou como correspondendo ao desenvolvimento do indivíduo racional autónomo, subjacente às críticas, aos discursos e às práticas.

As correntes pós-modernas, em geral, tão pouco aceitam a obsessão pela performatividade ou a perspetiva de um discurso científico livre de compromissos ideológicos e normativos. Alguns assumem-se como ironistas, livres de produzir descrições irrestritas de si e do mundo, e sem assumirem ambição alguma para impugnarem qualquer tipo de discursos ou práticas públicas que, embora infundamentadas, sirvam a estabilidade do ambiente democrático das nossas sociedades. Neste caso remetem o uso da sua ironia ao domínio privado, deixando as abordagens pós-modernas para o contexto académico, facto que mostra bem a compactuação com o sistema a que chegaram.

Para onde quer que se olhe, a paisagem pós-moderna não parece fornecer referentes para se estruturar convictamente a educação. Em certos casos, sugerem perplexidades e paradoxos que geram, no mínimo, incredulidade e estupefação e, no limite, bloqueios, anomia, sentimento de deriva e de desespero. É este estado de coisas que tem dado força a uma preocupação crescente de proceder a uma reconstrução da Razão Pedagógica (Gonzálvez, 2010). Um ensejo que se vislumbra mesmo entre os pós-modernos que parecem estar cansados de tanto niilismo.

Relativismo, multiculturalidade e valores humanos

Um dos desafios mais difíceis da pós-modernidade diz respeito ao relativismo, que articulado com a afirmação da diferença motivou o advento do multiculturalismo. O debate sobre o multiculturalismo implica uma análise axiológica que deve começar por enfrentar o facto de, como nota Strawn (2007), o relativismo ser hoje dominante na Academia. Pelo menos os antropólogos, os sociólogos e os filósofos experimentam grandes dificuldades em levar a cabo o seu trabalho fora de abordagens relativistas. Contudo, o direito à diferença, globalmente considerado para uma cultura, não deveria colidir com os direitos fundamentais dos seus membros.

Algumas tendências pós-modernas, prevalecentes nos setores das ciências sociais e humanas, acreditam que a verdade é múltipla e depende do ponto de vista do sujeito ou do contexto em que é formulado, uma vez que não existe uma racionalidade que possa garantir validade universal, apenas racionalidades diferentes em diferentes culturas. Seguindo a análise de Silva (2005), podemos distinguir dois tipos de críticas do relativismo: i) o primeiro é de âmbito geral: os relativistas clamam que não existe nenhuma verdade não relativa, ou seja, a sua perspetiva sobre os "jogos de linguagem" deve ser considerada não-relativa; ii) o segundo tipo de críticas diz respeito às consequências absurdas do relativismo, como nos casos de considerar, por exemplo, que a total equivalência entre práticas culturais, mesmo quando se trata da mutilação genital feminina, cujos relatórios médicos da World Health Organization (2010) mostram à evidência os efeitos nefastos sobre a saúde e a natureza da experiência sexual feminina. Ora, se o multiculturalismo deve ser assumido como princípio para o direito à diferença, não necessariamente nos autoriza a cair no relativismo e muito menos a defender uma

idiossincrasia cultural à custa dos direitos individuais universais, nomeadamente a dignidade humana, a liberdade, a igualdade de condição e a justiça. Temos de evitar que o étnico liquide o ético (Béji, 2006). Nas palavras de Amin Maalouf (2000, p. 88): "há valores que concernem à espécie humana sem exceção. Tais valores merecem ser colocados antes de tudo mais."

Quando passamos para o plano das nossas escolas precisamos também de questionar o sentido e a validade do relativismo, que hoje se apresenta sobre a forma dos avatares do "indiferentismo" e do "tolerantismo" (Gonzálvez, 2010). O "indiferentismo" tende à desativação de todos os instrumentos coativos, das avaliações e do espírito de rigor, o que tem levado a iludir as funções sociais da escola, do ensino e dos diplomas. O "tolerantismo", como tendência para tudo tolerar, que aparece hoje como um novo absoluto, enferma do absurdo de nos fazer aceitar até aquelas perspetivas habitadas pela dominação e o trato vexatório. Ora, no quadro da modernidade, a tolerância entendia-se, precisamente, como limitada pelos valores da dignidade e da justiça, limites que a pós-modernidade veio dissolver com a absolutização da tolerância.

Tal como propôs Herrerías (2009b), devemos chegar a uma conceção metamoderna que transcenda tanto o moderno universalismo da univocidade como o pós-moderno universalismo da equivocidade, se quisermos obter um novo horizonte para a verdade. Para lá das metanarrativas da imposição e do relativismo inoperante, precisamos de aprofundar a via do diálogo genuíno e inquiridor entre todos nós. O novo horizonte da verdade é o do "encontro dialógico", que se refere a uma demanda acerca do que poderia ser uma sociedade mais justa, mais digna, mais livre e mais equitativa.

Da desmobilização do sujeito crítico à sua recuperação crítica

Um dos mais graves problemas da leitura pós-modernista, começa quando se recusa todo o objetivo à educação ou a definição da educação como avançando para a concretização de um objetivo. Usher & Edwards dizem que, "com efeito, o auto-definido objetivo da educação não pode ser realizado na escolaridade. Não há nenhum fim para a incompletude e nenhum fim da completude. A escolarização nem pode ter um 'fim' (objectivo ou propósito) nem pode ela própria ser um 'fim' (*terminus*)" (Usher e Edwards, 1997, 131). Se, certamente, o desejo que nos anima nunca está completo, nem a educação se clausura alguma vez, também é verdade que a educação atinge um dos seus objetivos quando coloca o sujeito na senda dessa dinâmica de procurar respostas à sua incompletude, atribuindo-lhe competências de produzir sentido para a sua existência, ou seja, saídas para a sua inesgotável ânsia de ser. Neste sentido, a educação tem um fim (*terminus*) e tem, aliás, múltiplos e polimorfos fins e finalidades, que podem ser redefinidos de modo renovado, mas que reclamam opções. O pós-modernismo, no entanto, parece, por vezes, querer esquivar o optar.

Usher & Edwards criticam a "novela da autoformação", construída pela Ilustração para definir a educação como processo conducente ao alcançar da autonomia aceitando certos constrangimentos sociais. A seu ver, o verdadeiro sentido da educação está em o educando perceber que "a sua autonomia é indeterminada já que não pode nunca alcançar um fim (, ou seja,) que ele é um sujeito de desejo, de um desejo que nunca pode ser satisfeito" (Usher e Edwards, 1997, 134-135). Sem dúvida somos esta ânsia e, sem dúvida, a nossa autonomia está sempre limitada –por isso se projeta continuamente–, mas somos também sujeitos de razão, que concebem a sua realização no próprio quadro limitado das opções e dos valores. Aliás, não podemos esquivar a condição de, a cada momento, ser o nosso eu, porventura descentrado de qualquer narrativa monológica, com os seus desejos, a sua razão e os seus valores que constitui o centro a partir do qual perspetivamos as alternativas para nos realizarmos, numa contínua emancipação do que nos limita e enclausura. A cada passo, também, é a coerência que nos permite escolher, não lutamos contra a coerência, mas com ela.

Ora, na senda da desconstrução nietzscheana, Bingham apareceu a defender uma pedagogia da *self-reformulation*, a que aparece associado o pressuposto algo absurdo do projeto da não-identidade (Fennel, 2005). A pedagogia da *self-reformulation* ensina a humildade e a abertura experiencial, porém parece fazê-lo para entregar o sujeito à desconstrução de tudo o que possa considerar-se um *self* estável. O seu propósito é o comprometimento com uma não-identidade do *self* ou uma identidade vacilante num contexto de total planura democrática na interação. "Em nome da liberação humana, a pedagogia da *self-reformulation* providencia as

mesmas oportunidades para todos os estudantes. Sob o princípio de que um *self* estável e uma identidade fixa são danosos, os educandos devem acostumar-se a um fluxo em que não pode haver lugar para o que é superior" (Fennel, 2005, 106). A nosso ver, aceitar a abertura a outras formas de ser não pode conduzir-nos à defesa do abandono de toda a identidade que sirva de autoreferente estável. Semelhante radicalização da existência significa perder a própria existência, não ganhá-la. Mais uma vez, o que o abatimento de todo o referente parece legar-nos é a relativização fragmentadora onde nos perdermos. Aliás, em contextos em que se desmobilizou o sujeito crítico que poderia fazer frente ao hiperconsumismo, é patente que o individualismo hedonista e o relativismo apenas nos entregam a planos superficiais e espúrios (Lipovetsky, 2007).

Não deixa de ser curioso o modo como os pós-modernos, ao mesmo tempo que ensaiam uma justa crítica ao conceito mercantilista, consumista e performativista que se instalou na educação, procuram descartar o enquadramento teleológico, por este albergar geralmente a falácia essencialista, mas acabam, no entanto, por recuperar, de algum modo, o desiderato do sujeito crítico. Standish (2003), por exemplo, mostrou como é importante, hoje, transcendermos os esquemas teleológicos enclausuradores da performatividade e do essencialismo de vistas curtas: "o pensamento teleológico torna-se grotesco quando concebe os seres humanos e as suas políticas como perfetíveis –em termos de fins que são em princípio realizáveis" (p. 227). A crítica é importante e acertada quando se pensa nos atuais contextos da educação funcionalizada a performances técnicas e economicistas, ou nas derivas totalitárias do século XX; mas no que diz respeito ao paradigma da modernidade parece esquecer que o conceito moderno de ser humano educado é assintótico: pessoalmente, jamais podemos assumir-nos educativamente acabados, como jamais podemos atribuir à emancipação coletiva uma data de consumação.

O nosso autor pretende esquivar o esquema da perfectibilidade teleológica, voltando-se para o conceito emersoniano de perfecionismo. Uma conceção flexível e aberta, mas que "sugere a aspiração para o melhor de nós mesmos" (Standish, 2003, p. 228). Trata-se de cada um encontrar o seu caminho e não entrar no caminho definido por outros. Contudo, também aqui, seria bom lembrar que o conceito moderno de emancipação pressupõe o pensar por si libertando-se de todas as tutelas, como tão contundentemente mostrou Kant (1784/1985).

A abordagem do autor citado parece, contudo, dispensar a soberania do sujeito racional e pretende antes ater-se à perspetiva de que qualquer ideia que tenhamos de nós próprios, pessoalmente considerando-nos como um todo, é essencialmente provisória, pois a alma é "uma imensidão não possuída e que não pode ser possuída" (Emerson, ap. Standish, 2003, p. 229). De modo que imaginar que podemos constituir-nos pessoalmente adquirindo progressivamente competências apenas nos pode cegar para o facto de a nossa vida ser uma aprendizagem por acercamento infinito à verdade e de que não há nenhum fim para ela, pois cada fim é um novo princípio, cada limiar de profundidade abre sempre outro. O que leva Standish a dizer que "Há uma espécie de blasfémia na abordagem direta dessas profundidades. Há idolatria na busca estreita de fins fixos" (id. Ibid.) Acabando por se decantar por uma proposta que parte do reconhecimento da nossa "incompletude essencial". Proposta que, a nosso ver, deve ser completamente abraçada pela reconstrução educacional que queremos aqui apontar.

A pós-modernidade tem promovido o desenvolvimento de releituras da antinomia fundamental da educação entre essência e existência, mas por vezes tende a uma radicalização existencial. Pela nossa parte, entendemos que a resolução desta antinomia só pode ser provisória e aberta (Reis, 2008), de tal forma que a vida e o ideal se unam de modo criador e dinâmico (Suchodolski 1988). O que nos deixa ver que a tensão se mantém, é preservada, não se anula.

Mas será que a relativização pós-moderna obriga à desmobilização completa do sujeito ativo e crítico, tanto genérica como educacionalmente falando? A resposta de Buckingham, a respeito da cada vez mais indispensável educação para os *media*, é muito clara: "a educação não pode dar-se ao luxo de abandonar o projeto modernista do criticismo cultural" (Buckingham, 2003, p. 325). Na sua opinião, por muito que sejam indispensáveis as formas parodiais, irónicas e lúdicas, por meio das quais o inefável do desejo pode encontrar a sua voz e os discursos totalitários podem ser transgredidos e erodidos, não só é equívoco supor que a ludicidade e a racionalidade se excluem, como temos cada vez mais motivos para encorajar a reflexão e a crítica.

Buscamos um novo paradigma, que deve passar pelo duplo enraizamento natural e relacional da pessoa humana e seja capaz de superar o seu entendimento substancialista, racionalista, monológico e desnaturalizador, por meio de uma conceção que entende a sua complexidade dialógica bio-psico-socio-cultural (Reis, 2009). Devemos encontrar as vias de uma nova ilustração, uma metamodernidade que supere as monologias e os reducionismos e se abra ao jogo da igualdade e da diferença das nossas identidades gramaticalizadas e de uma razão participada (Herrerías, 2009b). O que nos remete para o esforço, pedido por Gonzálvez (2010), de reconstrução de uma Razão Pedagógica crítica, dialógica e intersubjetiva.

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DESIGNING INNOVATIVE OPEN SPACES FOR LEARNING: THE CASE OF THE OPEN UNIVERSITY OF CATALUNYA

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Abstract

The present paper summarizes the new proposal for the reconceptualization and understanding of the learner experience at the Universitat Oberta de Catalunya (UOC). As an unaivodable effort to go along with our students practices and realities, the UOC is opening a new space within its learning technologies and pedagogical practices, where students will have the freedom to work and integrate the knowledge spread in the Internet, to collaborate and nurture from each other without strict rules, to create new knowledge by using the web tools they usually use, and in general to construct their own learning process according to their own formula. At the present time, we are in the phase of design of the experience, and this paper will describe the design of new learning spaces according to the Activity Theory.

Keywords: Personal Learning Environments, Informal Learning, Social Networks

The Universitat Oberta de Catalunya (UOC)

The UOC is what we call a fully online learning University, an institution where the whole learning system and its services allows students to learn beyond the boundaries of time and space.

In its 15 years of life, the UOC has provided students with a complex open source virtual learning environment, along with a big range of services and learning resources and a profound degree of support offered through a system where faculty, tutors, instructors and staff collaborate together in order to offer an integral and effective learning experience that takes into account all of the students' needs. In some sense, we could say that the philosophy behind UOC has been "*to fully embrace and support the learning experience... and to have it under control*". But precisely this level of control of the learner experience is 'under attack' in the new era of the Internet and the web 2.0, and this is percisely the context in which UOC's new initiative is born, to be discussed more in depth in the upcoming section.

Bridging from the era of VLE to the era of PLE

The concept of PLE

Regarding the concept of PLE, there is not a single accepted definition (Fieder, Valjataga, 179) . Most of the authors go between a concept that focuses on tools (as a set of tools that allow the personalization of the learning process) and a concept where the learner is the main actor or protagonist of such learning process (Fieder, Valjataga, 180). In our case, we understand tools are the instruments to open up learning spaces and learning possibilities but, beyond that group of tools, our objective is to integrate, as part of the pedagogical model, the idea that learning occurs everywhere and in non-ending ways, giving the power to each learner to decide how every piece of knowledge is selected, constructed and integrated into their learning experience. In this sense, the definition provided by Wikipedia fits us best (Wikipedia, 2012): *Personal Learning Environments(PLE)* are systems that help learners take control of and manage their own learning. This includes providing support for

learners to set their own learning goals, manage their learning, both content and process and communicate with others in the process of learning.

Currently, there are a large number of Universities and other educational institutions that have started to implement Personal Learning Environments to different extents: some are just embedding APIs from social networks in their virtual environments, others are using these social networks as an external service and, other institutions are just implementing platforms whose function is to work as a full PLE, such as Elgg, Mahara or Netvibes. More examples about the possibility of plugin connectors for services can be found in Wilson&others paper.

Introducing a new model into an old box

The old box: Teachers, pedagogies and technologies

Introducing all these ideas of freedom, flexibility, openness, student control, etc. into the old container of the University culture, teaching practices, web 1.0 technologies and a huge diversity of students is not a one day task.

Firstly, many teachers are reluctant to change something for which they are comfortable with. Partly with reason, they believe that opening the learning process may lead to a lack of control of what is happening in the virtual classroom. Also, many of them are afraid that learning objectives may not be accomplished if students do not fit the contents, activities and learning resources provided by him or her. As stated by Martindale and Dowdy, current pedagogical practices are still teacher-centric, as the process of education is institution-centric (Martindale, Dowdy, 185)

Secondly, we have the pedagogies or teaching methodologies. In this sense, the UOC has a pedagogical model that guides the pedagogical strategy for all the subjects at the University. The philosophy of the model is very student oriented, meaning that the activity of the student is what configures the learning process. As a model, is very much in tune with most of the web 2.0 ideas, but in the real practice, the way subjects are deployed and the possibilities of the technologies we use are usually a bit far from the nature and objectives of the model.

Thirdly, technology does not always allow the flexibility, the integration and the high level of interoperability that a fully open VLE may demand. In a way, the technology developed and open sourced by UOC allows such integration and interoperability to a specific extent, but the continuous adaptations needed for the non-ending web 2.0. tools to be integrated are not instantaneous and in other cases the APIs are not easily adaptable. On the other hand, there are legal issues related to the use of external resources that are to be integrated in our internal spaces, plus opening our own spaces to the rest of the Internet (or simply other external communities) is also related to legal issues that are not completely clear at the moment. Some of these tensions about the control of VLEs by institutions are broadly described in Fournier&Kop paper in the bibliography

The UOC's student profile. It is not about technology, it is about users !

A model that integrates informal learning as direct material to work with requires a good understanding of how the student deals with information and knowledge in his life beyond the University, in a daily basis. If we want to provide students with the tools they usually use from their own computers, we need to know which tools or components they are using, how exactly they are using them, and also their perceptions on the use of these functionalities in learning.

The framework for the research study of our students will be based in the research work developed by Helene Fournier and Rita Kop, from the National Research Council of Canada (Fournier and Kop, 8). Their work is focused in the background of technology of the users, motivations, frustrations, the way they search and manage information and learning and the element involved in the creation of personalized learning environments. At the moment we are creating the survey based on the mentioned indicators that will be passed to students in a few weeks.

The study does not pretend to be a list of the most used tools or a list of the coolest functionalities or the most visited social networks by students. The objective is to identify trends, certain behaviors, the rationale behind students' elections and the dynamics in students collaboration, sharing, creation and edition of knowledge. It is not about the technology itself and its specific capabilities but about the user patterns in the use of these technologies.

To sum up, we aim to know the ecosystem of our student in terms of new technologies usage, habits, preferences, etc. in order to design educational environments that fit them.

The new trends: what our users show us

At this point of the paper, we need to be concrete and specific about what are exactly these innovations we want to introduce in our educational settings, at least in the first prototype of virtual classroom we are testing, and what are the social changes that justify our decisions. In this sense, we have identified four trends in education that justify a move in our educational models:

The value of informal learning in the Network Society and the intensive use of social networks: Learners have always depended on the support of their peers and peer networks to facilitate learning. In the physical world , these peer networks are experienced as lunchtime discussions, student organizations, communities of practice, brown bag sessions, and study groups. What was lacking until recently was a way to effectively approximate these informal learning opportunities (Martindale, Dowdy, 182).

The value of degrees in the present time: competences is the key term here. Learners are no longer necessarily locked in to a particular course in order to gain a qualification but are able to present their learning to prove they possess such competences (Atwell, Pontydysgu, 3).

Open content and Open Educational Resources (OER): There are a large number of new institutions offering courses and resources for free (most of them subjected to Creative Commons licenses). *Khan Academy*, *Code Year*, *Ted ED* among other claim to have millions of students in total, and prestigious institutions like Stanford, or the MIT have been offering free courses in the last years. More recently, MIT and Harvard have united efforts to create EdX, the new open learning environment for these two institutions.

The global to move from VLE to PLEs: One of the main decisions in this move is how to organize the coexistence between the VLE and the PLE. What is the model of coexistence between them? Parallel lives? PLE becoming the dominant design? A VLE that opens its services to external tools? To be realistic, we plan a medium to long transition from a model like ours where VLE is the dominant platform. Initially, the PLE is going to integrate APIs from external services, according to the research on the student profile. In subsequent stages the VLE would move to a more PLE based platform. A similar example on this decision is the based Netvibes project developed by the Technical University in Sofia, where Netvibes is used as external service linked to the main LMS. We want to remind the following paragraph by Trey Martindale and Michael Dowdy (Martindale, Dowdy, 188).

The 1+1=3 proposal

n this section we will describe the concrete proposal we are carrying out at the Universitat Oberta de Catalunya. We have called it '1+1=3' as a metaphor of the three spaces where learning activity happens, and note that we are not referring only to three virtual spaces but to three spheres or entities where knowledge lives and evolves: the student, the student classmate and the group itself.

The hidden third part

As mentioned, we consider three entities where learning '*happens*': first of all, we have the *student* (let's imagine a concrete student here). The student has learning as an objective, and in order to reach a particular learning objective he has to work in his or her learning process. Secondly, we have *other student, a classmate* (and let's imagine here another concrete student). Both number 1 and number 2 students can benefit from each other, especially if the methodology of learning fosters collaboration and the technology provides tools that make the learning process visible. In a practical way, we can say that PLEs foster these benefits by providing learners with the possibility to create their own personal learning spaces, accessing the learning spaces from their classmates, sharing information, editing new on and working collaboratively with the proper tools, etc. But, in a sense, we can guess there is a third entity in a course. And it is *the group* itself. Every time a particular student shares something with everybody, there is something beyond each specific student that is been feeding: the group. The group is an entity itself, it has its own nature and lifecycle. It's fed by every single student and at the same time can feed everyone, and this is more than a mere philosophical statement; it has practical implications and somehow has to be reflected in the design of a PLE. 1+1=3, exactly points out that there is always one of the three entities that does not receive the proper attention, but it exists: the group.

A practical integration in the model of the UOC

So, how would be our 1+1=3 materialized in a virtual space and implemented?

The response: by giving every student the possibility to create his or her own PLE, to access the PLE of his classmates and to have a concrete space to build the 'PLE of the group', which would be fed by everyone and would fed everybody.

Let's have a look at how a virtual classroom at UOC looks like:

Fig1. The virtual classroom at UOC

This is an example of the learning space that our students use for a specific subject. It is structured into four spaces: space for *communication*, space for subject *planning* and organization, space with learning *resources* and

a space for *evaluation*. Each space contains the tools that students need to work with the subject. At the present time, the communication tools allow interaction among the course participants, and the space for resources allows teachers to introduce contents from the Internet via links. Although this VLE offers a large number of tools and services to our students, in the end it is very static and teacher-centred, and the possibilities for students to feed the environment, share new knowledge and create new one are not facilitated by current learning tools. The creation of PLE aims to create these spaces. Our proposal is to work with a system of tabs, where each one of the three entities (1+1=3) is a tab that is conveniently integrated within the current UOC virtual classroom. The following image is just an example of the idea.
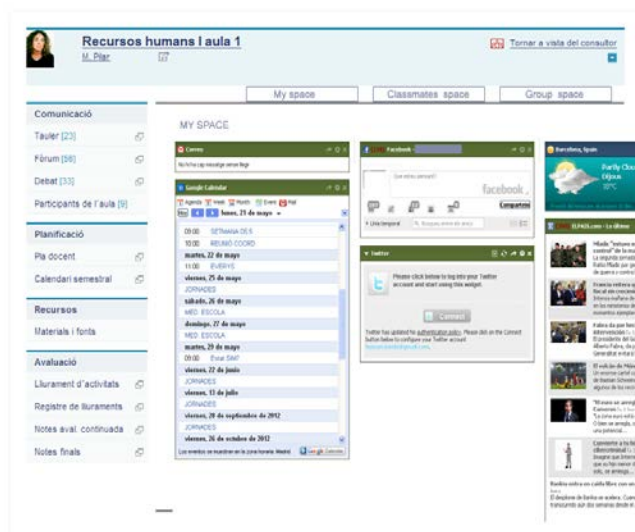
Fig 2.. An example of the idea

The image shows the three tabs: '*My space', 'classmates space' and 'group space'*. The image also shows exactly a student who is visiting the tab '*My space'*, where previously he has integrated a set of tools as widgets that are useful to build her own learning process and to share and show teachers and classmates. At UOC, this can be done thanks to the open source interoperable ecosystem developed. The access to the tab '*Classmates space'* would show a list of the classmates and would allow to access the PLE of each one of them. The access to the tab '*Group space'* would show a space where all the learners can put the resources and tools that, under their criteria, make sense for the whole group and allows working the subject from the group point of view. In the next section we will go in depth with the working aspects of the proposal.

The design according to the Activity Theory

What is Activity theory?

The Activity Theory (AT) is a tool that is used as a framework to explore educational innovations and innovative learning spaces, and as a conceptual framework to analyse and design computer-supported collaborative learning and the evaluation of learning technologies (Buchem, Attwell, Torres).

The reason for using this model is that organizes and facilitates the decision making about the main components of learning environments, as in our case, with PLE. The model considers 6 main elements:To sum up: the *subject* of the PLE, who is the learner, the *Object* as the need of learning (or maybe just interest), the *Tools* understood as learning resources, the *Community*, the *Rules and norms* to organize the activity of the Community and the *Division of Labour* as the roles and tasks in the system. For the design of our PLE we refer to each one of these six elements, which provide a structure and a guideline on the main decision we have to make.
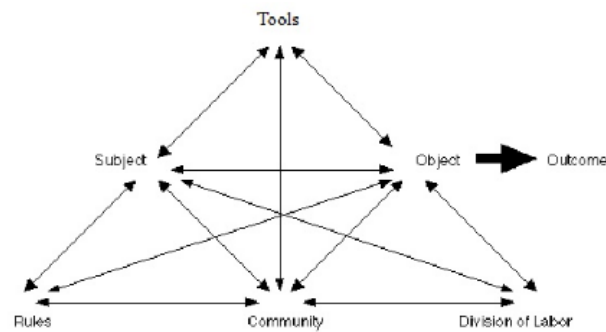
All he decisions made reflect the same tensions and key points most of the PLEs show. We have differentiated seven of them: teacher control vs. student control, the community dynamics, interaction and collaboration, the role of the PLE and the teacher role as a mentor or curator. Some examples of the decisions over our PLE are:

As for the *Subject*:

The learner can not decide about learning objectives, since these are part of the formal curriculum

The subject is free to decide its participation in the community / group

The subject can negotiate rules for communication, collaboration and interaction

As for the *Object*,

the PLE can be used for learning something new, producing something new, personal development of new skills, reflective practice (like eportfolios do)

the PLE can be worked from the point of view of learning how to engage in online social networks and improve the capabilities of students to be productive is such environments

As for the *Tools*,

Tools will be customizable to personal preferences, learning needs and look and feel

Tools will foster the development and sharing of Open Educational Resources, as well as mash-ups and mixing in general

As for the Community, is understood as

a way to provide resources and support for learning

a personal hub for networked connections

a way to learn through the interaction and exchange with the classmates

As for the *Rules*,

Rules are decided by the group of students

Learning resources and contents are distributed

Rules regulate the exchange between members

As for the *division of labour*, (this could be divided for each one of the 4 profiles)

Learners own what they create, and are responsible for that

Learners develop and manage their online identity at UOC

The tools

The exact list of tools that are being introduced in our virtual classroom will depend on the previous research study we make with students and the faculty teaching the subject, where we will identify their use of new technologies, patterns, behaviors and specific tools they use in a daily basis. However, taking as a starting point the data we currently have from our students, and also the type of tools we want to promote for our PLE (all of them mentioned in the previous section), we already have a list of potential type of tools (without specifying the specific providers):

Blogging
Microblogging
Social Networks
Social tagging
Collaborative work
Eportfolio
Image sharing
Video sharing
Presentations
Other communication tools
Cloud services – File sharing
Search engines
RSS Feeds
Photo & video edition

Evaluation

The study by Ivanova & Ivanova (Ivanova, Ivanova, 10) proposes an evaluation based on the functionalities provided by the PLE. Students are asked about the utility of all these functions regarding learning, like for example: '*Is the proposed functionality enough for organizing self-learning?* The list of functionalities presented by the study will complement our system of assessment, that also inquires about the relationship between the VLE and the PLE, the comparison between the satisfaction of the same virtual classroom before and now, the aspects related to emotion and engagement among others.

Conclusions and challenges

The paper has presented the new model of virtual classroom that UOC is testing in the next months. This new model is based on the idea of PLEs, and at the moment the University is making decisions about design. The use of the Activity Theory as tool for the creation of the PLE reflects the complexity and the tensions among the elements in the model. The next phase of the project will be to test it with real students from the UOC.

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DETERMINATION OF UNIVERSITY STUDENTS' SELF-EFFICACY AND ATTITUDES TOWARDS ANALYTIC GEOMETRY COURSE

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Abstract

The purpose of this study to investigate self-efficacy and attitude of the pre-service elementary mathematics teachers and university students enrolling in mathematics department toward Analytic Geometry with respect to gender, department. There are 336 participants. The self efficacy and attitude toward analytic geometry scale (SAAG-S) developed by Ilgun, Azak ve Takunyaci (2012) was used. In order to analyze data, t-test and ANOVA were conducted and Pearson Correlation Coefficient was found. Results of this study showed that while there is a significant difference between the self-efficacy and attitudes of the pre-service elementary mathematics teachers and university students enrolling in mathematics department toward Analytic Geometry, there is no significant difference between the self-efficacy and attitudes of females and males.

Keywords: Analytic geometry, Analytic thinking, , attitudes,self-efficacy

Introduction

Analytic Geometry which was posed by Rene Descartes in 1637 is one of the branches of the mathematics that concern with the application of algebra in terms of formulas, equations, and their algebraic manipulation. It requires using points, straight lines, and curves (Hogben, 1942).The reasons for existence of Analytic Geometry are that there are differences between Geometry and Analytic Geometry. To be more precise, Baykul (2002) stated that the scope of the geometry includes space, shapes in space, length, angle, area, volume, etc. while analytic geometry provides algebraic explanations and solutions to these problems related to geometry. Geometry does not give opportunity to measure the distances between points, lines and spaces. That's why, analytic geometry come into existence. Additionally, individuals uses information obtained in geometry and algebra course in analytic geometry. Therefore, it is expected that analytic geometry consists of higher order thinking skills.

A great number of researches have been conducted on beliefs, attitudes and perceptions toward mathematics and geometry. However, it is not the same case for analytic geometry. To be more precise, there is not adequate research about this issue. That's why, analytic geometry lesson is chosen as a lesson.

Erüs (2007) investigated whether the instruction based on critical thinking is effective on student achievement in Analytic Geometry lesson. The researcher conducted an experimental study consisting of 62 high school students as participants. The researcher used a scale consisting of 35 items about the chapter called as "Analytic Examining of Lines". It was found that there was a significant difference between the cognitive domain of the experimental and control group in terms of comprehension and application level.

Özerdem (2007) conducted a study to determine the misconceptions regarding analytic geometry. This study included 78 pre-service elementary mathematics teachers. The researchers used both qualitative and quantitative

data analysis tools such as 50 multiple choice questions, 103 open-ended questions, observations obtained in the classroom and student diaries, portfolios and attitudes toward analytic geometry scale. The researcher found that students have difficulties in some of the concepts in analytic geometry. According to Özerdem (2007), the reasons for existences of such difficulties are caused by students' daily life experiences, their prior knowledge, and the similarities between the topics of the Analytic Geometry. In addition, the researcher stated that there is a bias among students. Students think that analytic geometry requires memorization of formulas. At this point, it was indicated that students should learn the meaning of the formulas and the ways how they are derived instead of only memorizing them (Olkun, 2002).

Yemen (2009) investigated the effects of technology based instruction on the achievement of the 8th grade students and on the attitude of 8th grade students toward Analytic Geometry lesson. The researcher conducted pre-test, post-test control group design. "Analytic Geometry Achievement Test "used to obtain the achievement of the students on equation and inequality concepts and "Mathematics Attitude Scale" used to analyze the attitude of the participants toward mathematics. According to the result of this study, achievement of the participants increases by means of technology based instruction. On the other hand, technology based instruction has no effect on the attitude of the students toward mathematics.

The purpose of this study is to obtain attitudes of the undergraduate students who took this lesson towards analytic geometry with respect to the type of their department. In addition to this, another purpose is to see whether there is a difference between the attitudes of two groups of the participants.

There are several reasons for selecting 3th and 4th grade pre-service elementary mathematics teachers and undergraduate students enrolling in mathematics department as participants. First of all, the former ones are future teachers. Their knowledge will eventually affect the knowledge, attitude and perception of the students. Secondly, they took this lesson when they are 3th and 4th grade. Finally, the latter ones took this lesson deeply in their department.

Significance of this study

The result of this study will provide the views and attitudes of pre-service teachers toward Analytic Geometry. Furthermore, this study will provide teachers and teacher educators with insight about the topics that students have difficulty. Thus, by knowing these areas, the teacher educators can give more focus on them. Also, depending on these results, curriculum developers can have a point to improve the curriculum by means of this study. In other words, the lessons they took in the university and in high school can be shaped according to these results in order to meet the needs of them.

Method

In this past are given such information as the research method used in the research, the universe and sample of the research, the development and implementation of measuring tools, collection of data and analysis of the collected data.

Population and Sample

236 university students who are enrolling elementary mathematics education department and mathematics department were chosen as sample of this study. Random sampling method was used. Qualitative data were given in Table 1.

Table 1. Distribution of the Sample

	Gender		Level		
	Female	Male	2	3	4
Education Faculty (Ele. Math.Educ.)	36	80	3	65	48
Art-Science Faculty (Math.Depart.)	28	92	56	52	12
Total	64	172	59	117	60

Process

Data was collected from the university students. Demographic information were collected by the researchers by means of information form in spring term of the 2011-2012 academic year.

Findings and Results

Table 1. The independent sample t-test results about the sores of the participants obtained from the self efficacy and attitude toward analytic geometry scale regarding gender variable

Sub-factors	Variables	N	$\bar{X}$	sd	df	t	p
Attitude toward analytic geometry	Female	64	39.64	10.36	234	-.024	.981
	Male	172	39.67	9.25			
Self efficacy of analytic geometry	Female	64	19.27	4.69	234	1.50	.135
	Male	172	18.33	4.11			
Requirement for achievement	Female	64	23.69	4.23	234	-.965	.336
	Male	172	24.33	3.65			
Total Scores	Female	64	82.73	10.15	234	.617	.538
	Male	172	81.91	8.58			

The t-test scores of the participants which were obtained from the self efficacy and attitude toward analytic geometry scale itself and its sub-factors were given in Table 1 with respect to gender variable. It was found that there is no significant difference between the t test scores of the participants in terms of gender variable (p > .05).

Table 2 The independent sample t-test results about the sores of the participants obtained from the self efficacy and attitude toward analytic geometry scale regarding gender variable

Subscales	Variables	N	$\bar{X}$	sd	df	t	p
Attitude toward	Faculty of Art and Sciences	120	38.13	8.43	234	-2.53	.012**

analytic geometry	Faculty of Education	116	41.25	10.37			
Self efficacy of analytic geometry	Faculty of Art and Sciences	120	17.68	3.72	234	-3.33	.001*
	Faculty of Education	116	19.51	4.64			
Requirement for achievement	Faculty of Art and Sciences	120	24.04	3.59	234	-.159	.874
	Faculty of Education	116	24.12	4.04			
Total Scores	Faculty of Art and Sciences	120	79.64	7.90	234	-4.50	.000*
	Faculty of Education	116	84.72	9.40			

* p<.01,   **p<.05

The t-test scores of the participants which were obtained from the self efficacy and attitude toward analytic geometry scale itself and its sub-factors were given in Table 2 with respect to type of the department. It was found that there is a significant difference between the scores of "Attitude toward analytic geometry" and "Self efficacy of analytic geometry" of the participants in terms of the type of the department in the favour of the those who enrol the faculty of education ,namely pre-service elementary mathematics teachers [$t_{(234)}$= -2.53, p < .01, $t_{(234)}$= -3.33, p < .01,respectively]. It was found that while the mean score of the factor 1 of the participants enrolling Faculty of the Education is ($\overline{X} \pm$ sd; 41.25 $\pm$ 10.37), that of the participants enrolling faculty of Art and Sciences is (38.13 $\pm$ 8.43). This result showed that the mean scores of "Attitude toward analytic geometry" of the former one is higher than that of the latter ones.

It was found that while the mean score of the "Self efficacy of analytic geometry" of the participants enrolling Faculty of the Education is ($\overline{X} \pm$ sd; 19.51 $\pm$ 4.64)), that of the participants enrolling faculty of Art and Sciences is (17.68 $\pm$ 3.72). This result showed that the mean scores of "Self efficacy of analytic geometry" of the former one is higher than that of the latter ones.

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DEVELOPMENT OF PRESCHOOL CHILDREN FROM DISADVANTAGED FAMILY BACKGROUNDS IN SOUTH KOREA

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Abstract

This study aimed to investigate overall development of preschool children from disadvantaged family backgrounds in South Korea. 1,469 children aged 3 to 6 were involved (971 children from disadvantaged family backgrounds and 498 from ordinary family backgrounds). The result showed that children from disadvantaged family backgrounds scored significantly lower in cognitive, language, social, and motor development than those from ordinary family backgrounds. It also reported potential developmental delay pathways that delayed motor development of children from disadvantaged family backgrounds influenced their language development negatively, mediated by delayed cognitive development, and finally had a negative impact on social development indirectly.

Keywords: Development; Preschool Children; Disadvantaged Family Backgrounds

1. Introduction

Poverty rates have been increasing since the Asian financial crisis in the late 1990s and 1 out of 10 children belongs to low-income families in South Korea (Kim, Cho, Bae, Choi, Hong, & Kim, 2007). The high rates of economic deprivation have triggered numerous family problems such as low-quality parenting, child abuse, violence, and divorce (Lee, 2009; Lee & Kim, 2007). Additionally, these circumstances also promoted an increase in the number of families in multi-culture, single parent, grand-parents and alternative homes (Kim, Lee, Moon, & Kwon, 2007; Koo, 2009).

There is evidence that home environment deprivation caused by family economic hardship in early childhood seems to have a far more negative effect on developmental outcomes than in any other stages of life. The U.S. National Center for Children in Poverty (NCCP, 2003) reported that young children in low-income families are the most vulnerable group in society and they are at increased risk of developmental delays. Similarly, Lee, Lee, and Chung (2003) explained that preschool children from disadvantaged family backgrounds show a higher prevalence of developmental delays than those in ordinary family backgrounds. Furthermore, other relevant research has demonstrated that young children from disadvantaged family backgrounds have a higher risk of developmental problems across cognitive, language, social and motor domains and then these appear to be significantly associated with low academic performance, behavior problems, school dropouts and juvenile delinquency (Brooks-Gunn & Duncan, 1997; Brooks-Gunn, Klebanov, & Liaw, 1995; Duncan & Brooks-Gunn, 2000).

More specifically, cumulative risk factors from disadvantaged family backgrounds are identified such as poor health conditions, inadequate parenting, unbalanced diet, which can influence significantly the central nervous system of children during early childhood (Cravioto, DeLicardie, & Birch, 1966; Freeman, Klein, Townsend, & Lechtig, 1980; Gutman & Nemeroff, 2003). This problem can cause delays in early physical growth in terms of both fine and gross motor development and then, more seriously, can be associated with delays in language and

cognitive development (Chung, 2003; Georgopoulos, 2000; Pulvermüller, Hauk, Nikulin, & Ilmoniemi, 2005). Furthermore, these negative outcomes in their growth have both direct and indirect impacts on social development negatively such as behavioral and emotional problems (Beitchman, Wilson, Brownlie, Walters, Inglis, & Lancee, 1996, Koo, 2009; Rodrigues, Mischel, & Shoda, 1989).

Although the critical impact of disadvantaged environment on early childhood development has been proved, there is a lack of social and political awareness regarding this issue in South Korea. Moreover, there have been few studies on the relationship between environmental risks and children's developmental outcomes as well as on potential delayed-onset pathways among developmental domains for preschool children in disadvantaged family backgrounds. Therefore, in this study, we attempted to examine cognitive, language, social, and motor development of preschool children from disadvantaged family backgrounds, compared with that of those from ordinary family backgrounds. In addition, we sought to investigate potential developmental delay pathways in order to find out the mechanisms and processes related to developmental areas affected by environmental deprivation during the preschool period.

2. Methods

2.1. Participants

First, 1,521 children aged 3 to 6 were recruited in North Jeolla province. However, 52 children refused to participate in all the development tests completely. Hence, 1,469 children (971 children from disadvantaged family backgrounds and 498 children from ordinary family backgrounds) were finally included. The target group was 971 children (boys, n=489, 50.4%; girls, n=482, 49.6%) from disadvantaged family backgrounds. Their family types were as follows: low-income with multicultural home (n=78, 8.0%), single parent home (n=265, 27.3%), grandparents' home (n=55, 5.7%), alternative home (n=32, 3.3%), and parents home (n=541, 55.7%). For the comparative group, 498 children (boys, n=256, 51.4%; girls, n=242, 48.6%) were from ordinary family backgrounds.

2.2. Measurements

To measure cognitive, language, social, and motor development of participants, four standardized measurements were used as below. Trained examiners (inter-scorer reliability ranging from .94 to .99) conducted cognitive, language, and motor development tests with individual children in kindergartens or child care centers. And social development tests were given to participants' teachers to evaluate the children based on observation in daily life. The average test time for individual children was about one and a half hours. Short breaks were provided between tests if necessary.

2.2.1. Cognitive development test

To assess cognitive development, the Korean Version of the Developmental Test of Visual Perception – 2nd edition (K-DTVP-2) (Moon, Yeo, & Cho, 1993) was used, because early visual perception is highly related with cognition (Pylyshyn, 1999). This instrument can be conducted with children from 4 to 8 years and measure two domains: motor-reduced visual perception (MRP, visual processing with minimal motor skill) and visual-motor integration (VMI, coordination of vision with motor skill). The Cronbach's alpha is .83-.95.

2.2.2. Language development test

To evaluate the language development, the Preschool Receptive-Expressive Language Scale (PRES) (Kim, Seong, & Lee, 2003) was administered. PRES was developed and standardized for children from 2 to 6 years in South Korea. This tool is comprised of two categories: receptive and expressive language. The Cronbach's alpha is .95 and test-retest reliability is .78 to .91.

2.2.3. Social development test

To measure social development, the Korean version of Vineland Social Maturity Scale (Kim & Kim, 1995) was given to the participants' teachers. The Vineland Scale is used from birth to 30 years of age and raw scores are changed to a social quotient (SQ). Its Cronbach's alpha is .80.

2.2.4. Motor development test

To measure motor development, the Korean version of Denver Developmental Screening Test II (Shin, Han, Oh, Oh, & Ha, 2002) was used, especially with items of fine and gross motor domains. This test kit can be used during the first six years and consists of four parts (personal-social, language, fine motor-adaptive, and gross motor). Its Cronbach's alpha is .99 and test-retest reliability is .90.

2.3. Data analysis

Collected data were analyzed: First, an independent samples t-test was conducted to examine the difference of total and subscale scores of overall development tests between children from disadvantaged family backgrounds and those from ordinary family backgrounds. Second, structural equation modeling was administered to investigate causal relationships among developmental domains of children from disadvantaged family backgrounds.

3. Results

3.1. Comparison of overall development between the two groups

To investigate the significant difference of overall development between children from disadvantaged family backgrounds and those from ordinary family backgrounds, an independent samples t-test was conducted in cognitive, language, social, and motor development and results are presented in Table 1.

For cognitive development, children from disadvantaged family backgrounds scored significantly lower than those from ordinary family backgrounds on motor-reduced visual perception (t=-9.14, p<.001; M=103.27, SD=16.16 < M=111.86, SD=13.99) and visual-motor integration (t=-9.76, p<.001; M=106.87, SD=21.16 < M=118.43, SD=17.20). Relevant to language development, children from disadvantaged family backgrounds presented significantly lower scores than those from ordinary family backgrounds on receptive language (t=-7.26, p<.001; M=39.28, SD=13.47 < M=44.51, SD=12.26) and expressive language (t=-8.37, p<.001; M=39.29, SD=13.48 < M=44.97, SD=11.66).

Next, in terms of social development, children from disadvantaged family backgrounds (M=104.63, SD=24.37) showed significantly lower outcomes than those from ordinary family backgrounds (M=124.27, SD=20.61) on social quotient (t=-16.22, p<.001). Last, regarding motor development, children from disadvantaged family backgrounds performed significantly lower than those in ordinary family backgrounds on fine motor (t=-2.60, p<.001; M=2.92, SD=.14 < M=2.94, SD=.12) and gross motor skills (t=-3.08, p<.001; M=2.93, SD=.10 < M=2.94, SD=.08).

Table 1. Comparison of overall development between the two groups

	Children from disadvantaged family backgrounds (n=971)	Children from ordinary family backgrounds (n=498)	t
	M(SD)	M(SD)	

Cognitive[a]			
Motor-reduced visual perception (MRP)	103.27(16.16)	111.86(13.99)	-9.14***
Visual-motor integration (VMI)	106.87(21.16)	118.43(17.20)	-9.76***
Language			
Receptive language	39.28(13.47)	44.51(12.26)	-7.26***
Expressive language	39.29(13.48)	44.97(11.66)	-8.37***
Social			
SQ	104.63(24.37)	124.27(20.61)	-16.22***
Motor			
Fine motor	2.92(.14)	2.94(.12)	-2.60***
Gross motor	2.93(.10)	2.94(.08)	-3.08***

***$p < .001$

a For cognitive developmental test, participants were preschool children from disadvantaged family backgrounds (n=734) and those from ordinary family backgrounds (n=374) due to age-relevant ranges.

3.2. Potential developmental delay pathways of children from disadvantaged family backgrounds

To examine the potential developmental delay pathways of young children from disadvantaged family backgrounds, structural equation modeling was analyzed with model fitness. For this analysis, data of 734 children aged 4 to 6 from disadvantaged family backgrounds were included, because three year olds were not given cognitive tests due to age limitation. Model fit indexes showed a goodness-of-fit: the Tucker Lewis index (TLI) =.94 and the comparative fix index (CFI) = .97, which were also used as indicators in Guo and Harris'(2000) study.

As shown in Table 2, standardized β coefficients of the structural equation modeling were calculated in relation to direct, indirect, and total effects between independent and dependent variables across developmental domains. For children from disadvantaged family backgrounds, motor development impacted cognitive development directly (standardized β=.53; <.01) and had both direct and indirect effects on language development (standardized β =.68; p<.001), mediated by cognitive development.

Table 2. Standardized β coefficients of structural equation modelling among developmental domains

Independent Variable	Dependent variable	Direct effect	Indirect effect	Total effect

Motor	Cognitive	.53***		.53**
Motor		.47***	.21***	.68***
	Language			
Cognitive		.40***		.40***
Motor			.36***	.36***
Cognitive	Social	.26**	.13**	.39**
Language		.33***		.33***

**p < .01, ****p* < .001

Moreover, cognitive development affected language development directly (standardized β=.40; *p* <.001) and had both direct and indirect impact on social development (standardized β=.39; *p* <.01). Last, language development influenced social development directly (standardized β=.33; *p* <.001) and motor development had an indirect effect on social development (standardized β=.36; *p* <.001).

Finally, the structural equation modeling (see Fig. 1) showed that delayed motor development affected language development negatively, mediated by the delay in cognitive development, and finally had a negative impact on social development for children from disadvantaged family backgrounds.
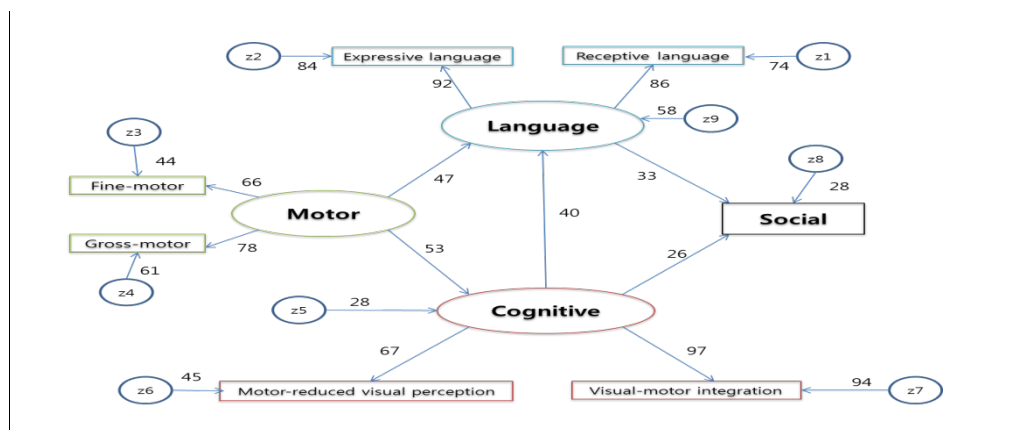
Fig.1. Structural equation modelling for developmental domains of children from disadvantaged family backgrounds

4. Discussion and Conclusion

Although the negative effects of disadvantaged environment during early childhood have been widely known, there is little recognition of the overall status or pathways among developmental domains for preschoolers from disadvantaged family backgrounds in South Korea. In this study, we attempted to investigate effects of exposure to environmental inequities on early childhood development: first by comparing the overall development of preschool children from disadvantaged family backgrounds with their counterparts from ordinary family backgrounds; and then by analyzing structural equation modeling to examine potential pathways among delays in cognitive, language, social and motor development for children from disadvantaged family backgrounds.

Results showed that preschool children from disadvantaged family backgrounds scored significantly lower than their counterparts from ordinary family backgrounds on cognitive, language, social and motor development. It provided evidence that vulnerability to environmental hardship can cause severe developmental delays in all

areas for young children. Moreover, this finding supported the results of NCCP (2003) and Lee et al. (2003) that children from environmental deprivation are the most vulnerable group in society and they are at high risk of developmental delays.

Especially for children from disadvantaged family backgrounds, structural equation modeling indicated that delayed motor development influenced language development negatively, mediated by the delay in cognitive development, and finally exerted a negative impact on social development. This confirmed that a developmental delay in a particular area is not an isolated problem. Instead, it showed the relationships among specific domains of developmental delays for young children from disadvantaged family backgrounds. It also demonstrated that early motor development is an important factor for cognitive and language development, which adds support to the findings of Georgopoulos (2000) and Pulvermuller et al. (2005) that poor motor performance is closely related with delays in language and cognitive development. Moreover, these problems were reported to ultimately cause social behavioral problems. This finding is consistent with Koo's (2009) and Beitchman et al.'s (1996) explanations that developmental delays in language, cognition and motor development are increasingly associated with behavioral and social developmental outcomes.

In summary, the results of this study identified significant links between specific domains of developmental delays, which might explain how environmental deprivation negatively influences the shaping of children's abilities. This finding also highlighted the importance of intervention intended to alleviate the negative impact of environmental inequities and risk factors on young children. Based on the potential pathways of developmental delays for young children from disadvantaged family backgrounds, we may find some effective ways to prevent their atypical problems and further enhance optimal outcomes in their development.

5. Reference

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DEVELOPMENT OF SELF EFFICACY AND ATTITUDE TOWARD ANALYTIC GEOMETRY SCALE (SAAG-S)

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Abstract

The aim of this research is to develop the Analytic Geometry Perception and Attitudes Scale and to examine its validity and reliability analyses. The sample of study consists of 236 university students from Sakarya University. In this study construct and concurrent validities, internal consistency, test-retest reliabilities and item analysis of the scale were examined. As a result of factor analysis for construct validity three factors have emerged which named "attitude toward analytic geometry", "self efficacy of analytic geometry" and "requirement for achievement", consist of 26 items and account for the 44.4 % of the total variance. The internal consistency reliability coefficients were .79 for attitude toward analytic geometry, .81 for self efficacy of analytic geometry and .77 for requirement for achievement. Findings also demonstrated that item-total correlations ranged from .35 to .75. Test-retest reliability coefficient was found .85 for scale. According to these findings the Analytic Geometry Perception and Attitudes Scale can be named as a valid and reliable instrument that could be used in the field of education.

Keywords: Analytic geometry, algı, analytic thinking

Introduction

There have been few studies which address Analytic Geometry lesson in different perspectives. For example, Erus (2007) investigated whether the instruction based on critical thinking is effective on student achievement in Analytic Geometry lesson. The researcher used a scale consisting of 35 items about the chapter called as "Analytic Examining of Lines". The scale was developed by the searcher. According to the results of this study, it was found that there was a significant difference between the cognitive domain of the experimental and control group in terms of comprehension and application level in analytic geometry lesson. However, it is not related to all concepts of Analytic geometry. It does not give general picture of students' attitudes toward Analytic geometry or self efficacy of them.

Yemen (2009) investigated the effects of technology based instruction on the achievement of the 8th grade students and on the attitude of 8th grade students toward Analytic Geometry lesson. The researcher used "Analytic Geometry Achievement Test" and "Attitudes Toward Analytic Geometry Scale". The former one was developed by the researcher. It was related to the concept of inequality. The latter one was developed by Baykul (2000). These instruments do not sufficient to give an opinion about students' self efficacy, attitudes or perceptions. Therefore, an alternative instrument measuring these variables with improved validity is necessary.

Ozerdem (2007) conducted a study to determine the misconceptions regarding analytic geometry. The researcher developed the scale at the light of the aims of the Analytic Geometry I and Analytic Geometry II. There are 14 positive items and 16 negative items in this scale.. After developing the scale, the researcher gave this scale in the beginning of the term and at the end of the term to investigate whether there is a significant difference between the attitudes of pre-service secondary mathematics teachers. The researcher conducted t test analysis and found the p-value as p= .00. That is, according to the results of this study, there is a significant difference between the pre-service secondary mathematics teachers' attitudes obtained in the beginning of the instruction and at the end of the instruction. The comprehensive scale about perceptions, self efficacy and

attitudes toward analytic geometry is needed since this scale includes only the objectives of the Analytic Geometry I.

In conclusion, achievement of the individuals may depend on the perceptions, self efficacy and attitudes toward the lessons they took. Analytic geometry is one of these lessons. Also, the individuals' knowledge obtained in the previous course may affect their attitudes (Ozerdem, 2007). Thus, the purpose of this study is to develop a scale about analytic geometry which reflects university students' perceptions, self-efficacy and attitudes toward analytic geometry.

Method

Descriptive survey method was conducted. Büyüköztürk (2007) stated that the researches which use this method are conducted to get idea of the people about specific topic, attitude of the individuals. Also, it was conducted to represent the events, institutes or objects. In addition, it is used when it is required to reach most people in a short time. The purpose of this study is to develop the scale which can be used to measure perception, self efficacy and attitudes of the university students who take Analytic Geometry.

Population and Sample

236 university students who are enrolling elementary mathematics education department and mathematics department were chosen as sample of this study. Random sampling method was used. Qualitative data were given in Table 1.

Table 1. Distribution of the Sample

	Gender		Level		
	Female	Male	2	3	4
Education Faculty (Ele. Math.Educ.)	36	80	3	65	48
Art-Science Faculty (Math.Depart.)	28	92	56	52	12
Total	64	172	59	117	60

Process

Data was collected from the university students. Demographic information were collected by the researchers by means of information form in spring term of the 2011-2012 academic year.

Before preparation phase of this scale, comprehensive literature research was done. After this, it was tried to establish theoretical structure of this scale. The written forms which were given the university students enrolling in elementary mathematics education and mathematics department were analyzed to get the ideas of them about Analytic Geometry. Then, the opinions of the students about perception and attitudes toward this lesson were converted to the items which can be suitable to this scale. In order to make this scale be comprehensive, it was noticed that there are sufficient items. Thus, 46 items were included in the first form of this scale.

These 46 items were controlled in terms of understandability, suitability by 3 Mathematics educators, 1 Turkish educator who are experts. Five-likert scale was used ("1" strongly disagree, "2" disagree, "3" neutral, "4" agree and "5" as strongly agree). Reliability and validity analysis were conducted.

Exploratory factor analysis and confirmatory factor analysis were conducted to determine structure validity of the scale. Exploratory factor analysis (EFA) is conducted to determine whether the scale is divided into different factors. The items which are loaded in the same factor are given the name. Also, factor analysis is conducted to determine whether the scale has one factor loading (Balcı, 1995). If the factor loading has the high value, the variable can belong to this factor. It can be sufficient if the percentage of the variance is higher than 30% (Büyüköztürk, 2007). Confirmatory factor analysis (CFA) is conducted to determine to what degree the factors which were formed based on theoretical frame are suitable to the real values.

Several conformity indexes used to determine the efficiency of the model which were tested in CFA (Büyüköztürk, 2007). Chi-Square Goodness, Comparative Fit Index(CFI), Normed Fit Index (NFI), Relative Fit Index (RFI), Incremental Fit Index (IFI), Root Mean Square Residuals (RMR), Root Mean Square Error of Approximation (RMSEA) conformity indexes were used. The criteria GFI, CFI, NFI, RFI and IFI >.90, RMSEA and RMR < .05 were used (Hu & Bentler, 1999). SPSS 13 and LISREL 8.7 programs were used for reliability and validity.

Findings and Interpretation

Structure Validity

In order to understand whether the items in the scale are suitable for factor analysis, Kaiser Mayer Olkin = .80 and Barlett's Tests of Sphericity (Ki Square= 4033,3 p<.001) were conducted. According to these tests, the items are appropriate for factor analysis.

Principal component analysis was conducted for factor analysis of the scale. Several criteria were noticed to diminish the items which do not measure the same structure. Firstly, the factor loadings should be .45 or higher than this value. Secondly, items should have one factor with high factor loading. Thirdly, if they have two factors with high factor loading, the difference should be at least .10. Lastly, the value of the variance which are determined by these items should be high (Büyüköztürk, 2007).

The number of maximum factor was analyzed for 46 items. It was determined that the items were loaded in 13 factor. However, the results of the principal component method analysis and oblique rotated factor analysis were restricted to obtain 3-factor structure. The reason for using such rotation, there is a relationship among these three factors (Tabachnick & Fidell, 1996). At the end of these processes, 20 items which have under the value of .45 as a factor loading were deleted. Also, 3-factor structure which explains 44,4% of the total variance was originated .According to the results of these analysis, the factor loadings of these 26 items were given in Table 2.

Table 2. The Factor Loading of Self Efficacy and Attitude Toward Analytic Geometry Scale (Rotated Principal Component Analysis)

Item Number	Common Factor Variance	Factor Loadings		
		1	2	3
Item 12	.552	.691		
Item 13	.561	.685		
Item 19	.475	.674		
Item 17	.542	.658		
Item 20	.436	.638		
Item 16	.498	.629		
Item 22	.384	.597		
Item 15	.501	.580		
Item 4	.326	.575		
Item 21	.356	.534		
Item 46	.342	.532		
Item 7	.296	.485		
Item 11	.264	.474		
Item 14	.255	.468		
Item 36	.526		.694	

Item 37	.443	.616	
Item 45	.427	.604	
Item 34	.419	.595	
Item 28	.462	.528	
Item 26	.285	.469	
Item 43	.652		.736
Item 42	.611		.720
Item 41	.637		.696
Item 44	.564		.695
Item 32	.228		.532
Item 40	.455		.530
Level of explanation of Eigen Value Variance			
	% 24.71	% 8.58	% 11.13

Self Efficacy and Attitude Toward Analytic Geometry Scale has three factors. The first factor "attitude toward analytic geometry", the second factor "self efficacy of analytic geometry" and the third factor "requirement for achievement" explain 24.71%, 8.58%, and 11.13% of the total variance, respectively. According to the results of the principal component analysis, the three factors which have value 1 as an eigenvalue explain 44.4% of the total variance (Table 1).According to test development studies in behavioral science, it is accepted that the ratio of variance is higher than 30% (Büyüköztürk, 2007).

It was found that the correlation value is changing from -.34 to .21 among the subdimensions of Analytic Geometry Scale. (Table 3).

Table 3. Mean and Standard Deviations of Sub-factors of Self Efficacy and Attitude Toward Analytic Geometry Scale and Correlation among Factors

Factor Number			Correlation		
	X	Ss	F1	F2	F3
F1	39.67	9.546	-	-.344**	-.234**
F2	18.58	4.290	-.344**	-	.453**
F3	24.08	3.816	-.234**	.453**	-
Total	82.13	9.021	.708**	.304**	.278**

It was found that Ki-square value is (x^2=567.00, sd=290, p=0.00).Also, the value of fit indexes are RMSEA=.064, NFI=.91, CFI=.93 IFI=.96, RFI=.94, GFI=.87, AGFI=.93 and SRMR=.068.These values showed that the model is consistent. Factor loadings about model were given Figure 1.

Figure1. Path Diagram and Factor Loading about Scale of Self Efficacy and Attitude toward Analytic Geometry
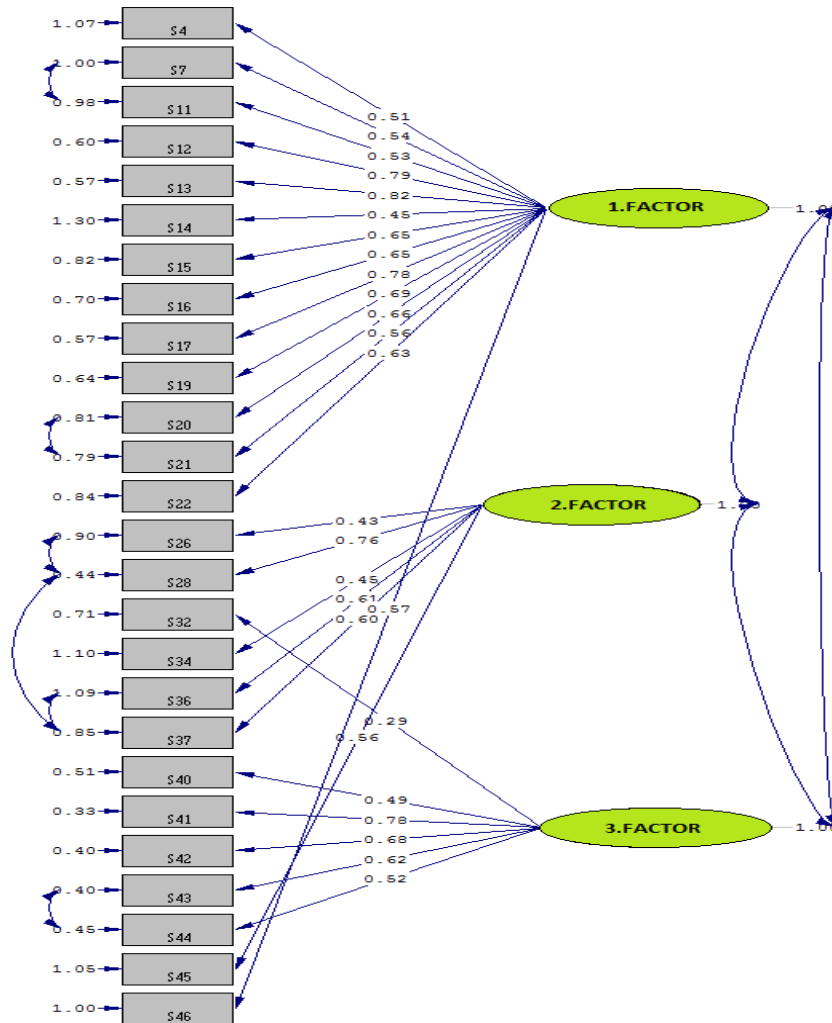
Investigating for Reliability of the Scale

Item Analysis

It was noticed to 27%-lower and upper group comparison and item total correlation value for discrimination of items of Scale of Self Efficacy and Attitude toward Analytic Geometry. Item-total correlation value explains the relation between the scores obtained in items and the total scores (Büyüköztürk, 2007).In other words, it shows that the items in the scale represent the similar things. Thus, positive and high item-total correlation value is expected (Fraenkel & Wallen, 2000).

Revised item-total correlation value was ranged from .35 to .75. Also, t value (sd=128) about the difference between the values of 27%-lower and upper group is ranged from -46.361 (p<.001) to -13.715 (p<.001).The findings were given Table 4.

Table 4. Corrected Item-Total Correlation Value of Scale Self Efficacy and Attitude Toward Analytic Geometry Scale and Unrelated T-Test Results between Lower 27% Group and Upper 27% Group Values.

FACTOR NAME	Item Number	Corrected Item Total Correlation	t (upper%27-lower%27)
	Item4	.541	-32.203
	Item7	.626	-28.212
	Item11	.724	-13.715
	Item12	.442	-25.034
	Item13	.419	-34.849
1. Factor attitude toward analytic geometry	Item14	.350	-45.074
	Item15	.429	-26.789
	Item16	.425	-18.601
	Item17	.467	-35.322
	Item19	.428	-15.934
	Item20	.584	-21.623
	Item21	.513	-29.231
	Item22	.625	-33.573

	Item46	.472	-24.829
2. Factor self efficacy of analytic geometry	Item26	.532	-46.361
	Item28	.487	-37.111
	Item34	.625	-31.523
	Item36	.492	-36.759
	Item37	.620	-28.314
	Item45	.516	-20.281
3. Factor requirement for achievement	Item32	.644	-41.961
	Item40	.750	-33.731
	Item41	.539	-27.953
	Item42	.475	-19.751
	Item43	.451	-22.453
	Item44	.678	-27.163

Findings about Reliability

The Cronbach alpha value is .80. It was found that internal consistency value for factor "attitude toward analytic geometry" is .79, for factor "self efficacy of analytic geometry" .81 and for factor "requirement for achievement" .77 (Table 5).

Table 5. Cronbach Alpha Coefficients of Self Efficacy and Attitude Toward Analytic Geometry Scale

Factors	r
Factor 1	.79
Factor 2	.81
Factor 3	.77
Total	.80

According to the results of split half analysis, the Spearman Brown coefficient is .78 (Table 6).

Table 6.Split Half Reliability Analysis Results of Self Efficacy and Attitude Toward Analytic Geometry Scale

Split Half Correlation	.74
Equal Split Half Spearman Brown Reliability Coefficient	.86
First Half Cronbach Alfa	.86
Second Half Cronbach Alfa	.71
Guttman Split-Half Reliability Coefficient	.79

After the first administration of the scale, it was administered to 75 university students to determine test-retest reliability coefficient value. Then, it was found that the correlation value between these two administrations is .85.

Answering and Scoring of Self Efficacy and Attitude Toward Analytic Geometry Scale

In the Analytic Geometry Scale which was developed to measure perception and attitude of the students to Analytic Geometry, 5-likert scale was used. That is, "1" is referred as "strongly disagree", "2" is referred as "disagree", "3" is referred as "neutral", "4" is referred as "agree" and "5" is referred as "strongly agree". There are 26 items in this scale. The lowest score can be 26 point; on the other hand, 130 point can be as a highest score. The lowest score can be 14 and the highest score can be 70 for the subfactor "attitude toward analytic geometry", the lowest score 6 and the highest score 30 can be for the factors "self efficacy of analytic geometry." and "requirement of achievement."

While evaluating the scale scores of the students, the scores obtained from sub-factors are divided by the possible score and then this ratio is converted to the percentage. After that, these percentages are ranged from the highest to lowest to determine which area is more dominant.

Discussion

The purpose of this study is to develop the scale which can be used to measure perception, self efficacy and attitudes of the university students who take Analytic Geometry by establishing reliability and validity of the this scale . The sample of this study is sufficient enough. According to the result of this study, it was proved that Self Efficacy and Attitude Toward Analytic Geometry Scale had sufficient reliability and validity value. Conformity and exploratory factor analysis were conducted to determine factor structure of the scale. It was found that this scale has three factor loadings. "attitude toward analytic geometry."," self efficacy of analytic geometry.", and "requirement of achievement" were given as name of these factors. These items have high factor loading in their factor but low factor value in the other factors. That shows the independence of these factors which is very important.

It was seen that item-total correlation value is ranged from .35 to .75. T-test results which were conducted among 27%-lower and upper group showed that there is significant difference among all items and subscale.

It was found that internal consistency value for factor "attitude toward analytic geometry" is .79, for factor "self efficacy of analytic geometry" .81 and for factor "requirement of achievement"   .77.This proves that internal consistency value of the scale is high. Depending on the results of test-retest reliability analysis, the correlation value is .85 between two administrations. That is, the scale measures the same structure.

All findings showed that this scale is valid to determine the self efficacy and attitudes of the students toward Analytic Geometry. If this scale is used for other studies, it will contribute the power of its assessment. However, there is a limitation. To be more precise, this study is restricted to Sakarya University. Thus, it will be necessary to establish reliability and validity for other students in different school, university, etc.

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DIALOG AND MEDIATION EDUCATION IN INTERCULTURAL COMMUNICATION

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Abstract

Recent developments in international relations, new perception types in public, international politics and social motion and emphasis on peace culture have made intercultural communication and dialogue concepts key role players. Giving a meaning to intercultural differences within the frame of tolerance and creating a dialogue atmosphere, at the same time requires a social education. The education about this topic to be given both in primary and secondary education institudes or media and universities and social responsibility campaigns will provide new perspecives particularly in the resolvation of the problems arousing due to intercultural differences. Mediation education is based on focusing the communication skills on resolving problems and involves negotioation and conflict resolution education as well. Educating the students as potantial future negotiators starting in primary school will both contribute to the concept of social communication significantly and help build the culture of concensus and living together peacefully concept in social, personal and cultural communications. In this notice titled "Dialogue and Mediation Education in Intercultural Communication" , new education modellings and communication strategies about this topic will be constructed and an intercultural education perspective will be presented.

Keywords: intercultural communication, mediation education, international dialogue management

Introduction

Mediation and dialogue education is one of the building blocks of the social education. In this regard, campaigns that are run through communication and public relations are essential and play a determining and facilitating role. An intercultural dialogue project and education model should be set up in universities, non-governmental organizations and elementary schools. One of the most strategical steps of a dialogue mechanism based on intercultural education; is training and raising international mediators, and building an international mediation mechanism within the intercultural education system. Raising professional mediators for the future is also one of the most important contributions to communal peace. There is a great need for communication pioneers who will conduct the intercultural dialogue and peace project, and help the peace culture to dominate social platforms from elementary school level up until university level. It is a very important mechanism en route to intercultural dialogue, to finding the dialogue and mediation pioneers who are called mediators in literature, at early ages, and involve them in a forward-looking education process

Intercultural consensus strategies in the mediation education

One of the starting points of the mediation training is to form a consensus from differences and create an "Intercultural Consensus Model". It is necessary to create common communicational codes to form a consensus among different cultures and improve the dialogue mechanism, and to develop creative strategies upon these codes in mediation training. ."Rather then supply clear responses to the question of how mediators should balance sovereignty with the demands of justice, the codes merely gesture toward permissive or disapproving attitudes without actually authorizing or restricting. Like traffic signs in a foreign language, the fine print can be indecipherable, but the red or green background gives hints of whether to speed or slow"(Love, Haley,2011,p.114). First task of the intercultural consensus model is to focus on the common griefs of each society.During the mediation training communications code that will be a symbol of respect to each culture's

griefs must be created. The 15 most deterministic features of these communication codes can be summarized as follows;

Universal values of humanity should be used to express these griefs. It should be emphasized that the grief that culture bears, is the mutual grief of humanity.

To express the grief of a culture, most powerful symbols should be picked to emphasize on the sensibility of the situation.

In order to stop these social griefs from happening again, common steps and values that world citizens should possess should be emphasized.

Mutual griefs should be accepted as mental symbols for a shared future.

Cultures should run mutual communication campaigns in order to express their respects to mutual griefs.

Griefs shouldn't be compared and casualties of these griefs should be embraced by different cultures and should be symbolized as mutual losses.

To express these griefs, suitable communication channels should be created and emotions should be expressed in appropriate communication platforms.

Victims of these griefs should be contacted and an intercultural solidarity should be provided.

Instead of using accusatory symbols for these griefs, a teaching communication language should be used to stop the same mistakes from happening.

Grief of a culture, should be accepted as a shame of humanity by other cultures too.

Instead of looking for someone to blame, the process that caused the pain should be analyzed and by learning from that process, a future oriented frame should be created.

In order to reminisce the grief of a culture and to meet at a mutual emotion, momorial days should be organized and respects should be paid.

Names identified with that grief, deceased or alive, should be reminisced and other cultures should pay their respects to these names through different communication methods.

In order to pay respect to common griefs, civil platforms should be structured and these platforms should overtake mission of confrontation, rather than accusations.

With other nations' and people's sincere support and reactions , an intercultural consensus should be maintained.

For mediation training programs run by universities, including the griefs of world nations in the training process will make the mediation process more effective. Emphaty is essential for nations to solve their political disagreements and conflicts."When stories change, the perception of reality changes. Understanding life, relationships, and the human experience is a process, a continuum. In mediation, the parties redefine their stories about the conflict and create a new story that is mutually satisfying"(Weinstein,2001,p.26).Themes such as "Sharing each other's griefs" and "Owning other's grief for a while" are essential for solving disagreements, therefore they should be included in the mediation trainings in universities.

In the scope of this education model, adding a class called "Cultural Griefs and Sharings in the World" to the curriculums of elementary schools, high-schools and universities is a very important step for raising qualified mediators. It is also very important to create a curriculum for this class. Griefs and pains of different cultures should be taught starting from the elementary level until the university. The scope of this class should include; the disasters that these countries have experienced through their histories and effects of these disasters to the

history of the mankind. The struggles that countries went through in the process of democracy and their losses during this period should also be one of the main themes of this class. The struggles that countries went through in the process of democracy and this process' characteristics as a democratic movement is a required information for mediation mechanism.

Because the mediation mechanism and training involves democracy training as well. Therefore, the struggles on the way to the democracy and pains that countries beared should be one of the main topics of "Cultural Griefs and Sharings in the World" class. Turkey, Greece and Portugal's struggles for democracy is a very good example of this in the recent history. These main objectives can be summarized as "The enhancement of conflict resolution skills, prosocial skills orientation, political efficacy, value-oriented attitudes, tolerance toward diversity- multiculturalism, coexistence; cooperation, respect for the other; sense of equality, reconciliation-forgiveness-empathy, enrichment of information about the other, democratic beliefs, good interpersonal relations: The reduction of: aggression,   violence, deliquency, prejudice, stereotype, ethnocentrism" (Nevo,Brem,2002,p.272). One of the most important missions of the mediators is to build a consensus for resolving disagreements and conflicts. The struggles and losses of different cultures on the way to democracy is one of the most critical points of mediation training because in our day, democracy is one of the most important common values. Therefore, the process of democracy and the griefs and losses of all the countries from around the world had to experience in this process should be one of the most important topics of "Cultural Griefs and Sharings in the World" class.

Epidemics, disasters, war casualties, terrorist attacks and etc. should be analyzed in the scope of this class. Teaching the mainlines and a broad summary of the terrorism, natural disasters, dictatorships, wars and hunger in the Middle East, Latin America, Africa, and Europe, should be one of the main objectives of the class. Most important of all, in the scope of the class, students should feel the sensibility and the grief of others. Empathyzing with another person's grief, acknowledging it, raising your voice, giving a hand, and taking initiatives about these subjects should be important topics in the class. Within this scope, each university student writing a letter to emphasize and express their regrets for another culture's grief and sending it to a university student from another culture is an intercultural sign of sensibility and awareness. "The mediator works to create a mutual story that emerges from the different stories"(Haynes,Fong,2004,p.109).

Determining the tools and techniques that can clearly express these awareness with various public relations and communication campaigns is an important part of the mediation training. For instance, the act of terrorism that resulted with the death of 82 people on July 23, 2011 in Norway, is one of the biggest terrorist attacks in the history of Norway. A public relations campaign that all the university students around the world would participate with a letter to Norway with the motto of " We Share Your Pain", would show the support of universities on creating a social awareness. Indian leader Mohandas Ghandi's approach on peace and philosophy has been a guide in the training process of mediation leaders .(Page,2008,pp.44-45).

Mediation training and the art of negotiation in elementary schools

One of the most important phases of the mediation training is the " negotiation training". Mediation is the art of conducting a negotiation and planning the parley. Therefore, starting with the elementary school second grade curriculums, the art of negotiation in mediation training should be examined. In this regard, at 1st and 2nd grade in elementary schools, the art of negotiation should be emphasized for educating future mediators and negotiators. According to Brunswik's "Lens Model of Perception" ; objects are never perceived directly. Brunswik emphasizes the importance of the mediator for perception. (Brunswik,1955,p.237). The first stage of the negotiation training is the interpersonal communication and listening skills classes. One of the most important qualities of mediators is being a good listener. Henceforth, some applications and activities should be added to the elementary level curriculum. Children having the ability to express themselves against different cultural ideas and learning the basics of intercultural communication is a very critical point for mediation

training. ."This clarification of the underlying issues can be described as something like finding the golden nuggets within the complex and emotionally laden stories for each party recounts"(Doherty,Guyler,2008,p.34)

At the point of conveying the elementary students with different point of views; support of the consulates, non-governmental organizations, Ministry of Culture and international institutions should be regarded. Within this frame, an" Intercultural Communication and Sharing" protocol should be signed between the Ministry of Education and ambassies-consulates and education projects should be prepared within this frame. One of the most important topics of this protocol is making "sister school" deals with other countries. It would be an effective step for educating the future of mediators if every elementary school in Turkey could find a sister school in other countries and conduct projects of intercultural communication. To take an initiative for solving an important problem of the sister school is a strategical effort in the mediation mechanism. For instance, when two elementary schools from Turkey and Greece sign a sister school protocol, one of the first steps of the mediation training is each student writing a letter about an important problem of his/her own and trying to find a solution for the problem in the letter he/she received. Such a practice would lead to discovering talented mediators at young ages. For instance, it is a very solid contribution to the mediation training if a Greek student shared a personal family problem with a Turkish student and Turkish student expressing his suggestions through his/her letter, or an elementary school in Greece solving their need of computers through a campaign initiated in Turkey, are very important steps to construct an international consensus idea at early ages.

In this context, another reccomended practice at elementary school level is a 40 minutes briefing every week, about global news and teaching them about different cultures and countries. It is important to keep the children aware of the global news and get their attention on global issues at early ages, with a conveying style that they can adapt to. For instance, telling the children about the presidential election in France with visual support and an intriguing approach would attract the children to global issues at early ages. One of the most famous cartoon characters in France is called Titeuf. Titeuf can also be found with Turkish voiceover, thus by showing the children a Titeuf cartoon and then expressing them in an associating manner such as " Titeuf's country elected their president this week. As a result of the election on May 6, a new president of the France is Francois Hollande" will attract the children. Therefore, it is suggested to gather an "intercultural training commission" which consists of volunteer teachers, in order to raise awareness of the kids. The main objectives of this comission should be as such ;

Developing intercultural training projects for elementary school level children, -Presenting the global news to the kids in a way that they can understand and relate to,-Gathering visual documents that introduce different cultures to students and share them,-Contacting with colleagues in other countries and developing mutual projects, -Teaching cultural differences with a communication language and symbols that students can understand and get interested in, contacting with the experts that can introduce new cultures, -Explaining the universal humanity values and emphasizing on the human rights, -Determining the international institutions that can be contacted to enforce the intercultural communication and cooperating with them, receiving support from non-governmental organizations,-Determining the games that elementary school students can play to learn about intercultural communication and making the kids to participate in them, receiving support from the experts on this subject,-Following international journals and sharing the latest developments, inventions and models with children,-Pioneering various artistic and cultural activities that will empower the intercultural training and dialogue.

Creative strategies for mediation training ın elementary schools

In order to train the elementary school students as future mediators, particularly in 2nd level elementary schools, it is important create various communication scenarios and determine talented students. Therefore, it's suggested to establish a "consensus commision" in every class to help the students resolve the issues among them. This commission is recommended to consist of 5 students and it should pick a mediator for the issues among the students to solve these issues. Main function of the mediator should focus on conduct the negotiations aimed to solve the issue and gathering both parties togehter. The operating mechanism of this comission is based on developing dialogue channels for resolving the issues and substitutions can be made based on the

performance of the students in the commission. In order to run this mechanism properly, job definition of the commission should be explained at the beginning of the school year. By asking the students the 3 major problems that they encounter during the classes, 3 common major problems of the class should be determined. Then the commission should be given 3 weeks to reach a consensus and at the end of these 3 weeks, the commission should announce their solution to the class. Such an activity will result with important attainments on evaluating the mediation skills of the students. Another stage in the application is to give the distinguished students an interpersonal communication training and improving their interpersonal communication skills. Another application similar to this one is to form groups in the classroom and giving them a pre-determined social issue and ask for their creative solutions. This is an important activity for improving the students' problem solving skills.

Children should be made to attend related seminars by the experts of this subject. For instance, one of the most important communication seminars is about listening skills. Practical knowledge about how to be a good listener should be presented. Debates of two opposite minded good listeners, should be presented. Supporters of 2 rival teams would be a good choice for this.

Intercultural communication skills should be supported and improved with various communication applications. It is important to structure these applications in the frame of developing intercultural sensibility. In order to develop intercultural sensibility, an intercultural sensibility model for elementary school students should be developed and this model should be structured with various communication strategies. In order to improve the intercultural sensibility, first thing to do is to share common threats and problems of the world. Global warming is an example of this. Global issues should be thought upon and taken seriously by each citizen of the world. Experts of these subjects should be invited to elementary schools and inform the students about the important issues of the world. This would be the first step to improve the sensibility of the stundets. It is an important attainment for the students to alter their habits towards the solution of these problems. An example of altering these habits for global warming, is to use clockwork table clocks instead of electronical clocks. Organizing a communication campaign on this subject would empower the training project with communication strategies. With the motto of "If you don't want to put your clock back, win your future with table clocks." starting a campaign on "A table clock for every house" in all the elementary schools in Turkey, would provide a common sensibility area.

When raising the intercultural sensibilities, sample activities should be the starting point. Within this frame, when a disaster or an upsetting event happens in a random country, elementary students' awareness should be raised. For instance, showing starvation or an earthquake videos to students without causing any damage to their psychologies should be the first step of the application for intercultural awareness. Following this step, students should be asked to develop an expression style that expresses their emotions towards the children in the country that the natural disaster happened. In this activityin which the children victims' situation is shared, a communication step should be requested to help and aid those children. For instance, students starting an aid campaign or an art exhibition would be examples of sensible communication activities.

Combining the educational projects with with public relations and communication campaigns will make a serious contribution to the intercultural communication perspective. Especially the rapid kinesis in the communication technologies supports the intercultural communication in this aspect. It would be a contributing application, to organize a week in elementary schools, called " Understanding and Learning About Different Cultures" and organizing intercultural activities within this week. One of the most important worldwide applications on this subject is CISV(Children's International Summer Villages). CISV emphasizes on the 8 basic education topics (Global Awareness Education, Intercultural Education, Human RelationsEducation, Personel Devolopment Education, Environmental Education, Development Education, Human Rights Education, International Education) and organizes activities such as summer camps to emphasize on the intercultural dialogue and interaction among elementary students from different cultures (Baraldi, Cortesi,Lervese,2009,pp.29-44).

Diplomacy education

Another sub topic of the mediation training in intercultural training is the diplomacy education. Diplomacy is one of the fields that equires mediation the most. Diplomacy is the most powerful communication force in international relations and diplomacy constitutes the communication aspect of international relations. Therefore, a mediation mechanism should be created to educate the future mediators in diplomacy. Ministry of Foreign Affair and Ministry of Education in all countries should sign a protocol. This protocol will lead to new expansions in mediation training. This diplomacy education should be divided into 3 titles; elementary schools, high-schools and universities, and the persuasive aspect of communication in negotiation process should be strenghtened.

For the diplomacy training for elementary school 1st and 2nd level, "Super Talent" training program is recommended. The project that aims to discover the students that have the interest and talent towards foreign policies and international relations, and training and education these children about mediation for years; support from the foreign representatives of Turkey should be received. Through a protocol organized between the Ministry of Foreign Affairs and Ministry of Education, a mutual education project should be created.First step of this training should determine a pilot school and organize lectures and seminars by experts, in order to determine the children with mediation skills and future diplomats. It is a very important step to form a commission of 9 which consists of ; a foreign policies expert chosen by Ministry of Foreign Affairs, an academic on international relations, 2 teachers that follow international journals and interested in foreign policies and diplomacy, a representative of the ambassies that were involved in the program, an interpersonal communication expert, a retired diplomat and a foreign academic who is an expert on the subject, and to find future mediators through the training program.

The first stage of this training should be discovering the future super talents and mediators. This commission should visit pilot schools and evaluate students potentials. One of the reccomended communication models on this subject is the "call conference model". According to this model, first 2 teachers and the international relations academics should evaluate the students' interest in foreign policies. This team should form teams of 5 students. Number of these groups may vary according to the interest of the students. Criterias on how to evaluate the children, should be pre-determined. These criteria is a scale that tests the children's awareness and interest levels. Students who are interested and aware on global news should be determined. When determining these children, it is suggested to show them visuals about global developments and ask them to comment on those visuals. After dividing the children into groups of 5, each group should be given a topic and asked to brainstorm about it. The highest scoring students should be invited to mediation training within Ministry of Foreign Affairs.

Via representatives of the Ministry of Foreign Affairs in various cities, the Ministry of Foreign Affairs should find a diplomacy school in these cities, give these children special training, organizing international trips and arrange one-to-one lectures with Consuls, arranging internships at Consulates, providing opportunities on foreign languages would be key steps to educate future mediators. After a certain stage of the training, chosen students should be involved in activities that they can take initiatives and evaluated. For instance, children pioneering an aid campaign between schools, interviewing with a top level politician and evaluating this interview, participating in the organization commitee of a political summit, are the examples of activities that students can participate during the training process.

Civil society and mediation training

Another important stage of creating a mediation training and a dialogue mechanism is to get support from the civil society. It is important for non-governmental organizations to take initiatives on educating future mediators. For instance,nongovernmental organizations mediating for more shelters in order to protect the women victims of domestic violence and conduct negotiations to help them is a very important social mission. Non-governmental organizations negotiating with various people and institutions for a domestic violence victim woman who asks for help, is a very good example of social mediation mechanism. In social mediation training that will be run by non-governmental organizations, each non-governmental organization should pre-inform

about their field of activity. For instance, in a mediation training that aims to prevent violence against women, all types of information should be expressed, thus, the information aspect is one of the most important aspects of mediation training. All the technical details should be known in the field that mediation process is involved in. ."They convincingly argue that mediation is,in effect,a form of psychological counselling and that mediators should avail themselves of the wealth of theoretical knowledge and pragmatic wisdom that this field has to offer"(Strasser,Randolph,2004,p.208). To have strong links with significant people and institutions is one of the most important communicational traits of the mediator. During the mediating education it is important to communicate with as much people as possible based on mutual trust. The communication chain that the mediators have is the most important communication power to tackle the problems at particular points and manage the process. "The mediation process contains within it unique potential for transforming conflict interaction and, as a result, changing the mindset of people who are involved in the process"(Robert, Baruch, Folger,2005,p.22).

The management of the meeting traffic needs to be made according to a meeting agenda. Therefore, time management in mediating education is a crucial topic. Meeting results need to be worked out coherently in a coordinated way. Each meeting carried out should be meaningful and support a reasonable step in the solution of the problem. A meaningful and qualified meeting is the planning of the meeting as addressed to a tangible contribution to the solution of the problem or a strong expression of the will. As the NGOs are based on voluntary work, the members should cooperate in the planninng and elaboration of the meetings. Each member has a personal meeting radius. In the mediation mechanism, the personal meeting radius is an area that is made up of the contributions which institutions the mediator communicate made; and a meaningful and visible dimension of the capacity to solve the problems.

Another important phase during the mediating educations by the NGOs is the performances of the mediators in the persuasive communication issue. Therefore the mediator needs to present a convincing model during the dialog. The first stage of setting a convincing model is to take the opinions of the sides and convince them that they have expressed themselves correctly. For that reason each opinion about the solution must be listened and the right communication channel be found for the people to express themselves correctly. "The mediator faces the question of whether people need to tell their story directly to each other or whether it is better to discuss it with the mediator alone, at least as a preliminary step. As much as facilitative mediators want to help parties communicate directly with each other, they also must recognize sometimes people are afraid (often, with good reason)to tell their story in front of the other parties)"(Mayer,2004,p.43)

One of the most crucial characteristics of a mediator is to determine the right communication channel that the sides can express themselves. "Some mediators may make suggestions for settlement, others consciously refrain from doing so. Some mediators are interested in achieving and acceptable the outcome, others may wish to improve interactions between the parties. Some mediators may possess skills to defuse tensions, others may have the resources to "nudge"the parties one way or another".(Bercovitch,2002,p.7).For instance, in the prevention of the violence towards women, it is an important gain a solution to establish a counseling center and and in these 24 hours working centers, to provide every kind of support for women victims of violence immediately through the help of NGOs. Also, it is an important step by the NGOs to sign a protocol with the Family and Social Affairs Ministry and make a cooperation to assign a particular number of people from this platform as "Victim Counselor". The Victim counselors, whose duty is to meet the victims face to face, to determine a map of struggle with them and acompany them till the end of the process, should also determine the communication channels to express themselves. Another duty of the Victim Counselor is, for every victim they met, to provide a law counselor and psychological counselor through the links they have with the NGOs they are member of. As in the example of victim counselor, it is an important step for peace and dialog to bring mediators in the solution of the problems through NGOS.

The social education studies of the NGOs about this subject should be supported with promotions and PR campaigns. The most important factor in social mediation is conducting social meetings with the right people through right communication tools. Mediators should be impartial during this process. "The mediator doesn't take sides. Mediators are not advocates for either party, nor are they counselors or judges. A good mediator will promote and encourage self-advocacy in productive ways"(Butler,2004,p.3). The mediator should have the skill

to create the symbols and plan the activities to activate the public. That is why, each NGO should create the strongest symbol for their stance about the subject to be mediated. In order to strengthen the dialog mechanisms, the mediator should have the training about the power to create public opinion and the techniques for to create public opinion. "Violence Clock" campaign is one of the suggestions as a PR campaign that can be applied towards the public education as well as easy to apply on this subject. In order to provide the sensitivity towards violence, the campaign that everyone who looks at the clock will become a volunteer; for example in İzmir every Friday at 16:00 the volunteers will gather under the clock tower and announce the number of the women exposed to violence and a symbolic bell sound will be played once for every 10 person who is exposed to violence, is being planned. In the campaign, as long as a decrease in the violence is obtained, by taking the clocks one hour forward, a one hour late meeting at the following week, or vice-versa when the opposite occured, every volunteer should aim to have a result in the attempt to fight the violence and this attempt should be expressed by taking the clock one hour forward. Every attendant should be trained as a mediator towards the fight against violence and activate the international public opinion to spread the movement into an international ground.

Conclusion

Mediation training, is a peace project founded upon teaching interpersonal communication skills. In our day and in the future, one of the greatest powers that a sociaety can have is the leadership power gained through resolving conflicts. Especially for the conflicts caused by intercultural miscommunication; mediation training and developing a dialogue mechanism are the most effective peace and communication tools. Mediation training should be planned within universities, elementary schools and non-governmental organizations and should be presented as a model of peace.

Mediation also includes a negotiation process. The negotiations process in intercultural communication, is conducting meetings to resolve an isssue and strenghtening these meetings with the power of persuasion between parties. All the cultures should train mediators for intercultural peace who posess listening skills, taking initiative, crisis management ability, emphaty, sharing griefs and sensibilities and also can be a leader in communication. Mediators also possess the role of effective communication pioneer and should build an intercultural coalition and include important actors in this coalition.

One of the basic goals of mediation training in intercultural communication is to create a peace communication model in order to maintain cultural coalition. Therefore, starting peace education in elementary school and continuing it thorugh university, educating future diplomats as international mediators within a professional training program and improving their skills through training programs in universities are important strategical steps. The support that cultural coalition will receive from nongovernmental organizations will provide a settlement for educating dialogue leaders and mediator training. This social education will provide the mediator who will pioneer the public to an intercultural dialogue coalition, build a dialogue climate for different cultures to live in mutual understanding, tolerance and peace, both today and in the future.

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DOES THE ATTAINED LEVEL OF EDUCATION AFFECT THE INCOME SITUATION OF HOUSEHOLDS?

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Abstract

An increasing number of inhabitants with higher levels of education provide conditions for formation and development of knowledge or information society. In this society, the significance of education is increased and the utilization of scientific findings becomes the key source of the society's competitiveness. However, does the attained education affect the income situation of a household? The paper provides results of an analysis focusing exactly on relationship between attained level of education and the income situation of households in the Czech Republic, mainly those ones living at risk of poverty. The source for the analysis of the effect of achieved level of education on the income situation of households are the results of a survey conducted by EU-SILC (European Union Statistics on Income and Living Conditions) in 2005–2009. The level of education of a household was determined based on the level of education of the household member with the highest income – the head of household. The income situation is determined by mean and median values, differentiation and development between 2005 and 2009, representing the period of economic development but also economic crisis. The results of analysis of households categorized by education level and their risk of poverty clearly show that the most vulnerable group comprises households with primary education or no education. At the same time, when analyzing the mean disposable income per member in households at risk of poverty; it was found that the households with lowest income are rather surprisingly the ones headed by a person with the highest level of education (tertiary). The connection of income inequality and poverty of economically weak households and attained level of education has been proven; however, we can conclude that a higher level of education of the head of a household is no guarantee of a lower risk of poverty and more and more attention should be paid to the applicability of university graduates in practice.

JEL classification: I25, I32

Keywords: EU-SILC, income situation of households, level of education, knowledge society, change;

Introduction

Increasing number of people with higher education provides conditions for formation and development of knowledge society. GDP structure, manifested by growing share of knowledge assets compared with psychical capital is a key feature.

Education not only affects the individual's position in society; it also determines his or her position on the labor market. In addition to personal benefits, it is possible to prove that education of an individual plays an important role in productivity of the whole society. Krueger and Lindahl (2001) consider education as a key driver of economic growth. However, Fields (1980), believes that the level of income inequality in society does not differ significantly, depending on how much individual countries invest in public education. Ram (1989) provides a summary of previously published theoretical and empirical contributions and says that there is no strong support for a direct correlation between increasing levels of education and reduction of income inequality. Nevertheless, Sylwester (2002) suggests that countries that invest more resources in public education (in terms of GDP share) reach lower income inequality in the following years, although this effect can sometimes be delayed, and thus points out that there are other reasons for investment in education than stimulation of economic growth. Similarly, Röbel and Easterly (1993) already earlier assessed such investments and share the

view that in the short term investment in education cannot be directly linked with economic growth, but ultimately it contributes to reduction of income inequality.

Education also has a positive impact on public health, the environment, reduction of crime rate, approach to parenthood, participation in public life, etc. It is therefore desirable that the society sets up a system appreciating and supporting educated people in the form of financial rewards.

As already mentioned, the empirical research findings have mostly pursued a relationship of education level to GDP level. The aim of this paper is to follow the relationship of attained education to the income of individuals, respectively households and their standard of living. Evidence from various sources point out that low-income households are often associated with lower standard of living and welfare of the household and children living there (Duncan, Yeung, Brooks-Gunn, and Smith, 1998). Researches also show that children of all ages living in poverty suffer more health problems than children from affluent families (Newacheck, Hughes, and Stoddard, 1996).

When we want to define who is considered to be poor, we can apply Hallerod and Larsson's definition (2008); they define poor people as those, who, due to insufficient access to economic resources, have an unacceptably low level of consumption of goods and services. Income poverty is measured in accordance with the conventional EU measurement of relative poverty. Those people who live in household with an equivalent of disposable income that is below 60 per cent of the median household income are defined as poor.

Poverty threshold is defined in different countries at different levels. People living below this level are then defined as poor. It is also called subsistence minimum. This definition is closely linked to the income level people require to buy life's basic necessities, such as food, clothing, housing, but also what is necessary for satisfaction of their most important socio-cultural needs. What we must take into account is the fact that the poverty line changes over time and it also varies by region, and the official national poverty line is determined by a country's government (Beyond Economic Growth, 2004).

Methodology

The data set was drawn from a survey EU-SILC (European Union Statistics on Income and Living Conditions), available for years from 2005 to 2009, collected in the Czech Republic on the number of households, as shown in Table 1.

Table 1.

Number of households participating in the survey EU-SILC

Year	2005	2006	2007	2008	2008
Number of households	4351	7483	9675	11294	9911

The Czech national module of the project called "Living Conditions" is performed by the Czech Statistical Office every year in compliance with the Directive of the European Parliament and the Council. The authors did not participate in data collection; they purchased them in a form of a database. The data collection method is unified by the European Union.

The data set provides information on household income, household structure, economic activity, social situation and level of attained education of the head of household. The selected variables for the analysis were:

- The equivalized monthly disposable income of a household per household member. The conversion is performed in accordance with EU methodology, where the head of household is assessed by the coefficient 1, children below 14 years of age are assigned with coefficient 0.3 and other persons are assigned a coefficient of 0.5 (Longford et al., 2010).
- The attained level of education in following four categories:
  - Primary or no education,

- ○ Learned a trade through apprenticeship, lower secondary education, without a leaving certificate,
- ○ Full secondary, vocational or post secondary education,
- ○ Higher (tertiary) education.

The analysis will use income categories of households at risk of poverty. Poverty threshold for an individual country is defined as the percentage of households with income below 60% of the national median income.

The analysis is focused on the number of households in the Czech Republic with the specified attained level of education and their income situation. The income situation is determined by middle values (mean and median), differentiation and development between 2005 and 2009, which included both economic development and economic crisis.

Results

The data set compiled by the above mentioned method gives the results shown in Table 2.

Table 2.

Characteristics of the household income situation categorized by the highest attained level of education of the head of household

The level of education attained by the head of household	2005		2009	
	Number of households (%)	Mean income per an equiv. member (in CZK)	Number of households (%)	Mean income per an equiv. member (in CZK)
Elementary or no education	12.71	8 794	12.40	11 421
Learned a trade through apprenticeship, lower secondary education, without a leaving certificate	45.07	11 096	45.16	14 521
Full secondary, vocational or post secondary education	30.06	13 070	30.27	16 834
Higher (tertiary) education	12.16	17 961	12.17	23 029
Czech Republic	100	12 232	100	15 972

The table shows that the first two categories of education level (elementary and secondary, vocational), do not even reach the national mean income, while their representation in society is more than 57% of households. In the Czech Republic, the development of household income was positive in terms of time and the income increased by 30.6%, the mean income was reached only by the category "learned a trade through apprenticeship" (30.9%) and similarly the category "elementary education" (29.9%), the category "full secondary" achieved a 28.8% increase and the category of "higher education" has the lowest increase of 28.2%). It shows a negative evolution of the dependence of income and education level.

The least numerous category (households with their head with tertiary level of attained education) reached their income 46.68% higher than the mean income in CR in 2005, while in 2009, it was 45.09% higher than the mean income in the country. This finding confirms the lower financial reward of higher attained level of education and confirms the trend of reducing income inequality from this perspective.

The frequencies of households by education categories, respectively their development can not be assessed, as the representation of households in each category corresponds with the educational structure of the Czech Republic.

Advanced economies focus in their social policies on those social groups that live in poverty. This paper, therefore, presents an analysis of income vulnerable households in relation to the attained level of education.

In 2005, the poverty line in the Czech Republic equaled to 6 350 CZK per equivalized household member, in 2009, it was set at 8 314 CZK. Out of it, all households we filtered out with income above the specified values, and Table 3 shows the frequencies of households at risk of poverty, categorized by level of attained education.

Table 3.

Households at risk of poverty, broken down by category of education level

The level of education attained by the head of household	Households at risk of poverty	
	2005	2009
Elementary or no education	13.74	14.72
Learned a trade through apprenticeship, lower secondary education, without a leaving certificate	7.34	5.94
Full secondary, vocational or post secondary education	5.14	4.60
Higher (tertiary) education	1.70	2.16
Czech Republic	6.80	6.16

Positive trend is observed in categories "learned a trade through apprenticeship" and "full secondary education", while a negative trend in the category "elementary education" and, surprisingly, the "higher education" category. This gives rise to further reflection and analysis on the suitability of the distribution of fields of higher education, their availability and usability of graduates in practice. This may also be due to downsizing and mass layoffs in most companies at all levels of management, often engaging employees with a university degrees, for whom it has been difficult to find appropriate new employment then.

Further interesting results can be obtained from a more detailed analysis of the 6.8%, respectively 6.16% of households at risk of poverty, see Table 4.

Table 4.

Income of households at risk of poverty, divided into education categories

The level of education attained by the head of household	2005		2009	
	Number of households (%)	Mean income per an equiv. member (in CZK)	Number of households (%)	Mean income per an equiv. member (in CZK)
Elementary or no education	25.68	5 103	29.62	6 872
Learned a trade through apprenticeship, lower secondary education, without a leaving certificate	48.65	5 001	43.54	6 674
Full secondary, vocational or post secondary education	22.64	4 943	22.59	6 699
Higher (tertiary) education	3.04	4 520	4.25	6 161
Czech Republic	100	4 999	100	6 715

The table shows that the mean income per one equalized member of household at risk of poverty was 4 999 CZK in 2005 in the Republic, and 6 715 CZK in 2009. Interestingly, the lowest income households are headed by a person with the highest level of education. In contrast, households headed by a person with the lowest level of education reach the highest income.

Trying to search for deeper analysis and reasons for this condition, which may be a period of time when the household is in the category at risk of poverty, or setting requirements for social security benefits, willingness to

apply for various social benefits, etc., information on social transfers to households and their share of disposable household income by education categories was presented in Table 5.

Table 5.

Ratios of social transfers in disposable income

The level of education attained by the head of household	2005			2009		
	The ratio of all social transfers in disposable income (%)	The ratio of retirement benefits in disposable income (%)	The ratio of social transfers excluding retirement benefits (%)	The ratio of all social transfers in disposable income (%)	The ratio of retirement benefits in disposable income (%)	The ratio of social transfers excluding retirement benefits (%)
Elementary or no education	64.53	56.66	7.87	65.08	57.89	7.20
Learned a trade through apprenticeship, lower secondary education, without a leaving certificate	35.46	28.39	7.07	34.66	29.12	5.54
Full secondary, vocational or post secondary education	26.68	21.12	5.56	26.94	22.29	4.65
Higher (tertiary) education	16.57	13.93	2.64	17.77	14.80	2.97
Czech Republic	31.51	25.67	5.85	31.34	26.44	4.91

As we can see in Table 5, it is clear that the largest ratio of social transfers to their disposable incomes have households headed by a person with primary education or no education. In both years, social transfers are accounted for about 65% of their disposable income, double the national mean. This trend is increasing in the share of social transfers in disposable income of households in the category of retirement benefits, and slightly decreasing for other social benefits over time.

Conclusions

The analysis of households according to the attained level of education of their heads and their risk of poverty clearly shows that the most vulnerable group comprises households with primary education or no education. The share of vulnerable households in this group (about 14%) is more than twice the ratio of the whole country (approx. 6.5%). Besides that, we experience a negative trend over the time. It is a group that deals with the income situation and faces the consequent possibility of social exclusion, therefore, it needs help from the society (or the system). The category of households headed by a person with "learned a trade through apprenticeship, lower secondary education, without a leaving certificate" experienced a decline in number of households at risk of poverty within the analyzed period. The frequency of households at risk of poverty in these two groups is lower than the national average.

At the same time when analyzing the mean disposable income per member of household at risk of poverty it was found that the households with lowest income are the ones headed by a person with the highest level of education (tertiary). In contrast, households headed by a person with the lowest level of education reach the highest income. But in terms of share of social transfers in disposable income, households headed by a person with elementary or no education are the most often represented (up to 65% of their disposable income), while households with their head of household with tertiary education less than 20%.

The connection of income inequality and poverty of economically weak households and attained level of education has been proven on the basis of our results, including the consequences manifested in the distribution of social transfers. However, we can conclude that higher education level of the head of a household is no guarantee of a lower risk of poverty. On the contrary, more and more attention should be paid to the usability of university graduates in practice. We can conclude that households with head of households with tertiary education level are in a relatively better situation than other categories of households (with lower level of

attained education), unless they lose their job or stable source of income, because they seem to be affected by such problems more than other household types and face perhaps more difficulties finding new appropriate job or fail in application for social benefits and their incomes drop dramatically.

Acknowledgements

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DOMINANT LEARNING STYLES OF PREPARATORY CLASS STUDENTS

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Abstract

The aim of this study is to determine the dominant learning styles of English preparatory class students. The universe of the study, having used survey method, was 584 preparatory class students studying at a state university located in the northwest of Turkey. In order to determine the dominant learning styles of preparatory class students, "Learning Styles Inventory" developed by Kolb (1985) was used. According to the findings of the study; that 50,5 % (n=295) of the students had Assimilator, 26,9' % (n=157) of the students had Converger, 14,2 % (n=83) of the students had Diverger and 8,4 % (n=49) of the students had Accomadator learning style were found. No meaningful difference was found among the dominant styles of students according to their gender.

Key Words: Learning Styles; Preparatory Classes

Introduction

Today, one of the purposes of education and training activities is to provide equal opportunities for students and the work undertaken in this regard centers on students' individual differences. Hence, many of the educational programs aim to identify these differences and to develop activities accordingly, in other words, to provide individualized instruction opportunities such as learning styles.

The main purpose of the studies on the concept of "learning style" first introduced by Rita Dunn in 1960 is to present the fact that individuals learn things differently. Dunn and Dunn (1993) defines "learning style" as a route starting with focusing on new and difficult information that is followed by the process of acquisition and storing the information in memory and that process is different for each individual (Cited in Bahar and Bilgin,2003:42). Learning styles are the characteristic qualities that are present from birth and that affect our behaviors in each moment and dimension of our lives (Boydak,2001:3). "Learning style" is defined as the individually preferred method in learning by Kolb (1984:11). In short, learning style is the route that the individual follows in the perception, processing and utilization of information

Kolb Learning Styles Model: According to Learning Styles Model of David A. Kolb (1976) used in the current study, there are four different learning styles and one of these styles presents the dominant learning style of the individual and the learning preferences related to the preferred style. Kolb's experiential learning theory approaches the learning process differently than those of behavioral and cognitive field theories in that the connection among work, other experiential activities and the creation of knowledge is important. The reason that this approach to learning is called "experiential" is related to the fact that thoughts continuously change according to experiences. No two thoughts are ever the same since experience always intervenes (Kolb, 1984:20–27). Selection of experiences shows which learning style that the individual prefers (Kolb, 1984:68). The learning styles mentioned in the theory are identified based on the thinking and creativity theories: Divergers; Assimilators, Convergers and Accommodators (Kolb,1985: 4–7).

Assimilators (Abstract conceptualizer/Reflective observer): Inductive reasoning skills and the ability to create theoretical models by assimilating integrated explanations with various observations are among the most eminent features of the individuals carrying this learning style. They focus on ideas and abstract concepts and

they do not judge or argue the practical values of the ideas. Principal strengths of assimilators are planning, creating models, diagnosing problems and developing theories (Kolb, 1984:78).

Convergers (Abstract conceptualization/Active experimenter): Problem solving, decision making, logical analysis of thoughts, deductive reasoning and systematic planning skills are the eminent features of the individuals who have this learning style. These individuals prefer to deal with technical matters instead of social and interpersonal activities (Kolb, 1984:77).

Divergers (Concrete experiencer/Reflective observer): Divergers are very successful in looking at concrete cases from various angles. They prefer to observe rather than act and they enjoy focusing on cases where different ideas acre created such as in brain storming. They are patient and careful in the learning process and they can make objective judgments. They consider their won thoughts and ideas while forming thoughts. They also need to develop new learning opportunities express their emotions by being more active in interpersonal activities and develop skills related to tasks that do not require numerical data (Kolb, 1984: 77–78).

Accomodators (Concrete experiencer/Active experimenter): Individuals with this learning style have the ability to learn through their present experiences. They enjoy making new plans and benefiting from new experiences, tend to act according to emotions instead of logical analysis, prefer to ask for personal information in solving problems instead of using technical analysis. The strengths of these individuals are practicality, leadership and risk taking skills (Kolb,1984: 78).

Related literature shows that there is limited number of studies examining university prep level students' dominant learning styles (Çekiç, 1991; Kılıç, 2002; Kırkgöz and Doğanay, 2003). This study designed to identify the dominant learning styles of prep students is believed to contribute to the development of the rearrangement of educational organizations by providing information about learning styles to teachers and program developers. Answers were sought during the study to the questions below:

What are the dominant learning styles of prep class students?

Are there any differences in students' dominant learning styles according to gender?

Method

The universe of the study consists of 584 students from 610 students attending preparatory classes in a state university in Western Black Sea Region of Turkey in 2011-2012 Academic Year.

The data needed for the study was collected through Learning Styles Inventory developed by Kolb in 1976. The reliability of the inventory was tested in 1985. The inventory is composed of 12 items each with four options that request the participant to list the four learning preferences that best describe their learning styles. In the process of knowledge acquisition, the individual is on a continuum from concrete experience to abstract conceptualization and in the knowledge processing he/she is on a continuum from active experimentation to reflective observation. The scores obtained from the test changes between 12 and 48 and integrated scores are between -36 and +36. The positive scores obtained from concrete experience (CE) to abstract conceptualization (AC) on a continuum of CE and AC show that learning is abstract and the negative scores point out that learning is concrete. Similarly, positive scores obtained from active experimentation (AE) and reflective observation (RO) show that learning is positive whereas negative scores point out that learning is negative. The point where the x axis and y axis, displaying AE-RO and CE-AC scores respectively, intersect indicates the dominant learning style for the individual.

The translation and adaptation of the Learning Style Inventory to Turkish and the reliability and validity studies on the inventory were completed by Buket Akkoyunlu and Petek Aşkar tarafından in 1993. According to data obtained from a total 103 adult graduates; 62 females and 41 males between the ages of 22-49, the scores about the four main learning styles were found as follows for Cronbach Alpha Reliability Coefficient calculated by Aşkar and Akkoyunlu (Aşkar and Akkoyunlu,1993:43): Concrete Experience .58, Reflective Observation

.70, Abstract Conceptualization .71, Active Experimentation .65, Abstract-Concrete (AC-CE) .77 , Active-Reflective (AE-RO) .88 (P< .001).

Findings

Table 3.1 displays the data obtained for the question: "What are the dominant learning styles for prep class students?"

Table 3.1   Findings related to the dominant learning styles of prep class students

Learning Styles

	Assimilator	Converger	Diverger	Accomodator	Total
N	295	157	83	49	584
N	50,5	26,9	14,2	8,4	100,0

Table 3.1 shows that 50.5% of the students (n:295) in the framework of the study were found to be assimilators, 26.9% (n:157) to be convergers, 14.2% (n:83) to be divergers and 8.4% (n:49)   to be accommodators.

Table 3.2 displays the data obtained for the question "Are there any differences in students' dominant learning styles according to gender?"

Table 3.2   Relationships between Learning Style and Gender

Gender

Learning Styles		Female	Male	Total
Assimilator	N	145	150	295
	%	49	51	100,0
Converger	N	90	67	157
	%	57	43	100,0
Diverger	N	40	43	83
	%	48	52	100,0
Accomodator	N	27	22	49
	%	55,5	44,5	100,0
Total	N	302	282	584
	%	51,7	48,3	100,0

X^2= 6,057 p=.109

Chi square test employed to identify whether there are statistically meaningful differences between the variables of dominant learning styles and gender shows that there are no statistically meaningful differences at .05 level of significance.

Results, Discussion And Suggestions

1. Data obtained from the study shows that 50.5% of the students (n:295) in the framework of the study is assimilators, 26.9% (n:157) is convergers, 14.2% (n:83) is divergers and 8.4% (n:49) is accommodators.

This finding is fully or partially supported with various research findings in the literature (Aşkar ve Akkoyunlu,1993; Kılıç,2002; Harrelsen, Dunn Leaver ve Martin,2003; Jones, Reichard ve Mokhtari, 2003; Peker,2003; Barmeyer,2004; Güven,2004; Özkan, Sungur ve Tekkaya, 2004; Peker,2005; Karakış,2006; Gürsoy,2008; Tuna,2008; Çiğdem,2010) ve bazıları ile de kısmen (Chi-Ching ve Noi,1993; Mathews,1996; Truluck ve Courtenay,1999; Demirbaş,2001; Kayıntu,2001; Buch ve Bartley,2002; Harris, Dwyer ve Leeming,2003; Özkan,2003; Özsoy, Yağdıran ve Öztürk,2004; Arslan ve Babadoğan,2005; Palas Aktaş,2007; Dincer,2007; Koç,2007; Numanoğlu ve Şen,2007; Peker ve Mirasyedioğlu,2007; Uğur,2007; Erol Çalışır,2008; Demir,2010; Koç, 2010; Şişman Uğur,2010; Yurtseven,2010; Koca,2011; Koçyiğit,2011; Özdemir,2011; Yılmaz,2011).

As a result, we can say that students in the prep classes in the university are mostly in the assimilator style which is in the reflective observation and abstract conceptualization section. In other words, half of the students in the prep class are students who can observe and reflect experiences from different perspectives and can develop concepts that place their experiences in logical theories. The most outstanding features of these students are making logical assumptions going from the general to specific, developing theoretical models by assimilating different observations, planning, diagnosing problems and developing theories. The weak points of these students are the inability to focus on persons of emotions, to apply theories/models and integrate these in logical explanations, not to be action oriented, lack of decision making skills and lack of artistic ability.

2) The findings obtained in the study shows that there are no significant differences in terms of the learning styles of the students in the study and their gender.

This finding is supported by many other research findings in the literature (Truluck ve Courtenay,1999; Erginer,2002; İlhan,2002; Ames,2003; Fer,2003; Hallock, Satava ve LeSage,2003; Jones, Reichard ve Mokhtari,2003; Güneş,2004; Kabadayı,2004; Tekaz,2004; Uzuntiryaki, Bilgin ve Geban,2004; Arslan ve Babadoğan,2005; Sünbül ve Sarı,2005; Özen ve Arsal,2006; Demirbaş ve Demirkan,2007; Numanoğlu ve Şen,2007; Ok,2009; Demir,2010; Subaşı,2010; Yanardöner, 2010; Gündoğan Çögenli,2011; Koçyiğit,2011). The results can be interpreted to support the idea that both male and female students have similar tendencies in terms of learning preferences.

Suggestions below regarding research and implementation are provided in the light of the study that investigates the dominant learning styles of prep students:

The present study was implemented with university prep class students. This characteristic of the universe should be taken into consideration while making generalizations and the generalizations should be undertaken according to this group.

The most common learning style has been found to be assimilator followed by converger, diverger and accommodator. The instructors should plan their classes and select their teaching methods by taking the features of these learning styles into consideration.

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ECONOMIC PHENOMENA FROM THE VIEWPOINT OF THE MECHANICS OF MATERIALS

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Abstract

The article describes the increasing use of physical and mathematical models to describe and analyze economic processes based upon the analogies found between physical and economic processes during the formation of the Lausanne and Cambridge Schools of Economics. In brief, one of the necessary outcomes of the application of physical-mathematical methods in economics has been the gradual creation of conditions in basic and applied economic research during the course of the twentieth century, which at the turn of the millennium gave rise to econophysics. Contributions of the Czech School of Economics are documented, particularly the analogy between the length of fatigue cracks in metals exposed to periodic loads over time and the fall of market prices for commodities over time.

Keywords: Econophysics, theory of elasticity, statistical mechanics, Lausanne School of Economics, Cambridge School of Economics.The origins of econophysics

The term econophysics was coined as a combination of two scientific fields, economics and physics, with economics being the primary field of study, and physics providing mathematical and theoretical models which can be applied in economics. In its current stage of development, econophysics serves primarily to enhance economic research through methods of theoretical physics research. Methods of theoretical physics research are considered by many economists to be extremely simplistic, and are therefore rejected because they have been developed to describe systems which do not have a great deal of self-correcting elements in comparison with economic systems (either micro or macro-economic). Self-correction is always understood in relation to initial and boundary conditions, thus self-correction may be positive or negative with regard to the initial state. Many economists also reject the application of theoretical physics methods in the research of economic systems because economic processes cannot be repeated under the exact same initial and boundary conditions for a given process, as is possible within a certain degree of accuracy for some cases in physics. Of course, economics is not the only field in which processes cannot be repeated under the exact same conditions. In astrophysics for example, the developmental stages in the life cycle of a single population of stars are not repeated under the exact same conditions. We encounter a similar situation when repeatedly observing the circulation configuration of the Earth's atmosphere. Many other instances may be found of physical processes for which it is not possible to ensure the exact same initial and boundary conditions during the repetition of a certain process. It should be noted at this point that an analysis of the historical development of science reveals similar beginnings of what are today renowned scientific fields such as astrophysics, geophysics, and biophysics, as well as biomathematics, biometrics, biostatistics and others. Today, we are direct participants, both passive and active, in the early stages of the transition from clearly differentiated scientific fields to their gradual synthesis, and the unifying element in this transition is the language of mathematics.

Econophysics in the broader sense

The origins of econophysics can be traced to the 1870s, when methods of theoretical physics and mathematics were first used to describe economic phenomena and processes. The use of these methods however was glossed over by claims of the exclusive economic application of mathematics, gradually giving rise to the term mathematical economics. The use of the methodologies of mathematics and theoretical physics to analyze and describe economic phenomena and processes in the late 1800s is considered econophysics in the broader sense. In a most admirable manner economic phenomena and processes were described using analogies to theoretical physics, including the physical and mathematical significance of the differential of variables[5]. For example, the specific elongation of a body and Hooke's law, analyzed in the elasticity theory of solids, inspired Alfred Marshall to introduce the elasticity of demand (Marshall, 1890).

Biographical research of a number of major economists of this period shows that they were typically first educated in mathematics and/or physics. Giovanni Battista Antonelli (17. 9. 1858 – 12. 5. 1944) began his early studies at the Technical Institute of Leghorn and then continued to study at the University of Pisa where, in 1882, he received a doctorate in mathematics and in 1884 became a professor of mathematics. After this, he completed his engineering studies at the Polytechnic School in Milan, where he was awarded the title of civil engineer. Marie Esprit Léon Walras (16. 12. 1834 – 5. 1. 1910) studied mine engineering at École de Mines in Paris, where he acquired knowledge not only of mathematics and general physics, but also the statics and the dynamics of mine construction (Jaffé, 1965). Alfred Marshall (26. 7. 1842 – 13. 7. 1924) studied mathematics and physics at Cambridge University, where he also taught mathematics (Zemánek, 2006). Vilfredo Pareto (15. 7. 1848 – 19. 8. 1923) studied at the Polytechnic Institute of Turin, where he wrote his dissertation on the theory of elasticity „Principi fondamentali della teoria della elasticitá de corpi solidi in 1869 (Pareto, 1869).

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[5] In the first approximation the differential of a physical quantity is the change in the value of the physical quantity, expressed in the given units, which is sufficiently small to serve as a mathematical differential, and sufficiently large to be measured with a certain degree of accuracy. The differential of economic quantity is understood in the same manner.

The late nineteenth century is a period in which there was a synthesis of the partial knowledge of economic laws formulated by the previous generation of economists, and increased attempts to describe these laws using the language of physics and mathematics, comprising both the mathematical and physical meaning of the differential of variable quantity; the foundations of econophysics in the broader sense were laid and expanded. Comprehensive works of major economists were written at this time, such as that of Antonelli „*Sulla Teoria Matematica della Economia Politica*" (published by the author in Pisa in 1886, translated into English in 1971 under the title „Mathematical Theory of Political Economy") (Antonelli, 1886). Antonelli essentially uses the theory of vector functions of n real variables to describe an idealized model of a perfect market, the only components of which are buyers with real functions of demand and sellers with real functions of supply. In 1874 the first edition was published of Walras' work „*Élements d´économie politique pure*" (Walras, 1874), translated into English under the title „Elements of Pure Economics, or the theory of social wealth" (the first edition of the English translation was published in 1954 (Walras, 1954)). Walras' background in physics and mathematics is evident in a number of formulations which brilliantly describe analogies between physical and economic processes. For illustration, let us consider his analogy between a perfect competitive market and a machine in which friction is entirely ignored (Part II, Lesson 5, pp. 83–91 first English edition (Walras, 1954), second English edition (Walras, 2003). Likewise, Walras' general equilibrium theory is based on an analogy with the physical concept of mechanical equilibrium. In the first edition of Marshall's „*Principles of Economics*", from 1890, we encounter the „elasticity of demand", a concept founded upon an analogy with specific elongation and Hooke's law. Also in Pareto's two-volume work „*Cours d´économie politique*", published in Lausanne from 1896 – 1897 (Pareto, 1896 – 1897), we can see the influence of the elasticity theory of solid bodies on the description of economic systems (Pareto, 1896).

Econophysics in the broader sense – Czech contributions

The first half of the twentieth century witnessed a deepening integration of economics, mathematics, and physics. At the Czech School of Economics during this time, no reliable sources have yet been found indicating such an interdisciplinary approach or related original work. At the end of the twentieth century however, we do find an economist at the Czech School of Economics whose work represents econophysics in the broader sense. This economist is František Drozen (born 30. 5. 1949), who was inspired by the work of German engineer August Wöhler (22. 6. 1819 – 21.3.1914) (Wöhler, 1855, 1870; Timoshenko, 1983; Schutz, 1996). From 1855 – 1871 August Wöhler examined the causes of fatigue cracks in the wheel shafts of railway cars and the dependence of the number of cyclic loads until axle fracture on stress amplitude. The graphic depiction of Wöhler's findings in the form of Wöhler curves is still used today in the investigation of metal fatigue in various constructions. František Drozen constructed the following analogy between the process of fatigue crack growth in axles and the process of price reduction for goods: the immediate length **m** of a fatigue crack in railway axle at time t corresponds to the immediate price **n** of goods at time t. The period t of monitoring cracks in the axle is the product of the duration of a single cyclic load times the number of load cycles. Thus the differential change in the price of goods d**n** for time interval dt (differential change in time t) is directly proportional to the product of immediate price **n** and the differential change in time dt, just as the differential change d**m** in immediate crack length **m** for differential change in the number of cyclic loads d**N** is directly proportional to the product of immediate crack length **m** and the differential change in numbers of cyclic loads d**N**, where d**N** . T = dt; T is the time interval in seconds expressing the duration of one cyclic load. The market value of goods over time is expressed as a price **n**(t) at any time t. Drozen now makes the assumption that the instantaneous rate of reduction of the market value is directly proportionate to the instantaneous price of the goods (Drozen 2008). Then the deterministic differential equation of price which expresses this assumption is

$$\frac{dn(t)}{dt} = -k \, n(t), \qquad\qquad (1)$$

where $k > 0$ is a proportionality constant, and negative sign is used to indicate that **n** is decreasing. The initial condition is that over time $t = 0$ the market value is **n**$(0) =$ **n**$_0$. It means that the time is measured from the instant of purchase, i.e., when the purchase-sale transaction has been completed. This approach to modeling the process of falling prices for goods can be found in its final form in several of Drozen's works

(Drozen 1993, 1995, 2003, 2008). We know make the generalizing assumption that the instantaneous acceleration of reduction of the market value is directly proportionate to the instantaneous rate of reduction of the market value (Zeithamer 2010). Then the deterministic differential equation of price which expresses this assumption is

$$\frac{d^2 n(t)}{dt^2} = -A\,\frac{dn(t)}{dt}, \qquad\qquad (2)$$

where $A > 0$ is proportionality constant, and negative sign is used to indicate that $\mathbf{n}$, the market value of goods, i.e., a price, is decreasing and the acceleration of reduction of the market value is increasing function of time. The initial conditions now are that over time $t = 0$ the market value is $\mathbf{n}(0) = \mathbf{n_0}$ and $\dfrac{d\mathbf{n}(0)}{dt} = \mathbf{r_0} < 0$. The more detailed approach to modeling the process of falling prices with acceleration can be found in the work as follows (Zeithamer 2010, 2011a, 2011 b).

Econophysics in the strict sense

Let us now briefly mention econophysics in the strict sense of the word, i.e. the approach of physicists to economics based upon statistical mechanics (this subject will be addressed in detail in the work accompanying this article). Given the scope of this article, it is not possible to present the results of econophysics in the broader sense during the course of the 20th century. However, it is important to realize that the findings of econophysics in the broader sense during this period have increasingly focused the attention of theoretical physicists towards economics. This has led to collaboration with economists in researching analogies between economic processes and physical processes addressed by statistical mechanics, and to research in describing macro and microeconomic processes using statistical mechanics methods. Statistical mechanics essentially describes the complicated variability over time of the configuration of a large number of subsystems, which comprise the physical system being monitored and which are governed by certain laws of interaction. The complexity of development over time of the internal structure of physical systems has its origins in the interaction and disorder of subsystems. Expressed economically, this is the interaction and competition of subsystems. Financial markets are sufficiently complicated systems to be assessed both according to their output and their internal structures. A large number of investors present in many various markets create the internal structure of the market through exchanges of stocks, bonds, commodities, and other products. Investment decisions change the prices of the assets being traded, and these prices in turn affect the business decisions of investors, and nearly all commercial transactions are recorded electronically. To facilitate the analogy between the development of internal structures of the market and internal structures of physical systems (with a great number of subsystems), we assume that a trader of a given good has three possibilities: to buy, sell, or not trade (Voit, 2005). This approach enables an analogy between the development of market structures over time and the Ising model (or Potts model). Essentially, the Ising model describes the interaction of the monitored physical subsystem with the entire internal structure of the physical system, and the response of this monitored subsystem to the existing internal structures of nearby subsystems. One of leading proponents of the application of statistical mechanics in economics is German physicist and mathematician Prof. Johannes Voit, who has comprehensively described the results of the application of statistical mechanics in financial markets in his book published in 2001 and in later expanded editions (Voit, 2001, 2003, 2005). Such analogies are the foundation of today's econophysics, econophysics in the strict sense, a new scientific branch of contemporary economics.

Conclusions

From the above it is clear that in addition to mathematics, physics has gradually explicitly and implicitly impacted economics, not only through its specific manner of expression used to describe economic phenomena and processes, but also through its methodology of theoretical research of phenomena and processes. This gradual process of the incorporation of physics into economics began with the founders of the Lausanne and Cambridge Schools of Economics, students of physics and mathematics who later fully devoted themselves to economic research.

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EDUCATIONAL DAYCARE FROM INFANCY AND EXTERNALIZING AND INTERNALIZING BEHAVIORS IN EARLY CHILDHOOD: DIFFERENTIAL EFFECT BY CHILDREN'S VULNERABILITY

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Abstract

This study compares, for non-vulnerable and vulnerable children, externalizing and internalizing behaviors in toddlerhood and preschool years across children attending an educational daycare with those of children remaining under the care of their parent. The 66 participant experienced the same type of care from their first year of life to the year prior to kindergarten (daycare, n = 45; parental care, n = 21). Results indicate that, for non-vulnerable children, type of care isn't associated with externalizing and internalizing behaviors. However, for vulnerable children, attending a daycare is associated with a reduction in externalizing behaviors and with higher (but also decreasing) internalizing behaviors between 2 and 4 years of age. On the other hand, parental care is associated with an increase in both externalizing and internalizing behaviors. This study suggests that the effect of childcare type on externalizing and internalizing behaviors from 2 to 4 years old is moderated by a child's vulnerability.

Keywords: educational daycare, risk factors, externalizing behaviors, internalizing behaviors

Introduction

In 1997, the Government of Québec (Canada) created a network of regulated daycares offering an educational program for children from birth to school entry, for a contribution from families of $5 per day ($7 per day since 2004). According to the latest data available, there are 430,900 children aged 0-4 years residing in the province of Québec. Of those, 214,804 children are attending regulated daycares.

For many children, daycares provide the first transition between the family environment and an educational setting. As a result, daycares play a major role in child socialisation by promoting the learning of developmentally appropriate behaviors. Educators are therefore tasked with ensuring that children acquire behaviors that promote adaptation in a group (Lamb, 2004). So, attendance should lessen the manifestation of inappropriate behaviors, whether externalizing (e.g., aggression, destruction, etc.) or internalizing (e.g., anxiety, withdrawal, etc.). This early experience might be more beneficial for vulnerable children, since they appear more likely to proceed along difficult behavioral trajectories (Appleyard, Egeland, van Dulmen, & Sroufe, 2005).

Many have studied the effects of daycare attendance on child development. While cognitive gains are often reported (for a review; Burger, 2010), results are less obvious concerning behavioral outcomes. In fact, researchers still wonder about the effects of daycare attendance on behaviors. This study investigates the effects of early attendance in Québec's educational daycare program on externalizing and internalizing behaviors in vulnerable and non-vulnerable children.

Daycare attendance in children's first years of life and externalizing and internalizing behaviors

The first year of life is a period of swift neurological growth and children who have been inadequately stimulated during that important period of learning appear more likely to develop behavioral difficulties later on (McCain, Mustard, & Shanker, 2007). In this respect, externalizing and internalizing behaviors appear measurable from the age of 2 (Crockenberg & Leerkes, 2006; Miner & Clarke-Stewart, 2008). Beyond this age, there is a general reduction in the manifestation of externalizing and internalizing behaviors of toddlers. Therefore, most preschoolers have integrated societal norms about appropriate or inappropriate behaviors (Campbell, 2002). Following this reduction, researchers indicate stabilization of the behaviors as measured in preschool and kindergarten (Kerr, Lunkenheimer, & Olson, 2007). Before the age of 2, it seems possible to identify risk factors associated with the emergence and maintenance of these behaviors (Mathiesen & Sanson, 2000).

This highlights the importance for children of experiencing a positive and stimulating environment before the influence of risk factors grows too great and, most importantly, before behaviors achieve the stabilization reported from 4 years old and beyond. For those reasons, developmentally appropriate behaviors should be promoted from infancy to ensure the least externalizing and internalizing behaviors; this is expected to be the case for children attending daycare from their first years of life.

Potential effects of daycare attendance on children's externalizing and internalizing behaviors

Several studies have been conducted to examine the relationship between daycare attendance and externalizing behaviors in children, compared with those of children remaining in parental care during the same period. Others, though fewer, have pursued this objective relating to internalizing behaviors.

Regarding externalizing behaviors, some research reported no relation between childcare type and behavioral outcomes (Bacharach & Baumeister, 2003; Bigras et al., 2009; Côté, Borge, Geoffroy, Rutter, & Tremblay, 2008). On the other hand, others have found an increased risk of externalizing behaviors associated with daycare attendance (Hickman, 2006; Loeb, Bridges, Bassok, Fuller, & Rumberger, 2007; Van Beijsterveldt, Hudziak, & Boomsma, 2005). Similar divergent results are obtained regarding internalizing behaviors. Some reported less internalizing behaviors among children attending daycare (Bigras, Lemay, Tremblay, & Brunson, 2009; Hickman, 2006), other observed more internalizing behaviors among those children (Côté, et al., 2008) and few indicated that children attending daycare did not show different internalizing behaviors than those who stayed home (Van Beijsterveldt, et al., 2005).

In short, one of the prominent features of these results is their inconsistency, perhaps because children's vulnerability isn't considered in the previous results reported. Indeed, this variable is associated with more convergent results when examining the relation between type of childcare and child behaviors.

Vulnerability and the effects of daycare attendance on externalizing and internalizing behaviors

Other studies focused on children expose to risk factors in their home (e.g., household income, family structure, education and age of mother), since behavioral trajectories of these children tend to be less favourable (Appleyard, et al., 2005). From a compensatory perspective, attending a daycare may lessen the influence of risk factors to which a child may be exposed on that child's behaviors.

So, it would be expected to observe less externalizing and internalizing behaviors among vulnerable children attending daycares. Research confirms such expectations. For vulnerable children, attending a daycare in infancy is consistently associated with fewer externalizing and internalizing behaviors afterwards compared with children remaining under parental care (Borge, Rutter, Côté, & Tremblay, 2004; Côté, et al., 2008; Peng & Robins, 2010).

Although vulnerable children seem to benefit the most from daycare attendance, they are found to be the least frequent attenders in Québec. Hence, it is important to ensure that such an early experience guarantees low externalizing and internalizing behaviors among vulnerable children. At the same time, it is essential to ensure that non-vulnerable children, who attend these programs in greater proportion, experience equal benefit.

Research objectives

Accordingly, this study compare externalizing and internalizing behaviors at 2 and 4 years-old between children, non-vulnerable and vulnerable, attending an educational daycare and those remaining under parental care from their first year of life.

Method

Subjects

This study completes secondary analysis on the data of the *Jeune enfant et ses milieux de vie project*, a longitudinal study concerned with the development of 150 children experiencing one of three types of care since their first year of life (centers, homes or parental care) (for details; Bigras et al., 2010).

For the current analysis, the 66 healthy participants (35 boys) were recruited between the ages of 5 and 12 months (M = 10.92 months; SD = 1.5 months). They are grouped by having continuously experienced (n = 45) or not experienced (n = 21) daycare since their first year of life. We excluded children who did not remained in the same type of care until their fourth year of life. Based on household income, family structure, and the mother's education and age at the time of the child's birth, the sample also includes 53 non-vulnerable (80.31%) and 13 vulnerable children (19.69%), of whom 6 are in daycare (13%)..

Measures

Externalizing and internalizing behaviors. Parents reported the behaviors of their 2-years-old using the *Child Behavior Checklist 2/3* (CBCL; Achenbach, 1992). This questionnaire quantify the manifestation of behaviors based on items relating to anxiety, social withdrawal, sleep, somatic complaints, aggression and destruction. It consists of 100 statements about children's concrete behaviors. Based on the two months prior to completing the questionnaire, the parent must give a score of 0 (never present), 1 (sometimes) or 2 (often) for each item. Two standardized scores (T-scores) are obtained: externalizing and internalizing behaviors. The scale has good psychometrics proprieties (Achenbach, 1992).

At 4 years old, the revised *CBCL 1.5/5* was used (Achenbach & Rescorla, 2000). Built upon the same procedures and including most of the same statements as the earlier version (with the exception of two items), but showing a different factorial structure, the instrument gives at the end the same two standardized scores. The correlations between the *CBCL2/3* and *CBCL*1.5/5 of 0.73 for the externalizing score and of 0.86 for internalizing score indicate a high consistency between the children's scores on both profiles. Since the factorial structure of the two profiles are different and the normalization of the latest profile of the *CBCL* has been done on a larger and more representative sample, the *CBCL 2/3* have been recoded like the *CBCL 1.5/5* (items 51 and 79 haven't been considered). This procedure is in the *CBCL* manual (Achenbach & Rescorla, 2000). For externalizing and internalizing behaviors, a T-score of 28-59 is in the normal range, 60-63 in the borderline range and 64-100 in the clinical range.

Type of childcare. Parents report their child's childcare experience with a questionnaire consisting of seven questions about the type, continuity and quantity of care experienced.

Child's vulnerability. An index of cumulative risk is calculated based on household income (above or below the low income cut-off), family structure (two-parent or single-parent family), mother's education at the time of the child's birth (less than a high school diploma or an high school diploma or more) and mother's age at the time of the child's birth (20 years and younger or 21 years and older) reported on a questionnaire. This index is used to determine if the child is exposed to no risk (non-vulnerable) or one, two, three or four risks (vulnerable) in his home environment.

Procedures

This quasi-experimental study adopt a 2 X 2 X 2 mixed-design, where child's vulnerability and type of care are between-subject factor and child's age is a within-subject factor. First, the child's vulnerability was obtain during recruitment when a contact by telephone with parents allowed to complete the family's socioeconomic profile, from which the risk index was calculated. The child's type of care, was also identified at recruitment. Finally, the family received a mailing of questionnaires about children's externalizing and internalizing behaviors when children were aged 2 and 4 years old.

Results

Two 2 X 2 X 2 mixed-design analyses of variance (ANOVAs) were undertaken to compared 1) externalizing behaviors and 2) internalizing behaviors of vulnerable and non-vulnerable children in two types of care (daycare and parental care) at two ages (2 and 4 years old). The significance level used in analyzes was set at $p < .05$ for main effects and $p < 0.10$ for interaction effects that are more difficult to detect in our field (McClelland & Judd, 1993).

Descriptive data

Table 2 presents the means and standard deviations. Non-vulnerable children presented behavior scores in the normal range. Vulnerable children presented behavior scores mostly in the normal range, except for vulnerable 2-year-old children in daycare, who obtained internalizing behavior scores in the borderline range. Data met the assumptions of normality and homogeneity of variance.

Table 2. Descriptive statistics of externalizing and internalizing behaviors

	Non-vulnerable (n = 53)		Vulnerable (n = 13)	
	Daycare (n = 39) M (SD)	Parental care (n = 14) M (SD)	Daycare (n = 6) M (SD)	Parental care (n = 7) M (SD)
Externalizing				
2 years old	48.03 (8.09)	47.36 (7.84)	55.17 (7.99)	54.00 (8.62)
4 years old	48.31 (8.68)	45.43 (8.37)	48.33 (13.28)	59.71 (10.47)
Internalizing				
2 years old	48.97 (8.85)	46.93 (8.51)	62.00 (4.82)	47.00 (5.77)
4 years old	48.26 (10.72)	46.86 (8.50)	58.33 (7.55)	53.71 (9.01)

Daycare attendance and externalizing behaviors

A first ANOVA was performed to compare externalizing behaviors between-subjects (non-vulnerable and vulnerable; daycare and parental care) and within-subjects (2 and 4 years old). The results are presented in Table 3, along with effect sizes.

Table 3. ANOVA results for main and interaction effects of child's type of care, vulnerability and age on externalizing behaviors

	df	SS	MS	F	p	η2
Between-subjects						
Type of care (T)	1	54.66	54.66	0.46	0.50	0.64
Vulnerability (V)	1	970.68	970.68	8.25	0.01*	11.35
T X V	1	232.90	232.90	1.98	0.16	2.72
Within-subject						
Age (A)	1	9.41	9.41	0.28	0.60	0.38
A X T	1	131.40	131.40	3.95	0.05*	5.31
A X V	1	0.34	0.34	0.01	0.92	0.01
A X T X V	1	267.84	267.84	8.05	0.01*	10.83

†$p < 0.10$; *$p < 0.05$

The three-way ANOVA for externalizing behaviors yielded a significant interaction between child' age, type of care and vulnerability, $F (1, 62) = 8.05$, $p = 0.01$, explaining 10.83% of the externalizing behaviors variance. This would suggest that the effect of type of care on externalizing behaviors at 2 and 4 years old depend on child's vulnerability. A simple effects analysis for child's vulnerability indicated that the means of externalizing behaviors at 2 and 4 years old were different for vulnerable children, $F (1,11) = 6.96$, $p =.02$, and not for non-vulnerable children, $F (1,51) = 0.77$, $p =.38$ (Figure 1). Specifically, a further simple effects analysis for child's age among vulnerable children indicated that daycare and parental care were associated with the same externalizing behaviors at 2 years old, $F (1,12) = 0.06$, $p = 0.81$. Then attending daycare was associated with a reduction in externalizing behaviors between 2 and 4 years old, while staying under parental care was associated with an increase, $F (1,11) = 6.27$, $p = 0.03$.
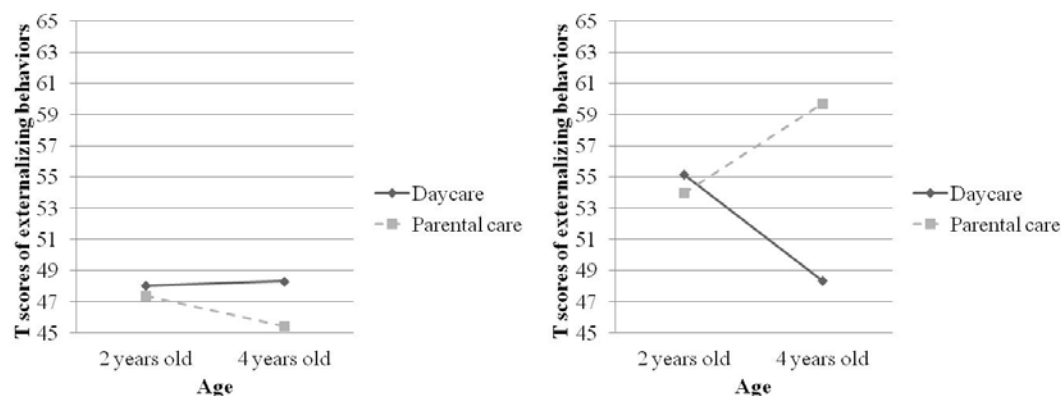
Fig 1. a) For non-vulnerable children, T-scores of externalizing behaviors at 2 and 4 years old for children in two types of care; b) For vulnerable children, T-scores of externalizing behaviors at 2 and 4 years old for children in two types of care.

Daycare attendance and internalizing behaviors

A second ANOVA was performed to compare internalizing behaviors between-subjects (non-vulnerable and vulnerable; daycare and parental care) and within-subjects (2 and 4 years old). The results are presented in Table 4, along with effect sizes.

Table 4. ANOVA results for main effects and interaction effects of type of care, vulnerability and age on internalizing behaviors

	df	SS	MS	F	p	η2
Between-subjects						
Type of care (T)	1	654.16	654.16	5.05	0.03*	6.47
Vulnerability (V)	1	1109.06	1109.06	8.57	0.01*	10.97
T X V	1	321.70	321.70	2.48	0.12	3.18
Within-subject						
Age (A)	1	6.27	6.27	0.17	0.68	0.24
A X T	1	149.54	149.54	4.06	0.05*	5.80
A X V	1	18.11	18.11	0.49	0.49	0.70
A X T X V	1	116.53	116.53	3.16	0.08†	4.52

†$p < 0.10$; *$p < 0.05$

The three-way ANOVA for internalizing behaviors yielded a significant interaction between child' age, type of care and vulnerability, $F(1, 62) = 3.16$, $p = 0.08$, explaining 4.52% of the internalizing behaviors variance. This would suggest that the effect of type of care on internalizing behaviors at 2 and 4 years old depended on child's vulnerability. A simple effects analysis for child's vulnerability indicated that the means of internalizing behaviors at 2 and 4 years old were different for vulnerable children, $F(1,11) = 7.24$, $p = .02$, and not for non-vulnerable children, $F(1,51) = 0.05$, $p = .82$ (Figure 2). Particularly, a further simple effects analysis for child's age among vulnerable children indicated that children in daycares started with higher internalizing behaviors at 2 years old compared to children under parental care, $F(1,12) = 25.30$, $p = 0.00$. Then, while children in daycares showed a reduction between 2 and 4 years old, those under parental care showed an increase. So, differences of internalizing behavior were no longer present at 4 years old, $F(1,11) = 1.40$, $p = 0.26$.
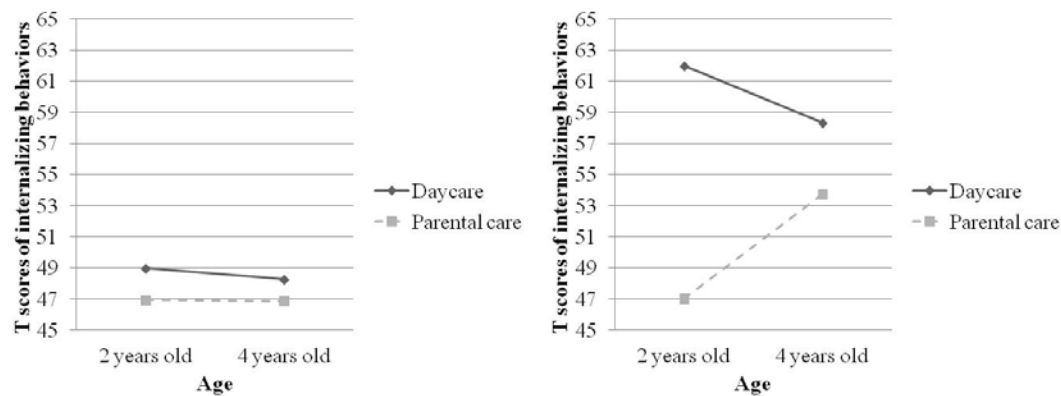
Fig 2. a) For non-vulnerable children, T-scores of internalizing behaviors at 2 and 4 years old for children in two types of care; b) For vulnerable children, T-scores of internalizing behaviors at 2 and 4 years old for children in two types of care.

Discussion

This study investigated externalizing and internalizing behaviors of 2- and 4-year-old children, non-vulnerable and vulnerable, attending daycare from their first year of life compare to those of children under parental care. Our results indicate that the effect of type of care on children' externalizing and internalizing behaviors scores from 2- to 4- year-old is moderated by children' vulnerability.

More specifically, significant differences have been found between externalizing and internalizing behaviors of 2- and 4- years-old children attending daycare or staying under parental care only among vulnerable children, which is consistent with previous research (Borge, et al., 2004; Côté, et al., 2008; Peng & Robins, 2010). For externalizing behaviors, at 2 years old, vulnerable children in either daycare or under parental care manifested the same externalizing behaviors. Afterward, externalizing behavior scores decreased in children in daycare and ended in the normal range at 4 years old, while scores for children under parental care increased close to borderline range. For internalizing behaviors, compared to parental care, daycare attendance was associated with significantly higher scores at 2 years old, in the borderline range. But, differences were no longer present at 4 years old because of a decrease in scores of children in daycare and an increased in scores of those under parental care.

As reported by Peng and Robin (2010), daycare attendance could be particularly beneficial for reducing externalizing and internalizing behaviors of vulnerable children. The ecosystemic model of development (Bronfenbrenner, 1979) indicate that behaviors result from interactions between the child and his environment. For example, as a result of certain features of the underprivileged home environment (e.g., parental stress, depression symptoms, etc.), children tend to be more exposed to harsh parenting and inconsistent discipline; they may react to such parenting in such a way that may result in more negative discipline from parents and exacerbation of children's inappropriate behaviors (Dodge, Greenberg, & Malone, 2008). So, for vulnerable children under parental care, we may wonder if manifestation of externalizing and internalizing behaviors will continue to increase—which would be worrisome—as some studies found a certain stability between behaviors measured in preschool and those in kindergarten (Kerr, et al., 2007).

As for vulnerable children attending daycares, this educational experience appears to intervene in that cycle of interactions and act as a compensation environment, probably offering positive socialization opportunities. Indeed, educators should adopt practices that create high-quality physical setting, schedule and interactions (Gouvernement du Québec, 2007). However, our results underline the borderline scores of internalizing behaviors of children in daycare at 2 years old preceding their reduction into normal range at 4 years old. Perhaps educators could be more skilled to detect children' difficulties and organizing a physical setting and a schedule allowing appropriate intervention for externalizing behavior early on and for internalizing behaviors as children get older.

As for the majority of children attending Quebec's daycares that is non-vulnerable, our results indicated no differences between the rates of externalizing and internalizing behaviors from 2 to 4 years old among children attending daycare or staying under parental care. Since one of the key objective of the Québec non-profit daycare network is to foster child socialization by offering a first experience in an educative setting and in a group context, our results are good news for children in daycare, since they don't appear to be more at risk of presenting behavioral problems, a potential detrimental effect that some have reported previously (Loeb, et al., 2007). This positive result may be a particularity Quebec's network of regulated childcare services where settings are publicly subsidies, regulated, monitored, shared a common educational program, etc. which could be associated to high quality services offered in regulated childcare centers and homes. Indeed, countries regulating early childhood education like Sweden tend to offer homogeneous higher quality services (Sheridan & Schuster, 2001). In parallel, previous research have indicated that high quality seem to be associated to lesser rates of externalizing and internalizing behaviors (NICHD Early Child Care Research Network, 1998). Hence, quality of care might help understand our results, although there might be differences between children attending centers and home-based daycares because of their respective quality level (Bigras, et al., 2010).

Since educational practices adopted by educators have not been measured in this study, our hypotheses regarding their association with vulnerable and non-vulnerable children' externalizing and internalizing behavior still need to be verified. Thus, we need further research to understand practices associated to externalizing and, mainly, internalizing behaviors of children attending daycare. In that regards, characteristics of the educational settings, such as its quality and type, appear to be an avenue for exploration in order to better understand features of the educational experiences that might be essential to implement in order to insure normal rates of externalizing and internalizing behaviors among non-vulnerable and vulnerable children attending Quebec's daycare before school entry.

Limitations and conclusion

Even though this study presents new information, it also presents some limitations. First, simple size and effect sizes are small and results should be interpreted with caution. Also, it's important to keep in mind that our study adopted a quasi-experimental design and that omitted variables may have played a role. Some of these variables may be important to consider in future works, such as the type of care (center-based and family-based daycare) and their respective level of quality.

In sum, this study suggests that, on the one hand, daycare attendance is associated with the same normal externalizing and internalizing behaviors scores as parental care from 2 to 4 years of age in non-vulnerable children. On the other hand, for vulnerable children, daycare attendance is associated with a significant reduction in externalizing and internalizing behaviors from 2 to 4 years of age, but internalizing behavior scores still remain higher. Since these are the first results concerning behaviors of young children attending Québec's regulated non-profit educational daycares, further work should explore previous features of the educational experiences that contributed to attain the normal externalizing and internalizing behaviors in this study among 4 years-old children attending daycare so that the socialization goal of the daycare network is fully reached for all children and all types of behaviors.

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EDUCATIONAL TECHNOLOGY: A WAY TO ENHANCE STUDENT ACHIEVEMENT AT THE UNIVERSITY OF BAHRAIN

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Abstract

ET can empower teachers and learners, promote change and foster the development of twenty-first century skills. Improving education quality is a priority for most developing countries in which governments are facing a challenge to identify efficient ways to use their scarce resources and raise the quality of education. Data to support these beliefs are still limited, especially in the Kingdom of Bahrain and the other Gulf countries. Therefore, the current research aims to investigate the current situation regarding using ET at the University of Bahrain from the following aspects: the ET adopted by the university in the teaching and learning processes, obstacles facing the adoption of ET and the effects of ET on student achievement and academic staff teaching effectiveness. The results show that at the University of Bahrain, student learning and achievement have been affected when the teaching and learning processes are enhanced by ET. ET has motivated the students to get more involved in learning activities through which they become more active and more interested in learning. Moreover, the academic staff believe that adopting such technologies can enhance their communication with the students, reduce the teaching pressure caused by the course material preparation and make the lecture material available at the time of the discussion. However, the findings demonstrate some impediments facing both the students and instructors in adopting ET at the University of Bahrain, such as the insufficient ICT infrastructure and computing facilities, lack of sufficient technology budget and IT investment, and technical support.

Keywords: ET, student achievement, teaching effectiveness.

Introduction

Education Technology (ET) is defined as "the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources" (Richey, 2008). ET can be used by all educators who want to incorporate technology in their teaching as well as educational administrators. The emergence of different educational tools and software has motivated may learning organizations to integrate them into the curriculum as they can have a great impact on student learning (Hawkins et al., 1996). Recently, Educational Technologies have been considered as a crucial factor in improving the quality of education and enhancing the level of student educational learning performance (Bialo et al., 1995). ET has demonstrated a significant positive effect on student achievement and the teaching and learning processes as a whole (Bialo et al., 1995).

The University of Bahrain, which is the only national learning organization, pays considerable attention to utilizing state-of-art technologies to facilities their own progress, particularly in the teaching and learning. For instance, ET has become increasingly commonplace in classrooms. All the classrooms are occupied by a data show device and a personnel computer to enable computer-based instructions. An open area lab consisting of more than 200 personnel computers is open to the students for the whole day to study and practice their learning material. In addition, there are four rooms in which a smart board is available for workshops for the students and the academic staff. Moreover, the University of Bahrain has made consistent progress in expanding Internet access in the instructional rooms. The Internet can be accessed by the students everywhere in the university through the Wireless network and the Wi-Fi. The University of Bahrain also established the E-Learning Centre in 2004 to provide high quality educational output that will contribute to producing a highly qualified generation. Moreover, the university has set a strategic plan to investigate new and more updated technology in the education process, such as teleconferencing, a collaborative environment for enhancing student team working,

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and social networking. Improving education quality is a priority for most developing countries in which governments are facing the challenge to identify efficient ways to use their scarce resources and raise the quality of education. Data to support these beliefs are still limited, especially in the Kingdom of Bahrain and the other Gulf countries. Therefore, this research aims to investigate the current situation regarding using ET at the University of Bahrain according to the following aspects: the ET adopted by the university in the teaching and learning processes, obstacles facing the adoption of ET and the effects of ET on student achievement and academic staff teaching effectiveness.

Research Background

ET and its Effect on the Teaching and Learning processes

ET has been defined as solutions to instructional problems that involve social as well as machine technologies with concern for improving the effectiveness and efficiency of learning in educational contexts (Cassidy, 1982). Bruce and Levin (1997) perceive ET as a means of media with four different focuses: media for enquiry, media for communication, media for construction, and media for expression. Cox et al. (1999) show that many educators perceive technology as a tool for improving the presentation of material for making lessons more fun for the learners and for making administration more efficient. There is a widespread belief that ET can enhance teaching and learning practices (Higgins, 2003), and create an "ideal" learning environment (Marshall, 2002). Hence, it becomes an integral part of both the teaching and learning process. ET can have the greatest impact on improving student learning and achieving measurable educational objectives (Hawkins et al., 1996). In addition, it can empower teachers and learners, transforming teaching and learning processes from being highly teacher dominated to student centred (Higgins, 2003). This transformation will increase the teaching gain for students and improve the quality of learning. Moreover, ET may provide students with valuable skills that are recommended by the market. Thus, ET creates opportunities for learners to develop their cognitive, critical thinking, information reasoning and communication skills (Chigona and Chigona, 2010). It can also help learners to explore education beyond classrooms by providing access to a wide range of resources and information, promoting scientific inquiry and discovery and allowing students to communicate with experts (Means et al., 1994). Bixler and Askov (1994) stated that effective technology empowers learners and helps them take responsibility for their own learning. Cradler and Bridgforth (1998) communicated the output of a forum wherein 70 US educational decision-makers and practitioners met, discussed and prioritized the benefits and issues related to educational networking. The conclusion was that networking technology is a powerful communications tool, which when utilized can support innovative teaching, encourage active learning, help relieve the professional isolation of teachers and can enable users to become active researchers and learners.

The Effects of ET on Achievement and Performance of Students

Previous studies revealed the positive impact of technology on enhancing the achievement and performance of students and in gaining significant improvement and changes in all areas (Kulik, 1994; Rutz et al., 2003; Sivin-Kachla, 1998; Baker et al., 1994). For instance, Kulik (1994) aggregated 500 individual research studies of computer based instruction students. The results of the aggregation demonstrated that students who used computer-based instruction scored better than those in the control condition without a computer. Students also gained more knowledge in less time because the classes became more enjoyable and interesting after the introduction of computers (Kulik, 1994). Similarly, Sivin-Kachla (1998) found that students studying in a technology rich environment achieved higher marks in all subject areas, gained a positive attitude towards learning, were able to generate new ideas and built self-confidence. The US Department of Education conducted a scientific study in 2001 to assess the impact of technology using two types of student achievement measures – measure assessed reading achievement and assessed mathematics achievement. A significant impact was revealed in the students' scores. Moreover, in a study conducted in Pittsburgh, in which an intelligent tutor – software used to support the curriculum – was used as part of the regular curriculum for ninth-grade algebra

(Koedinger et al., 1999). The results of the study demonstrated that 470 students in the experimental classes outperformed students in compression classes by 15% on a standardized test and 100% on test targeting the curriculum focused objectives (Koedinger et al., 1999). Recent studies conducted by Banerjee et al. (2005) found that by integrating the mathematics curriculum with ET, the mathematics scores of the fourth-grade students in Vadodara, India were increased. In addition, Barrow et al. (2009) analysed the effect of an instructional pre-algebra and algebra program on student's test scores in the US. Rutz et al. (2003) examined the impact of using instructional technology on optimizing the learning styles and process types. They found that using web-based material to supplement the in-class experience can improve student achievement.

Factors that affect the Adoption of ET in Teaching

A number of studies have shown that there are a wide range of factors that influence educators in adopting their teaching with technological tools (Cox et al., 1999). Among these factors are the quality of the ICT resources, incentive to change (Cox et al., 1999), instructor's readiness to adopt and use technology, instructor's confidence, knowledge and ability to evaluate the role of ICT in teaching and learning, technical support, students' acceptance and attitude to the use of IT, effective training and personal development, leadership and the availability of IT resources (Balash et al., 2011, Sherry et al., 2000). Peeraer et al. (2010) identified other factors include access to computers, intensity of computer use, ICT skills and ICT confidence. Means et al. (2001) mentioned that factors, such as lack of technology infrastructure, technical support and high quality digital content, can affect technology implementation in urban schools. Balsh et al. (2011) identified institutional support as one of the important factors to be considered in adopting ET. They discussed institutional support from the lack of policy and planning of using the ET and the lack of a reward system or appreciation reward for using such tools. Muller (2008) considered the instructor's attitude towards computing important and argued that this factor is critical to the effectiveness of integrating ICT into the curriculum. If instructors are not comfortable with technology, then low expectations from technology can be perceived. In addition to the attitude of the instructors, Naimova (2008) identified the attitude of administrators as one of the factors that may affect the adoption of ET. He argued that the lack of support from administrators may hinder the implementation of technology in the classroom (Naimova (2008).

Research Methodology and Data Collection

This research aims to investigate the current situation regarding the use and adoption of ET by the University of Bahrain. To achieve this purpose both survey and experiment were conducted. A random sample of 250 students and 100 academic staff from different colleges and departments were selected for the survey. In addition, an experiment was conducted with the help of 30 students from the Department of Information Systems to investigate the impact of different Educational Technologies on their performance. The students were asked to attend three lectures, which were conducted using the traditional technique (white board), PowerPoint and smart board. At the end of the lecture, the students were requested to complete a short questionnaire indicating their perception concerning the impact of the technology used in the lecture.

Data analysis and results

Demographics

The demographic characteristics of the participants, both students and academic staff, are demonstrated in Table (1) and Table (2), respectively. The results in Table (1) show that the majority of the participating students were junior female (62%, 72%), Bahrainis (94%), and between 17 and 22 years old. Moreover, the results demonstrate that most of the participants were from the College of Business (36%) (The College of Business is considered to be the biggest college in the University of Bahrain in terms of number of students).

Table 1: Selected characteristics of the sample (students)

Table 2: Selected characteristics of the sample (Academic staff)

Demographic information	%	Demographic information	%
Gender		College	
Male	28%	IT	16%
Female	72%	Science	10%
Age		Business	36%
17-22	95%	Engineering	9%
23-28	5%	Other	29%
Nationality		Class level	
Bahraini	94%	Freshman	36%
Non-Bahraini	5%	Junior	62%
		Senior	27%

Demographic information	%	Demographic information	%
Gender		College	
Male	46%	IT	38%
Female	54%	Science	22%
Age		Business	22%
23-35	6%	Engineering	4%
27-35	28%	Other	14%
36-50	38%	Years of experience	
Above 51	28%	Less than 5	18%
Nationality		5 – 10 years	18%
Bahraini	44%	10-15 years	22%
Non-Bahraini	56%	More than 15	42%

The results in Table (2), however, show that the majority of the academic staff that participated in the survey were female (54%), non-Bahrainis (56%), with an age range of between 36 and 50 (38%). In addition, the results show that most of the participants were from the College of Information Technology (38%) with experience of more than 15 years (42%).

Descriptive analysis

The overall ability of students to use ET

The overall ability of the students to use technology at the University of Bahrain was investigated (Table 3). The results in Table (3) show that almost most of the students are able to use ET at the University of Bahrain. Thus, the results show that 46% of the participants are able to use ET without any assistance while 47% are able to use it with minimal assistance.

Students' ability	%
Without assistance.	46%
Need minimal assistance when using technology.	47%
Need a lot of assistance when using technology.	7%
Never use technology.	0%

Table 3: The ability of students to use ET

ET in teaching activities	%
ET is integrated in all of my courses.	44%
ET is integrated in most of my courses.	28%
ET is integrated in some of my courses.	26%
I never integrate ET in my teaching activities.	2%

Table 4: Integrating ET in teaching activities

Integration of ET in teaching activities by academic staff

The frequency of integrating ET in teaching activities by academic staff was demonstrated and the results are demonstrated in Table (4). The results show that 44% of the participants are integrating ET in all of their courses, while only 2% never integrated ET in their courses.

Importance of course requirements being available online

Both students and academic staff were asked regarding their perception concerning the importance of some of the course requirements to be available online. The results are shown in Figure (1). The results in Figure (1) reveal that both students and the academic staff believe that it is very important for lecture notes and students work (assignments and projects) to be available online (77% and 71%, respectively). However, there is a clear contradiction in their perception concerning the importance of the course grades, video archive of lectures, course syllabus, and class discussions
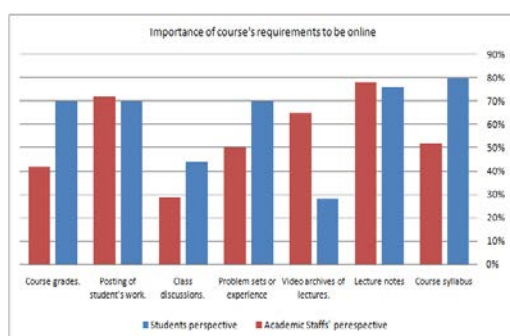
Figure (1): Perception of students and academic staff concerning the importance of course requirements being available online

Perception concerning the barriers for implementing ET at the University of Bahrain

The perception of students and academic staff concerning the barriers for integrating ET in their learning and teaching activities was investigated. The results are shown in Table (5) and Table (6). The results in Table (5) show that all students believe that the major barriers for integrating ET in their learning activities are the insufficient computing facilities (57%) followed by the difficulty of gaining access to the technical recourses in the University of Bahrain labs and classrooms (41%).

Table 5: Student perception concerning the barriers for integrating ET in their learning activities

Barriers	%
Insufficient computing facilities (labs, technology-equipped classrooms).	57%
Gaining access to the technical resources at the University of Bahrain is too difficult or inconvenient.	41%

Lack of assistance when facing technical problems.	40%
I'm not interested in using technology.	21%
Do not perceive any barriers.	9%

However, the results in Table (6) demonstrate that the *insufficient computing facilities* (64%) and *the computing infrastructure* (58%) are the most encountered barriers facing the academic staff in integrating ET in their teaching activities.

Table 6: of academic concerning for ET in their activities

The effect adopting

Perception staff the barriers integrating teaching

of ET –

Barriers	%
Lack of time to integrate ET in teaching activities.	44%
Lack of funding to purchase the equipment and software needed.	32%
Insufficient computing infrastructure (servers, bandwidth, storage capacity).	58%
Insufficient computing facilities (labs, technology-equipped classrooms).	64%
Not enough training offered in the areas that interest you	32%
Not enough assistance with technical problems.	40%
Not interested in using technology.	2%
Do not perceive any barriers.	6%

perspective of students and staff

As most of the students and academic staff at the University of Bahrain perceive the importance of ET, Table (3) and Table (4), the effect of these technologies should be investigated. Therefore, the perception of students and academic staff concerning the effect of ET on the overall performance of the students and instructor was investigated, as shown in Table (7) and Table (8), respectively.

Table 7: The effect of adopting ET – perspective of students

Effects	Disagree	Neutral	Agree
Increase academic achievements (e.g., grades).	18%	36%	46%
Encourages student's collaboration.	24%	33%	43%
Improves student's communication and interpersonal skills (e.g., ability to be a group member).	20%	25%	55%
Motivates the students to get more involved in learning activities.	20%	29%	51%

The results in Table (7) demonstrate that more than half of the participating students believe that ET can improve their communication and interpersonal skills (55%) and motivate them to get more involved in learning activities (51%). In addition, the results in Table (8) demonstrate that the majority of the participating academic staff (> 70%) believe that ET can enhance the instructor's communication skills (74%), increase the competency among other academic staff (74%) and reduce the pressure of the lecture preparation on the instructor (72%).

Table 8: The effect of adopting ET on student performance – perspective of academic staff

Effects	Disagree	Neutral	Agree
Enhance their communication skills.	8%	18%	74%
Increase the competency among other academic staff.	8%	18%	74%
Give the teachers the opportunity to be learning facilitators instead of information providers.	22%	40%	38%
Reduce the pressure of the lecture preparation on the instructor.	14%	14%	72%
Destroy student's social development.	48%	32%	20%

Experiment analysis and results

In section 3, it was mentioned that two of the adopted Educational Technologies in the University of Bahrain were selected: smart board and power point. They were compared with the traditional way of teaching using a whiteboard. The comparison was done to examine the perception of the students on the adoption of such technologies as a teaching tool, the effect of these technologies on their communication skills, performance and understanding, as shown in Table (9), Table (10) and Table (11).

Perception of students concerning the adoption of PowerPoint, smart boards and whiteboard as teaching tools

The results in Table (9) indicate that the smart board is the most enjoyable technology (70%) whereas PowerPoint is the most boring technology to be used (80%). Moreover, the respondents believe that PowerPoint and whiteboard can make the lecture material easy to follow (40%, 40%, respectively) while they require extensive note taking (30% and 70%). In addition, PowerPoint is perceived by the participants to be a teaching technology that does not allow enough participation in the lecture (65%).

Table 9: Perception of students concerning adopting PowerPoint, smart board and whiteboard as teaching tools

Description	Power Point	Smart Board	White board
Enjoyable	20%	70%	10%
Easy to follow.	40%	20%	40%
Boring	80%	10%	10%
Does not allow enough participation.	65%	0%	35%
Required extensive note taking.	30%	0%	70%

Perception of students concerning the effect of using PowerPoint, smart boards and whiteboard on their communication skills

The results in Table (10) demonstrate that students believe that both PowerPoint and whiteboard decrease the communication between the instructor and the students (50%, 40%, respectively) while the smart board increases the interaction among the students (80%) and enhances the ability of students to work in a group (65.5%).

Effect	Power Point	Smart Board	White board
Make the content and delivered materials of the lectures more clear	35%	40%	25%
Helps the students to remember the information easily.	50%	50%	50%
Increases the student's attention by limiting any disruption opportunities.	40%	40%	20%

Table 10: Perception of students concerning the effect of PowerPoint, smart Board and whiteboard on their communication skills

Perception of students concerning the effect of using PowerPoint, smart boards and whiteboard on their performance and understanding

Effect	Power Point	Smart Board	White board
Decreases the communication between the instructor and the students.	50%	10%	40%
Increases the interaction between students.	5%	80%	15%
Enhances the students' ability to work in a group	25%	65.5%	9.5%

The results in Table (11) demonstrate that more than 30% of the participating students believe that smart boards and PowerPoint can make the content and the delivered materials of the lectures more clear by offering images, colours and many other features. Moreover, they can increase the attention of students by limiting any opportunities for disruption (40%, 40%, respectively)

Table 11: Perception of students concerning the effect of PowerPoint, smart board and whiteboard on their performance and understanding

Discussion and conclusion

The current study was conducted to investigate the effect of using ET on the achievement and performance of students at the University of Bahrain. It has been revealed by the results that at the University of Bahrain the learning achievement of students is affected when the teaching and learning processes are enhanced by ET. It motivates the students to become more involved, active and interested in learning. In addition, ET promotes the collaborative communication and interpersonal skills of students, and, consequently, changes their attitude to learning. The experiment has demonstrated that effective technology, such as smart board and PowerPoint are very enjoyable, help in best utilizing the lecture time, limit disruption by students, provide outstanding methods for presenting the lecture materials, and enhance the concentration and engagement of the students.

Most of the academic staff and instructors at University of Bahrain are integrating their teaching with ET due to its easy access and availability. They are mostly using Moodle, LMS (Black board), PowerPoint and some collaborative tools, such as Microsoft Groove and Dropbox, as a teaching assistance technology. The academic staff and instructors realize that adopting such technologies can enhance their communication with the students, reduce the teaching pressure caused by the course material preparation and make the lecture material available at the time of the discussion. The integration with ET will enable them to build teaching competencies, and, therefore, will impact their teaching effectiveness and performance.

Although, the importance of Education Technology has been acknowledged by the University of Bahrain, there are some impediments facing both the students and instructors in adopting ET. The insufficient computing facilities and infrastructure, lack of sufficient technology budget and IT investment, technical support and

excessive budgeting and resources consumption needed for training programmes are among the obstacles facing the university in adopting ET.

The results of the current study have established the positive impact of ET in enhancing the performance of the students and the overall teaching and learning processes that have already been proved by many studies (Rutz et al., 2003, Koedinger, 1999, Baker et al., 1999, Sivin Kachla, 1998). However, educational organizations should be aware that the achievement of their learning effectiveness and desired outcomes will not be achieved just by purchasing updated software and hardware (John and Sutherland, 2005, Peeraer, et al., 2010). Educational Technologies can be found to be less effective and even inefficient teaching supportive tools if adopted without appropriate alignment with the nature of the course, course objectives and learning outcomes, lecture type and material, students learning styles and teaching styles (Balash, et al., 2011, Trucano, 2005). Therefore, before taking a decision to adopt certain ET, the educational organizations need to develop strategic planning in which their vision and mission, together with the teaching and learning processes needs, should be identified and embedded in their strategy (Balash et al., 2011). Moreover, the internal and external environment need to be assessed to identify those factors that assist in achieving their objectives and goals for adopting ET as well as the barriers and obstacles for their achievement.

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EDUCATION OF CHILDREN WITH LEARNING DISABILITIES FROM THE SOCIAL AND CULTURAL PERSPECTIVE

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Abstract

This article describes two contradictory discourses on learning disabilities, namely the medical and the socio-cultural one. The former looks for causes of learning difficulties in the learning process itself and analyzes them in categories of developmental deficits, which need to be corrected. The latter approach seeks the causes in the social and cultural context of learners' lives. Thus, in order to help students in their development, it is necessary to change the learning context in such a way that it will correspond to different learning abilities and needs of students. In reference to the socio-cultural discourse, the article presents the guidelines for the education of children who experience learning failure at school.

Keywords: Learning difficulties; Medical discourse; Socio-cultural discourse; Differentiated education; Communities of learners

Introduction

Learning disability is a term that contains a broad range of meanings, avoids an unambiguous definition and lacks precision in making a decision on what exactly constitutes this category of notions. As a result, some researchers will negate the justifiability of using the term in the theory and practice of education or therapy. They claim that learners assigned to a group of individuals with learning difficulties do not differ significantly from the ones who are diagnosed as poor school achievers. Most researchers, however, express the opinion that it is fully justifiable to use the term 'learning difficulties' and demonstrate that students with learning difficulties are essentially different from those whose school achievements are poor as well as from the ones who have other problems in processing information, e.g. children with ADHD (Fletcher, Lyon, Fuchs, Barnes, 2007; Krasowicz-Kupis, 2008; Smith, 2008).

Studies completed over the past decades have shown that learning disabilities are a heterogeneous group of problems, i.e. they comprise difficulties experienced by learners in the acquisition of different school skills. These are the most often difficulties in reading (such as recognizing/deciphering words, reading fluency and understanding), written expression (handwriting, spelling, text formation) and mathematical abilities. Such problems are frequently experienced by the same student and may occur concomitantly with other disorders, such as attention distractibility and social or emotional deficits (Fletcher et al., 2007; Smith, 2008).

Far from negating the fact that some learners have learning disabilities and there are differences between learners in the learning rate and quality of acquired school skills, it seems necessary to analyze the current social discourses on this subject. Two basically opposing approaches to learning difficulties are the medical and the socio-cultural discourses (Reid & Valle, 2004; Dudley-Marling, 2004; McDermott & Varenne, 2010). The former one is rooted in the traditional, positivistic model of education and finds applications in medicine and mainstream psychology. The latter is inspired by the critical thought that is increasingly more pronounced in social sciences and various currents of the contemporary humanities. It finds support in a new branch of science known as *disability studies* (Albrecht, Seelman, & Bury, 2001), which is in opposition to the dominant medical discourse on disabilities.

The purpose of this article is to present both approaches to the interpretation of learning difficulties and their consequences for the practical recognition, diagnosis and assistance of learners. Another objective is to discuss

the main ideas underlying the education of students who experience failures at school, which originate from the socio-cultural perspective of analyzing learning disabilities.

Learning disabilities in the medical and socio-cultural discourses

The process of emergence and formation of the sphere of knowledge that pertains to learning disabilities, which began in the 19th century Europe (cf. Fletcher et al., 2007; Wong, Graham, Hoskyn and Berman, 2008), was closely correlated with the clinical studies conducted by physicians and psychologists. In the 1910s, Gall, an Austrian neurologist, was seeking for causes of language disorders that he had found in some of his patients. He put forth a hypothesis that they were caused by some brain damage, which led to some impairment in expressing thoughts in writing, but did not impair the patients' ability to use spoken language (cf. Hammil, 1993; Fletcher et al., 2007). Thus, the diagnosed disorders were selective in nature. Gall opted for the need to exclude other reasons which could be responsible for language disorders in patients, such as mental retardation or severe hearing impairment. The research may be said to constitute a source of the diagnostic exclusion criteria applied nowadays to identification of learning disabilities.

Studies on the neurological grounds of linguistic, cognitive and reading disorders were continued and developed by Broca, Wernicke, Hinshelwood, Pringle Morgan in Europe, and by Orton and Strauss with his co-workers in the USA. The research undertaken later by Cruickshank, Myklebust, Johnson and Kirk, rather than concentrating on the aetiology of learning difficulties, focused on characteristics of individuals with learning deficits and – depending on the type of diagnosed difficulties - on the potential intervention (Fletcher et al., 2007). In Poland, studies on learning difficulties among schoolchildren have been conducted since the 1950s. The pioneer researcher was Spionek (1965, 1973), who demonstrated that the most frequent primary cause of learning difficulties and school failures was partial disorders in the development and fragmentary retardation, known as micro-defects.

It appears, therefore, that since the earliest days of research and theoretical considerations on the definition and diagnostic criteria of learning disabilities, the biomedical and psychological approaches have been present. This has led to the conceptualization of learning disabilities in the language of medical discourse, which can be relatively easily noticed when one considers the process at the end of which children who demonstrate problems in acquisition of school abilities are classified as belonging to a group labelled 'children with learning disabilities'. This process begins when a teacher finds out an evident discrepancy between the expected and actual school achievements of a pupil. Then, the following questions are asked: What is wrong with this pupil? What characteristics intrinsic to the learner underlie the diagnosed problems? (Dudley-Marling, 2004, p. 488). Consequently, the student becomes a subject of observation carried out at school, and the results are documented, analyzed and used to formulate a preliminary hypothesis regarding the unsatisfactory level of academic performance. In order to confirm or exclude the fact that a given student has learning disabilities, specialist diagnostic tests are given. Finally, an opinion on the type of learning disabilities is proposed as well as further educational and therapeutic measures, which will correspond to the learner's special educational needs.

According to Linton (1998), this process of assigning a student the status of a person with learning disabilities, briefly presented above, is a manifestation of the attachment to epistemology and the tradition of the positivist model of education, based on a privileged position of statistically defined 'normality' and on viewing a difference as pathology. It leads to localizing the problem in the learner (Reid & Valle, 2004). In the discussed discourse, a difference is perceived in just one way – as a deviation from the norm, a pathological condition, a deficit which has to be corrected, compensated for and levelled.

The medical discourse, operational in the school environment, gives the legitimization for the category known as learning disabilities and the consequent educational policy and practice. The more the educators focus on the learner and his problem, the more likely he is to gather negative experiences associated with the assigned status of a person with learning disabilities. This has been evidenced in a study completed by Barga (1996) on how the students with learning difficulties their disabilities in the educational area (from preschool to university). When reminiscing about their schools, such learners dedicate a considerable amount of time to recalling

situations and events in which they most painfully experienced being disliked by other learners and teachers, when they felt excluded, less worthy or stigmatized.

In the socio-cultural discourse, learning difficulties are perceived differently. In the language of this discourse, they are interpreted as an effect of the social construction of reality. A similar attitude to this category of disabilities was initiated by Vygotsky in the early 20th century. Vygotsky's understanding of disability is coherent with the principal thesis of his theory, which assumes that the social context plays the key role in the development of the human mind. Hence, Vygotsky understood disability as a socio-cultural and developmental phenomenon rather than a biological one. It is the social context in which a child grows up that determines to what extent the child will be perceived (and will perceive himself/herself) as 'disabled' (cf. Bodrova and Leong, 2007; Gindis, 1999). Disability cannot be seen and interpreted outside the social and cultural context because it is a product of the social interaction (McDermott & Varenne, 2010), and differences between people in the rate, pace and dynamics of their functioning in various areas and spheres should be taken as a natural thing, as natural diversity of the human population.

Sources of learning, difficulties are therefore to be sought, first of all, in the school and then in the social, cultural and political contexts in which the school functions. As Dudley-Marling puts it (2004, p. 484), learning difficulties can only be understood within the school environment, because their manifestation 'requires an institutional framework, which enables one to assign certain meanings to pupils' behaviour'. Defining learning difficulties as delayed acquisition of certain skills (for example reading or counting) makes sense only when seen in the contexts in which these skills are especially important. Without school and without school education, there would be no learning difficulties (Dudley-Marling, 2004; Krasowicz-Kupis, 2008).

Once the teacher notices that a learner finds it difficult to acquire school abilities, he asks the questions: What goes wrong? What is the psychosocial situation of the learner? Next, the teacher analyses various factors which create the social context of learning in a given class so as to modify the present configuration and minimize or even eliminate learning problems (Dudley-Marling, 2004, p. 488). Thus, instead of focusing on remedying, correcting and compensating for the learner's deficits, educators concentrate on transforming the educational context so that it will correspond to the different abilities and needs of learners. This does not mean that any direct support given to students is abandoned. But what it means is that the teacher should realise that even a small change in the way he communicates with the learner can play a significant role in the modification of the self-image created by the student as a person who is learning (Gutierrez, 1993). It is particularly important to restore the inner motivation for learning, while simultaneously create conditions which help to form a positive self-image by students, to discover own developmental strengths and to reinforce the sense of agency.

Children with learning disabilities in the classroom community

The above heading reflect one of the key ideas in the socio-cultural perspective on the education of children with learning difficulties, such as the intention of building a social context within the school classroom that would help *all* the pupils to learn successfully since the first day at school. From this point of view, the support given to students adequately to their needs is an integral element of the everyday educational practice. It can be called differentiated teaching, understood as a flexible system, in which students are offered many levels or types of learning, organized around the shared teaching goals. By differentiating tasks, it is possible to address the needs of pupils who work on different levels of competences, while the shared goal integrates all pupils and lets them work in small teams and as a whole class (Tomlinson, 1991, 2001).

It seems advisable to diverge from the traditional perception of a school classroom as an area in which a single teacher teaches simultaneously all the pupils. In contrast, a class should be transformed into a community of people who are learning (Brown, 1997; Brown & Campione, 1994; Herrenkhol, Palincsar, DeWater, & Kawasaki, 1999; Palincsar, Brown, & Campione, 1993). What is characteristic of a community of learners is that all the pupils participating in solving a problem and trying to gain an in-depth knowledge bring 'a significant contribution to the mutual understanding of the problem being reached by the learners, despite having different resources of knowledge and competences' (Palincsar et al., 1993, p. 43).

Classrooms are intentionally designed in order to build 'interpreting communities, which allow for many roles and voices, and for active exchange and mutuality, such as seen at research seminars' (Brown, 1997, p. 412). Another key point is to organize learning around essential contents, essential meanings that help learners to think, at the upper threshold of their abilities, about serious scientific problems. One cannot 'think deeply about trivial matters; one cannot think in void' (Brown, 1997, p. 412). Learners must come across something that will challenge them. A challenging problem will give them a chance to conduct research; it will be an opportunity to read, write and think about an interesting, serious issue on a level that is appropriate for the learners' developmental stage. Learners help each other to understand the problem by working in teams, seeking advice of other, more competent persons and presenting the results of their work.

As Reid and Valle (2004, p. 475), claim, creating a community of learners in a classroom is 'a conscious, evolutionary process, which starts on the first day and ends on the last day at school'. The teacher helps to build such a community whenever he creates opportunities to exchange ideas, views and opinions, to run discussions and debates, to plan and undertake shared activities, and whenever he facilitates communication or helps to form bonds within groups. The teacher is a co-participant of educational situations, which enables him to notice and correctly identify signals revealing different educational needs of learners, and helps him to satisfy these needs with a proper organization of the learning environment.

In a classroom community thus created, it becomes possible not only to accomplish the goals of differentiated education but also to introduce various forms of cooperative learning. The positive impact of this form of learning, in cooperation with peer learners, on the children's acquisition of skills and knowledge in different sciences has been confirmed by many researchers (Palincsar & Brown, 1984; Rosenshine & Meister, 1994). The developmental value of learning in cooperation with peers has also been appreciated by authors of therapeutic programmes for children with learning difficulties. As a result, peer tutoring has been included into the system of correctional activities. The success of cooperation learning in the prevention of learning difficulties and improvement of reading and writing skills as well as mathematical abilities of children has been demonstrated in many studies (Fletcher et al., 2007; Topping, 2008).

Let us take the approach of Moll and Whitmore (1993) as an example of the above ideas on such an organization of the classroom environment that helps *all* schoolchildren to learn. These authors, recalling Vygotsky's theory, take a class as a social and cultural system, which is actively created by teachers and students. The life of a class is composed of social relations which occur between particular members of the classroom community (between students as well as between students and teachers), and take advantage of the existing social and cultural resources. In order to name this rich network of interpersonal relations, and to show mutual relations between teachers and children in a school classroom, Moll and Whitemore (1993, p. 20) use the term the "collective" zone of proximal development**.**

According to Moll and Whitemore, the essence of reading and writing lies in the understanding and communicating meanings. This is achieved through shared activities carried out by learners and the teacher, in which a special role is assigned to the adequate, functional and meaningful use of the language. Thus, the main aim of the teacher is to create in the classroom an environment which will encourage learners to accumulate a wealth of educational linguistic experiences. The teacher builds an authentically social context in the classroom, so that the pupils can practise with oral and written language as well as create and transform it while assigning different senses to various texts. The role of the teacher is to mediate this context in a way that allows children, firstly, to discover the functions and purposes of using the language and, secondly, to learn using various forms of linguistic utterances. The teacher, giving support to children's activities (individual or group ones), creates 'collective, interrelated zones of proximal development, which constitutes the indispensable element of the transactional system of education' (Moll & Whitmore, 1993, p. 21).

Conclusion

The adaptation of the the socio-cultural perspective for the analysis of education of children with learning disabilities enables us to propose a thesis that the developmental support of children who experience school

failure should rely more on the classroom context. This does not mean negating the sense of organizing specialist forms of assistance for these children. However, it seems necessary to notice and take advantage of the developmental potential of the classroom community. The individuals who constitute such a community (students and teachers) can use the available mental resources as well as share the knowledge, experience and competences of the whole class, and this should be perceived not only as an important enrichment of the experiences associated with the learning process but also as a form of support of the activities related to the zones of proximal development of all children.

The teacher who respects the above guidelines will intentionally relinquish monitoring the students' behaviour with the aim of capturing and correcting the occurring developmental deficits, which should be corrected, compensated for and levelled. Instead, the teacher acts like a participant of educational situations and tries to read the signals which demonstrate differentiated developmental needs of the learners. The teacher's aim is therefore to satisfy these needs by creating an educational environment which favours the development of tools of the mind (Bodrova & Leong, 2007), necessary for a successful course of the learning process.

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EDUCATION OF CLINICAL DISCIPLINES IN PRE AND POST-GRADUATE STUDY ORIENTED ON INCREASING OF NEWEST INFECTIOUS DISEASES KNOWLEDGE

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Abstract

Modern information and communication technologies have reached immense grow over past decades. This also caused an improvement in the teaching abilities and forced many teachers to reevaluate their traditional forms of education. The primary aim of our starting work is to increase an educational level in the area of infectology. To realize such activity we stated two technological requirements. The first was the ability to distribute live education events to the almost unlimited number of users. The second one presented no technical requirements for users in the sense of the need to have any special and/or commercial equipment. Therefore, we prepare special and scientific sessions that will be periodically organized as live streamed education activities.

Keywords: on-line education; live video streaming; multimedia; infectology; antiinfection treatment

Introduction

Face-to-face forms of education, especially lectures organized in large classes have been considered for a long time as fundamental approach of teaching despite of well-known pedagogical limitations, e.g. large class sizes, repeating lectures, increasing workload. It is because the lectures were thought to be the most cost effective method to introduce new themes and their facts (Bennett, 2008; Foertsch, 2002). However, the usage of modern information and communication technologies (ICT) in higher education has changed this traditional approach of the teachers to the explanation of their scientific topics. Thus, new multimedia educational tools may assist students to understand many complex and difficult concepts related to the science learning (McKinney, 2009; Sloan, 2006; Bednarcikova, 2008). Some authors also argue that students of todays' net generation use digital materials rather than those offered through traditional, usually printed way.

The students expect to have a wide range of learning e-sources with convenient and flexible access and they seldom have the problems to use them in their study. Social media services such as YouTube or Flickr have also significantly influenced the attitude of recent generation to the multimedia. Furthermore, social networks facilitate effective collaboration and communication (Lim, 2012; Schneiderman, 2011; Vybiral, 2011). In this sense, the traditional lectures should be considered as a way of providing a guide to and/or an overview of key concepts and the students should use them in private self-study.

Evaluation of experiences based on using a video-based learning environment revealed that the students consider broadcasted or steamed instruction video as effective for carrying out self-evaluations. The teachers also considered streaming video as useful education tool for all the reflection processes of their students. On the other hand, they also indicated some shortcomings (Leijen, 2009; Reisslein, 2005). Other studies that examined the final grade and satisfaction level differences among students taking specific courses using three different methods: face-to-face in class, satellite broadcasting, and live video-streaming indicated no statistically

significant differences. Such results provide evidence to support distance education (DE) and to use it as a viable, convenient and flexible alternative delivery mode capable of extending learning opportunities (Abdous, 2010).

The ability to adopt different effective teaching methods in education makes teaching processes more demonstrative and more attractive as well. Furthermore, it is also a feature of grand teachers. Methods designed for both teaching and learning usually include explaining, demonstrating, collaborating, modeling, questioning and additional processes. Based on ICT, these methods may be easily realized not only in the presence forms, but even more frequently in distance forms of education with comparable or even better results.

Trends in this expansive area have already influenced all degrees of education including higher education and education of clinical and health care disciplines. Nowadays, the anatomical structures are presented to the students in three dimensional (3D) space, students may examine virtual patients, they are involved into virtual surgery and other clinical interventions, telemedicine tools are used to monitor and/or to evaluate health status of remote patients, real and/or live surgery interventions equipped with audio comments of professionals are distributed directly into the classrooms etc (Williams, 2011; Bargeron, 1999; Cerny, 2011; Macurova, 2010). These technological aspects result in better absorption and understanding of particular topics by students and also in better implementation of new research results into the teaching plans and curriculums. In contrast to the standard DE form, intended only to the students and members of particular faculty and/or study group, we decided to offer access to the newest knowledge from the area of infectology to the pre and post-graduate students at medical faculties, as well as to the clinical professionals and specialists and to the wide range of interested population. Lectures of professionals will be distributed to the audience all around the word using telemedicine tools and internet services. Therefore, the domain of our actual work is DE and dissemination of recent information about infectious diseases, their treatment and prevention.

Distance education

Current trends in education indicate an expansion of DE, and the most of higher education institutions offer certain type of such activities. This is caused by technology innovations but also by budgetary constraints. Because of limited financial sources, the universities often reexamine their curriculums and explore alternatives to find cost-effective ways of delivering education. Here, DE can be considered as default alternative. Regarding used grade of technology, it may be organized as different concepts including distance learning, distributed learning, online learning, e-learning, virtual education, web-based learning, computer-based training, and blended or hybrid learning (Abdous, 2009).

From historical point of view, DE is not a new concept. On the other hand, it is usually referred to the delivery of video (Jesshope, 2001; Simonson, 2003). However, DE based on video transfer can be set as one of the main technological profiles:

- videoconference – interactive two-way video and audio. This is probably the best "simulation" of the real class and the face-to-face form of education. The teaching events are in real-time, communication runs synchronously, but depending on the quality of internet connection, usually the high-speed networks are required.
- instructional television fixed service (ITFS) – broadcasted (satellite, cable and/or terrestrial) as one-way video and two-way audio. It was widely employed at many colleges and universities since the 80's (Fong, 2001), where the distance students were able to make a phone call to the teacher to ask questions and interact with him/her.
- streaming – one-way video and audio. Using streaming technology the live-lecture video (with audio) is broadcasted using network infrastructure and the students may watch it anywhere they are. Archived materials together with web-streaming functionalities can be used to deliver delayed education content to the distance learners through the universities' web sites. The students are usually allowed to interact with the teacher via e-mail and/or web-based discussion boards (asynchronous communication).

Due to the above mentioned facts as well as to the skills and our previous activities, we have been motivated to prepare an innovative approach to the education of clinical and health care disciplines. The targeted groups include pre and post graduate students, clinicians and employers in the health care system, physicians in attestation preparation and wide range of interested people too. Individual lecture sessions are planned to be organized as combination of both the actual knowledge and the recent research results. The live educational meetings, based on streaming technologies will be accessible for any interested person all around the world using internet and only free noncommercial products. All recorded and archived education materials will be shared using our portal of Multimedia support in the education of clinical and health care disciplines with no restrictions that ensures accessibility not only for users from medical faculties. Selected topics will be processed also in the form of printed materials with the aim to reach maximal social impact.

Video streaming technologies

Video streaming technology combines videoconferencing and the internet so that the live or recorded events can be distributed via the web (Robin, 2001). Using this technology to video lectures means that students can view the streams on their own computers wherever it suits them rather than having to take part in a face-to-face lecture (Garrison, 2001). The use of video streaming as a sole teaching strategy essentially remains a non-interactive medium and may therefore have certain disadvantages that are comparable to traditional lectures. Nevertheless, it represents innovative teaching and learning resources with perspectives to be used also in mobile devices.

Thanks to the availability of high-bandwidth network infrastructure the live video streaming enables teachers to deliver high-quality video and audio presentations while enabling students to view, interact, and connect with their teachers and/or classmates. This opposes that video streaming removes interaction and human contact between students and teachers. The real truth is that the advances in methods of data compression and extension of computer networks have significantly increased the ability to interconnect teachers and their students across the world. Teachers and lecturers may perform teaching remotely using live video streaming over the internet even more easily than ever before. All participants, like teachers, students, parents can be involved in collaboration with each other and simplify both the learning and communication processes.

In general, it is possible to specify two main types of video streaming on the internet. These types include true streaming and downloading.

True streaming

True streaming – also called as streaming media or streaming servers, where no waiting to watch event is involved as the media (specialized servers) are able to broadcast live events. An additional advantage of true streaming is that the education content can be broadcasted at different bit rates. Users can start watching live events almost immediately after they start playing it. Time delay, due to the server processing and type of network connection, according to our experiences, moves about 15 seconds. In the case of archived records, the file is also played almost as soon as it is downloaded. Basically, the content is sent to the users as stream so they watch it as it arrives to the computer.

Downloading

Downloading – or so called http streaming. It is a method where the video file (containing video, audio, animations, texts etc.) is usually offered to the users as embedded hyperlink on the web page. Users download entire content/file on their computers as first and then it can be opened and viewed. Depending on size of file it takes some time to be downloaded completely, so the users have to wait for whole file. Although it cannot be used for live events, the advantage is that the user can quickly skip already viewed or for him/her uninteresting parts of lectures, presentations and/or other teaching courses. Combination of streaming and downloading

methods creates something like progressive downloading, where the downloaded file can be played as its individual parts are received. In contrast to true streaming this may result in non-continuous playing.

True streaming in our program

To stream live events using true streaming methods it is necessary to have streaming server, that prepares, encodes and transmits video to the users. There are several file formats that can be used and some of them are offered by RealNetworks (RealMedia), Apple (QuickTime), Adobe (Adobe Flash) or Microsoft (Windows Media).

Considering our previous experiences and our technical equipment we decided to use RealNetworks Helix technology to steam live education events. We prefer to use it as it meets all of our technical requirements. Except of many other advantages it is also because of ability to handle traffic loads and ability to detect users' connection speeds and to supply appropriate files automatically. Thanks to its stability we use it as an effective tool of DE and also as a tool to offer the newest research results to the wide group of remote users.

Helix, similarly to other server solutions, uses tree main component to handle live events. These are encoder, streaming server and decoder.

- Encoder – a source of video signal. It is responsible for digital compression of all captured video and audio data that are sent to the streaming server.
- Streaming server – forwards video data to the remote users. Produces different file formats and streams them on different bit rates.
- Decoder – player, responsible for decoding of received video files and for playing them in the computer of remote user.

Principle scheme of the video streamed communication and interconnection of above mentioned parts of true streaming is shown on figure 1.
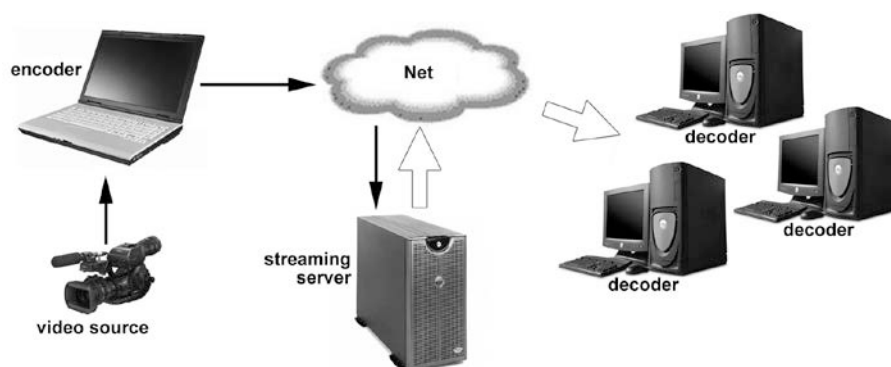
Fig. 1. Live video streaming principle.

The advantages of Helix technology include platform independence (Linux, Windows, and Solaris) and support of various codes. The encoder at the transmitting side is represented by RealProducer processing and encoding input video and audio signals. The necessary equipment consists of video camera, microphone, speakers and computer with connection to the internet. Helix server receives data from encoder and distributes streamed content to the remote users. Free RealPlayer is used as decoder at the side of student watching live education event. In this way, the students as consumers of education content do not need to have any special ICT products or equipment to watch live events.

Scientific topics

The primary goal of our activities is focused on creation of systematic approach in organisation of live meetings. This should cover not only a few individual lectures with completely different topics and streamed randomly as unorganized sections. Therefore, we specified one area of medicine to offer students the most actual information about it as a pilot conceptual solution delivered in periodically repeated terms. The selected specific topics will cover branch of infectology as it concerns not only clinicians but also a large group of patients and healthy people as well.

The bacterial resistance against antibiotics, convenient anti-infectious treatment and nosocomial infections are only a few of themes that every one of us should be informed about. These are the one of the major problems of European Commission (EC) in the area of public health. It is also the priority of national government as the consumption of antibiotics is one of the greatest in European Union. European Surrveillance Antibiotic Consumption (ESAC) rated Slovak republic on the sixth place in consumption of antibiotics. Furthermore, there are hospitalized 80 million patients per year in EU and 5 percents of them get nosocomial infection. Approximately 40 thousand of such patients die of it. This is the reason why EC emphasises the need to increase awareness of population using education activities with the aim to improve situation and to solve these problems.

In that sense, we try to address live lectures to the wider group of undergraduate students, PhD students, physicians in continuous education and to the public as well. They will be able to watch presentations for example about the most frequent infections, their transmission mechanisms, rational usage of anti-infective drugs or about the resistance of microorganisms against anti-infective medicine and many other that are covered by main topics as are summarized in the table 1. Using realization of above mentioned activities we also plane to minimize antimicrobial resistance to improve management of patients with nosocomial infections.

Table 1. List of prepared sessions and their main topics. Targeted groups are S – students of medicine, C – clinicians, H – health care employees, P – general public.

Session	Main topic title	Pt	Target group
I	Physiological bacterial settlement, most frequent bacterial infection	4	S, C, P
II	Rare bacterial infections	4	S, C, P
III	Mechanisms of infections transmission in community and in hospital	5	S, C
IV	Antibacterial pharmaceutics used in community	4	S, C
V	Antibacterial pharmaceutics used in hospital	4	S, C
VI	Antimycotics, antivirotics and antiparasitics	4	S, C
VII	Respiratory infections	4	S, C
VIII	Urinary tract infection, neuroinfections, gastrointestinal infections and skin infections	4	S, C
IX	How and when to use antibiotics	4	S, C, P
X	Sepsis	4	S, C
XI	Nosocomial infections and resistence on antiinfective pharmaceutics in hospital	4	S, C
XII	Preventions against nosocomial infections	5	S, C
XIII	Antivirotic treatment of the most frequent infections	5	S, C
XIV	Recommendations in treatment of micotic infections	4	S, C
XV	Selected topics and panel discussion		S, C

Individual live video streams will be broadcasted as free to join events, so not only the students of our faculty will be able to watch it. Anyhow, we have arranged that the active teams of participants will be composed of physicians and professionals with skills in education of clinical disciplines. Information about regularly organized sessions are announced at the faculty webpage as well as at the webpages of other education institutions, scientific societies, and health chambers and on webpages of Ministry of Health and Ministry of education. The streams will be archived and shared together with additional education material.

Conclusion

Learning science is a complicated system affected by too many input and output factors that should be beard in mind while searching for optimal and the most effective results. We suppose the combination of traditional teaching methods with new technological innovations satisfies teachers as well as students and may offer optimal learning experience for clinical medicine subjects. We decided to use streaming media technologies as it is a cost effective solution for multiple users to access audio and video content on the web in near real-time. It also allows to present education content to the global audience without the need for expensive broadcast equipment or facilities.

Using of streaming and software videoconferencing tools that we use at the faculty and also their advantages motivated us to utilise them in more intensive ways. Therefore, we realize live streaming of education events to improve quality of education and to offer an access to the newest scientific, clinical and specialized research knowledge. Activities are based on methodologies enabling to share lectures, seminars and conferences anywhere and without the need of having specialized equipment at the side of participants. In contrast to our previously streamed courses, the individual infectology oriented sessions will be archived now. An asynchronous collaboration will be offered to the user through the ability to annotate archived events. The substantial educational materials will be published also in printed versions to satisfy user not familiar with multimedia technologies.

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EDUCATION OF OLDER PEOPLE IN THE FIELD OF INFORMATION TECHNOLOGY ON THE EXAMPLE OF POLISH UNIVERSITIES OF THE THIRD AGE

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Abstract

The paper presents the specifics of education of older people in the area of information technology in relation to educational solutions in Poland. Today the most popular exemplification of the life-long learning idea for people in so called "golden age" are the Universities of the Third Age which serve not only as the places for leisure animation but also allow seniors, in a professional manner, to gain various competencies. The paper points out to the main objectives fulfilled by such units in the area of minimizing digital exclusion in reference to the phenomena like: demographic changes, information society development and improving the IT education methodics.

Keywords: older perople, education, new media, information society in Poland, life long learning, University of the Third Age

Demographic change in Poland

Ageing and old age have recently become even more noticeable and not only within the medical, pharmacological or economical sciences. This state results from increasing demographic changes that create significant changes in the developed countries' populations, consisting in the age structure transformation. Studying common analyses available in the old and new media one can notice that the term „old Europe" refers not only to its historical, cultural heritage but is also connected with the ongoing process of ageing of the societies. Demographic changes, in turn, determine changes in such sectors like: culture, education, medical care, economy.

In the coming years Poland and Europe need to prepare for the effects of quickened process of population's ageing. This phenomenon is connected with crossing the barrier of 60-65 years by the numerous people being the post-war population boom (P. Szukalski, 2008, p.21). The ageing process in Poland of the last 25 years and within the next quarter-century should be treated as a steady phenomenon, yet characterized, in short time units, by a variable dynamics related to replacing given age groups by the next generations. Regardless of assumed senior age limit and terminology determinations the increase in number of this subpopulation will be quicker than it is now. That tendency will be particularly visible in 2010-2030 in comparison to the rate of change observed in this matter during the last two decades of the previous century when the number of Poles in postproductive age increased by little over ¼, while in 2005-2030 it is assumed to grow by little over ¾. Changes in the proportion of people in "golden age" will create a different, comparing to the present one, socio-economical situation of the country especially in the areas like: job market, goods and services demand (entertainment, recreation, education, rehabilitation, care services for the oldest living in one-person households). The demands for various services signalized by the oldest part of society will be determined not only due to the demographic changes but the needs of the people from this group will become a similarly important factor. The growing number of the subjects with higher education and the change of attitude towards ageing and old age will also be influencing the functioning of older people in the society (J. Kowaleski, 2006, pp. 229-230). In the light of presented demographic premises, among the popular and valuable services for the "golden age" group, widely understood education sector connected also with the animation of free time occurs to be a prospective and

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growing domain. Therefore, further analysis and improving that offer is beneficial not only by reason of the personal benefits among those who receive such services but also by reason of economic benefits.

New media and seniors

In each period of human history a different type of transferring and acquiring information dominated – apart from the universal face-to-face communication. In order to adjust to certain conditions people who wanted to participate in communication process had to gain skills necessary to use media, that is to learn communication code (speech and writing), familiarize with technical possibilities of devices (telegraph, telephone, radio, television) and, today, gain competences in IT area.

The difficulty in adaptation of seniors to new, indirectly and directly computerized space is being expressed, among others, in the percentage usage of various types of microelectronic devices among the general of the population. Old media like radio, newspapers, television are the natural tool for gaining information while PC with the Internet connection, multifunctional mobile or other mobile media are used occasionally, mainly by people aware of the facilities the new media offer. Determined by the new technologies, the development of the civilization requires from its members, in even greater degree, certain competencies in using daily necessities - PCs connected to the global network among them.

New media have irreversibly transformed the functioning of certain individuals as well as social groups. This obvious statement gains new quality meaning when we consider the positive and the negative effects that process has on psycho-social functioning of certain age groups within the computerized society. One of the common computerization's negative effects is the digital exclusion that is noticeable especially among the oldest age groups .

In the subsection "Using New Information and Communication Technologies" in the report "Social Diagnosis 2011" we can read that older people (especially of the age 65+) are still the less effective group of the electronic media users. This state begins to change slowly due to several things like: popularization of life-long learning idea, generation replacement, generating actions aiming at reducing digital exclusion supported mostly by EU funds.

Table 1. Information society in Poland

Group		Computer	Internet	Mobile phone	Non users	Uses 3 technology
TOTAL		60,6	60,0	85,1	13,3	55,0
SEX	MALE	62,3	62,0	87,1	11,1	56,6
	FEMALE	59,1	58,1	83,2	15,2	53,5
AGE	16-24	93,2	93,1	97,2	0,5	86,6
	25-34	86,4	85,9	97,8	1,4	81,1
	35-44	75,8	75,7	96,4	2,5	70,0
	45-59	50,8	49,9	86,2	11,1	43,9
	60-64	30,3	29,2	76,0	22,2	25,2
	65 and more	11,4	10,6	48,7	50,1	8,9

Source: (Batorski, 2011, s.309)

Modern civilization places each individual in a very complex situation as it imposes permanent changes in almost every sphere of their life. Products of information engineering, that were used occasionally only few years ago, are now commonly available and used in private as well as in professional life. Many researchers notices that the low rate of electronic media use in the age group of 65+ is connected with constant difficulties in adjusting to the conditions of the society characterized by ongoing changes often determined by the technology

itself. Understanding the specifics of the problem of those complicated relations between new media and seniors will never be fully explicable if the specific characteristics of that group is not considered.

Polish Universities of the Third Age and education of seniors

The first University of the Third Age was founded in 1972 in Toulouse by French lawyer and sociologist Pierre Vellas. The main idea which accompanied the originator of this innovative movement was to enable older people to lead an active life and break the stereotypes of old age through participation in activities taking place in the institutionalized space. The program of the forerunner outpost focused on making attempts towards improving life conditions through educating on keeping or gaining psychological comfort after retiring (which deprives of one of the main form of activity that is professional work). At the beginning the classes were held during summer holiday season but thanks to the students the schedule was changed to a form looking more like a traditional academic year (Trafiałek, 2005, p.79).

U3A students are the people who have usually finished their professional carrier. They are mostly retired or pensioners in the age between 50 and 85. The biggest group consists of the students between 60 and 79, in some U3As being 90% of all students. Women are a vast majority – their percentage share varies from 72% in Cracow to 92% in Wrocław and Poznań. As for the education level the most students posses secondary education (47%-70%), then academic (24%-53%) and there are small percentage of people with primary or vocational education. The duration of being a U3A student is not limited in most of the universities. There are students who participate in the structures from their very beginning as the open formula of the universities and program that changes every year allow that. Each person that in a certain time, set by U3A board, enrolls and takes part in the classes becomes the U3A student (Hrapkiewicz, 2006, p.59)

Apart from the essence of studying in the places addressed to the oldest part of society, the characteristic of students who, along with their acquired worldly wisdom and through a basic need of belonging, get a further opportunity to study needs to be enhanced. Taking the role of the U3A student is specific as not all older people can make use of it or find themselves in that role. In order to use the opportunity to study in such institution older person should have a proper level of cognitive functions . By attending lectures and recreational classes student stimulates his nerve system, what makes him sustaining his psychophysical condition. While listening to the lectures an individual needs to focus his attention which results in improving his concentration span. Thanks to recreational activities he improves his observation skills.

The U3A students acquire knowledge and skills through the following forms of education:

- open lectures on various subjects, available to all students,
- theme lectures within the specific groups of interests (e.g. psychology, arts, medicine),
- exercise sections, workshops (e.g. IT, painting, gymnastics),
- organized trips (visiting interesting places and objects),
- occasional events, not recurrent (e.g. St. Andrew's Day, pro-health actions financed from the external sources – projects).

The forms of gaining knowledge are in many cases coincident with the traditional models of academic education, however their organization reminds rather more of inter-faculty interdisciplinary studies, popular in many academic centers than traditional stationary or non-stationary form. The older person has a possibility to choose the subjects according to his interests, which in his opinion serve the development of his own human capital, the improvement of intellectual and physical efficiency or to deepen his social relations.

Apart from different methodological assumptions education in U3A units differ significantly from stationary, non-stationary and distance education because in most cases, after completing several years of education, seniors do not get any formal confirmation of their competencies. However, students do not require that as acquiring knowledge on this stage of education is for them a value in itself, that does not require any legal systematization. But here as well exceptions occur because within the internal projects there is a possibility to conduct selected groups of classes in way that allows getting international certificates e.g. in the area of PC usage - ECDL

(European Computer Driving License) or certificates confirming foreign languages competencies (TELC, TOEFL, FCE, CAE).

Specifics of Education of Older People in the Area of IT

On the basis of analysis of functioning people in the „golden age" in regard to developmental psychology the following indications are worth considering during educational activities in the area of electronic media:

exercises for seniors should enable a free action not limited by time pressure,

the classes should be conducted in a calm manner – reducing additional impulses that disturb information flow,

one needs to accept the speed of fulfilling tasks and activities,

it is necessary to repeat the issues several times in a simple, uncomplicated way,

the presented material – theoretical or practical – needs to be completed and referred to daily life problems that students are close to,

exercises conducted during classes should be preserved in a form of points in the seniors' own notes,

introduction and completing the didactic material should be extended by the available literature addressed to this group and by scripts provided by the teacher,

during the exercises teacher needs to accept students' problems with visual-motor coordination and stimulate this area through implementation of attractive applications,

according to J. Trempała's (developmental psychologist) concept, learning new competencies should start as early as possible as the ability to assimilate new skills decreases with age,

people showing higher activity and high life aspirations are more predisposed to gain new competencies therefore the possibilities of information technology should be presented particularly to this group,

social, economic, cultural, technical changes cause some people in the age of over 60, in spite of their psychological condition, adjust to the dominating trends and their functioning differs from their peers from several years ago (Tomczyk, 2010a, p.39-46).

In addition, while conducting the analysis of older people's education in the IT area it is worth to consider the most often occurring barriers that reside in the students such as:

fear of damaging the electronic medium – most often resulting from the low awareness of usage and value of the equipment. Despite common availability and even lower prices of computers, most people are afraid they can make a serious damage and will have to take certain financial consequences;

fear resulting from not knowing the equipment's properties and its potential usage possibilities that can determine higher life quality of its users. It is quite common that adults – as they get older – show even lower interest in technical novelties. Those fears are also connected with excessive fear of unknown. Due to the lack of knowledge on computer usage the potential user - seeing its apparent complexity – assumes it is difficult to handle it. It is thus necessary to break the barriers in thinking about technical devices;

not understanding of instructions and messages appearing during working – those situations are caused by too short practice which makes it impossible to acquire certain group of habits typical for certain software. This

fact is also connected with preparing popular applications for mass users who, using new media, require an user-friendly software;

difficult vocabulary overload, information slang used by the teacher or found in literature of the subject discourages students from further study or hinders acquiring proper skills. The vast amount of specialist terminology and necessity to move in a new, foreign space makes students not always able to understand the commands or sense of presented knowledge properly;

inadequate expectations regarding computer's and Internet's possibilities – the ideas about incredible functions of microelectronic devices strengthen by literature and movies occur less and less rarely among seniors;

language barriers – specialist software or Internet websites on specific subjects are written usually in English which makes it impossible to use certain areas of information technology and knowledge stored in cyberspace;

inadequate use of software context help – noticed usually in case of users with poor advance level;

fear of being ridiculed and embarrassed in front of the group. It is one of the most frequent problems causing even resignation of potential new technologies' users from taking part in the organized trainings. The situation occurs when a person in "golden age" has no support from the close ones or is even discouraged from taking up education and when the course participants don't know each other well and their skills vary in level;

lack of faith in one's own abilities resulting from former failures (Wierzbicka, 2008, p.58).

Conclusion

Exclusion from society caused by a different factors like: disability, economic status, skills, knowledge, age, sex, origin accompanies humans from the beginning of a humankind. In the face of common computerization of all spheres of our lives it is important for each aware individual to have the competencies in the area of popular digital devices use. Today's technique has imposed creating the new type of society which pushes people not interested in its tools and deprived (whether it depends on them or not) of possibilities to discover the properties of new information and communication devices on the margin. Polish seniors, due to their potential lying in their number (6 million people), are a considerable client of all kinds of services provided also via the Internet. Unfortunately, due to the low percentage of the new media users, the development of dedicated services (e.g. shops, community portals, banking) in this age group develops, comparing to other groups, very slowly (Tomczyk, 2010b, p.441-450).

Internet, in comparison to other media, is relatively young and created by and for „young". Comparisons in the extent of use, intensity and proficiency reveal more significant disadvantage towards generation 50+ than towards the "young" group. As a result, the discourse regarding older internauts is dominated by considering the problems, limited competencies or lack of skills or psychophysical limitations. It is a fact that in some aspects of electronic media use the older users are less efficient (e.g. they type more slowly, have problems with "taming" the mice) and perform some actions generally more slowly. Yet, their use of the Internet is much different than that of the young generation. Older people use the net rather alone, they do not look for new friendships as it serves them usually to sustain the relations with their close ones. Tools like communicator or e-mail strengthen the already existing relations. For generation 50+ technology does not determine the ways of communication because it is transferring contacts from the real world (Krzyżanowska, Danielewicz, 2010, pp. 48-49). Change of approach to digital exclusion is very much needed today. The exemplification of the positive approach to older people involved involuntarily in the information society processes should be seen in the institutional and educational solutions. Creating education centers for seniors has been taken over by the Universities of the Third Age or specialized NGOs, training companies, but there is, however, lack of methodical solutions that would improve the process of effective education of older people.

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EFFECT OF AN E-LEARNING PROGRAM ON THE QUALITY OF LIFE OF PATIENTS WITH CORONARY HEART DISEASE

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Abstract

This study aim was to assess the effect of an E-learning program on the quality of life (QoL) of patients with coronary heart disease. A quasi-experimental design was applied to 65 intervention patients and 61 control patients with recently diagnosed CHD in Palestine, at Jenin Hospital. An E-learning program was designed by the researchers and implemented for patients in the intervention group. The effect of utilization of the E-learning program was evaluated through a post-test assessment. The results revealed that the intervention group patients had better QoL related to physical function and bodily pain at the post-intervention phase. At the follow-up phase, their QoL was higher in almost all domains compared to control group.

Keywords: Coronary Heart Disease; Quality of Life; E-Learning.

Introduction

Worldwide, heart disease is considered as a leading cause of death, and constitutes a major part of expenditure on health (Abdulle, Nagelkerke, Abouchacra & Obineche, 2008; Lloyd-Jones, Adams & Brown, 2010). The risk of developing coronary heart disease (CHD) depends on several determinants; some are associated with lifestyle operating from early childhood on (Assmann, Cullen & Schulte, 2002).

QoL measure is well suited for patients with CHD because many interventions are directed toward improving quality of life rather than just extending survival(Dougherty, 1998). One of the major goals to consider of cardiac rehabilitation is the changes in quality of life.(Shephard & Franklin, 2001; Muller-Nordhorn , 2004). Coronary artery bypass graft patients experience an average improvement in health related quality of life (HRQoL) after surgery(Lie et al., 2010) .Exercise-based cardiac rehabilitation studies revealed significantly fewer cardiac events and hospital readmissions, reduced total mortality and increased HRQoL (Thompson et al., 2003).

Patient education is one of the most important strategies in prevention, control CVD.(Farahani, 2008). Cardiac patient education is an essential component of nursing care aimed at assisting those patients to take care of themselves(Fredericks, Beanlands, Spalding & Da Silva, 2010) .Nurses have a public health role to advise, help and support patients to make lifestyle changes. Nurses are able to provide expert advice and support in either a consultation or rehabilitation setting using a holistic approach to care. Smoking cessation, relaxation techniques and stress management can be undertaken with the patient and his/her carers in a relaxed, informal way (Riley, 2003;Coster & Norman, 2009).

With the advent of E-Learning, new paradigms for teaching and learning about complex issues are emerging. A wide range of opportunities are being developed and implemented in the vocational, academic, and continuing education and training arenas to support life-long learning.(Thompson & Randall 2001; Wheeler, Byrne &Andrea, 2003; Britt, 2004).Self-management interventions in patients with CHD showed a positive effect, although not always significant, on the reduction of numbers of hospitalization, decrease in mortality and increasing Quality of Life. (Ditewiga, Bloka, Haversa & van Veenendaal, 2010; Yu, Thompson & Lee,

2006).The political situation in the Palestinian territories may make the continuity of care for chronic diseases a real problem. The use of the internet as a new technology for education of those patients and for keeping continuing contact with them and responding to their queries might help them in management and prevention of further complications. Therefore, this study is testing the effectiveness of E-learning for coronary heart disease patients (CHD) education.

Aim of the study

The aim of this study was to assess the effect of an E-learning program on the quality of life of patients with CHD and on their compliance to medication. It was hypothesized that CHD patients exposed to the E-learning program will have more positive quality of life indices compared to coronary heart disease patients on standard management.

Subjects and Methods

This quasi-experimental intervention study involved comparisons of a study and a control group, with pre-post assessment. It was conducted on CHD admitted to Jenin Hospital in Palestine. The inclusion criteria were being 18 years or older with recently diagnosed CHD , and having basic computer skills (either the patient or a family member).Patients with other chronic diseases as hyperthyroidism, nephrotic syndrome, liver disease, diabetes, and mental problems were excluded. The   sample size was calculated to estimate a difference between the mean±SD score of QOL of patients in the control group (X_1=50.0±10.0) and the expected mean in the intervention group after the intervention (X_2=75.0±10.0), with a 95% level of confidence(α error = 5%), and a study power of 80% (β error=10%). Using the equation for the difference between two means (Schlesselman, 1982) the required sample size was 63 subjects per group. After adjustment for a dropout rate of 5%, the sample size would be 67 patients per group. A consecutive sampling technique was used to recruit patients. Those fulfilling the inclusion and exclusion criteria were randomly assigned to either the intervention or the control groups.

An interview questionnaire form was developed by the researcher .The tool involved a section for the socio-demographic data, medical history, and lifestyle habits. The Chinese version of SF-36 Health Survey (Liu, 2001) was used as a measurement tool for QoL of patients in this study. It was translated into Arabic using the translation-re-translation process to guarantee its original validity. The tool examines eight QoL domains, namely physical function, role physical, role emotion, social functioning, bodily pain, mental health, vitality, and general health. The reliability of the eight subscales has been estimated using both internal consistency and test-retest methods with high reliability statistics.(Failde, Ramos & Fernandez-Palacin, 2000; Kiebzak,2002;MaKee,2009). For scoring, the raw scores obtained on each SF-36 domain are transformed to a 0 to 100 scale, with higher scores indicating higher levels of QoL.The tool was pilot-tested and finalized. The reliability of the QOL scale turned to be high with Cronbach alpha coefficient 0.87.

After finalization of the study tools, recruitment of the patients was started in August 2009. The nature of the program was explained to each patient. Patients were assigned to either the intervention or the control group. Based on the analysis of the data obtained from the assessment, the researcher was able to identify the information needs of the patients. The E-learning program was then designed to fulfill these needs. The site uniform address locator is itc.birzeit.edu.

Patients in the intervention group were individually met by the researcher before discharge. The researcher explained to each patient the aim of the study .This was followed by a demonstration of the program site which included instructions on its use. The instructional booklet was then handed to them to help in proper utilization of the program. Patients were encouraged to enter the site through a specific user name and password. Also they were encouraged to post any questions to the researcher regarding their health condition for follow-up through the site Blog. For the first three months, the number of hits was 1298, and in the follow-up phase (3 months), the number of hits increased to 1667. This indicates that the patients trusted the information on the site as well as

they needed continuous care and encouragement outside the hospital. Patients in the control group received the standard care provided at the hospital. The effect of utilization of the E-learning program was evaluated through a post-test assessment using the same pre-test tools. This was done after 3 and 6 months of the E-learning program implementation.

Ethical Considerations

Before launching the study, ethical approval was obtained from the Scientific Research Ethics Committee of Ain Shams University. In addition, a written informed consent was obtained from each participant. Patients sharing in the study were reassured about the anonymity and confidentiality of any obtained information. They were also informed about their right to withdraw from the study at any time.

Statistical analysis

Data entry and statistical analysis were done using SPSS 14.0 statistical software package. Quantitative continuous data were compared using Student t-test in case of comparisons between two groups and ANOVA for more than two groups. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. Statistical significance was considered at p-value <0.05.

Results

Only two patients (3.0%) in the study group and five (7.5%) in the control group did not continue the study. Table 1 shows that patients in the study and control groups had almost the same mean age (55.3 ± 5.2 and 56.1 ± 5.6, respectively). The study group had more males (87.7%) and less unmarried (3.1%) patients and these were the only differences of statistical significance between the two groups. Meanwhile, the two groups had similar residence, education, job status, and computer skills.

Table 1. Socio-demographic characteristics of patients in the study and control groups

	Group				X2	p-value
	Study (n=65)		Control (n=61)		Test	
	No.	%	No.	%		
Age (years):						
<60	50	76.9	42	68.9		
60+	15	23.1	19	31.1		
Range	46.0-65.0		45.0-65.0			
Mean±SD	55.3±5.2		56.1±5.6		t=1.05	0.31
Sex:						

	Study No.	Study %	Control No.	Control %	X2	p-value
Male	57	87.7	42	68.9		
Female	8	12.3	19	31.1	6.63	0.01*
Residence:						
Urban	29	44.6	31	50.8		
Rural/camp	36	55.4	30	49.2	0.49	0.49
Marital status:						
Married	63	96.9	50	82.0		
Unmarried	2	3.1	11	18.0	7.61	0.006*
Education:						
Basic	31	47.7	27	44.3		
Secondary/higher	34	52.3	34	55.7	0.15	0.70
Job status:						
Not working	5	7.7	10	16.4		
Working	60	92.3	51	83.6	2.27	0.13
Computer abilities:						
Good	18	27.7	14	23.0		
Very good/excellent	47	72.3	47	77.0	0.37	0.54

(*) Statistically significant at p<0.05

Patients in the two groups were also similar regarding their medical history and special habits (Table 2). Hypertension was slightly more prevalent in the study group. Both groups had similar history or previous cardiac interventions. A family history of atherosclerosis was reported by 55.4% of the patients in the study group, compared to 67.2% in the control group; the majority of the patients in the two groups were current smokers, 80.0% and 82.0%, respectively. Regarding physical activity, only less than one-third were having daily exercise at least 30 minutes 3 or more times per week.

Table 2. Medical history and special habits of patients in the study and control groups

	Group				X2	p-value
	Study (n=65)		Control (n=61)		Test	
	No.	%	No.	%		

Past history of MI	20	30.8	17	27.9	0.13	0.72
Hypertension	31	47.7	21	34.4	2.28	0.13
Previous cardiac intervention	62	95.4	58	95.1	Fisher	1.00
Family history of atherosclerosis	36	55.4	41	67.2	1.85	0.17
Current smoking	52	80.0	50	82.0	0.08	0.78
Exercising 30+ min 3+days/week	13	20.0	18	29.5	1.53	0.22

The comparison of the quality of life (QoL) of patients in the study and control groups (Table 3) at the pre-intervention phase revealed similar distribution with the highest domains reported in relation to physical and social functioning and emotional role. At the other extreme, none of the patients in either group had high QoL related to vitality. The only statistically significant difference was in physical functioning, which was higher in the study group (87.7%) compared to the control group (62.3%), p=0.001. In total, 21.5% of the study group patients and 16.4% of those in the control group had high QoL. At the post-intervention phase in the study and control groups revealed two statistically significant differences. These were related to physical function (p=0.005) and bodily pain (p<0.001). In both these differences, the percentages were higher in the study group patients. Moreover, they had higher QoL related to physical role and social functioning, but the differences were only of borderline significance, p=0.06 and p=0.08, respectively. Concerning QoL at the follow-up phase, the table indicates statistically significant differences in almost all domains. The only exceptions were in the physical function, vitality, and role emotional domains. In total, 83.1% of patients in the study had high QoL, compared to 63.9% of those in the control group (p=0.01).

Table 3. Quality of life (QOL) among patients in the study and control groups throughout the intervention

	Pre			Post			FU		
	Study (n=65)	Control (n=61)	p-value	Study (n=65)	Control (n=61)	p-value	Study (n=65)	Control (n=61)	p-value
	%	%		%	%		%	%	
QOL domains:									
Physical functioning	87.7	62.3	0.001*	95.4	78.7	0.005*	93.8	83.6	0.07
Role physical	20.0	13.1	0.30	47.7	31.1	0.06	73.8	44.3	0.001*
Bodily pain	16.9	18.0	0.87	81.5	31.1	<0.001*	98.5	42.6	<0.001*
General health.	13.8	6.6	0.18	38.5	26.2	0.14	73.8	32.8	<0.001*
Vitality	0.0	0.0	1.00	10.8	6.6	0.40	23.1	31.1	0.31
Social functioning	49.2	32.8	0.06	86.2	73.8	0.08	95.4	80.3	0.01*
Role emotional	47.7	63.9	0.07	89.2	86.9	0.68	96.9	96.7	1.00
Mental health	24.6	23.0	0.83	61.5	57.4	0.63	81.5	65.6	0.04*
Total QOL	21.5	16.4	0.46	66.2	54.1	0.17	83.1	63.9	0.01*

(*) Statistically significant at p<0.05

Figure 1 illustrates the changes in QoL scores throughout the study phases. It indicates increasing trends in both groups, which were statistically significant (p<0.001). However, as evident from the figure, the increases were higher among patients in the study group.

Changes in
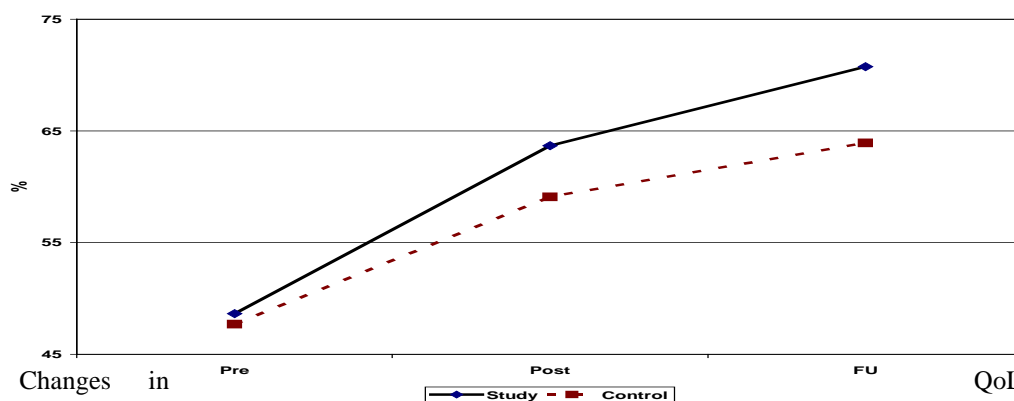
Figure 1. QoL of patients in

the study and control groups throughout the study phase

Discussion

In the fast changing modern society, e-health care systems are currently the best possible way to achieve enhanced service efficiency and quality(Chang & Chang ,2008). The current study hypothesized that CHD patients exposed to the E-learning program will have more positive quality of life indices compared to coronary heart disease patients on standard management. The study findings point to significant improvements in the QOL of patients in both groups, but it was higher in the intervention group, which leads to acceptance of the study hypothesis. The two groups of patients involved in the study were similar in most of their socio-demographic characteristics. This similarity is essential to ensure that any changes obtained after the intervention would not be attributed to differences in these characteristics. Patients had also similar medical history. Therefore, their heart condition, with the related risk factors, was quite similar. Additionally, the history of smoking was alike in both groups. Therefore, smoking is considered a major risk factor in the present study samples, which should be targeted in any health education intervention as a proved modifiable risk factor in ischemic heart disease(Dalal et al., 2010) .

Furthermore, the baseline assessment of physical activity demonstrated a similarity between the two groups. In both, only a minority of the patients reported carrying out physical exercise at a level presumed to be of benefit for improving their risk factors, i.e. exercising at least 30 minutes per day, 3 or more times per week. This lack of physical activity is another proven modifiable risk factor identified at the baseline, and addressed in the educational intervention. In this regard, it has been shown that unsuccessful behavior change related to physical limitations had a negative impact on the prognosis of ischemic heart disease patients.(Peterson et al., 2010). Moreover, patients' exertional tolerance improves significantly with exercise training.(Giallauria, Galizia & Lucci, 2008).However, exercise must be maintained for long-term to sustain the improvements (Herdy , Marcchi & Vila, 2008).

Quality of life (QoL) is an important outcome indicator in chronic diseases. It has been measured among patients in the study and control groups of the present study before implementation of the intervention. The results showed low levels of QoL in many of the domains especially those related to vitality, physical role, and general health. Meanwhile, QoL in the physical functioning domain was high in both groups, especially among the study group patients. This difference must be taken into account in the interpretation of the post-intervention QoL. The QoL findings indicate that ischemic heart disease has a more significant impact on psycho-social aspects, compared to physical aspects. Meanwhile, the high QoL in the physical functioning might be explained by that the majority of the present study patients had undergone some type of cardiac surgery or intervention. This has been shown to be associated with improvements in the QoL of such patients postoperatively (Hunt , Hendrata & Myles, 2000).

At the post-intervention phase, few differences of significance were noticed in the comparison of patients in the study and control groups of the current study. These differences were related to systolic blood pressure, as well as QoL related to physical function and bodily pain. In all these differences, the improvements were more prominent among patients in the study group.

Assessment at the follow-up phase revealed further differences between the study and control groups of the present study. These were related to improvement of systolic blood pressure, which were significantly better among study group patients.

In agreement with these foregoing findings, a systematic review comparing home-based educational program with usual care reported a statistically significant reduction in systolic blood pressure at follow-up in the home-based group (Jolly, Taylor, Lip & Stevens, 2006).

Overall, patients in the study group of the current study had higher QoL compared to control group patients in the follow-up phase. These improvements were observed in almost all the domains of QoL. Such

improvements reflect the positive impact of e-learning on patients' lifestyles, which would have affected the improvements in some of the physical parameters such as blood pressure. The findings are in agreement with Mårtensson et al., (2005) who demonstrated a significant improvement in the intervention-group at 3 months follow-up regarding role function due to physical limitations as well as a tendency toward improved vitality and social functioning. Similar results were reported by Dunagan et al., (2005) regarding QoL after 6 months of follow-up.

On the other hand, other studies showed no differences in QoL scores between baseline and follow-up in both the control as well as the intervention groups (Del Sincad , 2007; Balk et al., 2008) .The discrepancies among various studies regarding improvement of QoL might be related to differences in the measuring tools, as well as the types of interventions and the periods of follow-up.

An important issue to be considered in any educational or training program is the compliance to such program. In the present study, it was difficult to measure the compliance of the study group patients to the instructions and information provided to them through e-learning. This is considered a limitation of the present study that must be taken into consideration in the interpretation of its results and its implications. However, this limitation has been previously noticed in similar home-based programs. Thus, Jolly et al. (2007).emphasized that it is difficult to make a comparable measure of adherence to a home-based program as adherence to a centre-based program is usually defined by the number of sessions attended. Accepting a visit from a rehabilitation nurse at home requires less commitment from the patient and gives no measure of the amount of physical activity undertaken. Therefore, in such situations, researchers rely on patient self-report, which could be another limitation due to participants' as well as interviewer's bias (Arthur , Smith , Kodis & McKelvie, 2002).

The study findings support the hypothesis that e-learning can be an effective measure to improve the QOL of CHD patients. This approach has the advantage of being flexible in delivery and offers a variety of options compared with face-to-face groups; health professionals function mainly as facilitators in this approach.(Lindsay , Smith ,Bellaby & Baker, 2009) Moreover, on the Internet, participants can feel more comfortable talking about their condition, which may help them to develop supportive relationships (Onnela , Saramaki & Hyvonen , 2007). The findings suggest that nurses could begin to think about presenting their educational content using multiple modalities to enhance patients' knowledge and performance of behaviours (Fredericks , Beanlands , Spalding & Da Silva , 2010).

Conclusion and recommendations

This intervention study demonstrates that an E-learning program does have a positive effect on patients with CHD in terms of improved QOL. The success of the study confirms the value of E-Learning program information provided to patients with CHD and the significant role nurses can play in patient education, and their contributions to promoting the recovery and preventive process of CHD patients. However, interpretation of the findings must take into account the study limitation of possible contamination or co-intervention bias as some of the patients in the control group may have had access to the E-learning site or other similar sites, which led to improvements among them. Nonetheless, these bias if occurred would lead to lower differences between the two groups rather than exaggeration of the effect of the intervention.

The study recommends that cardiac units and clinics should include E-learning educational material related to CHD in Arabic language. The E-learning solution can be applied for the education of patients with related illnesses like Post CABG, bronchial asthma, diabetes, etc. Meanwhile, patient's satisfaction with the proposed program was not addressed in this study; this issue warrants future study for improvement of the program.

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EFFECT OF THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES ICT RESOURCES ON THE SCHOLASTIC PERFORMANCE OF MIDDLE SCHOOL STUDENTS IN BIOLOGY AND GEOLOGY COURSES

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Abstract

The performance in Mathematics and Sciences of a large proportion of Moroccan students in middle and high schools has been ranked recently below expectations. The Center of Information Technology Innovation (CITI) for human development at Al Akhawayn University in Ifrane (AUI) is investigating how IT-based education could improve both motivation and performance of students in middle and high schools. To demonstrate the positive effect of these ICT resources on the scholastic performance of middle school students, CITI experimented the project in two pilot middle schools. The two schools belong to two different socio-economics environments; one is located in Ifrane (small city) and the other in Fez (large city). In each school, two groups, of 20 students each, have been selected randomly at the beginning of the academic year for the three middle school levels. For each level, one of the groups is the experimental group and the other is the control group. In each the three levels in each middle school, both groups were taught the Biology and Geology course by the same teacher.

For each academic level, we developed electronic content matching the intended learning objectives of the Biology and Geology course to be taught using information and communication technologies to the experimental groups in both cities. The control groups in each level learn the same course material from the same instructor using the traditional (non ICT) means. It should be noted that each middle has been equipped with an ICT enabled classroom where experimental groups where taught the Biology and Geology course. For each level, both groups were evaluated using the same tests.

Having designed and run the experiment described above for one semester, we conducted statistical analysis to compare the performance of the experimental and control groups for each level in each middle school. The analysis revealed that the experimental group outperformed the control group for the three levels in the Fez middle school with a 85% confidence. In Ifrane middle school, the performance of the experimental group was superior for the third level but was found to be similar to the control group for the first and second levels with the same confidence level.

Keywords: IT based education, biology and geology, middle school, Morocco

Main text

Introduction and Background

Information and communication technologies (ICTs) are a large field that includes radio and television, as well as newer digital technologies such as computers and the Internet. The latter is a potentially powerful tool for educational change and reform. When used appropriately, different ICTs are meant to foster access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by teaching and learning into an engaging, active process connected to real life (ICT in Education, 2004).

During the last decade, studies showed that Moroccan students did not perform well in middle high school in mathematics and science and therefore couldn't make it to higher education (Millis, I.VS et al, 2005). Based on these facts, a research grant was allocated by the Korean International Cooperation agency (KOICA) (3) to the Center for Information Technology Innovation (CITI) for Human development at Al Akhawayn University in Ifrane to overcome the mentioned weaknesses by the improvement in the use of Information and Communication Technology that is still very low in the technological usage at the national level.

The project was conducted in 3 phases. Building the IT platform and preparing the middle school instructors to IT environment were the main parts of first phase. The second phase focused on developing IT material to be used in middle school mathematics, physics, biology and geology. The material was developed by the prepared middle school instructors then validated by middle school pedagogic inspectors. After an evaluation of the delivered contents by AUI faculty, the latter was given to CITI technicians for IT implementation. The IT developed material such us power point presentation, simulation and others was presented and then reviewed for improvement by the project members and then added to the platform system. The third phase was about the implementation of the developed material in the applied classroom setting.

Initial results of the project show that the experience gained has allowed accumulating sets of techniques and capabilities that have accelerated progress in supporting development of course materials (Kevin Smith et al, 2008)

This paper covers the approach adapted and results obtained in improving motivation and performance of students in biology and geology courses in middle school.

Structure and Methodology

Hardware

Thanks to KOICA grant, studio and multimedia classrooms were equipped at AUI for the development of the project content. Another two equipped multimedia classrooms established in the two pilot middle school for the implementation of the developed content. The installed AUI studio would be used for recording real classes with instructors from the middle school partners (Collège Al arz in Ifrane and Collège Kassim Amin in Fès). The multimedia classrooms in the partner schools were equipped with computers, server, tables and chairs, a projector, and a screen, a printer , a scanner, air conditioning and wireless connections. The Ministry of Education assured an ADSL connection to each school.

Human resources

The two delegations of Fès and Ifrane have assigned 18 teachers and 6 pedagogic inspectors to work with the KOICA project. Teams consisting of 3 teachers and 1 pedagogic inspector were in charge for the courses content development and to present model courses to be filmed for each the 3 different scientific area: mathematics, physical science and life science.

Workshops were organized on regular basis (weekends) at AUI to train school teachers on the use of the development tools and the e-learning platform. AUI faculty from related disciplines accompanied the development of the project along with CITI engineers and technicians.

Development of digital content

After series of workshops, best practices from IT-based education literatures were identified such us power point presentation, simulations, interactive evaluation…Teams consisting of teachers, pedagogic inspectors prepared the content using Microsoft Word format for the three years programs in the middle. CITI engineers

and technician along with AUI faculty revised the content and then converted it to adequate format. The IT developed material is returned to the teachers for validation and then the AUI team placed it through a distance education platform.

Course offerings

To study the material using the developed ICT materials each middle school has selected randomly a pilot class of twenty students and another class with the same size to be used as a control. The latter class and in parallel will use the same material using traditional methods. The two classes are taught by the same instructor in the same discipline. For the three disciplines we had 120 students using the ICT resources and 120 students using the traditional methodology.

Both traditional and IT resources classes were evaluated the same tests that include subject area exams, polls and survey. The obtained grades are used as variable to quantify the impact of IT-based education.

Results and interpretation

We took into consideration the learning curve of the human resources involved in the experiment and made appropriate adjustments to digital contents developed before collecting and analyzing data and drawing conclusions. For each student involved in the experiment, we computed his grade point average in the biology and geology course. For instance, the data collected of the experimental group in Grade 1 in Fes middle school, consist of 20 data points each one representing the grade point average of a student in the course under study from that group.

Having collected data, we tested the experimental hypothesis of our experiment. The data analysis that we conducted consists of a simple comparison, for each grade in each middle school, of the performance of the experimental and control groups using t-tests (Montgomery, D.C, 2007) and the results are given below.

The data analysis consists of comparing the mean of the experimental and control groups in each grade in each middle school. The null hypothesis states that the means for both groups are the same and the alternate hypothesis states that the mean of the experimental group is higher than the mean of the control group. The T-test was conducted at an 85% confidence level. We made a decision based on the p-value of the test as follows; tests, whose p-value is less than 15%, reject the null hypothesis which means that the experimental group outperforms the control group for the discipline tested. The results of this analysis are summarized in Table 1 for the middle school in Fes and Table 2 for the middle school in Ifrane.

Table 1. Results of the 85% confidence level one sided T-test comparing the performance of the experimental and control groups in the biology and geology course for the three grades, in Fes Middle School

Fes Middle School	First grade	Second Grade	Third Grade
P-value	0.013	0.013	0.031
Test result	Reject	Reject	Reject

The results summarized in Table 1 which concern Fes Middle school indicate that using ICT had a positive impact in enhancing student's learning and their performance in the biology and geology course in the three grades.

Table 2. Results of the 85% confidence level one sided T-test comparing the performance of the experimental and control groups in the biology and geology course for the three grades in Ifrane Middle School

Ifrane Middle School	First grade	Second Grade	Third Grade
P-value	0.499	0.26	0.091
Test result	No	No	Reject

The results of the comparison did not show a similar success of the use of ICT in Ifrane. At the same 85% confidence level, we noted a positive impact only for the third grade. The positive impact could not be confirmed for the first and second grades in Ifrane. The obtained results concerning the use of IT tools in life science are consistent with the work of Berrado et al (A. Berrado, 2009).

Conclusion

There is a positive impact of ICT based education in biology and geology in Moroccan middle school; In general it was confirmed that the impact was not consistent across middle school representing different socio-economic environment.

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EĞİTİMDE YORUMLAMACI YÖNTEM BAĞLAMINDA SCHLEİERMACHER ÖRNEĞİ

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Özet

Eğitim tarihi boyunca çok farklı yöntemler kullanılagelmiştir. Bu yöntemlerden bir bölümü uzun soluklu olmuş, yüzyıllar boyunca kullanılmış, bazıları ise dönemsel önem taşımışlar; bir kısmı da -karabatak gibi- tarih sahnesine bir çıkıp bir kaybolmuşlardır. Yorumlamacı yöntem olarak da adlandırılan hermenötik yöntem, bilim tarihi boyunca çok işlevsel dönemler geçirdiği gibi, adından fazla söz edilmediği adeta unutulmaya yüz tuttuğu dönemler de geçirmiştir.

Adını, eski Yunan tanrıları ile insanlar arasında elçilik yaptığına inanılan Hermes'ten alan hermenötik, İlk Çağ Yunan felsefe ve edebiyatında çok işlevsel bir dönem geçirmiş, dini ve profan metinlerin yorumlanmasında çok aktif bir rol üstlenmiştir.

Bin yıllık Ortaçağ boyunca adından fazla söz edilmeyen yorumlamacı yöntem, Yeniçağda Rönesans ve Reformla birlikte Kutsal Metinlerin yeniden yorumlanmasında adeta lokomotif görevi yapmıştır.

XVIII. y.y.'da Doğa bilimlerinin *açıklama* yöntemini kullanarak adeta bilimi tekeline alması ve Sosyal bilimlerin geri plana düşmesiyle XIX. y.y.'ın sonuna kadar yorumlamacı yöntem yine bir kenara bırakılmış adından hiç söz edilmemişti.

Wilhelm Dilthey, Beşeri Bilimler Hermeneutik / *Geisteswissenschaftlicen Hermeneutik* denilen bilim dalının en önemli teorisyeni olarak, Doğa bilimlerinin *açıklama* yöntemine karşılık *anlama* yöntemini ortaya atmasıyla hermenötik tekrar tarih sahnesine çıkmıştır.

Bu tebliğde eğitimde yorumlamacı yöntemin uygulanmasına ışık tutması bağlamında, Dilthey'in dilinden Schleiermacher'in eğitimci yönü, onun ders işleyişi ele alınacaktır.

Anahtar Kelimeler: Eğitim, yorumlamacı yöntem, hermenötik, Dilthey, Schleiermacher.

Giriş

"Eğitimde Yorumlamacı Yöntem Bağlamında Schleiermacher Örneği" isimli bildiriye başlamadan önce Schleiermacher'n hayatı, fikirleri ve düşünce dünyasıyla ilgili bilgi vermek yerinde olacaktır.

Tam adı Friedrich Ernst Daniel Schleiermacher olan XIX. yy'ın ünlü düşünürü, 21 Kasım 1768 tarihinde Polonya'nın Breslau şehrinde doğmuş, 12 Şubat 1834'de Berlin, Prusya'da ölmüştür. Alman ilahiyatçısı olan filozof, aynı zamanda klasik filoloji uzmanıdır. Modern Protestan ilahiyatının temellerini atmış; *Der christliche Glaube* / Hıristiyan İnancı adlı eserinde Hıristiyan dogmalarının sistematik bir yorumunu yapmıştır.

Schleiermacher'in 19. yüzyıl boyunca etkili olan ilahiyat görüşleri, mutlak doğrudan ayrılıp insani kültüre dayalı bir din yarattığı gerekçesiyle yaklaşık 1925-55 arasında, Karl Barth ve Emil Brunner'in önderlik ettiği *"Tanrı Sözü"* grubunun şiddetli eleştirisine uğramış, yakın zamanlarda ise katkılarının önemi daha iyi anlaşılmaya başlamıştır (Yılmaz, 2003, 104).

Schleiermacher'e göre hermenötik, bir başkasının söylediğini doğru anlama sanatıdır. Bu da anladığı kişiyle anladığı şeyi aktardığı üçüncü şahıs arasında bir bağ oluşturmaktır (Berger, 1999, 14; Schleiermacher, 1977, 11).

Kendisinden önce gelen teorisyenlerin aksine, o, problemi başkasını anlama konusunda ortaya atmış; onu gerçeklikten daha çok niyette, araştırmadan ziyade sezgiyle, bilginin umumi bir problematiği haline getirmiştir. Gerçekten, onun tahlilleri umumiyetle Kitabı Mukaddes'ten ya da klasik Antikite'den alınmış örneklere dayanmaktadır; öyle ki, onun girişimi her şeye rağmen biraz teolojik kalmaktadır (Freund, 1997, 30).

Başlangıçta hermenötik teknikler, genellikle dini bir metindeki bazı pasajların kapalı ya da tutarsız görüldüğünde karşılaşılan belirgin anlama güçlüklerinin ya da başarısızlıklarının üstesinden gelmek için, geliştirilmişti. Schleiermacher, bir metinde kapalılık ya da tutarsızlık görmememizin, yorumumuzun doğruluğunun bir teminatı olmadığını düşündü. Anlama, potansiyel olarak yanlışa hep açıktır. Bildik sözcüklerin, tarihsel bir metinde ortaya çıktıkları zaman, bildiğimiz ya da düşündüğümüz anlamı taşıdıklarını kabul ederek, hiçbir yere varamayız. Linge'in de öne sürdüğü gibi, yanlış anlama, sözcük anlamlarında, dünya görüşlerinde, vs., yazarı yorumcudan ayıran zaman dilimi içinde vuku bulan değişmelerden dolayı, doğal olarak ortaya çıkabilir. Araya giren tarihsel değişmeler, sonuçları tesirsiz hale getirilmedikçe, anlamayı kaçınılmaz olarak güçleştirecek bir tuzak meydana getirir. Hermenötik ilkelere, şu halde, sadece güçlüklerle karşılaştığımız zaman değil, fakat anlama çabası içinde olduğumuz her seferinde başvurulur (West, 1998, 121).

Schleiermacher'in kendinden önceki transandantal felsefenin ve romantik akımın mirasına dayanarak, yorumsamacı yaklaşımın oluşumuna yaptığı temel katkı, geçerli yorum olasılığının koşullarını sorgulamak ve yeni bir anlama kavramı geliştirmek olmuştur. Schleiermacher için edebi metin bir yandan yazarın tüm yapıtının bütününe yani bağlı olduğu yazarın tümüne ait iken (metnin nesnel etkenleri), bir yandan da bu metnin özgün anlamı yazarın yaratma anındaki öznelliğine (metnin öznel etkenleri) bağlıdır. Ona göre anlama, daima önceden bilinen bir başvuruyu içerdiğinden dairesel ve eytişimsel (diyalektik) bir akış içerisinde işleyen yaratıcı bir yeniden formüllendirme ve yeniden yapılandırmadır. Onun anlamı bu şekilde ele alış tarzı, daha sonra yorumsamacı yaklaşımın temel kavramlarından olacak olan 'yorumsama dairesini / *hermeneutische zirkel* öncelemektedir. Yorumu ise gramatik ve psikolojik olmak üzere ikiye ayıran ve bunların kendine özgü yasalarını saptamaya çalışan Schleiermacher'in ilgisi henüz bir metnin anlaşılması ve yorumlanması noktasındadır ama yorumsamacı düşüncenin tüm gelişimi boyunca etkili olacak olan anlamanın gerçek nesnesinin deşifre edilip anlaşılmayı bekleyen bir metin olduğunu ileri sürmüştür. (Göka, 1993, 86; Göka, Topçuoğlu, Aktay, 1996, 28-29.)

Schleiermacher'in hermenötik daire yaklaşımı kısaca üç adımda özetlenebilir: (1) Anlama varmak için nasıl bir sözcüğü yazarın yapıtının bağlamı içine oturtmak gerekiyorsa, her metni de yazarın tüm yapıtlarının içine oturtmak gereklidir. (2) Aynı biçimde, yazarın eserlerini söz konusu edebi türlerin içine, giderek edebiyatın tümü içine oturtmalıdır ki bu işin nesnel yönü olmaktadır. (3) Öte yandan aynı metni, yaratma sürecinin bir anının ifadesi olması açısından yazarın manevi yaşamının içinde belirlemelidir. İşte Schleiermacher'e göre, ancak böylelikle, işin öznel ve nesnel boyutlarını içeren bir daire devrini tamamladığında yani 'hermenötik daire' oluştuğunda anlama varılabilir (Kasaboğlu, 1992, 61).

Yeniçağdan İtibaren Yorumcu Yöntemin Gelişimi

Yorum ve onun kural koyması, Rönesans'tan bu yana yeni bir boyut kazanmış ve bu nedenle de klasik, Hıristiyan Ortaçağın dil, yaşam koşulları ve milliyet anlayışı tamamen değiştirilmişti. Bundan dolayı yorum, önceleri Roma'daki Kutsal Kitabı yorumlama görevinden daha farklı bir alana kayarak, gramatik, nesnel ve tarihsel araştırmalar yoluyla başka bir ruhsal hayatı yorumlamada kullanılır oldu. Bu yeni filoloji, çok yönlü bilim *(polymati)* ve eleştiri çok defa sadece bilgilerle ve bilgi kırıntılarıyla çalışmaya mecbur oluyordu. Böylece bu bilimler yeni bir tarza bürünmek, yaratıcı ve yapıcı olmak zorundaydılar. Bu nedenle filoloji, hermenötik ve eleştirel bilim anlayışı daha yüksek bir mertebeye çıktı. Son dört yüz yılda çok kapsamlı bir hermenötik literatür ortaya çıkarılmıştır. Klasik ve kutsal metinler, elde edilmesi gereken güçlerdi, bu nedenle hermenötik iki farklı akım oluşturmaktadır. Klasik ve filolojik kural koyma, eleştiri sanatı *(ars critica)* olarak nitelendirildi. *Scioppius, Clerius* ve *Valerius*'un henüz tamamlanmamış eserleri bu dönemde kendini gösterdi. Bu eserler ilk bölümlerinde hermenötik sanat öğretisini verdiler. Sayısız yazı ve konuşmacı yorumlama *(de interpretatione)* hakkında yazıyor ve konuşuyordu. Ama nihai planda hermenötiğin yapılanması, Kutsal Kitap yorumu sayesinde oldu. Bu

eserlerin en önemlisi, belki de temel olma özelliğini taşıyanı *F l a c i u s* ' un 1567'de yayınlanan Anahtar *(Clavis)* adlı eseri idi (Dilthey, 1924, 317).

Flacius'la birlikte o zamana kadar keşfedilip zirveye ulaşan yorumlama kuralları bir öğreti yapısına kavuşturulmuştu. Şöyle ki, postulatın bir aracı olarak, sanatsal usulün bu kurallarla genel geçerliği yakalaması gerekiyordu. Hermenötiği yöneten bu kuralcı bakış açısı, *Flacius*'u XVI. y.y.'da yapılan tartışmalarla bilinçlendirdi. O iki cephede savaşmak zorundaydı. Bunlardan biri restore edilmiş Katolikliğin otoriteleriydi. Onların iddiası Kutsal Kitapta kapalılık olmadığıydı. *Flacius* bunlara karşı gelirken özellikle *Calvin*'in yorumlarından çok şey öğrendi. *Calvin*'in bu yorumları yorumlamadan daha çok onun temellerine geri dönmüştü. O zamanki bir *lüterci* için en önemli görev, daha yeni formüle edilmiş olan geleneksel Katolik öğretisini çürütmekti. Kutsal Kitap yorumunu belirleyen Katolik gelenek ise, Protestan Kutsal Kitap yorumlama prensibine karşı yürüttüğü mücadeleyi sadece, Kutsal Kitaptan genel geçer, yeterli yorumlama çıkarılamayacağı anlayışı üzerine kurmuştu. *Flacius*'un eserlerinin yayınlanmasından bir süre sonra *Trieste Konsili*'nin Katolik temsilcisi *Bellarmin,* 1581 yılında Kutsal Kitabın bizzat kendisini yorumlaması fikrine şiddetle karşı çıktığı tartışma yazısında, geleneğin gerekliliğini ispatlamaya çalışmıştır. Bu tartışmalar bağlamında *Flacius*, yorumlama kurallarını hermenötiğin genel geçer kurallarına yükseltmeye teşebbüs etmiştir. Bu çabaların sonuca ulaşması için daha önce hiçbir hermenötik çalışmada kullanılmayan araçlar ve kurallar geliştirilmiştir. Eğer yorumcu, metinde bir zorlukla karşılaşırsa o zaman onu aşmak için yükseltici bir tarzda bir araca ihtiyaç duyar. Bu da yaşayan Hıristiyan dindarlığı bağlamında oluşturulan kutsal yazımlardır. Biz bunu dogmatik düşünce tarzından, kendi düşünme tarzımıza tercüme ederiz. Böylece bu dindarlığın tecrübesi olan hermenötik değer, sadece tekil olayların prensibidir. Buna göre her bir yorumlama metodunda yorumun kendisi nesnel bağlamdan çıkan bir faktördür. Ama bu **dini** yorumlama prensibinin yanında bir de **akli** yorumlama prensibi vardır. Bundan sonra da **gramatik** yorumlama gelir. Ama *Flacius* bunun yanında yorumlamanın **psikolojik** ya da **teknik** prensibinin eserin bazı bölümlerinin, tamamının kompozisyonuna ve amacına göre yorumlanması gerektiğinin önemini kaydeder. Ve o ilk etapta bu teknik yorumlama için retoriğin metodik anlayışından, edebi bir ürünün iç bağlamı üzerine onun kompozisyonunu ve en etkili unsurunu kullanarak yararlanır. Bu arada *Aristocu Retoriğin* yeniden düzenlenmesi çalışmaları *Melanchthon* tarafından yapılmıştı. *Flacius,* ilk önce metodik olarak bu araçla metnin tek anlamlılığını tespit etmek için, metnin bazı kısımlarının ya da unsurlarının içerdiği kontekst (siyak-sibak), hedefler, oran ve eşitliğe göre değerlendirilmesi gerektiğinin bilincindeydi. Bundan dolayı da o, hermenötik değeri, bizzat metot öğretisinin bakış açısına ekler. "Hani bir bütünün parçaları, bu bütünle ve diğer parçalarla olan ilişkisinde kendi anlayışlarını barındırırlar ya işte onun gibi". O bir nesnenin içsel formundan yola çıkarak üslubuna ve etki unsurlarına kadar gider ve bundan da *Pavlusçu* ve *Johannesçi* üslubun ince ruhlu karakteristiklerini geliştirir. Bu, retorik anlayışın sınırları çerçevesinde büyük bir adımdı. *Melanchthon* ve *Flacius*'a göre her yazı, kurallara göre yazılır ve kurallara göre anlaşılır. Bu tıpkı mantıksal bir otomat gibidir, yazı bu mantıkla üslup, şekil ve konuşma figürlerine bürünürülür (Dilthey, 1924, 318).

Flacius'un eserinin eksiklikleri, çok daha sonra kaleme alınan Baumgarten'in hermenötiğinde giderilmiştir. Aynı zamanda Baumgarten, bu eserde ikinci bir büyük teolojik - hermenötik hareketi gerçekleştirir. Baumgarten'in bir Halle kütüphanesinden yararlanarak verdiği bilgiler üzerine, Hollandalı yorumcuların yanı sıra İngiliz özgür düşünürleri ve Eski Ahit'i bir etnolojik eser olmaktan çıkarıp Alman görüş alanı çerçevesinde açıklayanlar ortaya çıkmaya başladı. Semler ve Michaelis onunla iletişime girerek, onun çalışmalarına katıldılar. Michaelis; dil, tarih, tabiat ve hukukun tekdüze tarihsel bakışını Eski Ahit'in yorumuna uyguladı. Büyük Christian Baur'un selefi olan Semler, Yeni Ahit'e ait metnin tekdüzeliğini yıkarak yerinde bir çalışma başlattı; bununla her bir Kutsal Kitabı kendi lokal karakterine göre anlamaya çalıştı. Sonra bu Kutsal Kitapları bir birine bağlayıp yeni bir birliktelik oluşturdu. Bu birliktelikte, canlı tarih yazımlarında en eski Hıristiyan ve Yahudi çatışmasını düzene koydu. Teolojik hermenötiğin ön hazırlığında kesin bir kararlılıkla tüm bilimi iki kısma ayırdı: Dil kullanımından ve tarihsel durumlardan oluşan yorumlama. Böylece yorumlama dogmadan kurtarılmış, gramatik ve tarihsel okul kurulmuş oldu. Ernesti'nin dikkatli ve ince dehası klasik metinleri yorumlayanlar için yeni bir hermenötik oluşturdu (Dilthey, 1924, 319).

Yorumcu Yönteme Schleiermacher'in Katkıları

Onun okumalarından Schleiermacher kendi hermenötiğini geliştirdi. Bu gelişmeler de kesin sınırlar çerçevesinde oluştu. Bu yorumcuların elinde kompozisyonlar ve düşünceler her metnin kendi zamanının şartlarına göre lokal ve zamana bağlı tasavvurlar çerçevesinde oluşturuldu. Bu pragmatik tarih anlayışına göre dini ve ahlaki yönden eşit şekilde nitelendirilen insan tabiatı, yalnızca dışarıdan lokal ve zamana bağlı olarak sınırlandırıldı. İnsan tabiatı tarihsel değildir.

O zamana kadar klasik hermenötikle İncil hermenötiği birlikte hareket ediyordu. Bu iki uygulamanın genel olarak anlaşılması gerekmiyor muydu? Wolfçu Meier 1757'de Genel Bir Yorumlama Sanatının Denemesi ile bu adımı attı. Kendi biliminin kavramlarını elinden geldiğince genelleştirmeye çalıştı: Her yorumlamada takip edilebilecek işaretlerden kurallar geliştirilmeliydi. Ama bu kitap, bir kez daha bu mimari ve simetri bakış açısına göre yeni bir bilimin oluşturulamayacağını gösteriyordu. Bundan ancak hiç kimsenin giremeyeceği kör pencereler oluşturulabilirdi. Çok etkili bir hermenötik ancak filolojik yorumun ustalığını, gerçek felsefi kabiliyetle birleştirmiş olan bir kafa yapısında oluşabilirdi. Schleiermacher işte böyle biriydi (Dilthey, 1924, 320).

Schleiermacher şu şartlar altında çalıştı: Winckelmann'ın sanat eserlerini yorumlaması, Herder'in bilişsel olarak çağların ve toplumların ruhunu anlayabilmesi, Heyne, Friedrich August Wolf ve onun talebelerinin filolojik çalışmalara yeni bir estetik bakış açısı getirmesi ki; bunların içerisinde Heindorf, Schleiermacher'le sıkı bir ilişkiye girerek Eflatuncu araştırmalar içerisinde bulunmuştur. Bütün bu şartlar Schleiermacher'i Alman Transandantal Felsefesinin tecrübesiyle bağlıyordu. Bilinçaltında verilen bir yaratıcı kabiliyete geri dönme fikri ve bu birlikteliğin etkisi kendisi farkında olmadan içimizdeki dünyanın bütün formunu meydana çıkarıyor; işte bu iki anın birleşmesinden de, özel bir yorumlama sanatı ve bilimsel hermenötiğin temellendirilmesi ortaya çıkıyordu.

Hermenötik o zamana kadar en azından bir kurallar binasıydı, onun kısımları ve kendi kuralları genel geçer bir yorumlamanın hedefiyle birbirine bağlıydı. Hermenötiğin yorumlamada birlikte etki ettiği yorumu gramatik, tarihsel, estetik-retorik ve nesnel olarak kısımlara ayıran fonksiyonları vardı. Hermenötik yüzyıllar boyunca filolojik ustalıktan çıkan kuralların bu fonksiyonlarının neye göre etki etmesi gerektiğini bilince çıkardı.Şimdi Schleiermacher anlamayı analiz etmek için tekrar bu kurallara geri döndü. Böylece bizzat bu hareketin amacını anlayabilmek için bu anlayıştan genel geçer yorumlamanın imkânını, araçlarını, sınırlarını ve kurallarını çıkardı. Ama o, taklit etme, kurma ve planlama olarak tanımladığı anlamayı, yalnızca metodun edebi ürünle canlı bir ilişki içinde olursa analiz edilebileceğini dile getiriyordu. Bu yaratıcı metodun canlı bakış açısından etkili bir eser ortaya çıkar, böylece o başka bir metodun anlaşılması için gerekli olan koşulu tanımış olur. Nasıl bir eserin yazım şeklinden onun tamamı anlaşılıyorsa, onun amacından da yazarın ruh hali anlaşılır(Dilthey, 1924, 324).

Böylece problemin çözümü için yeni bir tarihsel-psikolojik bakış açısı gerekiyordu. Bu bağlamdan yola çıkarak, Antik Yunan yorumlama ve retoriğinin arasında belirli bir edebi ürün çeşidinin sanat öğretisi olarak hermenötiğin oluşmasının, ilişkisini takip ederek burada neyin kastedildiğini bulmaya çalıştık. Ama bu iki usulün anlayışları sonuçta hep tarihsel ve mantıksal olarak kaldı. Bu görüşün içinde gerçekleştiği kategoriler, sürekli yapıp etmeler, mantıksal bağlam, mantıksal düzen ve sonra da bu mantıksal ürünlerin üslup, konuşma figürleri ve resimlerle giydirilmesiydiler. Şimdi edebi bir ürünün anlaşılması için çok yeni kavramlar kullanılıyor. Bütünlük ve yaratıcılık içeren bu kabiliyet kendi etkisinin ve yaratıcılığının farkında olmadan bir eserde ilk önce ortaya atılan fikirleri kabul eder ve onlara şekil verir. Bu fikirleri karşılama ve kendiliğinden oluşturma ondan ayrılmaz bir parçadır. Burada bireysellik tepeden tırnağa, her bir kelimeye kadar etkisini gösterir. Edebi eserin iç ve dış şekli onun en yüksek ifadesidir. Şimdi bu eserin karşısında bitmek tükenmek bilmeyen bir ihtiyaç durur: Başkalarının bakış açısından dolayı kendi bireyselliğinin sınırlandırılmasının gerekliliği. Anlama ve yorumlama bizzat hayatın içinde sürekli faal ve etkindirler, hayati önem taşıyan eserlerin sanatsal içerikli yorumunda ve bizzat yazarların zihninde oluşumlarını tamamlarlar. Bu Schleiermacher'in zihninde farklı bir biçimde oluşan yeni bir bakış açısıydı.

Ama genel bir hermenötiğin bu büyük atılımı için başka bir şart daha vardı. Bu tarihsel-psikolojik bakış açısı, Schleiermacher ve arkadaşları tarafından filolojik yorumlama sanatı ile geliştirilmiştir. Schiller, Wilhelm von

Humboldt ve Schlegel kardeşlerdeki bu Alman Ruhu, şiirsel bir edebi ürün olmaktan çıkıp tarihsel dünyanın anlaşılmasına dönmüştür. Bu güçlü bir hareketti; Böckh, Dissen, Welcker, Hegel, Ranke ve Savigny bu harekete tabi oldular. Friedrich Schlegel filolojik sanatta Schleiermacher'in öncüsü oldu. Schlegel'in Yunan şiiri, Goethe ve Boccaccio üzerine yapmış olduğu parlak çalışmalarında kullandığı kavramlar, eserin iç üslubuna, yazarının gelişim tarihine ve edebiyatın bütün alanlarına ışık tutuyordu. Böyle derinlemesine yapılanmış filolojik sanatın tekil başarısının arkasında bilimsel bir kritik yatıyordu. Eleştiri sanatı (Ars critica) bu üretilmiş edebi yeteneklerin teorisi üzerine kurulmuş olmalıydı. Schleiermacher'in "Hermenötik ve Kritik (Hermeneutik und Kritik)" adlı eserinde bu plana kısaca temas ettiği gibi (Dilthey, 1924, 324).

Schlegel tarafından da Eflatun tercümesinin planı başlatılmış oldu. Bununla yeni yorumlamanın tekniği kuruldu ve ilk önce Böckh ve Dissen bunu Pindar üzerine uyguladılar. Eflatun'un felsefe sanatçısı olarak anlaşılmış olması gerekiyordu. Bu yorumun hedefi, Eflatuncu felsefi karakterle ve Eflatuncu eserlerin sanatsal şekli arasındaki bütünlüğün sağlanmasıdır. Felsefe o zaman henüz canlıdır, konuşma ile birleşir, yazınsal oluşumu yalnızca zihinde yer etmesi ve hatırlanması için gereklidir. Onun sanatsal formda bir diyalog olması gerekir. Felsefenin kendini üretmeye devam edebilmesi için canlı düşünce bağlantısına ihtiyacı vardır. Aynı zamanda sıkı bir bütünlük arz eden bu Eflatuncu düşünceye göre her diyalog, olayın öncesini kapsamalı, sonrasını hazırlamalı ve felsefenin çeşitli bölümlerini oluşturmaya devam etmelidir. Diyalogun bu ilişkisi takip edilirse, o zaman kaynak eserlerin bağlantısı oluşur, bu da Eflatun'un en içsel niyetini ortaya çıkarır. Schleiermacher'e göre sanatsal olarak oluşturulan bağlantıdan sonra ancak Eflatun anlaşılabilir. Bununla ilişkili olarak onun eserlerinin kronolojik sıralamasında bu bağlantı çökebilir ya da daha önemsizleşebilir. Böckh o meşhur eleştirisinde (Rezension) Eflatun için filoloji bilimi alanında oluşturulmuş bir başyapıt olduğunu söylemiştir.

İlk defa Schleiermacher'in dehasında böyle bir filolojik ustalıkla, felsefi bir yetenek bir araya gelmişti. Gerçi bunda hermenötik problemin çözülmesi ve bütün metinler için yeterli bir araç sunan transandantal felsefenin rolü de büyüktü. Böylece genel bir bilim ve yorumlama sanatı öğretisi olarak hermenötik ortaya çıktı.

1804 sonbaharında, Schleiermacher, Ernestici yorum okumalarından hermenötiğin ilk taslağını geliştirdi, bununla Halle üniversitesindeki yorumlama derslerini başlatmak istemişti. Bizim elimizde böyle oluşturulmuş bir hermenötiğin sadece çok etkisiz bir şekli vardı. Buna gerekli etkinliği, Halle döneminden Schleiermacher'in talebesi olan Böckh, felsefi ansiklopedi hakkındaki derslerinin o harika kısmında kazandırmıştır (Dilthey, 1924, 332).

Schleiermacher'in hermenötiğinden, başka bir gelişmeye bağlı olarak, benim için gerekli görünen bazı cümleleri buraya alıyorum. Bütün edebi eserlerin yorumlaması, yalnızca anlamanın sanatsal olarak oluşturulmuş metoduyla yapılabilir. Bu yaşamanın bütün yönlerine kadar uzanır, konuşma ve yazının her türünü içerir. Buna göre anlamanın analizi yorumlamada kural koyma için temel durumundadır. Ama bu ancak edebi ürünlerin analiz edilmesiyle ilişkilendirilebilir. Yorumun araç ve sınırlarını belirleyen, anlama ve ürün verme arasındaki ilişkiyle ancak kuralların bağlantısı oluşturulabilir.

Genel geçer yorumun oluşması imkânı, ancak anlamanın doğasından üretilebilir. Yorumcunun ve eserin yazarının kişiliği kıyaslanamaz iki olgu olarak karşı karşıya gelmezler. Genel insan tabiatının temelinde bu iki olgu bulunmaktadır. Bundan dolayı da insanın kolektifliği ancak konuşma ve anlama ile mümkündür. Burada Schleiermacher'in formüle edilmiş ifadeleri psikolojik olarak tekrar açıklanabilir. Sonuçta bütün farklılıklar, kişilerin birbirinden kalitatif farklılıkları değil, aksine yalnızca onların ruhsal durumlarından kaynaklanan temel farklılıklarına bağlıdır. Ama şimdi yorumcu kendi yaşamsallığını tarihsel bir ortama deneyerek yerleştirdiği takdirde buradan o anki ruhsal durumları vurgulamayı ve kuvvetlendirmeyi, diğerlerini geri bırakmayı ve böylece yabancı hayatların bir taklidini kendi içine katmayı başarabilir.

Bu metodun mantıksal tarafı göz önüne alındığında; o zaman yalnızca göreceli, belirlenmiş bazı işaretlerden mevcut gramatik, mantıksal ve tarihsel bilimin değişmez katılımı altında bir bağlam göze çarpar. Bizim mantıksal terminolojimizde ifade ettiğimiz, anlamanın bu mantıksal tarafı, böylece tümevarımın birlikte etki etmesinde, genel hakikatlerin özel durumlara uygulanmasında ve karşılaştırmalı metotta bulunur. Yapılacak olan

son görev, özel formların tespiti, burada zikredilen mantıksal operasyonlar ve onların bağlantılarının kabul edilmesidir.

İşte burada bütün yorumlama sanatlarındaki başlıca zorluk kendini hissettirir. Her bir kelimeden ve onların bağlantılarından bir eserin tamamının anlaşılması gerekir, fakat parçanın tam anlaşılması bütünün anlaşılmasına bağlıdır. Bu döngü, tek bir eserin yazarının gelişimi ve ruh haliyle olan ilişkisinde tekrarlanır ve aynı zamanda bu eserin edebi türüyle olan ilişkisinde geri döner. Bu zorluğu, Schleiermacher pratik olarak en güzel şekilde "Eflatun'un Devlet'ine Giriş" adlı eserinde çözümlemiştir. Kendi yorumlama ders notlarında ben aynı metodun başka örneklerine rastladım. [O derse bölümün özetiyle başladı, bu özet üstünkörü bir okumayla kıyaslanabilirdi. Bu giriş, ana hatlarıyla bütün bağlamı içine aldı. Zorluklara ışık tuttu. Kompozisyon hakkında bilgi verilen her yerde durdu ve düşündü. Bundan sonra asıl yorumlama başladı.] Burada teorik olarak bütün yorumlamaların sınırı ile karşılaşırız, belli bir dereceye kadar işlevini yerine getirir: Böylece her şeyi anlamak, her zaman göreceli olarak kalır ve hiç bir zaman sona erdirilemez.

Schleiermacher'den önce yapıldığı gibi, yorumlama metodunun gramatik, tarihsel, estetik ve nesnel yorum olarak kısımlara ayrılmasını o kabul etmemiştir. Eğer yorumlama başlamış ve her bir türe aynı etkiyi yapabilecekse, o zaman bu taksimat yalnızca gramatik, tarihsel, nesnel ve estetik bilmenin olmasına işaret eder. Ama bizzat yorumlama metodu yalnızca iki kısma ayrılabilir, bu kısımlar dil işaretlerinin içerdiği şeylerden zihinsel bir yaratıcılığın anlaşılmasıdır. Gramatik yorumlama, metinde bağlamdan bağlama gider ve metnin bütününde en yüksek derecede bağlantı kurulmasına kadar devam eder. Psikolojik yorumlama, yaratıcı içsel sürecin oluşmasıyla başlar ve eserin iç ve dış formuyla ileriye doğru gider, buradan da eserin bütünlüğünün yazarının gelişimine ve ruh halini kaydetmeye kadar varır (Dilthey, 1924, 336).

Şimdi Schleiermacher'in yorumlama sanatını ustaca geliştirdiği noktaya ulaşıldı. Onun öğretisinde iç ve dış form temeldir, özellikle de edebi ürünlerin genel teorisi derin anlam taşır. Organon'un edebiyat tarihinde önemli bir yeri olduğu gibi.

Hermenötik metodun ulaşmak istediği en son hedef, yazarı kendisinden daha iyi anlamaya çalışmaktır. Bir cümle düşünün ki, öğretisinin tutarlılığı bilinçsiz bir yaratmadan oluşmuştur.

Şimdi sonuca gelmiş bulunuyoruz. Anlama, yalnızca dil anıtları karşısında genel geçerliğe ulaşmış bir yorumla mümkün olabilir. Eğer hermenötik de filolojik yorumlama metodunun ve doğruluk sebeplerinin bilincinde olursa; böyle bir disiplinin pratik yararı canlı bir egzersizle karşılaştırıldığında, Friedrich August Wolf'un haklı eleştirisinde olduğu gibi, yüksek derecede bir etkide bulunamaz. Ama bu pratik yararın ötesinde yorumlamanın bana göre kendi görevi, ikinci hatta en önemli görevi olarak, romantik keyfiliğin ve şüpheci öznelliğin devamlı baskısı karşısında, yorumun genel geçerliğini tarih çerçevesinde teorik olarak temellendirilmesi görünüyor. Çünkü tarihin bütün güvenilirliği buna dayanır. Yorumlama öğretisi, bilgi kuramı (Erkenntnistheorie) bağlamında ve beşeri bilimlerin mantık ve metot öğretisi olarak kabul edildiğinde o zaman bu öğreti felsefe ve tarihsel bilim arasında önemli bir bağlayıcı olur. Yani beşeri bilimlerin asıl tamamlayıcısı ve temellendirici unsuru olur (Dilthey, 1924, 317).

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EĞİTİM DENETİMİ VE KOÇLUK YAKLAŞİMİ

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Özet

Bilgi toplumu olma, bilgi ve üretimin hızlı paylaşımı, tarım toplumundan bu yana üretim fazlası veren ve bunları depolama veya pazarlamaya çabalayan insanoğlunun daha da acımasız rekabet koşulları ile yaşantısını devam ettirme gereğini ortaya çıkarmıştır. Zaman içinde ortaya çıkan bu rekabet ortamı klasik yönetim yaklaşımlarını da etkilemiş, hiyerarşik bürokrasi ve otoriteye dayalı yönetim anlayışı, yerini insanların çıkarlarının birleştirildiği, farklılıklar arasında orta yolun bulunduğu, hak ve sorumlulukların hayata geçirildiği mekanizmalar, süreçler ve kurumlara bırakmıştır. Bu gelişmeler ile şekillenen günümüz felsefesi, geleneksel eğitim anlayışını etkilemiş ve çağdaş eğitim sürecini bir yarışmaya dönüştürmüştür.

Bu çalışmada daha rekabetçi bir ortamın yaşandığı günümüz dünyası yapısına uygun olarak eğitim denetimi alanında "koçluk" kavramı açıklanmaya çalışılacaktır. Bu amaçla koçluk yaklaşımı, koçluk türleri, koçluğun yararları ve yönetim teorilerinde koçluk yaklaşımları üzerinde durulacaktır.

Eğitimde denetimin gereği önemlidir. Günümüzde denetim, kontrol etmekten öte geliştirme odaklı bir işlev içinde görülmektedir (Aydın, 2008: 3). Eğitim kurumlarının bu yapıya uygun denetimi, denetimde yeni bir yaklaşımı; "Koçluk" kavramını gündeme getirmiştir.

Günümüzde eğitim sistemi yapısı ve buna bağlı olarak müfettişlerden beklenen roller değişmektedir. Alışıldık klasik yönetim tarzı olan hiyerarşiye uyma, emir verme ve kontrol etme yerine esnek örgütlenme, sürekli değişim, risk alma, motive etme ve geliştirme gibi davranışları içeren "koçluk" yaklaşımı önem kazanmaktadır.

Yönetim alanına "koçluk" kavramının girmesi ile eğitim sistemleri içerisinde de "Denetimde Koçluk" uygulamaları başlamıştır. Eğitim denetçilerinin koçluk yaklaşımını benimsemeleri ve uygulamaları, kendi gelişimlerini, öğretmenlerin daha verimli olmalarını ve okul örgütlerinin daha etkin bir yapıya kavuşmalarını sağlayacaktır.

Anahtar Kelimeler: Koçluk, eğitim denetimi, yönetim teorileri

Abstract

Being information society, sharing information and production rapidly have revealed the need of human being who has given production surplus since the agricultural society and has strived for storing or marketing them to continue his life with even harsher competitive conditions. The competitive environment which has occurred in time has also affected the classic management approaches, the management approach which based on hierarchical bureaucracy and authority has given its place to the mechanisms, processes and institutions where the interests of people has been combined, where the common way has been found between differences, where the rights and responsibilities have been put into action. Today's philosophy is shaped by these developments has affected the traditional education approach and has turned the modern educational process into a competition.

In this study, "coaching" concept in the field of educational supervision will be tried to explain according to the structure of the contemporary world that is experiencing a more competitive environment. For this purpose, coaching approach, coaching types, benefits of coaching and coaching approaches in management theories will be focused.

Requirement of supervision in education is important. Today supervision is seen in a function-oriented development than controlling (Aydın, 2008: 3). Supervising the educational institutions appropriate this structure has brought up a new approach in supervision; "coaching" concept.

Today the structure of the education system and depending on this the roles expected from inspectors has changed. "Coaching" approach including behaviors such as motivating and development, flexible organization, continuous change, risk taking instead of traditional management style such as comply the hierarchy, giving orders and controlling becomes important.

"Coaching Supervision" applications have started in education systems with the entrance of "coaching" concept into management area. Education supervisors adopt and implement the coaching approach will provide their own development, teachers to be more efficient, school organizations leading to a more effective structure.

Key Words: Coaching, education supervision, management theories

Giriş

İnsanoğlu, yeryüzünde yaşadığı ilk günden başlayarak hem eğitilen hem de eğiten varlık olmuştur. Başka bir değişle insanlar, öncelikle çevresindeki insanlara ve diğer varlıklara bakarak onlardan birtakım yaşam becerilerini öğrenmişler, daha sonra da bunların en işlevsel olanlarını, yakın çevrelerinden başlayarak toplumun diğer bireylerine öğretme yoluna gitmişlerdir. Bu da tüm insanlık tarihi boyunca sürekli bir gelişme göstermiştir. Günümüz uygarlığı bu eğitsel süreçlerin bir toplamı olarak ortaya çıkmıştır (Başar, 2011: 25).

Her insanın en az bir amacı, kendine özgü oluşturulmuş değerleri, inançları ve geçmiş yaşantıları sonucunda oluşturulmuş olduğu tutumları vardır. Bütün bunlar sayesinde yaşamı anlar, yorumlar ve yeni değerler katar. Yaşamdan beklentileri vardır. Birçok filozofun dediği gibi, her insanın bir felsefesi vardır. Felsefe bir yaşam biçimi, geleceğe bakış açısı, bir dünya görüşüdür (Ergün, 2011: 69).

Bu anlamda günümüz uygarlığını vardığı noktaya getiren eğitim süreci ile felsefenin iç içe olması kaçınılmaz bir gerçektir. İnsanoğlunun yaşantısı birçok alanda sürekli olarak bir gelişim ve değişim göstermektedir. Bilimsel gelişmeler ve felsefe birbirini sürekli etkilemektedir. İlkel toplumlardan, tarım toplumuna, sanayi devrimine derken günümüz toplumları artık bilgi çağını yaşamaktadır. Bilgi çağının ihtiyaç duyduğu insan tipini ise formal bir şekilde eğitim veren günümüz eğitim kurumları yetiştirmeye çalışmaktadır.

Bilgi toplumu olmanın, bilginin ve üretimin hızlı paylaşımı, tarım toplumundan bu yana üretim fazlası veren ve bunları depolama veya pazarlama yoluna giden insanoğlunun daha da acımasız rekabet koşulları ile yaşantısını devam ettirme gereğini ortaya çıkarmıştır. Zaman içinde ortaya çıkan bu rekabet ortamı klasik yönetim anlayışlarını da etkilemiş, yapısında bulunan hiyerarşik bürokrasi ve otoriteye dayalı yönetim anlayışı, yerini insanların çıkarlarının birleştirildiği, farklılıklar arasında orta yolun bulunduğu, hak ve sorumlulukların hayata geçirildiği mekanizmalar, süreçler ve kurumlara bırakmıştır. Bu gelişmeler ile şekillenen günümüz felsefesi, geleneksel eğitim anlayışını da etkilemiş, çağdaş eğitim sürecinin de yarışmalı bir hale gelmesine sebep olmuştur.

1.1. Araştırmanın Önemi ve Gerekçesi

Dünyadaki bu gelişmeler Türkiye eğitim sistemi ve uygulamalarını da etkilenmiştir. Bakanlar kurulunun 25.08.2011 tarih, 2011 / 652 sayılı ve "Milli Eğitim Bakanlığının Teşkilat ve Görevleri Hakkında Kanun Hükmünde Kararname" adlı kararnamesi ile "Teftiş Kurulu Başkanlığı" şeklindeki ilgili birim adı "Rehberlik ve

Denetim Başkanlığı" biçiminde değiştirilmiştir. Aynı şekilde birim denetimini gerçekleştiren kişilerin görev adları hiyerarşik yapıya uygun olarak korunmuştur. İlgili kararnamenin "Personele Dair Geçiş Hükümleri" başlığı altında "Bakanlık Teftiş Kurulu Başkanlığı Başmüfettiş, Müfettiş ve Müfettiş Yardımcısı kadrolarında bulunanlar, Rehberlik ve Denetim Başkanlığında ilgisine göre Millî Eğitim Baş denetçisi, Denetçisi ve Denetçi Yardımcısı kadrolarına başka bir işleme gerek kalmaksızın bulundukları kadro dereceleriyle atanmış sayılır." şeklinde düzenlenmiştir.

18. Milli Eğitim Şûrası Kararlarının "İlköğretim ve ortaöğretimin güçlendirilmesi, ortaöğretime erişimin sağlanması" başlığı altında yer alan 36. Maddede "Eğitim çalışanlarına branşında rehberlik ve denetim esas alınmalı" şeklinde vurgu yapılmıştır.

"Milli Eğitim Bakanlığı İlköğretim Kurumları Standartları Uygulama Yönergesi" içerisindeki 4. Bölüm – 19. Madde / c bendinde de Milli Eğitim Bakanlığı adına denetim görevini gerçekleştiren bu kişilerin yeni görevlerinin içeriğini oluşturan anlayışta "rehberlik" görevinin öne çıkarıldığı görülmektedir.

Bu şekilde yapılan son düzenleme ve önerilerin, ilgili alan yazınında yer alan "Koçluk" kavramı ile örtüşüyor olması, eğitim denetiminde koçluk yaklaşımının bir model olarak ele alındığı bu araştırmanın önem ve gerekçesini oluşturmaktadır.

1.2. Araştırmanın Amacı

Bu çalışmanın amacı; daha rekabetçi bir ortama sahip günümüz şartlarına uygun insan tipini yetiştiren eğitim kurumlarının denetiminde görev alan eğitim denetçilerinin rollerine bir model olacak şekilde "koçluk" yaklaşımının açıklanmasıdır. Ortaya konacak eğitim denetiminde koçluk yaklaşımı ile daha verimli bir eğitim – öğretim ortamı oluşumuna katkıda bulunulması hedeflenmiştir. Bu amaçla şu sorulara yanıt aranmıştır:

1. Yönetim kuramlarındaki gelişmeler ve denetim anlayışlarına yansımaları nelerdir?

2. Koçluk kavramı, türleri ve yararları nedir?

3. Eğitim denetiminde, koçluğa dayalı denetim yaklaşımının yeri nedir?

1.3. Yöntem

Bu çalışmada hâli hazırda yayımlanmış materyallerin çözümsel değerlendirilmesi yapılmıştır. Önceden konu ile ilgili yapılmış çalışmalar taranmış, konu ile ilgili taşıdıkları önem göz önünde bulundurularak amaca uygun biçimde bir bütün haline getirilmiş ve okuyucuları durumdan haberdar etmek için özetlenmiştir. Çalışma bu yönüyle genel tarama modelinde, belge ve metin çözümlemesine dayalı nitel bir araştırmadır.

2. Bulgular

Eğitim denetçilerinin rolleri içerisinde yer alan "koçluk" kavramı ile ilgili yapılan taramalar neticesinde şu bulgulara ulaşılmıştır.

2.1. Yönetim Teorileri ve Denetim Yaklaşımları

"Bilimsel yönetim", "Yönetsel kuram" ve "Bürokrasi modeli" biçimindeki yaklaşımların yer aldığı klasik örgüt kuramları, yönetsel

açıdan süreç ya da fonksiyonel yaklaşıma dayanır. Süreç ya da fonksiyonel yaklaşım, deneysel ampirik okul ile yönetim süreci okulun yönetimine ilişkin görüş, düşünce ve ilkelerini yansıtır. Frederick W. Taylor'un öncülük ettiği, "Bilimsel Yönetim", önce A.B.D' de ortaya çıkmış, daha sonra da Avrupa'da "Taylorizm" ya da "Rasyonalizasyon" adı altında hızla yayılmıştır (Gürsel, 2008: 29).

Bilimsel işletmecilik akımının okul yönetimine girmesi, okul yöneticisinin bir verim uzmanı olarak kabul edilmesine yol açmıştır. Okullar fabrika, öğrenciler ham madde olarak kabul edilmiş, okulların sosyal ve psikolojik yanları ihmal edilmiştir.

Kuruculuğunu Henri Fayol'un yaptığı yönetim süreci yaklaşımında ise, insanları motive etmek için disiplin ve ceza öngörülmekte, örgütsel verimlilik için ortaya konulan kurallara uyulması istenmiş, yönetilenden çok yöneticiye güvenilmiştir.

Bürokrasi modelinin kurucusu olan Max Weber de, örgüt hiyerarşisinde yer alan pozisyonların yetki ve sorumluluklarının belirlenmesi, mevkilere uzman kişilerin yerleştirilmesi, kurallar ve yönetmelikler konulması gibi konular üzerinde durmuştur. Ancak bu tip yaklaşımlar, yetki devri, sorumluluk dağılımı, işbirliği, çatışma, merkezden ve yerinden yönetim kalıp ve derecelerini belirlemede yetersiz kalmıştır.

Klasik yönetim düşüncesi; kişisel çıkarlar peşinde koşan, menfaatçi, tembel, karar ve yargılama kabiliyeti zayıf olan akılcı – ekonomik insan modeli varsayımına dayanır. Özellikle, bilimsel yönetimde "insan" bir robot gibi görülüp standartlaştırılmıştır. Kişilerin birbirinden farkı

yoktur. İnsanlar rasyonel davranırlar. İnsanların yönetiminde kişi ve grupların akılcı davranışları önemlidir. Grup üyeleri, üstlerinin rehberliği olmadan pozisyonlarının getirdiği ilişkileri yürütemez. Ekonomik ödüllendirme ve prim esasına dayalı bir motivasyon sistemi uygulanır.

Klasik yönetim anlayışlarının gelişmeye başladığı dönemlerde "koç" kavramı kano yarışlarına katılan takımları eğiten kişileri (çeşitli spor dallarında çalışan koçlar) ifade etmek için kullanılmıştır. Klasik yönetim anlayışında, özellikle bilimsel işletme yaklaşımında, koçluk anlayışından söz etmek mümkün değildir. Yetkilendirmeyi esas alan koçluk yaklaşımı ile bilimsel işletmecilik yaklaşımı birbirinden tamamen farklı durumdadır. (Evered ve Selman, 1989).

Klasik yönetim teorileri kısa bir süre sonra eleştiriler almaya başlamıştır. Taylor'un bilimsel işletmecilik ilkeleri işçi ve yönetici kuruluşlarının çeşitli eleştirilerine uğramıştır (Bursalıoğlu, 2005: 27). İşletmelerde klasik yönetim yaklaşımlarının yetersiz kalması ve çeşitli örgütsel sorunların artması sonucunda, 1920'li yıllarda neo – klasik yönetim teorisi (insan ilişkileri yaklaşımı) ortaya çıkmıştır. Bu yaklaşım esas itibariyle klasik yönetim düşünce sisteminin kavram ve ilkelerine dayanmaktadır. Klasik yaklaşımının arka plana attığı insan öğesini, inceleme ve araştırmalarında ön plana çıkarmıştır. Neo - Klasik Yönetim Düşüncesi, insanı sosyal ve psikolojik varlık olarak değerlendirmiştir. Ayrıca doğal grupların biçimsel gruplardan daha etkili olduğunu ve grup davranışlarının üretimi doğrudan doğruya olumlu ya da olumsuz şekilde etkilediğini ileri sürmüştür.

Klasik Yönetim Düşüncesinin dayandığı "akılcı ekonomik insan" modeli, yerini "sosyal insan" modeline bırakmıştır. İnsanın sosyal ve psikolojik bir varlık olarak kabul edilmesi, örgütün insanların çalıştığı, yaşadığı ve birbirleriyle ilişkide olduğu bir sosyal birime dönüştürülmesi sonucunu getirmiştir. Bu nedenle insan davranışlarının, örgüt yapı ve işleyişini etkileyeceği kabul edilerek, örgütte bulunan insanların kendi güdüleri, inançları, ihtiyaçları, tutum ve değerlerinin olduğunu düşünen bu anlayış, onların birer araç olarak görülmesinin mümkün olmadığını ileri sürmüştür (Çetin, 2003: 37).

İnsan ilişkileri yaklaşımının ele aldığı başlıca konular, insan davranışı, kişiler arası ilişkiler, grupların oluşumu, grup davranışları, biçimsel ve biçimsel olmayan örgüt, algı, tutumlar, motivasyon, liderlik, örgütlerde değişim ve gelişme, birey ve örgüt bütünleşmesi olmuştur (Şahin, 2004: 530-531).

Neo - Klasik Yönetim Düşüncesinin aldatıcı bir demokrasi havası yaratması, işletmelerde kararlara katılmanın sahte bir biçimde uygulanması nedeniyle eleştirilmiştir. Fakat kararlara katılma, iş genişletme, merkezcil olmayan yönetim, kişiye yönelik denetleme, aşağıdan yukarıya haberleşme vb. gibi önlemlerle daha etkili ve verimli çalışma ortamı yaratılmaya çalışılmıştır. Teori ve uygulama açısından, yöneticiye insanlarla olan ilişkilerine yol gösterici, çalışanlarıyla iletişim kurma becerisini geliştirici bir bilgi topluluğu sağlamıştır. Yönetimin insan ilişkilerine dayanan "sosyal bir süreç" olduğunu davranış bilimlerinin de katkısıyla göstermiştir (Baransel, 1979: 223 – 227).

Neo - Klasik Yönetim Düşüncesinin hâkim olduğu 1950'li yıllardan bu yana işletmelerde koçluk yaklaşımı görülmektedir. Bu dönemde koçluk yaklaşımı ile ilgili yazılmış makalelerde, çalışanların iş becerilerini iyileştirmek amacıyla nezaretçilerin koçluk becerilerini geliştirme eğitimlerinin öneminin altı çizilmiştir. "Koçluk" yaklaşımı, usta – çırak ilişkisinin bir şekli, astların gelişimine ilişkin sorumluluklardan biri olarak algılanmıştır (Arat, 2007: 131).

Bir yönetim alanı olarak "koçluk" yaklaşımının öne çıkması Myles Mace' ın çalışmalarıyla gerçekleşmiştir. "Koçluk" yaklaşımı oldukça değerli ve sonradan kazanılabilen bir yönetim becerisi olarak ele alınmıştır (Maher ve Pomerantz, 2003).

Yönetim düşüncesinin değişmesinin temelinde, insan düşüncesinin ve toplumsal yaşamın gelişimi vardır. Davranışsal Yönetim Kuramları, bilimsel gelişmelere bağlı olarak ikinci dünya savaşı yıllarından itibaren yerini Sistem Yaklaşımı ve Durumsallık Yaklaşımına bırakmaya başlamıştır (Genç, 2004).

Sistem yaklaşımında insanlar, gruplar, yöneticiler örgütsel sistemin bir parçasıdır ve davranışlarında bu sistemi etkileyen faktörleri ve bu faktörlerdeki değişimleri titiz bir şekilde izlemek, örgütsel başarıyı sağlayacak tutumları göstermek zorundadırlar. Bunun için örgüt içinde oluşturulacak alt sistem ve organların görevlerini iyi belirlemek gerekmektedir (Eren, 2008: 55).

Sistem yaklaşımının yöneticilere bulunduğu katkılar şöyledir (Koçel, 2003: 242-243):

- Yönetici görevini dar bir şekilde, sadece kendi fonksiyonu açısından yorumlamaktan kurtularak, kendi sisteminin bağlı olduğu diğer alt – sistemleri ve çevre koşullarını da dikkate almak zorunda kalmıştır.

- Yöneticiye kendi sisteminin amaçlarını daha geniş bir sistemin amaçları ile ilişkilendirmek fırsatını vermiştir.

- Yönetici, organizasyon yapısını alt – sistemlerin amaçları ile uyumlu bir şekilde kurmak olanağına kavuşmuştur.

- Yönetici, alt – sistemleri değerlendirirken bu sistemlerin esas sisteme yaptıkları katkıyı belirleme olanağına kavuşmuştur.

Sistem yaklaşımı sayesinde yönetici için daha kapsamlı araçlar ortaya çıkmıştır. Sistem düşüncesine uygun yöneticiler, örgüt amaçları için çalışırken teknik yön ve çalışanlar arasında uyumu en iyi şekilde ortaya koymaya çalışmışlardır. Yönetici, örgüt amaçları için işleri yürütmekten çok işleri koordine eden bir yaklaşıma yönelmiştir.

Sistem düşüncesi bireyleri, ekipleri ve organizasyonları; dünyayı alt sistemlerden oluşan bir bütün olarak görmektedir. Bu bütün içinde koçlar çalışanının tüm süreçleri görmesini sağlar (Ceylan, 2002: 13-15). Bir yönetim sistemi olarak ele alınan koçluk, örgütün amaçlarını, çalışanların performanslarını – yeteneklerini ve alt sistemleri geliştirilen bir yapıdadır.

Sistem yaklaşımının yönetim bilimine sunduğu kavramlardan birisi olan entropy, (Gürsel, 2008: 37) sistemin bozulması veya ölmesi demektir. Örgütler, entropyi önleyecek mekanizmalar geliştirirler. Çalışanlar koçlarını iş başında devamlı izlemektedir. İşgörenler, koçun

onlara nasıl görevler verdiğini, grupla nasıl iletişim kurduğunu, zamanı nasıl yönettiğini, sürekli öğrenme ve kendini geliştirme konusunda neler yaptığını gözlemektedir. Bu yüzden bazı astlar koçun davranışlarını kendilerine uydurmaya çalışabilir. Astlar arasında koça benzeyen doğal liderler oluşması negatif entropye neden olabilir. Bu nedenle koç, iyi bir yönetici ve iyi bir iş arkadaşı olmalı ve astların benimsemesini istediği standartlar koymalıdır.

Örgütsel davranış konusunda geliştirilen yaklaşımlardan bir diğeri de durumsallık yaklaşımıdır. Klasik, neo – klasik, insan kaynakları yaklaşımı örgütsel sorunlara çözüm getirecek tek bir model üzerinde durmuş ve çalışmışlardır. Hazırladıkları modellerin her örgüt için ve tüm koşullarda geçerli olduğunu iddia etmişlerdir. Ancak değişik düşünürler tarafından ve farklı örgütsel koşullarda yapılan araştırmalar her örgüte uygulanabilecek genel ve evrensel modellerin bulunmadığını ortaya koymuştur (Eren, 2008: 55).

Durumsallık yaklaşımına göre her insan ve her durum farklıdır; dolayısıyla en iyi örgüt yapısı yoktur. Genellikle teknoloji ve çevre faktörlerinin organizasyona etkileri üzerinde durulmaktadır. En iyi yönetim tarzı insana, teknolojiye ve çevreye göre değişiklik göstermektedir (Şahin, 2004: 536). Örgütlerin değişik zaman, durum ve koşullarda karşılaştıkları yönetsel sorunların her defasında aynı genel yönetim ilkeleri ile çözümlenmesi imkânsızdır (Doğan, 1998: 191).

Durumsallık Yaklaşımı, değişik durum ve koşullarda başarılı olmanın anahtarını değişik kavram, teknik ve davranışlarda aramaktadır (Gürsel, 2008: 36). Durumsallık yaklaşımı ile günümüz dış çevre koşullarını

düşünecek olursak, değişimin her alanda kaçınılmaz olduğunu görürüz. 80'li yıllarda yönetim dünyasına giren koçluk kavramı, değişimle meydana gelen işletme yapısındaki farklılıklarda artık başarıya giden bir yol olarak görülmektedir. İşletmelerde yerleşik hale gelen değişim kültürünü yönetmek, güven oluşturmak, değerlerine sahip çıkmak, iş birliği ve uzmanlaşmayı sağlamak, yeni kuşaklara destek olmak için işletmeler artık koçlara ihtiyaç duymaktadır.

2.2. Denetim Alanındaki Gelişmeler

Denetim, kamu ve kurum yararına insan davranışlarını kontrol etme sürecidir. Önceden kararlaştırılmış amaçların gerçekleşme derecesini bulmak üzere her kurumda denetim yapılır (Taymaz, 2010: 3). Bu yönetsel uygulamalar doğrultusunda denetim, örgütsel eylemlerin kabul edilen amaçlar doğrultusunda, saptanan ilke ve kurallara uygun olup olmadığının anlaşılması süreci olarak düşünülebilir (Aydın, 2007: 11).

Klasik yönetim kuramları, denetimin, teknik yanına ağırlık veren klasik denetim anlayışına yakındır. Verim, emretme ve kontrol öğelerinin önemliliği, işi yapandan çok yapılan işin gözetilmesi, denetimin kontrol öğesine ağırlık verilmesi, zorlayıcı olması bu yönetim ve denetim anlayışının genel özelliklerini oluşturur (Başar, 2000: 5).

Dönemin yönetim felsefesine uygun olarak yapılan klasik eğitim denetimi tanımlarına baktığımızda denetim ile hedeflenin esasen yapılan işlerin, örgütün amaçlarına uygunluğu ile ilgili olup olmadığı görmek söz konusudur. Bu tanımların yüklediği anlam ve içerik dâhilinde eğitim sistemimizin denetim anlayışı şekillenmiş ve tamamen yapılan işlerin kontrolü anlamında denetim süreçleri gerçekleştirilmiştir.

Eğitimde denetim anlayışı, yönetime ilişkin yaklaşım ve kuramlara uygun bir değişim ve gelişim göstermiştir. Yönetim kuramının ortaya koyduğu ilkelere, varsayımlara ve yaklaşımlara göre, denetime bakış açıları da zaman içinde farklılaşmıştır.

Eğitim denetimi uygulamalarına bakıldığında, başlangıçtan günümüze denetim anlayışında bazı değişimlerin olduğu görülmektedir. Ancak, geçmişteki denetim uygulamalarına yön veren anlayışların izleri, bugünkü uygulamalarda hala görülmektedir (Aydın, 2007: 12).

Örgütler, kuruluş ilkelerine uygun denetim sistemlerini de oluşturmuşlardır. Dolayısıyla, denetim ilkelerinde birlik sağlansa bile, süreçlerde değişikliğin yaşanması doğal bir olgudur. Bunun sonucu olarak da denetim uygulamaları zaman içinde farklılık göstermiştir. Oliva ve Pawlas (2004) tarafından denetim ile ilgili olarak ortaya konan tarihsel gelişim, Tablo 1'de gösterildiği şekilde gerçekleşmiştir (Aydın, 2008: 11);

Tablo 1. Eğitim denetiminin tarihsel gelişimi

Dönem	Denetleme Şekli	Amaç	Sorumlular
1620 – 1850	Kontrol	Kurallara uygunluğun sağlanması, yetersizliklerin	Aileler, yurttaş komiteleri,

		aranması	seçmenler
1850 – 1910	Kontrol, öğretimin iyileştirilmesi	Kurallara uygunluğun sağlanması, öğretmenlere yardım	Superintendent (Yöneticiler), okul müdürleri
1910 – 1930	Bilimsel, bürokratik	Öğretimin ve etkililiğin arttırılması	Denetici okul müdürleri, okul müdürleri, özel merkez bürosu deneticileri, superintendent
1930 – 1950	İnsan ilişkileri, demokratik	Öğretimin iyileştirilmesi	Merkez bürosu denetmenleri, Okul müdürleri
1950 – 1970	Bürokratik, bilimsel, klinik, insan ilişkileri, insan kaynakları, demokratik	Öğretimin iyileştirilmesi	Okul müdürleri, merkezi bürosu denetmenleri, okuldaki denetçiler
1975 – 1985	Bilimsel, klinik, insan ilişkileri, insan kaynakları, işbirlikçi, koç, akran, mentor, sanatsal, yorumsamacı	Öğretimin iyileştirilmesi, öğretmen doyumunun arttırılması, öğrencilerin sınıf olayları anlayışının genişletilmesi	Okul müdürleri, merkezi bürosu denetmenleri, okuldaki denetçiler, meslektaş, koç, mentor
1985 – …	Bilimsel, klinik, insan ilişkileri, insan kaynakları, işbirlikçi, akran, koç, mentor, sanatsal, yorumsamacı, kültürel olarak yanıt veren, ekolojik	Öğretimin iyileştirilmesi, öğretmen doyumunun arttırılması, öğrencilerin sınıf olaylarının anlayışının genişletilmesi, öğrenen toplumun yaratılması, sınıfta kültürel ve dilsel örneklerin analizi	Okuldaki denetçiler, meslektaş, koç, mentor, okul müdürü, merkez bürosu denetmenleri

Denetim sisteminin yapısı ile ilgili gelişmelerin geçmişten günümüze kadar olan gelişiminin anlatıldığı Tablo 1 incelendiğinde, kontrol anlayışlı bir yapıdan daha çok rehberlik ve koçluk anlamında bir yapıya dönüştüğü görülmektedir.

Denetimde önceleri, "okul müfettişi" olarak atanmış meslekten olmayan kişilere okul ziyareti, araç gereçlerin kontrolü, öğrencilerin bilgilerini ölçme gibi sorumluluklar verilmiştir. Daha sonraları denetmenin bir uzman olması ve öğretmenlere yardım etmesi gerektiği düşüncesi gelişmeye başlamıştır.

İşletmelerin açık sistem anlayışıyla yönetimi ve durumsallık anlayışına dayalı örgütsel yapılanma, günümüzdeki yönetim uygulamalarının temelini oluşturmuştur. Böylece daha esnek ve "önce insan" anlayışı ile yönetilen örgütler doğmaya başlamıştır. Bu gelişmelere paralel olarak sistem ve durumsallık yaklaşımının geliştiği 1980'li yıllara kadar yönetim literatüründe koçluk yaklaşımı yönetim geliştirme amacıyla kullanılan bir eğitim tekniği olarak görüldüğünden işletmelerde sadece bu yönde uygulamalara ağırlık verilmiştir (Evered ve Selman, 1989). Günümüzde koçluk yaklaşımı yalnız bir eğitim tekniği olmaktan çıkarak işletmelerin verimliliğini, çalışanların ve ekiplerin maksimum etkinliğini, performanslarını artıran yeni bir yönetim stili haline gelmiştir.

2.3. Koçluk

"Koç" kavramının İngilizce karşılığı olan "coach" kelimesinin en temel anlamı, "yolcuları, uzun bir yolculukta, yol üzerinde taşıyan büyük motorlu taşıt biçimindedir (Collins Cobuild English Language Dictionary, 1992: 259). Tarihte ilk kullanımı, Macaristan'ın Kocs köyünde yapılan ve adını oradan alan yaylı araba olarak ortaya çıkmıştır (Wikipedia, 2011). Günümüzde de İngiltere'de şehirlerarası yolcu otobüsleri "coach" olarak anılmaktadır. Aynı sözlükte "coach" kavramı kişi anlamında kullanıldığında; "birisine koçluk yapmak, özellikle bir sınava hazırlama amaçlı olarak o kişiye özel bir eğitim vermek" anlamına geldiği görülür.

"Koçluk" kavramı, ilgili alan yazını incelendiğinde değerli bir kişinin bulunduğu noktadan başka bir noktaya ulaşmasını sağlayacak bir araç, bir hizmettir. 1980'li yıllarda iş yaşamında ortaya çıkmış ve 1990'ların başından itibaren yönetim alanında bir kişiye belli bir amaç doğrultusunda, iş ile ilgili öğrenme anlamında müdahale yapmak olarak şekillenmiştir (Arabacı, 2010: 233). Bu anlayış ile çalışanların daha etkin olmaları amaçlanmaktadır.

2.3.1. Koçluk Türleri

Literatür taraması yapıldığında "Koçluk" kavramı ile ilgili birçok yaklaşıma ulaşılabilmektedir. Bunların başlıcaları şu şekilde sıralanabilir:

Koçluk: Geleneksel koçluk; büyüme modeli, amaç belirleme, planlama ve basite indirgenmiş kişilik profili gibi modası geçmiş modeller üzerine kurulmuştur. Gelişim ve ölçülebilir davranış yetenekleri gibi konularda

yetersiz kalmaktadır. "Bir durum her şeye uyar" yaklaşımı ile gelişme odaklı olmayan bir süreci içerir (Arabacı, 2010: 235).

Kariyer Koçluğu (Career Coaching): Kariyer koçluğu, bireyin kendi yaşamları için gerçekten ne yapmak istediklerini belirlemelerini ve bunu başarmak için de stratejiler geliştirmelerini sağlar. Kariyer koçu, çalışanın özel hayatı ile iş hayatı arasındaki dengeyi sağlamasında yardım eder. Bir kariyer koçu bireylerin; kendilerini tam olarak keşfetme ve anlama fırsatıdır, beklentilerine açıklık kazandırır ve onları tanımalarını sağlar, amaçlarına erişmek için stratejiler oluşturmalarını ve geliştirmelerini sağlar (Palankök, 2004: 46).

Yaşam Koçluğu (Life Coaching): Yaşam koçluğu tüm dünyada oldukça rağbet gören bir iş haline gelmiştir. Bireyler pek çok şekilde iş yaşamı gelişimi ve yaşam arasındaki dengeyi kurma yolları arar. Kariyer koçlarına benzer olarak, bireyler kişisel gelişim yollarını keşfetmek ve kendilerinin farkına varmak amacıyla yaşam koçlarına başvururlar. Yaşam koçluğunda en yüksek seviyede verim almak için aşağıdaki noktalara dikkat edilmelidir (Aydın, 2007: 125):

Birey yaşam koçuna ve yaşam koçluğu ilişkisine güvenmelidir. Eğer bireyin yaşam koçluğu kavramına inancı tam değilse olumlu ve kalıcı sonuçlara ulaşması imkânsızdır.

Dürüstlük çok önemlidir. Koçluk süreci bireyi hedefe ulaştırmada yardımcı ve yönlendirici bir süreçtir. Bu bakımdan doğru tanımlanmalıdır. Tanımlanırken de birey hem kendine hem de koça karşı dürüst olmalıdır.

İstekli olmak. Birey istemedikçe koç hiçbir yardımda bulunamaz. İstekli olmak koçluk sürecinin etkinliği için en önemli faktördür.

Seanslardan önce hazırlık yapılmalıdır. Koçluk toplantılarından önce birey neleri başardığını, ihtiyaçlarının neler olduğunu kendisi ile neler keşfettiğini, kazanımlarını ve hedefe ulaşmak için neler yapması gerektiğini analiz etmelidir. Böylece sürecin etkinliğini de gözlemlemiş olur.

Yönetici Koçluğu (Executive Coaching): Yönetici koçları, üst düzey yöneticilere koçluk etmekte uzmandır. Bir örgütte yetki ve gücü elinde bulunduranlarla ilgilenirler. Üst düzey yönetici koçları bu dünyaya aşinadır ve uyumludur. Bu koçlar, kendileri koçluk eğitimi almış, dolayısı ile üst düzey yöneticilerin zorluklarını bilen kişilerdir. Yönetici, bu süreçte kendisini yeni ve objektif bir bakış açısıyla değerlendirir. Daha iyi olabileceği yönleri fark eder, sorunlarını çözer. Kendisine daha güvenli, mutlu ve başarılı bir ortam yaratır (Barutçugil, 2011).

Performans Koçluğu: Performans koçluğu, kişi odaklı bir yönetim şeklidir. Koçun danışanla yüzü yüze iletişim halinde olup, ona destek olmasını ve onu teşvik etmesini gerektirir. Koçun sürekli bir rolden bir diğer role geçmesini gerektiren aktif bir süreçtir. Koçun pasif bir gözlemci değil, aktif bir katılımcı olması gerekir. Performans koçluğu, koçun görev verme ve iş çıktılarını kontrol etmekten çok, soru sorma, dinleme ve yardım becerilerine dayanır. Genelde kurumun kendi içinde yarattığı koçlarla uygulanan bu metot, çalışanların verimini artırmak amacıyla kurum bünyesinde kullanılmaktadır. Bu konuda özel eğitim almış şirket koçları ister astlarına, isterse diğer bölümlerdeki çalışanlara koçluk yapabilir. Kurum bunu sistematik bir biçimde uygulamaya koyar, kişilere özgü gelişme planları hazırlanır ve uygulanır. Bu iki tarafın da (çalışanlar ve kurum içinden gelen koçlar) kazandığı bir süreçtir (Aydoğdu, 2004: 58).

Takım Koçluğu (Team Coaching): Takım koçluğu birey odaklı olarak gerçekleştirilen koçluk yaklaşımlarından uygulama açısından bazı farklılıklar gösterir. Takım koçluğu bireysel koçluk uygulamasına göre daha geniş bir bakış açısıyla ele alınması gereken bir süreçtir. Bu süreçte takımı oluşturan her bireyi doğru tanımak ve amaca ulaşırken takımın her üyesinin projenin hangi alanında en yüksek verimi sağlayacağını analiz etmek gerekir. Takım koçluğunda bir arada tutabilme ve bireylerin ortak hareket etmelerini sağlama önemli rol oynamaktadır. Takımın ihtiyaç duyduğu sinerjiyi yakalamalarına imkân verilmelidir. Bireysel olarak performans eksikliği duyulan konular açıklanır ve takımın her bir üyesi diğerine çözüm sağlamada yardımcı olur. Koç ise bu konuda yönlendirici lider rolünü üstlenerek ilk olarak bireylerin takım olarak problem çözme yeteneğinin ortaya çıkarılmasını sağlar. Böylece takım üyeleri içinde bulundukları ortamda kendilerini rahat hissedecek ve yaratıcı yönlerini sunmaya başlayacaklardır. Ancak takım koçluğu periyodik olarak kontrol ve gözlem gerektirir, çünkü

insanların toplulukta yer aldıklarında gösterdikleri değişken özellikler bireysel olarak gösterdiklerinden daha fazladır (Aydın, 2007: 127).

Bilişsel Koçluk (Cognitive Coaching): Bilişsel koçluk, bireyin bilişsel farkındalığını arttırmak, bilişsel stratejiler geliştirme konusunda yardım etmeyi amaçlar. Bu yaklaşımda uzman olan bilişsel koçun çeşitli etkinlik ve stratejilerle öğretimi söz konusudur. Bilişsel koçluk üç temel esas üzerine oturtulmuştur: 1- Herkes değişme yeteneğine sahiptir. 2- Öğretim Performansı, geliştirme ve düzenleme becerilerini motive eden karar verme becerilerine dayalıdır. 3- Öğretmenler birbirlerinin bilişsel süreçlerini, kararlarını ve öğretimsel davranışlarını artırma kabiliyetine sahiptir (Costa, 2011).

Eğitim Koçluğu (Educational Coaching): Eğitim koçluğu öğrencinin eğitimiyle devamlı ilgilenen ve onu başarıya götüren, uzman koçlarla uygulanan yeni bir eğitim sistemi olarak tanımlanabilir. Öğrenci koçluğu da denilen eğitim koçluğu öğrenciyi ezbercilikten kurtararak yüzleşmeyi öğrenmelerine yardımcı olur. Koç, bireysel ya da takım çalışmasıyla okul, sınav stresi, sosyal aktivite, aile iletişimi, mesleki yönelme, zaman yönetimi vb. konularda öğrenci ihtiyaçlarına destek sağlamaktadır (Gynnild, 2007: 2-3).

2.3.2. Koçluğun Yararları

Koçluk etkili olarak sağlandığında öğretmenlerin becerilerini geliştiren ve iş performansını iyileştiren bir sistemdir. Belki de koçluğu en önemli kılan yanı, ileride büyük sorunlara neden olabilecek küçük sorunların zamanında önlenebilmesidir. Koçluk, danışmanlık ile karıştırılan bir kavramdır. Danışmanlık, bireylere kişisel sorunlarını çözmede yardım etme süreci iken koçluk, bireyin iş performansının iyileştirilmesine odaklanır. Bu anlamda koçluk bir yönetsel sorumluluktur (Aydın, 2008: 227).

Koçluğun örgüt açısından yararları, şu şekilde sıralanabilir (Cantimer, 2008: 16);

• Koçluk örgütsel ve biçimsel yapı içinde kişiler arası yazılı ve sözlü iletişimi daha verimli hale getirir.

• Danışanın performansının ve verimliliğinin arttırılması ile örgütün üretkenliği, verimliliği ve yaratıcılığı artar.

• Örgüt içindeki sorunlar su yüzüne çıkar, bu sorunlar için çözüm yolları geliştirilebilir.

- Örgüt zaman ve personel yönetimi konusunda esneklik kazanır.

Tipik eğitim ve gelişim yaklaşımlarından ayrı olarak, koçluk, devamlı bir öğrenme süreci sağlar ve insanları günümüz ve gelecekteki ihtiyaçlara göre geliştirir. Koçluk, anahtar kaynak olan insanın gelişimini sağlayarak örgüt için uzun dönemde verimlilik kazanmasına imkân tanıyan etkili bir yatırımdır.

Bir koçun gündeminde tek konu vardır; Koçluk yaptığı kişinin başarısı. Koçluk, insanlara kişisel ve profesyonel açıdan gelişme konusunda yardımcı olur. Bu gelişme örgütün de başarısının gelişmesi anlamını taşır. Profesyonel koçlar örgütte yer aldığı sürece, performans yönetimi çalışan ve yöneticilerin yararına işleyen bir uyum ve işbirliği süreci konumuna gelir. Dolayısıyla, koçluk alan kurumlarda pek çok faktörün değiştiğini ve yenilikçi bir yapı kazandığını söylemek mümkündür.

2.4. Denetimde Koçluk Yaklaşımı

Günümüzde eğitim sistemindeki yapıda ve buna bağlı olarak denetmenlerden beklenen roller değişmektedir. Alışıldık klasik yönetim tarzı olan hiyerarşiye uyma, emir verme ve kontrol etme gibi davranış biçimleri yerine esnek örgütlenme, bireyleri geliştirme, motive etme ve kendilerini yaptıkları işe ait hissederek performanslarını en üst noktaya taşımalarını hedefleyen "koçluk" uygulaması önem kazanmaktadır. Koçluk kişinin deneyimli bir yönlendiricinin yol göstericiliğinde, güçlü ve eksik yanlarını keşfetmesine, yetkinliklerini geliştirip yanlışları düzeltmesine dayalı, kendini koşullarını sorgulayan, çözümlerini üreten, kendi kendini yeniden yapılandıran, eylemli bir öğrenme modelidir (Aras Çakar, 2011; Çınar, 2010).

Bilgi çağı ve dünyada daha yoğun bir rekabet ortamının oluşması ihtiyaç duyulan insan sermayesinin bu rekabet ortamı ile mücadele edebilecek, varlığını koruyabilecek bir nitelikte yetiştirilmesi gerekliliğini ortaya koymuştur. Yapılan tahminlere göre, 2020 yılına kadar birçok ülkede imalat mallarının üretimi en az iki katına çıkarken,

imalat sanayindeki istihdamın toplam iş gücünün yüzde 10 – 15'i kadar daralacağı yönündedir (Ekinci, 2011: 168).

Eğitimde denetimin gerekliliğini vurgulayan bir diğer unsur da denetimin bu gün artık kontrol etmekten öte geliştirme odaklı bir işlev içinde görülmesidir (Aydın, 2008: 3). Toplumun en önemli kurumlarından olan eğitim kurumunun da yetiştireceği insan modellerinin de bu yapıya uygun şekilde işleyişlerinin denetlenmesi süreci, denetimde yeni bir yapılanmayı; "Koçluk" kavramını gündeme getirmiştir. Günümüzde eğitim sistemindeki yapıda ve buna bağlı olarak müfettişlerden beklenen roller değişmektedir. Alışıldık klasik yönetim tarzı olan hiyerarşiye uyma, emir verme ve kontrol etme gibi davranış biçimleri yerine esnek örgütlenme, sürekli değişim, risk alma, motive etme ve geliştirme gibi davranışları içeren "koçluk" uygulaması önem kazanmaktadır.

Ünal'a (2006) göre öğrenen organizasyon geliştirmek için denetçi rollerinden bir tanesi liderliktir. Lider denetçiler, mentorlük ve koçluk uygulamalarıyla organizasyonu öğrenen topluma dönüştürmede katalizör olarak hizmet ederler. Yönetim alanına "koçluk" kavramının girmesi ile eğitim sistemleri içerisinde de "Denetimde Koçluk" uygulamaları başlamıştır.

Başarılı bir koç denetçinin sahip olması gereken nitelikler şu şekilde sıralanabilir (Aras Çakar, 2011; Öztürk 2007: 32-33):

Başarılı bir koçun içgüdüleri olmalıdır.

Değişime inanmalı, inandırmalı, başkalarının değişimi için çalışırken sorunlu davranışlarını göz ardı etmeyip kendini de değiştirmeye istekli olmalıdır. Yani denetçi de gerektiğin de kendi davranışlarını değiştirebilmelidir.

Kargaşa ve huzursuzlukların önüne geçmek, ilişkileri onarmak amaçlarından biridir. Dolayısıyla ilişkileri değerlendirme ve onarmaya yönelik buluşmalara düzenlenmelidir.

Sorunları çözmek için hazırlanan bireysel denetim raporu kişiye özel olmalıdır.

Denetim esnasında koç-denetçi, aktif dinlemeyi bilmeli yani karşısındakinin sözlerini kendi ifadeleriyle tekrarlayarak hem daha iyi kavramalı, açıklığa kavuşturmalı hem de hatalarını düzeltmelidir.

Koç herhangi bir olay sonrasında ya da program içerisinde karşısındaki kişinin neler öğrendiğini çeşitli sorularla araştırılmalıdır. Örneğin kişinin neler hissettiğini, ne kadar başarılı olduğunu düşündüğünü, başkalarının nasıl tepki verdiğini sorarak geri besleme almalıdır.

Kolaydan zora giderek kişinin deneme yanılma yöntemi ile ilerleyebileceğini akılda tutmalıdır. Birden fazla sorunlu davranışı olan kişinin ilk sırada değiştirilmesi en kolay olan davranışlarına odaklanmasına yardım etmelidir.

Küçük hedefler belirleyerek nihai hedefe doğru yaklaşmalıdır. Örneğin nihai hedef, daha güvenilir ve sosyal bir kişi olmaksa ilgili küçük hedefler, bir karar almadan önce başkalarının fikrini almak, daha fazla insanla yemek yemeyi teklif etmek, bir ilişkinin gidişatına dair notlar tutmak olabilir.

Koç-denetçi daha fazla olumlu geri beslemeyi teşvik etmelidir. Olumsuz noktalara saplanmamalı ve öğretmenlerin ve yöneticilerin başarılarını da dile getirmeli ve daha çok bu yönde geri besleme sağlamalıdır.

Koçluğun temelinde yaratıcı olmak ve çeşitli pratik çözümler aramak yatmaktadır. Bu amaçla yapılan gerekli davranış değişikliği için başka insanların bu davranıştan nasıl etkilendiğini iyice kavramalıdır. Ayrıca değişim sabır gerektirir, aylar sürer, inanç gerektirir, başlangıçta küçük çabalar küçük sonuçlara yol açarken uzun vade de hem çabaların arttığı hem de sonuçların büyüdüğü gözlenir. Değişim sürecinde ilerlemelerin yanı sıra geri düşmeler de mümkündür ve tolere edilmelidir.

Koç denetçi egosunu yenmeli, kontrol altına almalı ve bunu öğretmenlere de aşılamalıdır. Böylece insanlar, korkusuzca iletişime açık hale gelir. Hata yaptığında ve üstünden farklı düşündüğünde küçük düşmeyeceğini ve gülünç kabul edilmeyeceğini bilir ve rahat hisseder.

Diğer meslek geliştirme hizmetlerinin aksine, denetici koçluğu farklı biçimde aşağıdaki şekilde karakterize edilebilir (Henderson, 2011):

- İlişkiler otoriter olmak yerine, daha işbirlikçi ve eşitlikçidir.
- Odaklanılan, problemlerin analizi değil, hedeflere ulaşım sürecidir.
- Vurgu, ortak hedef belirlemedir.
- İstemcilerin, klinik olarak anlamlı bir ruh sağlığı sorununa sahip olmadığı kabul edilir.
- Koçların, ileri seviyede belirli bir baskın uzmanlığa ihtiyacı yoktur.

Başarılı denetçi / koç, saygılı ve uzman, çalışan davranışlarını her zaman gözleyebilen, her bir çalışanın farklılıklarını tanımlayabilen ve

açık, informal yollarla zamanında tüm gelişmelerin farkında olandır. Koçun odak noktası, personelin yeteneklerini geliştirmesine yardım etmektir. Denetçiler için, geleneksel personel eğitimlerine ilave olarak koç; süreci gizlice takip etmek, tecrübeli personeli gözlemek, bir konferansta sunum yapmak, diğer kurumları ziyaret etmek, kütüphane ve internet kaynaklarını kullanma yoluyla öğrenmenin kolaylaşmasına yol gösterir.

Koç, kişiye saygı göstererek onaylamalıdır. Saygı göstermekte bir başlangıç noktası, kişiyi basit bir uygulayıcı olarak görmekten çok, yardım etmeye zaman yaratmak için istekliliktir. Onaylamanın diğer bölümü, üretimdeki düşüş için bir açıklama gibi, kişinin problem hakkındaki görüşünü dinlemeye istekliliktir. Koçlar tarafından ihtiyaç duyulan dört önemli beceri: gözlem, çözümleme, görüşme ve geri bildirimdir (Hopkins ve Austin, 2004).

3. Sonuç

Günümüz yönetim anlayışına uygun olarak eğitim denetçilerimiz, çalışanların gelişimini sağlayıcı liderlik rolleri ortaya çıkmıştır. Bu anlamda "Denetim Koçu", öğretmenlerin mesleki gelişimlerini ileriye götürürken etkili bir öğrenme öğretme ortamının oluşumuna katkıda bulunur. Okulda olumlu bir öğrenme iklimi oluşturarak, çalışanların sürekli öğrenmeleri konusunda destektirler. Eğitim denetçilerine, Şişman'ın (2004: 72) aşağıda belirtilen öğretimsel liderlik becerilerinin kendi yapılarına uyarlanmış şekilde kazandırılması, "Denetimde Koçluk" rolü bakımından faydalı olacaktır:

- Okulu, öğrenciler ve yetişkinler için bir öğrenme merkezi haline getirmeye öncülük ederler,

- Bütün öğrenciler ve yetişkinlere ve yetişkinlere ilişkin olarak akademik ve sosyal boyutlarda yüksek beklentiler oluştururlar,

- Öngörülen akademik standartlara uygun olarak öğretimin içeriğini oluşturur ve öğretimi gerçekleştirirler,

- Öğrenci ve yetişkinler için "sürekli öğrenme" anlayışına dayalı bir okul kültürü oluştururlar,

- Öğretimi iyileştirmek için mevcut durumu teşhis ve değerlendirmede çeşitli araçlar kullanırlar,

- Öğrenci ve okulun başarısını artırmak için okul toplumunun etkin bir üyesi olarak sorumluluk üstlenirler.

Günümüz insanı daha etkili bir eğitim alma çabasına içerisindedir. Yönetim alanında koçluk kavramının ortaya çıkması, eğitim denetimini gerçekleştiren klasik denetim sistemini etkilemiştir. Gelişmeler neticesinde ülkemiz eğitim denetimi yapısında bazı yasal düzenlemeler yapılmış ve denetçi rollerinde koçluk yaklaşımına uygun tanımlamalar gerçekleştirmiştir. Eğitim denetçilerinin koçluk yaklaşımına uygun bir biçimde rollerini benimsemeleri ve uygulamaları, hem kendi gelişimleri, hem öğretmenlerin daha verimli olmaları, hem de okul örgütlerinin daha etkin bir yapıya kavuşmalarını sağlayabilecektir.

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ENCOUNTERED DISCIPLINARY PROBLEMS IN ELEMENTARY SCHOOLS OF A LOW SOCIOECONOMICALLY STATUS DISTRICT

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Abstract

The purpose of this research is to determine the most frequently encountered disciplinary problems, reveal disciplinary punishment frequency due to students' these disciplinary problems, and present the relationship between families and their undisciplined students in the elementary schools to be situated in a low socioeconomically status district. The sample of this study consists of 554 teachers composing of 308 women and 246 men who worked 2010-2011 academic year in 55 elementary schools to be situated in a low socioeconomically status district of Istanbul. According to the results of the research, it is seen that disciplinary problems decrease when family interest increases, senior teachers and male teachers encounter with less disciplinary problems in comparison with junior teachers and female teachers, there are similar disciplinary problems of both first and second stages, besides dress and bad language problems are incorporated into them. It is seen that contrary to expectations, walking around in the classroom, making noise, interrupting and talking without permission problems have appeared above the average as class levels rise in upper classes.

Keywords: Discipline, family, teacher, student, education

1. Introduction

Discipline is one of the most important parts of education, thus new generation knows, and learns their responsibilities; their bounds for social peace; where and how to behave with their own free will. Schools should always revise, renew and educate themselves because discipline is a process to be always continued due to security reasons and educational objectives (Garman& Walker, 2010).

Discipline states all kinds of measures providing a common unity to live in safety (Sarıtaş, 2003; Sadık, 2006). It is necessary to show consistent and decisive behaviors in order to prevent negative behaviors (Erdoğan, 2010). According to Frau and others (1993), the main reason of discipline's negative connotation is that teachers and school management are only interested in its punishment dimension and most References sanctions are related with imposing punishments. The aim of discipline is not to force students to obey the rules imprudently but to help them control themselves, and gain them educatory, regular, proper behaviors, and perfection and bring them up. Necessary freedom should be acknowledged individuals to gain their own identity and make them compatible and successful; and an adoring supervision environment should be provided for individuals to be able to find the true path, and learn social rules (Cited by: Gökhan, 2007). We shouldn't forget that successful discipline's main aim is to reinforce positive behaviors and prevent possible undisciplined behaviors before they emerge.

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2. The Role of Teacher in Discipline

Teacher is one of the most important factors in discipline; teachers should pay attention to students' psychological and physical health in classroom discipline (Aydın, 2006). School management, family, environment, briefly each individual in society should be aware of the importance level of discipline separately and completely and it's supposed to be helped teachers so that they can perform their duties successfully (Brown & Beckett, 2006; Özdemir & Yalın & Sezgin, 2004; İlgar, 2007).

Teachers should provide in-class discipline in order to reach their goals in educational activities. Teachers should follow students' development, abilities, and capabilities well; establish a good communication with their parents; and recognize them closely (Sirkeci, 2010).

Recent searches have indicated that there is a meaningful relation between school discipline and academic success. If disciplinary rules aren't applied consistently, disciplinary problems may increase, and incite nuisances, so students can be encouraged to make aforementioned behaviors and applications concerned with discipline may damage students' relation with school (Cameron & Sheppard, 2006). The purpose of disciplinary rules is to endear school to students and have students apprehend why the rules are necessary.

3. Possible Unwanted Behaviors in School/Class Environment

The criterion of unwanted or terminal behaviors is features of treater, behavior, other people, and environment; enacted and unenacted rules of society; and individual judgments. Every kind of behavior, which hampers educational efforts in the schools, is called "unwanted behavior". Their negative effects are variable. From this point of view, they are ranged from "nondestructive" to "too destructive". Some of unwanted behaviors take most effect on the person who performs these behaviors, but they also badly affect teachers, class and lesson. Moreover, some unwanted behaviors harm school and family seriously. Unwanted behaviors in class spoil classroom organization and actions; block reaching goals; and especially cause waste of time. Teachers often encounter with disciplinary problems. Certainly, teachers may sometimes cause them by themselves, too, but these problems may have more complicated reasons; we can add them the problems arisen from society, family or school management (Edwards, 2007; Başar, 2008).

On the one hand discipline should prevent unwanted attitudes and behaviors, but on the other hand it should create a necessary environment where students will develop in every respect (Özmen & Tonbul, 2010). There isn't a ready receipt for each disciplinary problem. Besides, every situation must be evaluated in terms of student's age and conditions. Consequently, management of unwanted behaviors is complexified more. The priority which behavior management strategy is chosen to change negative behavior; and carries out successful socialization must specify how students behave in classroom environment and the reasons why they behave so. Because removing unwanted behaviors and preventing their emergence won't be possible unless potential factors, which cause these negative behaviors, are removed (Başar, 2008; Özyürek, 2001; Weber, 1986; Brophy, 1988; Sadık, 2006).

In reality, there are so many reasons of unwanted behaviors and they are generally complicated and one within the other situations. Primary reasons of unwanted behaviors of students are viewed as schools, teachers and families. Classes may be too crowded, curriculum may not be suitable for students, assignments may not arouse interest, teachers may always complain and be devoid of sense of humor, families may not be interested in their children's education or children may bring their familial problems into classes in the schools. All of these factors cause unwanted behaviors of students to display (Baron, 1992. Cited by: Dağlı & Baysal, 2010).

4. Coping with Undisciplinary and Unwanted Behaviors

It is known that only punishment isn't an effective way to dissuade people from a behavior. It is monitored that if students' unwanted or unacceptable behaviors are only tried to be removed with punishment, these

students who are prone to violence do their best not to be arrested and to be escape from punishment; when they are punished they try to revenge themselves on school angrily. Also, if we try to stop students forcibly we convey a message to them that "If you're strong, you're obeyed." and "He who has strength is the ruler.", so we reinforce these kinds of beliefs (Pişkin & Öğülmüş & Boysan, 2011). If punishment doesn't change the behavior in a desired way; on the contrary, if it supports negative behavior, the first thing to be done is to help students avoid behaviors of their own free will which necessitates punishment at all costs.

Studies have indicated that motivational techniques, punishment and rewarding carried out in classes and in the schools aren't enough. While school/class rules are being determined social relations should be strengthened, classroom size should absolutely be reduced, a good communication environment should be established, guidance and counseling service in the schools should be improved, you should be merciful and patient to correct unwanted behaviors, parents should be informed in order to apply the rules more easily and school should be aligned with family more (Gökhan, 2007). It is useful to take headmasters', supervisors', and families' opinions together with students while rules are being determined. In addition to them, the features of school and environment, school administration's preferred subjects, and students' requirements should be considered (Çiftçi, 2008).

Family and school who try to create terminal behavior changes want to raise a good person who obeys the rules of society. Therefore, a certain order is necessary for it. This order is based on affection, and if it aims for child's future, a healthy society's base can be established. Loved and respected child loves and respects others and constitute base of the order during early development years (Yavuzer, 1997).

5. The Importance of Family-School Cooperation in Discipline

Making contact with families can be a good opportunity to inform them about problems and train them confinedly. Conversations with families show school's sensibility about students' negative behaviors and enable information exchange between family and school about the event's dimension realization (Pişkin & Öğülmüş & Boysan, 2011).

Although families have a great effect and importance on school discipline, they are less focal point in the studies related with discipline in comparison to students and teachers. Shaw and Scott (1991) have studied on the relation between discipline practices in families and children's problematical behaviors. The results have shown that there is a relation between sense of discipline at home and children's problematical behaviors.

It has been found that students who are rarely controlled by their families show less problematical behaviors (Gottfredson, 1986).

Students who have close relations with their families' teacher are prone to show more constructive behaviors. When families feel good things about their children's teachers and school, children incline to show expected appropriate school behaviors (Celep, 2004).

One of cyclical and controlled important variables of student behaviors is family. Education begins with family. Basic behaviors of personality structure considerably are acquired in the family. It is too difficult to change them later. Lazy-hardworking, truthful-liar, shy-sociable, selfish-generous and similar situations' acquisition begin with family, develop, and mostly strengthen. It's difficult to change them for school, hence family plays a very important role in child's socialization and first core of child's unwanted behaviors' resources is formed within the family (Başar, 2008).

Firstly society and family should be made safe in order to make safe school. Safe school is the school where everybody has a positive communication with each other, and it's open to personal development. In other words, it's a place where student and personnel live in peace, any groups don't act superior to others, everybody respects each other, and there is a positive interaction among teachers, students, managers, personnel and visitors (Bucher & Manning, 2005). Experiences gained from family and group of friends will affect school life of student (Tarcan, 2007).

Differences of families in discipline and education understanding shape children's interest towards educational life. While some parents are interested in their children's education more closely, some others never come to school until their children are graduated from school (Çelik, 2009).

Discipline based on using of force within the families includes depriving children of their fundamental right; applying corporal punishment; threatening; mocking; not exhibiting love; paying no attention to child; separating them from their brothers or sisters. These practices have a strong influence on children (Sadık, 2006). According to researches, children of helicopter families cause more problems in the schools because these kinds of children have difficulties in controlling by themselves and showing expected behaviors at school (Quesada, 1983). Low socioeconomic level of family may cause student's unwanted behaviors to show (Burden, 1995; Türnüklü & Galton 2001; Dağlı & Baysal, 2010). Especially, children in crowded families having insufficient financial income aren't fed enough; also they are worked by their families as financial contribution to income. This situation alienates children from school. For these reasons, teachers and school administrators express that families are responsible for students' unwanted behaviors (Porter, 2007; Edwards, 2007; Dağlı & Baysal, 2010).

Social norms deeply affect family members' behaviors and relations, namely that social norms are always together with family life (Huntington, 2010) and therefore school rules will be the arbiter in the relation of students with their families.

Parents' support should be planned well for disciplinary effort, and family education programmes should be arranged. Parents may be insufficient about discipline. Instead of criticizing parents because of this situation, schools should educate them. Teachers as a domain expert in disciplinary practices should create solutions relying on academic data; they should persuade parents of reasons (Cemaloğlu, 2007).

It is necessary to establish communication channels between school and house as from the first days of school. Children who must obey some definite rules accept other rules easily outdoor. Therefore, making in contact with parents are quietly crucial to apply the rules. Some parents may think that rules are silly and unnecessary. It is useful to speak with them about these subjects (Yüksel, 2011).

Cooperation with parents should be established as from first days of school, and parents should be informed about parents-students communication and interaction out of school education. While participation of families is being provided into school disciplinary practices, the most important considered subject is families' subjectivity to their children. School administrators and teachers should cope with this situation (Cemaloğlu, 2007).

We can give that information about being searched on population with its family, teacher, student and general environment in studying area: Parents' financial income is usually at the minimum of subsistence or lower. Most of parents are the families emigrated from different parts of Anatolia because of economic problems. Some students live in heavy living conditions (in the basement, in the dampish rooms, with a crowded family in a very small house etc.)Parents can't join into parents' meeting adequately. Schools don't have enough infrastructures for a healthy education. Most schools even don't have a garden where students will be able to spend their time at breaks. Classroom sizes are too crowded. Different teachers apply different rules in classrooms. First appointed inexperienced teachers or paid teachers instead of senior teachers work in these schools. Schoolteachers constantly change, so teachers and students can't be attuned to each other completely.

6. Purpose of the Research

The purpose of this research is to determine the most frequently encountered disciplinary problems, reveal disciplinary punishment frequency due to students' these disciplinary problems, and present the relationship between families and their undisciplined students in the primary schools to be situated in a low socioeconomically status district. So it is sought answers to the following questions:

6.1. Problem statement:

What are the most encountered disciplinary problems in the primary schools of Istanbul Province Bağcılar District? Is there a meaningful difference among gender of teachers, class level of students, and level of parental interest towards children with disciplinary problems?

6.2. Sub-Problems

1. In the primary schools;

a. What are the most frequently encountered disciplinary problems?

b. What are the disciplinary problems causing punishment too often?

c. Is there a meaningful relation between disciplinary problems and seniority of teachers?

d. Is there a meaningful relation between disciplinary problems and parental interest?

7. Method

7.1. Pattern

This research is a descriptive study in the relational pattern which aims to determine most frequently encountered disciplinary problems of primary school teachers in the schools/ classes, undisciplined students' perceptions about their families, students' punishment frequency when disciplinary problems have been encountered.

7.2. Population and Sample

The sample of this study consists of 554 official teachers composing of 308 women and 246 men who were chosen from 55 elementary schools of the Ministry of National Education to be situated in a low socioeconomically status district of Istanbul in 2010-2011 academic year.

7.3. Data Collection Tool

As a data collection tool, a likert scale involving 32 disciplinary problems which include the probable encountered disciplinary problems in the schools/classrooms by teachers; specify punishment frequency of students related with these problems; determine degree of relation causing difficulties between family and student has been made and applied to teachers. SPSS packaged software is used for analysis of data. 8. Findings

Respondents who participate in this research are 55,6%women and 44,4% men. It has been seen that only 20% respondents have ten-years or more experience in teaching. 54,3% respondents are the teachers who teach 6th, 7th and 6th grade students, and others are classroom teachers for smaller ones. It is conceivable as the reasons why senior teachers are in the limited number that the population of the research is at a low socioeconomically status district; appointment procedure has based on seniority; and senior teachers have preferred high socioeconomically districts because they may think of dealing with their jobs more comfortably.

8.1. Most Frequently Encountered Problems in Classes

Table 1 – Problems

1.2.3. Classes			4.5. Classes			6.7.8. Classes		
Problems	X	sd	Problems	X	sd	Sorunlar	X	sd
Wandering in class	3,14	1,04	Interrupting	3,53	1,04	Interrupting	3,89	3,05
Making nose	3,12	1,07	Making nose	3,46	1,15	Speaking without permission	3,74	2,53
Speaking without permission	2,90	1,12	Wandering in class	3,38	1,08	Making noise	3,59	1,11
Interrupting	2,87	1,15	Speaking without permission	3,37	1,14	Wandering in class	3,52	1,11
Not doing homework	2,73	0,79	Not doing homework	3,35	1,09	Not doing homework	3,30	1,25
Lack of materials	2,71	0,79	Lack of materials	3,10	1,09	Littering	3,29	0,91
Not participating in the lesson	2,67	1,11	Not participating in the lesson	3,08	0,94	Appearance	3,24	1,12
Irresponsibility	2,64	1,01	Toilet cleaning	3,01	0,91	Lack of materials	3,19	1,10
Littering	2,61	1,00	Littering	2,98	0,89	Not participating in the lesson	3,19	0,94
n=103			n=150			n =301		

According to the chart, the most frequently encountered (X>2,50) classroom management problems are similar in almost all classes of primary school such as interrupting, speaking without permission, not doing homework, wandering in the class, littering, lack of materials, not participating in the lesson adequately. It has been seen in the chart that appearance problem has been added to the problems at 6th, 7th, and 8th grades. The varying problem at 1st, 2nd, and 3rd grades is "not to fulfill responsibilities". It seems that when it has been regarded the smallness of classes, this situation may be acceptable; however, lack of parental interest may be a reason of this condition. Lack of classroom materials, not doing homework, and appearance problem encountered at upper classes may result from lack of parental interest, too. It is thought that some problems can be solved when parental interest increases. It is seen that the problems, which are anticipated, to decrease while class level is increasing are on the rise on the contrary.

8.1.1. Most frequently punished problems

Table 2 – Most frequently punished problems

1.2.3. Classes	X	sd	4.5. Classes	X	sd	6.7.8. Classes	X	sd
Making noise	2,81	0,96	Making noise	2,89	1,08	Making noise	2,73	1,09
Not doing homework	2,55	1,00	Speaking without permission	2,74	1,03	Speaking without permission	2,69	1,09
Irresponsibility	2,54	0,89	Not doing homework	2,65	1,00	Using rude words	2,63	1,16
Speaking without permission	2,48	1,00	Irresponsibility	2,64	1,18	Not doing homework	2,61	1,01
N=103			N=150			N=301		

Teachers frequently punish the students who don't do their homework; speak without permission; and don't fulfill their responsibilities. "Using rude words" behavior is one of the most frequently punished behaviors at 6th, 7th and 8th grades.

Table 3 – Disciplinary action

	Punishment		Parental interest		Seniority	
	r	p	r	p	r	p
Disciplinary Action	,439**	,00	-,236**	,00	-,155**	,00

When viewed the chart, it is seen that there is a meaningful relation (P<.05) between crime and punishment. It is found that there is a negative and meaningful (P<.05) relation among parental interest, seniority and disciplinary problems. While parental interest is decreasing the problems in classes, less classroom management problems happen in the classes of senior teachers. It is thought that this situation is arisen from improvement in classroom management skills of senior teachers year after year, so classroom management problems increase more and more in the low socioeconomically areas in which senior teachers don't prefer working much.

Table 4 – Disciplinary reaction differences between genders

	Gender	n	X	sd	sem	F	t	df	p
Disciplinary Action	Woman	308	88,00	23,94	1,36	5,39	0,98	552	0,02
	Man	246	86,11	20,84	1,33				
Punishment	Woman	308	76,32	23,34	1,33	4,48	2,17	552	0,04
	Man	246	72,19	20,75	1,32				
Parental Interest	Woman	308	77,33	23,05	1,31	0,80	0,11	552	0,37
	Man	246	77,13	21,42	1,37				

According to the chart, female teachers have more difficulty in classroom management than male teachers (p<.05), and they punish students more often. The gender of teachers doesn't cause a meaningful difference in terms of parental interest towards their children (p>.05). This situation is interpretable that male teachers create a more deferent factor, especially for upper classes.

Table 5 – Parental interest

ANOVA								Subset for α= 0.05		
Parental Interest						Class	N	1	2	3
	Sum of Sq	df	X square	F	P	6.7.8.	301	73,26		
Between Groups	13919,62	2	6959,81	14,65	,00	4.5.	150		78,90	
Within Groups	261632,98	551	474,83			1.2.3.	103			86,45

Table 5 – Parental interest

ANOVA								Subset for α= 0.05		
Parental Interest						Class	N	1	2	3
	Sum of Sq	df	X square	F	P	6.7.8.	301	73,26		
Between Groups	13919,62	2	6959,81	14,65	,00	4.5.	150		78,90	
Within Groups	261632,98	551	474,83			1.2.3.	103			86,45
Total	275552,61	553								

According to the chart, parental interest towards student is decreasing while student is moving up an upper class (p<.05). When children just start school, families are more enthusiastic and interested, but when children are grown up, parental interest decreases, hence responsibility of teacher and school is on the increase. Parental interest may be decrease because subjects widen more and enter into details; and families can't help children in their lesson any more. Families may show avoidance behavior because they don't support their own children with private teaching institutions or a private teacher in the low socioeconomically areas or some families may plan their children to run anywhere in order to be contributed family budget, so both children and families can't allocate enough time for lessons and school.

9. Conclusion

According to the research findings, there are disciplinary problems related with classroom management in almost all levels, they are similar and the most frequently encountered ones are these: interrupting, speaking without permission, not doing homework, wandering in class, littering, lack of materials, not participating in the lesson. While class-level is rising, problems are accreting, too, contrary to what is anticipated. Appearance and using rude words are some examples of classroom management problems when class-level rises.

Parental interest has classroom management problems decreased, but advancement in class-level induces difficulty in subjects, and lessons, so parental interest has decreased. The students who have a low financial income are less successful than other students, and consequently these students get lower points from the exams being required superb performance. This situation induces loss of motivation in both students and teachers, and so some teachers and students may not be follow lessons any more. Immigration, absence, nonhomogeneous classes, etc. hinder increase of academic success. At the same time, all of these conditions have negative effects on classroom management.

Experienced teachers have classroom management problems decreased, but these teachers would rather work at more equipped schools in every respect, and these schools are generally in high socioeconomically status districts. While senior teachers are working in high socioeconomically district, junior ones are working in low socioeconomically status district, because seniority is an important element in teacher appointments, so classroom management problems are going to continue.

In conclusion, if it isn't taken any precautions, it is considered that classroom management problems in low socioeconomically districts are going to continue increasingly even in basic cases such as speaking without permission, littering, etc.

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ENGELLİLERİN KARİYER GELİŞİMİNİ VE ÇALIŞMA YAŞAMİNA KATİLİMİNİ ARTTİRACAK BİR MODEL ÖNERİSİ

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Özet

Engellilerin iş yaşamına katılma düzeyi oldukça düşüktür. Zaten dezavantajlı konumda olan engellilerin bu durumu engellilere toplumun bir parçası haline gelme konusunda daha büyük bir dezavantaj oluşturmaktadır. Oysa ki çalışma, kişinin yaşamını biyolojik olarak idame ettirmesinin ötesinde, kişisel doyumunun ve toplumun bir parçası olmasının ana kaynaklarından biridir. Bu nedenle sağlıklı insanlar kadar engellilerin de bir işe sahip olmaları yaşamsal önem taşımaktadır.

Engellilerin çalışma sürecine katılmalarını sağlamak adına faaliyet gösterecek bir uzman grubu bu büyük problemi çözme konusunda avantaj yaratacaktır. Bu uzman grubunun iki temel görevi olmalıdır: Birincisi engelliye ilişkin bilgileri tek elde toplayarak bütünsel bir değerlendirme yapabilecek; bilgi eksiği olmaksızın kurumlarla ilişkiye geçebilecek ve engelli için en doğru kararın verilebilmesinde bir tür "koçluk" görevi üstlenebilecektir. İkincisi ise engellilerin istihdamında en temel problem olarak tespit edilen "önyargılar"ı kırmak üzere genel olarak engelliliği ve özel olarak haklarını savunduğu engelliyi tanıtmaktır. Bu sayede engellilik hakkında farkındalık yaratma gibi sosyal bir sorumluluğu yerine getirirken öte yandan bir engellinin daha işe yerleşip kendi yaşamını kurmasına katkı sunacaktır.

Anahtar Kelimeler: Engellilik, Engellilerin Çalışma Yaşamına Katılımı

Abstract

The participation level of disabled people into work life is very low. The situation of disabled people who are already in disadvantaged position makes a bigger disadvantage to the disabled people becoming a part of community. Yet working is one of the main resources of personal satisfaction and becoming a part of community beyond sustaining his life as biological. For this reason it carries a vital importance that disabled people have a job like healthy people.

An expert group which will operate for the participation of disabled people into working process will create an advantage in the solution of this big problem. There should be two main functions of this expert group: The first one; they should collect relevant information of the disabled people in one hand and should make a holistic assessment. They should contact with institutions without the lack of information and should give the right decision for the disabled people. They should assume a kind of "coaching" task. Second one; they should break the prejudices that are detected as the basic problem in the employment of people with disabilities. In general they should introduce disability and in particular they should introduce the disabled whose rights they defends. Thus they will actualize a social responsibility as creating awareness about disability and they will ensure taking a job of one more disability and establishing his own life.

Key words: Disability, participation of disabilities into working life

1. Giriş

Yapılan pek çok araştırma engellilerin iş yaşamına katılma düzeyinin oldukça zayıf olduğunu göstermektedir. Thornton ve Lunt (1994) engelliler arasındaki işsizlik oranının tespitinde, kullanılan engellilik tanımları ve

ölçütlerine bağlı olarak bazı farklılıklar gözlendiğini ancak buna rağmen, bunların hepsinde de engelli işsizliğinin engelli olmayanlarla karşılaştırıldığında en az üç kat fazla olduğunu iddia etmektedirler.

DİE ve ÖİB tarafından 2002'de yürütülen Türkiye Özürlüler Araştırmasında da (2009) engelli nüfusun % 78,29'unun işgücüne hiç katılmadığı hatta kadın engellilerde bu oranın % 93,29'a ulaştığı ortaya çıkmıştır. 2010'da yine TÜİK tarafından gerçekleştirilen "Özürlülerin Sorun ve Beklentileri" araştırmasında da engellilerin % 86'sının herhangi bir işte çalışmadığı saptanmıştır.

Çalışma, kişinin yaşamını biyolojik olarak idame ettirmesinin ötesinde, kişisel doyumunun ve toplumun bir parçası olmasının ana kaynaklarından biridir. Bu nedenle sağlıklı insanlar kadar engellilerin de bir işe sahip olmaları yaşamsal önem taşımaktadır.

Sağlıklı bireylerin meslek edinmeleri ve bir işe yerleşmelerinin önünde de engeller bulunmasına rağmen, bu durum engelliler için daha büyük bir sorun teşkil etmektedir. İşverenlerin engellileri işe alması genellikle ya hukuki zorunluluktan ya da özel bir sebepten kaynaklanmaktadır. Bilgisizlik ve önyargılar ise engellilerin çalışma ortamına kabulünü güçleştiren başlıca nedenler arasında sayılabilir.

Bunun yanı sıra engellilerin istihdamının önündeki en büyük sorunlardan biri de engelliler ile işveren arasındaki bağı kurabilecek, aynı zamanda da Sağlık Kuruluşları, Rehabilitasyon Merkezleri, Yerel Yönetimler ve İŞKUR ile koordinasyon sağlayabilecek bir kurumun bulunmayışıdır.

Bu çalışmanın temel amacı mesleki beceri edinmemiş / edinememiş engellileri meslek öğrenebilecekleri kurumlara, programlara ve eğitimlere; hüner sahibi olanları da doğru iş yerlerine yönlendirebilecek sonrasında uzun süreli takip işlerini yürütebilecek bir kurumun hayata geçirilmesini önermektedir. Bu kurumun en önemli görevlerinden biri işveren ve yöneticileri engellilerin çalışması hakkındaki önyargılarını gözden geçirmelerini sağlamak ve engellilerin çalışma potansiyelleri hakkında bilgilendirerek, engellilerin önündeki toplumsal engellerden birini kaldırmaya katkı sağlamak olacaktır.

2. Engellilik ve Engellilik Türleri

Engelli birey, sahip olduğu fiziksel veya zihinsel bir yetersizliğin onun eğitimi, istihdamı, ulaşımı vb. gibi temel bir yaşam etkinliği açısından dezavantajlı duruma getirdiği kişidir (Akkaya, 2002).

Engelli bireyler özel eğitim kapsamında yer almaktadırlar. Özel eğitime muhtaç olan bu gruplar Culatta ve Tompkins (1999) tarafından şu şekilde sınıflandırılmışlardır:

• Zihinsel geriliğe sahip bireyler

• Öğrenme güçlüğü olan bireyler

• Duygusal ya da davranış sorunları (uyum sorunları) olan bireyler

• Fiziksel engelli bireyler

• Diğer sağlık sorunları olan bireyler

• İletişim bozuklukları (konuşma ve dil bozuklukları) olan bireyler

• İşitme engelliler

• Görme engelliler

• Ağır ya da birden çok engele sahip bireyler

• Üstün yetenekli bireyler

2. Özürlüler Şurası Komisyon Raporlarında da özel eğitimin görme, işitme, dil ve konuşma, zihinsel, ortopedik, süreğen hastalık ve ruhsal ve duygusal bozukluğu olanlar olmak üzere geniş bir grubu kapsadığı belirtilmektedir.

Bu engel gruplarının tümünü olmasa da öne çıkanlarını ele alıp temel özelliklerini tanıtmak gerekmektedir. Ancak bu noktaya gelmeden önce Başbakanlık Özürlüler İdaresi Başkanlığı ve Devlet Planlama Teşkilatı işbirliği ile Devlet istatistik Enstitüsü tarafından 2002 yılında gerçekleştirilen Türkiye Özürlüler Araştırması'nın (2009) verilerinden söz edilmelidir. Bu araştırmaya göre Türkiye toplam nüfusunun % 12,29'u engellidir. Bu oranın önemli bir kısmını (% 9,70) süreğen hastalığı olanlar oluştururken kalan kısım (% 2, 58) görme, işitme, ortopedik, dil ve konuşma ve zihinsel engellilerdir. Tablo 1, engellilerin toplam nüfus içindeki yerini cinsiyet değişkenini de gözönünde bulundurarak vermektedir.

Toplam engelli nüfus (%)			Ortopedik, görme, işitme, dil ve konuşma ve zihinsel engelli nüfus (%)			Süreğen hastalığa sahip olan nüfus (%)		
Toplam	Erkek	Kadın	Toplam	Erkek	Kadın	Toplam	Erkek	Kadın
12.29	11.10	13.45	2.58	3.05	2.12	9.70	8.50	11.33

Tablo 1: Toplam engellilerin toplam nüfus içindeki payı

Tablo 2 ise toplam nüfus içerinde engel türlerinin hangi oranda olduğunu göstermektedir. Tabloya göre en yüksek oranı ortopedik engelliler oluştururken, en düşük orana işitme engelliler sahiptir.

	Ortopedik Engelli (%)	Görme Engelli (%)	İşitme engelli (%)	Dil ve konuşma Engelli (%)	Zihinsel Engelli (%)
Türkiye	1.25	0.60	0.37	0.38	0.48

Tablo 2: Engellilik türlerinin nüfus içindeki payı

Bu noktada engellilik türlerini genel hatlarıyla tanıtıcı bilgiler sunmak yerinde olacaktır. Bu sayede engellilerin genel olarak sosyal hayata ve özel olarak da çalışma yaşamına katılma potansiyelleri hakkında farkındalık yaratmaya katkı sağlanması umulmaktadır.

İlk kategori "ortopedik engelliler"dir. Bu engel türü 2002 Türkiye Özürlüler Araştırmasında kas ve iskelet sisteminde yetersizlik, eksiklik ve fonksiyon kaybı olarak tanımlanmıştır. Yine bu kaynakta el, kol, ayak, bacak, parmak ve omurgalarında kısalık, eksiklik, fazlalık, yokluk, hareket kısıtlılığı, şekil bozukluğu, kas güçsüzlüğü, kemik hastalığı olanlar, felçliler, Serebral Palsi, spastikler ve spina bifida olanlar bu gruba dâhil edilmişlerdir.

Ortopedik engeller yetersizliğin derecesine göre (hafif, orta ve ağır derecede yetersizlikler) ya da yetersizliğin bulunduğu yere göre (sinir sistemiyle, kas-iskelet sistemiyle ya da sağlıkla ilgili yetersizlikler) sınıflandırılabilir.

Hafif ortopedik yetersizlik içinde bulunanlar günlük yaşamlarını sürdürmek için herhangi bir desteğe veya alete ihtiyaç duymazlar ve bireysel gereksinimlerini bağımsız olarak karşılayabilirler. Orta derecede ortopedik yetersizliği olan kişiler az da olsa destek ve bireysel gereksinimlerini karşılamak üzere yardımcı aletlere (baston, koltuk değneği ya da yürüme cihazı gibi) ihtiyaç duymaktadırlar. Ağır derecede yetersizlik çekenler ise tekerlekli sandalyeye ve desteğe bağımlıdırlar.

İkinci grup olarak "görme engelliler" sayılabilir. Birincil duyularımız arasında yer alan görme duyusunun yetersizliği az görme, kısmi görme, işlevsel körlük ya da total görme kaybı kategorilerini kapsamaktadır (Özsüer, 2011b).

Yapılan araştırmalar görme yetersizliğine sahip olanların zihinsel olarak yaşıtlarından belirgin bir farklılık taşımadıklarını göstermektedir. Ancak bu engel grubunun kavramsal gelişiminde ya da bilişsel yeteneklerinde gecikme gözlenebilir. Bunun yanısıra soyut düşünme gerektiren beceri alanlarında da başarı oranları düşük olabilir (MEGEP, 2008). Görme yetersizliğinden kaynaklanan eksikliklerini diğer duyu organları yardımıyla

kapatmaya çalışırlar. Dikkat yoğunlaştırma ve ince ayrıntıları farketme yetenekleri gelişmiştir. Sosyal faaliyetler ve müziğe ilgileri fazladır (MEB, Görme Engelli Bireyler).

Görme engelliler psikomotor beceriler ve dil becerileri açısından diğer insanlardan farklı gelişim özelliklerine sahip değillerdir. Bununla birlikte engel derecesine göre hareket etme ve diğer motor becerileri daha güç kazanabilir. Dil yeteneği ve gelişiminde ise en önemli kanal işitme olduğundan dil kullanma isteği diğerlerine göre daha fazladır ve bu kişiler sözel anlatıma oldukça düşkündürler.

Duygusal-sosyal gelişim açısından ise bazı uyum sorunları ortaya çıkabilmektedir. Özellikle iletişimin en önemli faktörleri arasında yer alan göz teması kurulamaması kişinin içedönük ve etrafına karşı ilgisiz olmasına neden olabilmektedir. Yine anne-baba ve çevredekilerin bu yetersizlik içinde bulunan çocuğu aşırı koruyucu ya da dışlayıcı, ihmal edici veya ona acıyan bir şekilde yaklaşmaları bu kişilerde sosyal çevreye uyumu zorlaştırmaktadır.

Tüm bu özelliklerden hareketle, görme engeli içinde bulunan çocuklar (kişiler) eğitimle desteklendiklerinde engellerine rağmen başarılı olabilmektedirler (Yavuz ve Akagündüz, 2004).

Üçüncü grup "işitme engelliler"dir. İşitme kaybı çeşitli temel etkenler dikkate alınarak sınıflandırılabilmektedir. "Yeri"ne göre iletişimsel işitme kaybı, duyusal-sinirsel işitme kaybı, karışık tip işitme kaybı ve merkezi işitsel işlev bozukluğu olarak dört tipte incelenebilen bu yetersizlik, derecesine göre sınıflandırıldığında çok ağır, ağır, orta ağır, orta, hafif, çok hafif, normal işitme kayıpları olarak yedi türde ele alınabilmektedir. Bunların yanısıra nedenler üzerinden de bir sınıflandırma yapılabilmektedir: kalıtımsal nedenlere dayalı, doğum öncesi ve doğum anı nedenlere bağlı ve doğum sonrası nedenlerle oluşan işitme kayıpları (Vural, 2011).

Tablo 3 işitme kayıplarını dereceleri açısından ele almaktadır.

Sınıflama	İşitme Kaybı Derecesi	İşitmeye Etkisi
Normal İşitme	0-15 dB	İşitmeye etkisi yoktur.
Çok Hafif Derecede	16-25 dB	Gürültülü ortamlarda kısık sesleri anlamada zorluk çeker.
Hafif Derecede	26-40 dB	Sadece hafif konuşmayı anlamda sorun olabilir. Sessiz ortamlarda bile kısık sesleri anlamada zorluk çeker.
Orta Derecede	41-55 dB	Normal konuşma sesini anlamada sorun olabilir. Karşılıklı konuşmalarda sadece yakın mesafeden anlayabilir.
Orta Ağır Derecede	56-70 dB	Yüksek sesle ve anlaşılır biçimde konuşanları anlayabilir.
Ağır Derecede	71-90 dB	Yüksek sesle konuşulduğunda bile duyamaz ve bazı kelimeleri ayırt edemez.
Çok Ağır Derecede	91-dB ve yukarısı	Karşılıklı konuşmaları duyamaz. Konuşma anlaşılır değildir ve geliştirilemeyebilir.

Kaynak: Turnbull, Turnbull ve Wehmeyer, 2007'den aktaran Vural, 2011.

İşitme yetersizliği içinde bulunan çocuklar yaşıtlarına göre bazı farklılıklara sahiptirler. Örneğin psikomotor özellikler bakımından işitme kanalı ve sinirlerdeki hasarlara bağlı olarak denge problemi başgösterebilir. Bu kişiler geri geri yürüme, ip üstünden atlama, denge tahtasında ileri geri yürüme gibi becerilerde zorlanabilirler. Ebeveynlerin koruyucu tutumları da bu çocukların gelişmesini engelleyici etkiye sahip olmaktadır (URL, 1).

Bilişsel gelişim sürecinde de dil önemli bir yer tutar. İşitme engelli çocukların dil becerilerindeki, kavram gelişimlerindeki yetersizlik ve işitsel girdinin az olması bilişsel gelişim sürecini de olumsuz olarak etkiler. Bu durum çocuğun eğitim ve yaşantı eksikliğinden kaynaklanmaktadır. Çocuk düşüncelerini ifade etmede ve başkalarının düşüncelerini anlamada engellerle karşılaşır. Buna rağmen işitme engelli çocuklar normal işiten

akranlarından bilişsel becerilerde çok fazla geri kalmış değillerdir. Erken tanılandıklarında ve erken eğitime alındıklarında birçok çocuk engeline rağmen, akranlarını yalnızca birkaç yıl geriden takip eder (URL, 1).

Sosyal ve duygusal gelişim açısından incelendiğinde işitme engelli çocuklar ihtiyaçlarını sözel olarak ifade etmede yetersiz kalırlar. Aileleri ve arkadaşları onların duygu ve düşüncelerini anlamakta zorlanırlar. Bu durumda çocuklar kendini kötü hisseder, kendine kızar ve kendine olan güvenleri gelişmez. Topluma uyum sağlamada zorluk çekerler, kendilerini soyutlanmış hissederler (URL, 1). Ancak işitme yetersizliğine sahip olan kişilerde ortaya çıkabilecek bu tür sosyal ve duygusal sorunlar tek başına büyük bir sorun teşkil etmez. Asıl sorun bunun iletişim eksikliğine sebep olmasıdır. Bu becerinin gelişmesi ise aile ve çocuk arasındaki ilişkiye bağlıdır (Vural, 2011).

Dil ve konuşma becerisi ise işitme engellinin karşı karşıya kaldığı en büyük problem olarak görülebilir. Çünkü bu tür bir yetersizlik kişilerin tüm gelişim ve uyumunu aksatma gücüne sahiptir. Çocukta dil kazanımı birbirine bağlı aşamalardan meydana gelir.Buna göre; sesleri duymayan ve sözel uyaranları algılayamayan çocuğun dil kazanımı tam olarak gerçekleşemez. Dil kazanımının tam olarak gerçekleşememesinin bir diğer sebebi de ailenin çocuğa yeterli sözel tepkiyi vermemesidir. Çocuğun engelli olduğunu duyan ailenin çocukla sözel iletişimi azalır. Çocuğun sözel tepkilerinin az olması ailenin çocukla iletişimine etki eden bir faktördür. İşitme engelli çocuklarda okuma yazma gibi dilin kullanımını gerektiren becerileri kazanmada da problemler görülür (URL, 1).

Sonuç olarak işitme yetersizliğinin bireyin performansını bir bütün olarak etkileme derecesi kaybın tipi veya derecesine bağlı olduğu kadar kaybın oluştuğu yaş, çocuğun zeka düzeyi, ailenin ve toplumun işitme engeliyle başa çıkma yeteneği, çocuğun dil ve eğitimsel deneyimleri gibi birçok faktöre de bağlıdır (Meyen, 1996) denilebilir.

"Dil ve konuşma bozukluğu" bulunanlar da dördüncü grup sayılabilir. Dil ve konuşma bozuklukları Milli Eğitim Özel Eğitim Yönetmeliğinde, konuşmanın akışında, ritminde, tizliğinde, vurgularında, ses birimlerinin çıkarılışında, eklenlenişinde, artikülasyonunda, anlamında bozukluk bulunması şeklinde tanımlanmaktadır.

Dil ve Konuşma bozukluklarını 1. Konuşma bozuklukları (söyleyiş/artikülasyon bozuklukları, ses bozuklukları, konuşma akışındaki bozukluklar); 2. Dil bozuklukları ve 3. Diğer dil ve konuşma bozuklukları şeklinde üç türde incelemek mümkündür (URL, 2).

Son olarak ise "zihinsel engelliler" ele alınabilir. AAIDD zihinsel engelliliği zihinsel işlevler ve gündelik sosyal ve pratik becerileri kapsayan uyumsal davranışların her ikisinde görülen anlamlı sınırlılıklar olarak karakterize etmektedir. Bu yetersizlik 18 yaşından önce başlar (Kirk, Gallagher ve Anastasiow, 2003; Luckassan, 2002; Snell, 1993).

Türkiye'de 2006'da yayınlanan ve sonrasında 2009 ve 2010 yıllarında düzenlemeler geçiren Özel Eğitim Hizmetleri Yönetmeliğinde de AAIDD'nin yaklaşımına paralel olarak zihinsel engellilik zihinsel işlevlerin yanısıra kavramsal, sosyal ve pratik becerilerdeki sınırlılığa vurgu yapılmakta ve engel ya da gerilik kavramları yerine yetersizlik kavramının kullanılması önerilmektedir.

Zihinsel yetersizliği olan bireyler eğitsel ya da psikolojik olarak sınıflandırılabilirler. Eğitsel sınıflandırma türüne göre bu bireyler "eğitilebilir", "öğretilebilir", "ağır ve çok ağır" olmak üzere üç başlıkta değerlendirilebilmektedir. Psikolojik sınıflandırma ise bireylerin zeka testlerinden aldıkları puanlara bakılarak yapılmaktadır. Buna göre IQ düzeyi 50-70 arasında olanlar "hafif düzey"; 35-50 arasında olanlar "orta düzey"; 20-35 arasında olanlar "ağır düzey"; 20'nin altında olanlar ise "çok ağır düzey" zihinsel engelli sayılmaktadır.

Çok ağır düzeyde zihinsel yetersizliğe sahip olanların genellikle birden fazla engele sahip oldukları, genellikle hareket edemedikleri, bütünüyle bakıma ihtiyaç duydukları söylenebilir. Özel Eğitim Hizmetleri Yönetmeliğine göre bu grup, zihinsel yetersizliği yanında başka yetersizlikleri bulunması nedeniyle öz bakım, günlük yaşam ve temel akademik becerileri kazanamaması nedeniyle yaşam boyu bakım ve gözetime ihtiyacı olan bireyleri kapsamaktadır.

Ağır düzeyde zihinsel yetersizliğe sahip olanlar temel (özbakım) becerilerini belli ölçüde kazanabilmelerine rağmen genellikle bakıma muhtaçtırlar. Yetişkinliklerinde yakın bir denetimle basit işler yapmaları mümkündür (Özsüer, 2011a). Özel Eğitim Hizmetleri Yönetmeliğinde bu kategori öz bakım becerilerinin öğretimi de dâhil olmak üzere yaşam boyu süren, yaşamın her alanında tutarlı ve yoğun özel eğitim ve destek eğitim hizmetine ihtiyacı olan bireyleri tanımlamaktadır.

Orta düzeyde zihinsel yetersizlik çekenler, eğitsel sınıflandırma içinde "öğretilebilir" kategorisinde olanlardır. Bu grup akademik olarak ilköğretim ikinci sınıf düzeyinden ileri gitmekte zorlanır ancak basit mesleki eğitimlerden yararlanabilir ve belli bir denetimle kişisel bakımlarını yapabilme becerisi kazanabilir. Toplumsal kuralları öğrenmede yaşadığı sıkıntılar yaşıtları ve çevresiyle ilişkilerini bozabilir (Özsüer, 2011a). Özel Eğitim Hizmetleri Yönetmeliğine göre bu kategori, zihinsel işlevler ile kavramsal, sosyal ve pratik uyum becerilerindeki sınırlılık nedeniyle temel akademik, günlük yaşam ve iş becerilerinin kazanılmasında özel eğitim ile destek eğitim hizmetlerine yoğun şekilde ihtiyaç duyan bireyleri içermektedir.

Hafif düzey zihinsel yetersizlik içinde olanlar ise "eğitilebilir" olarak değerlendirilmektedir. Özel Eğitim Hizmetleri Yönetmeliği bu kategori için "sosyal ve pratik uyum becerilerinde hafif düzeydeki yetersizliği nedeniyle özel eğitim ile destek eğitim hizmetlerine sınırlı düzeyde ihtiyaç duyan birey"leri kapsar şeklinde tanım yapmaktadır. Kişilerin hafif düzey engelli kategorisinde olduklarının belirlenebilmesi için çoğu zaman okul çağlarına kadar beklemek gerekmektedir. Bu tür yetersizliklere sahip olanlarda psikomotor beceriler çoğunlukla normaldir. İletişim, özbakım, ev yaşamı, sosyal etkileşim, toplum içinde yaşayabilme, kendini yönlendirme, sağlık ve emniyeti gözetebilme, akademik beceriler, boş vakitlerini değerlendirebilme, iş becerileri gibi özellikler de yaşıtlarına çok yakın değerde gözlenir (Özsüer, 2011a).

Tüm bu engellilik türleriyle ilgili yukarıdaki özet bilgiler gözönünde tutularak, bu yetersizliklere maruz kalan kişilerin (bazıları için ağır ve çok ağır olanları hariç) önemli bir kısmının sosyal hayatını belli dezavantajlarla olsa da "normal" olanlara yakın bir şekilde sürdürebilmelerinin mümkün olduğu söylenebilir. Ancak toplumda engellilere yönelik varolan önyargılar ve bilinçsizlik bu kişilerin yaşamlarını olması gerekenden daha fazla zorlaştırmaktadır. Engellilerin içine doğdukları aile ve küçük çevrelerinin dışına çıkarak hayata karışmaları ve sosyalleşmelerinin temel olarak iyi ayağı vardır. Bunlardan birincisi eğitim süreçleri iken ikincisi de iş hayatıdır.

3. Türkiye'de Engellilerin eğitimi ve İstihdamı

Çalışmak, para kazanmaktan çok daha büyük anlamlara sahiptir. Üretim içerisinde bulunmak; maddi ihtiyaçlarını karşılamak gibi ekonomik, üretmenin hazzını yaşamak gibi psikolojik ve toplumun aktif bir parçası olmak gibi sosyal faydalar içermektedir.

4857 sayılın İş Kanunun 30. Maddesi "Özürlü, Eski Hükümlü ve Terör Mağduru Çalıştırma Zorunluluğu" başlığını taşımaktadır. Bu maddeye göre;

"işverenler, elli veya daha fazla işçi çalıştırdıkları özel sektör işyerlerinde yüzde üç özürlü, kamu işyerlerinde ise yüzde dört özürlü ve yüzde iki eski hükümlü işçiyi meslek, beden ve ruhi durumlarına uygun işlerde çalıştırmakla yükümlüdürler."

"Çalıştırmakla yükümlü oldukları işçileri Türk İş Kurumu aracılığıyla sağlayacak" olan işletmelere kanunca verilen teşvikler de şu şekilde belirtilmiştir:

"Özel sektör işverenlerince bu madde kapsamında çalıştırılan 17/7/1964 tarihli ve 506 sayılı Sosyal Sigortalar Kanununa tabi özürlü sigortalılar ile 1/7/2005 tarihli ve 5378 sayılı Kanunun 14 üncü maddesinde belirtilen korumalı işyerlerinde çalıştırılan özürlü sigortalıların, aynı Kanunun 72nci ve 73üncü maddelerinde sayılan ve 78inci maddesiyle belirlenen prime esas kazanç alt sınırı üzerinden hesaplanan sigorta primine ait işveren hisselerinin tamamı, kontenjan fazlası özürlü çalıştıran, yükümlü olmadıkları halde özürlü çalıştıran işverenlerin bu şekilde çalıştırdıkları her bir özürlü için prime esas kazanç alt sınırı üzerinden hesaplanan sigorta primine ait işveren hisselerinin yüzde ellisi Hazinece karşılanır."

4857 Sayılı Kanunun 101. Maddesinde ise çalıştırma zorunluluğu olduğu halde yükümlülüğünü yerine getirmeyen işletmelere ne tür bir ceza uygulanacağı düzenlenmiştir. Buna göre;

"(kanunun 30. Maddesindeki) hükümlere aykırı olarak özürlü ve eski hükümlü çalıştırmayan işveren veya işveren vekiline çalıştırmadığı her özürlü ve eski hükümlü ve çalıştırmadığı her ay için binyediyüz Türk Lirası idari para cezası verilir. Kamu kuruluşları da bu para cezasından hiçbir şekilde muaf tutulamaz."

Buna karşın (giderek azalmakla birlikte) engelli istihdam etmek yerine ceza ödemeyi göze alan kuruluşların sayısı oldukça fazladır. Bu tür bir tercihin altında pekçok sebep bulunmaktadır. Engellilerin iş yapabilmesi konusundaki önyargılar ve engellilerin özelliklerinden haberdar olunmaması nedeniyle hangi görevin verileceğine ilişkin bilgi eksikliğinin başı çektiği bu davranışların altında engellilerin yeterince eğitim (özellikle de mesleki eğitim) almamış olması gibi somut nedenler de bulunabilmektedir.

Türkiye Özürlüler Araştırmasının (2002) sonuçları engellilerin eğitsel açıdan oldukça zayıf kaldıklarını gözler önüne sermektedir. Bu araştırmaya göre engelli nüfusun içerisinde 6 ve daha yukarı yaşta bulunup da (görme, işitme, dil ve konuşma, ortopedik ve zihinsel engelliler içinde) okuma yazma bilmeyenlerin oranı % 36, 33'tür. [10]

Eğitim durumları bitirilen okul açısından incelendiğindeyse [11], engelli nüfusun (görme, işitme, dil ve konuşma, ortopedik ve zihinsel engelliler) % 40,97'sinin ilkokul mezunu olduğu; % 5,64'ünün ortaokul ve dengi meslek okulunu bitirdiği; lise ve dengi meslek okullarını tamamlayanların % 6,90'a tekabül ettiği ve ancak % 2,42'sinin üniversite okuyabildiği tespit edilmiştir.

Bu veriler, engellilerin eğitim almasında herhangi bir yasal kısıtlama olmamasına rağmen bu en temel kamu hizmetine ulaşabilme ve yeterince yararlanabilme konusunda sıkıntılar yaşandığını göstermektedir.

Eğitim imkânlarını engelliler adına genişletmek ve özellikle de mesleki eğitime yönelmek büyük önem taşımaktadır. Kaynaştırma eğitimi, engellilerin eğitilmesi konusunda akla gelen ilk yollardan biri olmaktadır.

Kaynaştırma eğitimi genel olarak, özel eğitime ihtiyacı olan bireylerin akranları ile birlikte eğitim ve öğretimlerini bütün kademelerde sürdürme esasına dayanan destek hizmetlerin sağlandığı özel eğitim uygulamaları şeklinde tanımlanabilmektedir. Özel Eğitim Yönetmeliğinin 23/1 maddesinde de kaynaştırma yoluyla eğitim;

"…özel eğitime ihtiyacı olan bireylerin eğitimlerini, destek eğitim hizmetleri de sağlanarak yetersizliği olmayan akranları ile birlikte resmî ve özel; okul öncesi, ilköğretim, orta öğretim ve yaygın eğitim kurumlarında sürdürmeleri esasına dayanan özel eğitim uygulamaları"

olarak ifade edilmektedir. Bu eğitim anlayışında amaç çocuğu normal hale getirmek değil, onun ilgi ve yeteneklerini en iyi şekilde kullanmasını ve toplum içinde yaşayabilmesini sağlamaktır. Temel ilkeleri ise aşağıdaki gibi sıralanabilir:

1- Özel Eğitime ihtiyacı olan bireyin akranlarıyla aynı kurumda eğitim görme hakkı vardır.

2- Kaynaştırma, özel ve genel eğitimin ayrılmaz bir parçasıdır.

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[10] Bu oran süreğen hastalığı olanlar için % 24, 81 iken; toplam nüfus içerindeki oran ise 1/12'dir. Kır ve kent açısından da bir ayrım sözkonusudur. Kırsal alanlarda yaşayan engellilerin (görme, işitme, dil ve konuşma, ortopedik ve zihinsel engelliler) % 43,44'ü okuma yazma bilmiyorken; kentsel alanda bu oran aynı engel grubu için %29,58'e düşmektedir. Bu engel grubu için cinsiyetler arası bir farklılık gözlemek de mümkündür. Erkeklerde %28,14 olan okuma yazma bilemem oranı kadınlarda %48,01'e çıkmaktadır. Aynı şekilde bölgeler arası farklılık da tespit edilebilir. Güneydoğu Anadolu'da %52,53 olan bu oran Marmara'da % 26,62 görülmektedir.

[11] Tamamlanmamış eğitim durumlarının incelendiği bu aşamada 25 yaş üstü engelli nüfus gözönünde bulundurulmuştur.

3- Hizmetler yetersizliğe göre değil, eğitim ihtiyaçlarına göre planlanır.

4- Karar verme süreci Aile – Okul – Eğitsel Tanılama sürecine göre gerçekleşir.

5- Kaynaştırmaya erken başlamak esastır.

6- Kaynaştırmada bireysel farklılıklar esastır.

7- Duyu kalıntılarından yararlanmak esastır.

8- Gönüllülük, sevgi, sabır, gayret gerekmektedir.

9- Eğitim normal insanlarla ve doğal ortamlarda verilmelidir.

10- Eğitim, bireyi toplumun bir parçası haline getirmeyi amaçlar.

Kaynaştırma eğitimi sadece özel eğitime ihtiyacı olan bireylere fayda sağlamaz, çok yönlü yararları vardır; normal çocuklara, ailelere ve öğretmenlere de katkı yapar. Kaynaştırma eğitimi sayesinde normal çocukların, engelli bireyi kabul etme, hoşgörü, yardımlaşma, demokrasi anlayışları gelişir; ayrıca bireysel farklılıklara saygı gösterme; kendi yetersizliklerini görme, bunları kabul etme ve giderme becerileri edinirler.

Ailelere yönelik yararlara bakıldığında, ailelerin çocuklardan beklentileri ve çocukların gerçek kapasiteleri hakkında daha gerçekçi bir ilişki kurulma ihtimalini güçlendirdiği görülmektedir. Bunun yanısıra çocuğun ilgi ve ihtiyaçlarının farkına varıp onlara yardım etme konusunda yeni bakış açıları edinirler. Okula bakış açıları değişir. Aile içi çatışmalar azalır ve aile sağlığında artış gerçekleşir.

Kaynaştırma eğitimi öğretmenlerde şartsız kabul, sabır ve hoşgörü gelişmesine büyük katkı sağlar. Ayrıca öğretmenlerin öğretim becerilerini geliştirir, farklılıkları tanımasını ve saygı duymasını sağlar ve deneyimlerini arttırmalarına yardım eder. Elbette ki en büyük fayda özel eğitime ihtiyaç duyan bireyler için gerçekleşecektir. Bu yararlar kısaca şu şekilde sıralanabilir:

1- Kendine güven, takdir edilme, işe yarama, cesaret, sorumluluk gibi sosyal değerleri gelişir.

2- Olumsuz davranış yerine olumlu davranışları artacaktır.

3- Normal öğrencilerle birlikte çalışmaları daha büyük başarılar için kendilerinde istek ve cesaret uyandırır.

4- Bu öğrenciler normal öğrencilerden bazı davranışları öğreneceklerdir.

Kısaca kaynaştırma eğitimi toplumdaki tüm kesimlerin bireysel farklılıkları tanıyıp empati geliştirebilmesi adına büyük bir fırsattır. Yeterli ve doğru bir şekilde ve ideal haliyle uygulandığında sınıftaki her öğrencinin değerli olduğu bir ortam oluşmasına katkıda bulunduğu gibi bu değer duygusunun bireye yerleşmesini ve kalan yaşamında karşılaşacağı başka durumlara transfer edebilmesini de sağlar. Buradaki başka durumlar tüm yaşam anlarını içerebilmekle birlikte özellikle çalışma hayatı özel bir öneme sahiptir.

Yukarıda bazı engel gruplarının kısa tanıtımlarından da anlaşılabildiği gibi her engel grubu için farklı engel düzeyleri bulunmaktadır (en basit sınıflandırma şekliyle ağır, orta ve hafif düzey gibi). Aynı zamanda her engel grubu için yapılabilecekler ve yapılamayacaklar listesi de oldukça farklılık gösterir. Bu farklılığı aynı engel grubuna dâhil olan farklı bireyler için de söylemek mümkündür. Aynı engel grubu içerisinde bulunan ve aynı düzeyde engelli olan kişilerin de iş yapabilme, öğrenebilme, sosyal ilişki kurabilme vs. gibi özellikleri birbirinden farklılık gösterir.

Ancak bu konuda bazı genellemeler yapmak da mümkündür. Örneğin orta düzeyde bir zihinsel engelli, kişisel bakımını belli düzeyde yapabilir ve basit meslekleri öğrenebilir. Hafif düzeyde bir zihinsel engelli ise çoğu zaman normal düzeye yakın psikomotor becerilere sahip olduğu için iş becerisi açısından oldukça yeterlidir. Burada bahsedilen yeterliliği engelli olmayanlarla karşılaştırmaksa doğru değildir. Bir engelliyi sahip olduğu dezavantajla ilişkisi ölçüsünde değerlendirmek gerekir.

Çalışma, kişinin yaşamını idame ettirmesinin ötesinde, kişisel doyumunun ve toplumun bir parçası olmasının ana kaynaklarından biridir. Bu nedenle sağlıklı insanlar kadar engellilerin de bir işe sahip olmaları yaşamsal önem taşımaktadır. Ancak daha önce de ifade edildiği üzere genel olarak toplumda, özel olarak da işverenlerde engellilere ve engellilerin istihdam edilmesi fikrine yönelik bazı önyargılar bulunmaktadır. Bu önyargıları tespit etmek üzere Amerika'da gerçekleştirilmiş bir araştırmada çıkan sonuçlar şu şekilde sıralanabilir (Seyyar, 2001):

Sık sık mazeret izni alırlar ve sürekli hastalanırlar

Verimli ve iyi çalışamazlar

Alıngan ve kırılgan olurlar, çabuk kızarlar

Kariyer yapmaları zordur

Diğer çalışanlar rahatsız edip verimlerini düşürürler

Daha çok iş kazalarına maruz kalırlar

Halkla ilişkiler açısından olumsuz manzara oluştururlar

İşyerlerinde özel düzenlemeler yapılması masraflıdır

İşten atmak ve cezai yaptırımlar uygulamak daha zordur

Emek piyasasında yeterince sağlıklı işsiz bulunmaktadır

Bunun yanısıra yine Amerika'da yapılan bir başka araştırma ise engelliler hakkındaki önyargıları ortadan kaldırabilecek sonuçlara ulaşmıştır (Seyyar, 2001):

Engelliler işyerlerinde "sağlıklı" işçilerden daha iyi davranışlar gösterirler

İşi bırakma ihtimalleri daha azdır

Sorumlu ve kesintisiz olarak çalışmaktadırlar

Daha az iş kazalarına sebep olmaktadırlar

İşlerini daha çabuk kavramaktadırlar

Daha fazla iş bilincine sahiptirler

Daha güvenilirdirler

İşlerine zamanında gelmektedirler

Diğer işçiler kadar verimli çalışmaktadırlar

Halkla daha iyi diyalog kurmaktadırlar

İkinci araştırma, engellilerin istihdamıyla ilgili önyargıların gerçekte ne ölçüde asılsız olduğunu gözler önüne sermektedir. Bu tür araştırmaların bulgularından yola çıkarak engellilerin toplumsal hayata daha güçlü ve yoğun bir biçimde katılmalarını amaçlayan aktif politikaların hayata geçirilmesi gerekmektedir. Yukarıda ifade edilen kaynaştırma eğitimi bu politikaların en önemli ayaklarından birini oluştururken ikinci adımında ise engelli istihdamını özendiren ve belli ölçüde de zorlayan (kota rejimi gibi) politikalar yer almaktadır. Birleşmiş Milletler tarafından 2006 yılında kabul edilen ve Türkiye tarafından da 2007'de imzalanan Engelli Hakları Sözleşmesi, engellilerin haklarını tanımlamakta ve bu bağlamda çalışma yaşamını da kapsayacak şekilde yaşam kalitesini arttırmanın koşullarını belirlemektedir. Birinci maddede amacı;

"engellilerin tüm insan hak ve temel özgürlüklerinden tam ve eşit şekilde yararlanmasını teşvik etmek, korumak ve sağlamak ve doğuştan sahip oldukları onura saygıyı güçlendirmek"

olarak açıklanan bu sözleşmenin 27. maddesi ise doğrudan çalışma ve istihdam konusunu ele almaktadır. Bu maddede engelliliğe dayalı ayrımcılık kesin bir dille yasaklanırken engellilerin çalışma yaşamı içinde desteklenmesi savunulmaktadır. Seyyar (2008) engellilerin için istihdam politikalarının belirlenmesinde bu belgenin temel ilkeler içerdiğini söylemektedir.

Özellikle hafif ve orta düzeye engeli olanların istihdamına yönelik olarak yasalarda da yer alan kota oranının arttırılması ya da en azından etkin bir şekilde kullanılması konusunda hassasiyet gösterilmesi sorunun boyutlarının büyümesini engelleyebilecektir. Ancak ağır derecede engelli, çoklu engelli ya da zihinsel engelli olmaları dolayısıyla istihdamı çok daha zor olanlar için daha özel politikalar geliştirilmesi gerekmiştir. Bu amaçla 2006 tarihinde "Korumalı İşyerleri Hakkında Yönetmelik" çıkarılmıştır. Bu yönetmeliğin amacı birinci maddede belirtilmektedir:

"(1) Bu Yönetmeliğin amacı, normal işgücü piyasasına kazandırılmaları güç olan özürlüler için açılacak olan gerekli teknik donanımı devletçe sağlanacak olan işyerlerinin korumalı işyeri statüsü kazanması, işleyişi ve denetlenmesine ilişkin usul ve esasları düzenlemektir.

(2) Bu Yönetmelik, normal işgücü piyasasına kazandırılmaları güç olan özürlüler için mesleki rehabilitasyon ve istihdam oluşturmak amacıyla gerçek ve tüzel kişilerce açılan ve açılacak olan işyerlerini kapsar"

Yönetmelikte korumalı işyeri;

"normal işgücü piyasasına kazandırılmaları güç olan özürlüler için mesleki rehabilitasyon ve istihdam oluşturmak amacıyla, Devlet tarafından ilgili mevzuatta teknik donanımın sağlandığı ve mali yönden desteklendiği, çalışma ortamının özel olarak düzenlendiği işyeri" (3. Madde)

olarak tanımlanmaktadır. Çalışan sayısının, işletme büyük şehir belediye sınırları içindeyse 30; dışındaysa 15'den az olmaması kaydıyla yüzde 75'inin engelli olması şart olan (madde 4) korumalı işyerlerine ilişkin yönetmeliğin 17. maddesi ise korumalı bir işyerinde istihdam edilecek olan kişilerin temel özellikleri hakkında bilgi vermektedir:

"a) En az %40 oranında zihinsel, ruhsal-duyusal ve davranışsal özürlü olmak veya diğer özür gruplarından ise %60 ve üzeri özürlü olmak,

b) Kuruma kayıtlı olmak,

c) 15 yaşını bitirmiş olmak gerekir"

Korumalı işyerlerine örnek olarak "Down Cafe"lerden söz edilebilir (URL 4; URL 5; URL 6; URL 7; URL 8; URL 9).

Bu başlık altında bahsedilen şekliyle engellilerin meslek hayatına kazandırılmasında temel olarak iki sistem göze çarpmaktadır. Bunlar pozitif ayrımcılık anlamına gelebilecek şekilde "kota rejimi" ve BM gibi uluslar arası kuruluşlarca belirlenen ilkeler doğrultusunda ayrımcılığı önlemeye yönelik "kanunlaştırma hareketleri"dir. Bunlara ek olarak iki politikayı bir araya getirmeye çalışan (Kayacı, 2007) "korumalı istihdam" yaklaşımı ve son olarak da "seçilmiş iş" anlayışı ortaya konabilir. Seçilmiş iş yaklaşımı da belirli işlerin yalnızca engelliler için ayrılmasını içeren bir modeldir. Santral memurluğunun görme engelliler için ayrılması buna örnek olabilir (Kayacı, 2007).

4. Aracı Bir Uzmanın Gerekliliği

Yukarıdaki başlıkta da sözü edildiği üzere engellilerin çalışma hayatında başarılı olamayacağına yönelik önyargılar oldukça güçlü ancak bir o kadar da asılsızdır. Fakat toplum(lar)da engellilere yönelik önyargıların

hâkimiyeti devam etmektedir. Böyle olduğu içindir ki iş kapılarının engellilere açılmasında büyük zorluklar yaşanmaktadır. Engelliyi işe kabul edecek kişilerin (işveren gibi) engellilik, engel türleri, engellilerin yapabileceği işler ve kapasiteleri gibi konularda detaylı bilgi sahibi olmalarını beklemek gerçekçi değildir. Bu nedenle de işverenle engelli arasında bağlantı kurması gereken ve bunu profesyonel bir meslek olarak yapan kişilere ihtiyaç vardır.

Bu profesyonel meslek sahipleri (bundan sonra "uzmanlar" denilecektir) devlet tarafından desteklenecek bir kurumda örgütleneceklerdir. Özel Eğitim ve Rehabilitasyon merkezlerinde olduğu gibi verdikleri hizmet karşılığında devletten bütçe alacaklardır.

Bu kurumlarda çalışan her uzmanın ilgilendiği engelli sayısı 30-50 arasında olacaktır. Uzman, listesine aldığı bu kişilerin en başta yaşadıkları hayattan zevk almalarına ve sosyal uyumlarına katkı sağlayacak şekilde, onların (eğer ihtiyaç varsa) meslek öğrenmesi için uygun eğitimlere yönlendirilmesinde, iş bulmasında, işyerindeki çalışmaya ilişkin veya sosyal sorunlarının çözümünde aracı rolü üstlenir.

Uzman; ne psikolojik danışman, ne doktor, ne tam olarak sosyal hizmet uzmanı, ne de işverendir. Bu anlamda uzman, engellinin önündeki "engelleri" temizleyip doğru zamanda doğru kurumlarla bağlantı kurmasını sağlayan ve özellikle işvereni engellinin yapabilirlikleri hakkında bilgilendiren ve "ikna" eden kişidir.

Uzmanın engelli adına bağlantı kuracağı kurumlar sağlık ve rehabilitasyon merkezleri, İŞKUR, Yerel Yönetimler ve İşverenlerdir.
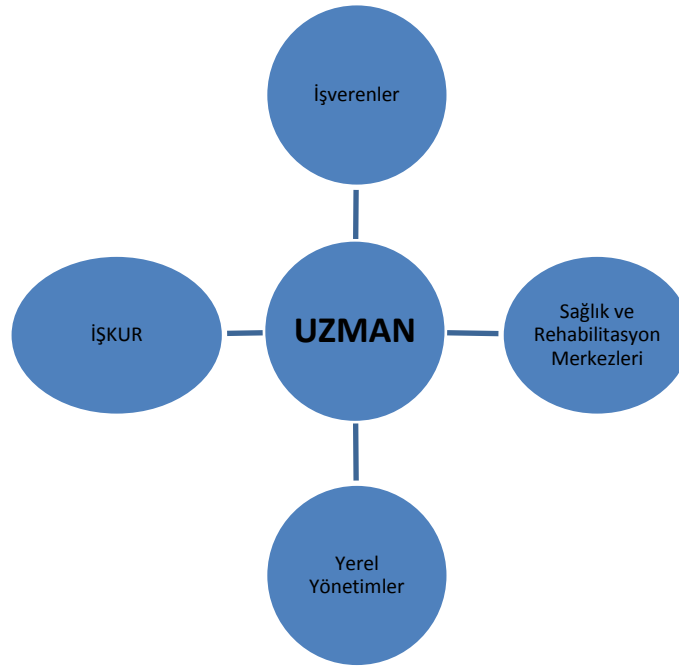
Şekil 1: Uzmanın İlişki Kuracağı Kurumlar

Uzmanın asıl görevi, çalışma etkinliklerinin kişiyi toplumun parçası haline getirmede büyük faydası olduğundan hareketle, engellinin bir işe yerleştirilmesi ve çalışma hayatının yolunda gitmesine katkı sağlamaktır. Bu nedenle, doğaldır ki ilk olarak işe yerleştirilmeyi bekleyen engelliye ait raporları incelemek, eğer gerekiyorsa yeni tetkikler yapılması için onu gerekli sağlık kuruluşlarına yönlendirmek durumundadır. Bu şekilde kişinin engel türünü ve derecesini belirledikten sonra kişinin almış olduğu eğitim ve mesleki formasyonu üzerinde bilgi toplamak gerekmektedir. Bu aşamada kişinin herhangi bir meslek dalında yeterli birikime sahip olmadığı ortaya çıkarsa İŞKUR, Mesleki Rehabilitasyon Merkezleri ya da başka kurumlarca organize edilen meslek kurslarına yönlendirmek gerekecektir. Engelli ve ailesiyle birlikte ve ek olarak bir PDR uzmanının uygulayacağı testlerin

sonuçlarının da yol göstericiliğinde bir kariyer planlaması yapmak mümkün olacaktır.[12] Bu sürecin tamamlanması ve engellinin bir mesleğin gerekliliklerini yerine getirebilir hale gelmesinin ardından Uzman, çevredeki işyerlerini ziyaret ederek engellinin yapabilecekleri hakkında işvereni bilgilendirecektir. Bu aşama, süreçteki en önemli aşamadır. Çünkü engelli bireyin tanınması ve mesleki kurslara yönlendirilmesi için özel olarak onunla ilgilenen bir kişinin yardımı gerekmezken, işverenin bir engelliyi işe alması için çoğu zaman onu ikna edecek birilerine/birşeylere ihtiyacı vardır.

Uzman, işvereni sadece yasal mevzuatta yer alan zorunluluklar ve teşvikler hakkında bilgilendirmeyecek; bundan daha önemli olarak engel, engellilik, engellilerin yapabilirlikleri ve başarıları hakkında örnekler vererek bir farkındalık yaratmaya, önyargıları ortadan kaldırmaya çalışacaktır. Özel olarak da, işe yerleşmesine katkıda bulunduğu engelliyi tanıtacaktır. Uzmanın yapacağı işin en önemli boyutu da bu noktada ortaya çıkacak ve bir tutum değişimini / olumlu tutum oluşumunu desteklemektir. Petty ve Cacioppo tarafından ortaya atılmış olan "ayrıntılandırma olasılığı kuramı" engellilerle ilgili tutum değişimini açıklamakta kullanılabilmektedir. Petty ve Cacioppo (1986'dan aktaran ÖİB) tutumların merkezi ya da çevresel yollar izlenerek oluştuğunu ileri sürmektedirler. İnsanlar tutum objesi hakkında kendilerine ayrıntılı bilgiler ulaşmışsa ve bu bilgileri ayrıntılı olarak inceleyebilirse yüksek bir bilişsel işlemle tutumlarını oluşturabilirler/değiştirebilirler. Buna imkân yoksa yani yeterli bilgi verilmezse ya da buna zaman ayıramazlarsa tutumlarının oluşması için çevresel yollar izlerler. Bu bağlamda "uzman"ın engelliler hakkında işvereni ayrıntılı bir şekilde bilgilendirmesi daha gerçekçi tutumlar oluşturması için merkezi bir yol olacak ve büyük fayda sağlayacaktır. Bilgilendirmenin engellilerle ilgili olumsuz tutum, inanç ve yargıları azaltmasına ilişkin pek çok araştırma da bulunmaktadır (ÖİB Araştırması). Bununla birlikte engellinin performansının, uzman tarafından süreç içerisinde takip edilmesi ve uzmanın olası problemlerde devreye girerek sorun çözümünde rol ve inisiyatif alması da işverenin engelli istihdamına olumlu bakışını güçlendirecektir.

5. Sonuç

Engelliler istihdam sürecinde büyük sorunlarla karşılaşmaktadırlar. Eğitim eksiklikleri, mesleksiz ve dolayısıyla vasıfsız olmaları bir yana; iş yapabilme kapasitelerine yönelik önyargılar nedeniyle ya hiç istihdam edilmemekte ya da düşük ücretli işlerde değerlendirilmektedirler. İstihdam fırsatı bulanların çoğu ise işin ve işyerinin kendi özelliklerine uygun olmaması, gereksinimlerine cevap vermemesi ve gerek iş arkadaşları gerekse amirleri tarafından gösterilen olumsuz davranışlar neticesinde ayrımcılığa maruz kalmaktadırlar. Dolayısıyla engelliler iş hayatının öncesinde, sonrasında ve iş hayatı süresince çok boyutlu problemlerle karşı karşıyadırlar.

Uzmanın iki temel görevi vardır: Birincisi engelliye ilişkin bilgileri tek elde toplayarak bütünsel bir değerlendirme yapabilecek; bilgi eksiği olmaksızın kurumlarla ilişkiye geçebilecek ve engelli için en doğru kararın verilebilmesinde bir tür "koçluk" görevi üstlenebilecektir. İkincisi ise engellilerin istihdamında en temel problem olarak tespit edilen "önyargılar"ı kırmak üzere genel olarak engelliliği ve özel olarak haklarını savunduğu engelliyi tanıtmaktır. Bu sayede engellilik hakkında farkındalık yaratma gibi sosyal bir sorumluluğu yerine getirirken öte yandan bir engellinin daha işe yerleşip kendi yaşamını kurmasına katkı sunacaktır.

Sonuç olarak engellilerin toplum içinde aktif bireyler olarak yeralması toplumsal bütünlük duygusunu güçlendirecektir. Toplumu toplum yapan temel etken, içinde bulunan birey ve grupların birbiriyle kurmuş oldukları etkileşimlerdir. Engelliler toplumda bilinçli veya bilinçsiz olarak en fazla ayrımcılığa, dışlanmaya tabi tutulan gruplardır. Toplumun engelli ve engelli olmayan tüm kesimlerinin eğitim ve çalışma süreçlerinde birlikte olması, sosyal temas kurması olumsuz tutumları ortadan kaldırmanın birincil yoludur. Özellikle çalışma süreçlerinde bu temasın kurulmasını sağlayacak, buna yardımcı olacak uzmanların yer alması da önem taşımaktadır.

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[12] Bu aşamaya kadar olan kısmı mesleki rehabilitasyon merkezleri de gerçekleştirmektedir. Sözkonusu merkezler rehabilitasyon hizmetini bir bütün halinde vermektedirler. Bu süreçte, tıp doktorları, psikologlar, pedagoglar ve mesleki eğitim uzmanları görev almaktadırlar. Merkeze kabul edilen engelli öncelikle tıbbi muayeneden geçirilmekte ve engelinin türü ve derecesi belirlenmektedir. Daha sonra yapılan fiziksel ve zihinsel testlere ve mevcut iş kapasitesi ve yeteneğine göre eğitim alması sağlanmaktadır.

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ENGINEERING EDUCATION TECHNIQUE BASED ON PROFESSIONAL ACTIVITY IMITATION

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Abstract

A new technology for the training of engineers is offered, named as of Professional Activity Imitation Education Technique (PAIET). This technology is being tested at the National Research Nuclear University (NRNU MEPI) for many years. Its basis is establishment of training equivalent of professional activities of specialist after graduation. In order to ensure the rapid reproduction of skills and functions of engineering activities by students, they are included in the "habitat" and they participate in the implementation of real projects. In the process of scientific and devise work, as well as learning sessions, they gain experience and skills of real engineering activities.

Keywords: Engineering Education, Education Technology, Students.

Main text

The traditional (informational) education technique, which is used in a higher education, is in contradiction with the needs of the economic development of the country. The main reason is that the technique not only ignores the basic laws of intellectual development of personality, but also contradicts them. Essentially, in a traditional technique, one goal - the development of professional abilities to productive activity - is replaced by another - the successful implementation of the academic plan and obtaining good grades for tests and examinations. And the task of developing students' creative abilities is not specifically raised. The existing technique was developed more than 4 centuries ago by John Amos Comenius [1], and was based on "class and lessons" educational principle. Expert and experimental evaluations of a person's ability to produce knowledge shows that creative abilities of the person are not very high. However, according to the authoritative American psychologist Abraham Maslow, creativity - is a creative orientation, innate characteristic of all but lost by a majority under the influence of the environment [3]. In this respect, the traditional system of education plays a negative role.

This principle was used as a base for the development of Professional Activity Imitation Education Technique (PAIET), which is being experimentally tested in the Moscow Engineering Physics Institute at the Department of "Molecular Physics" for 20 years, specializing in "Applied Ion Physics" [5]. Its essence lies in the implementation of the learning process as a training equivalent of professional activities of specialist. The key principles of PAIET are based on the following. At the beginning of the 4th, and in some cases 3rd year, students are given a complex task to create a new analytical tool, the development of which includes all the main stages of professional activity of experts outside the university. This task is implemented as part of a through project, which includes interrelated semester course projects with access to the practice and to the diploma work. List of academic disciplines is formed, based on the professional needs of the projected activities of a specialist. In each of all disciplines practical tasks are allocated, which are components of a complex problem. I.e. implementation of self-consistent tasks, related to the engineering, calculations, preparation of models, essays, modeling, and construction occurs. Students are actively involved in participation in scientific conferences, competitions for young scientists, publications of scientific papers. The maximum support for the complex of arising problems is placed on general scientific disciplines that were already mastered. The shift in emphasis of studied disciplines from goals for taking tests/exams to achievement of results in practical activity takes place. Students participate

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in the activity of real professional environment, which suggests their continued work in the scientific laboratory. The main objective here is mastering of methodology of creative activity with the help of subjects of the environment, the intensification of information exchange and transfer of professional skills to students from teachers, specialists, and from senior to junior students. The use of psychological tools in the implementation of the emotional state of students to enhance the intellectual professional activity. Individual and the group work are organically combined.

Establishment of educational analog of projected professional environment is an important step in implementing new technology. This assumes constant scientific, project and engineering work of students in the science laboratory. According to LS Vygotsky [6], personality reproduces abilities and functions of subjects of the environment. The main objective of the teacher is activation of the students' work in mastering of advanced methods of intellectual activity. Professional activity imitation model eliminates the principal disadvantages of the information model: 1) it gradually eliminates stereotype of mental activity of the student "learned - passed" ... "learned - passed", which was created on junior courses, 2) eliminates transfer of students to the following semester, or course, with gaps in knowledge in any discipline or its subthemes. That is, consider not only the positive (for tests and exams) grades, 3) initiates formation of students' needs in professional activities and motivations to creative work, to lay down the foundations for the development of creative abilities.

Special seminars, professional activity games, students' work directly in the research laboratory under the direction of any of employees or senior student are used as elements of the professional environment. Students learn techniques of modeling and engineering design, using modern computer means and software products in the laboratory. Mastering occurs by means of work on separate parts of a through project. In the technique used, the process of knowledge development by students has the following additional features. Certain disciplines are mastered by non-traditional approaches: students are assigned 1) to give lectures, 2) to regularly prepare sections of the course with a mandatory summary. For lecturing whole material of the course is divided between students (3-5 people) and they present it alternately during the lecture hours. The role of the teacher in this case is to control the correctness of presentation of the material, to discuss the results, to add to the topics that were not reflected by students, and to formulate problems that enhance students' understanding of the material. During mastering the subject (with a mandatory preparation of summary) the method of group discussions in class is used in accordance with the academic schedule. Defense of course projects, essays, analytical reviews, results of lecturing and group discussions of materials of mastered disciplines are used as a semester control for subjects listed in the academic plan. If the teacher drew the conclusion that someone did not master the material, then discussion is repeated with that student.

Psychological tools for support of learning process play an important role in described educational technique. Great attention is paid to the formation of motivations, establishing their connection with the situational needs of the students (through awards, appointments to positions with payment, etc.). Psychological means are a key tool for improvement of students' motivation to actively participate in creative activities. Generation of something new is an emotional process, and the student does not have skills of "swinging" the emotional sphere. Of course, teaching methods of psycho-intellectual generation [8] is one of the main objectives of the teacher.

Use of the described technique offers following positive results:

- The effectiveness of specialists' training increases dramatically.
- The time required for graduate to adapt to the professional environment decreases greatly.
- The ability of graduates for productive creative activity develops more intensively.
- All diploma projects are unique and their results are published in scientific journals.

Over the past 6 years, students who studied according to PAIET received 8 diplomas of 1st and 2nd degree in competitions of young scientists. Two students were awarded with trips to international mass spectrometry conferences. Eleven articles were published in scientific journals with their participation.

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ENGINEERING UNDERGRADUATES' PERCEPTIONS OF SOFT SKILLS: RELATIONS WITH SELF-EFFICACY AND LEARNING STYLES

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Abstract

Engineering education literature shares a consensual vision of the importance of soft skills for every workplace. However, undergraduates may not be aware of soft skills importance for their future employment and professional development. This research examines how undergraduates rate their current proficiency in a range of soft skills, and how do they perceive its importance for future employment. It also explores relations between proficiency in soft skills and self-efficacy, a variable strongly associated with competent performance, and learning styles, in order to identify practical implications for the design of more effective skills development programs.

Keywords: engineering education; soft skills; learning styles; self-efficacy

Introduction

One of the crucial areas of research in engineering education is, according to "The Research Agenda for the New Discipline of Engineering Education" (2006) the knowledge and skills that future engineers must learn in the classroom and develop during professional practice. Today's engineering graduates have an abundance of technical knowledge, but most lack the interpersonal and social skills required by modern job settings, such as effective communication and teamwork. In recent years, industries, professional organizations (e.g. ABET - Accreditation Board for Engineering and Technology), and international organizations (e.g. European Commission), have all noted the weakness in soft skills proficiency among recent engineer graduates. In line with this, there is a consensus in engineering education literature that highlights the urgency to help undergraduates acquire a broad range of soft skills that facilitate employment transition and professional career development. But what about undergraduate students? Are they aware of soft skills importance for engineering profession?

Several studies have already tried to understand undergraduates perceptions of soft skills importance for work context (Nabi & Bagley, 1999; Passow, 2012). With the present study we wanted to know in which soft skills are engineering undergraduates less efficient, and find out their preferred learning styles and self-efficacy.

Soft skills are transferable behaviors that can be used within a wide range of functions, activities and contexts. They are essential to the labor market, specifically in the highly competitive scenarios, and in engineering professional contexts is increasingly important to master them together with the hard and technical skills (King, 2012).

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Self-efficacy, according to Albert Bandura (1999), is a mechanism of personal agency consisting of individual's beliefs regarding performance capabilities in a particular domain. In this sense, self-efficacy can be defined as being a prospective competence-based variable that predicts action (Bandura, 1997). More specifically, perceived self-efficacy represents an optimistic sense of personal competence accounting for motivation and performance in multiple life domains (Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002). In fact, previous studies have consistently found a significant and positive correlation between perceived self-efficacy and successful performance (Beeftink, Van Eerde, Rutte, & Bertrand, 2012; Hughes, Galbraith, & White, 2011; Schunk & Gunn, 1986).

More than ever, higher education engineering courses are asked to prepare efficient, autonomous and competent future engineers (Holvikivi, 2007), in order to respond to labor market demands for high qualified professionals. There is a general acceptance that the manner in which individuals prefer to approach a task or learning situation – learning style preference – has an impact on academic achievement and professional performance. The Index of Learning Styles (ILS; Felder & Soloman) has been widely used in engineering education research (Litzinger, Lee, Wise, & Felder, 2007), and studies reported that the majority of engineering students are predominantly visual, sensing, inductive, and active learners (Carrizosa & Sheppard, 2000; Felder & Silverman, 1988; Kuri, Silva, & Pereira, 2006).

Method

Sample

A sample of 337 undergraduate engineering students of four Portuguese public universities participated in the study, including 292 males and 45 females. The ages of participants ranged from 18 to 38 years (Mean=22.19, SD=3.045). Forty seven percent of the participants frequented the Bologna's 1st cycle studies (N=154), and 53 percent the 2nd cycle studies (N=173). Nine percent of the participants (N=30) were working-students.

Instruments

A list of 29 soft skills was designed based on literature and on findings of several studies (e.g. Dijkgraaf et al., 2009; Spkins, Silburn, & Birchall, 2006). Using a 5 point Likert scale (1 minimum importance, 5 maximum importance), participants were asked to self-evaluate their proficiency in the skills at the present moment (Proficiency - P), and to rate the importance of the same skills in future employment (Importance - I).

Self-efficacy was assessed using the translated Portuguese version of General Perceived Self-Efficacy scale (GSE) by Schwarzer and Jerusalem (1995; Nunes, Schwarzer, & Jerusalem, 1999). Participants are instructed to estimate their ability with respect to several situations (for example, "*If I am in trouble, I can usually think of a solution*"). The scale consists of ten statements and participants have to respond to each one according to a 4-point Likert scale, in a range from 1 (*not at all true*) to 4 (*exactly true*). High reliability, stability, and construct validity of the GSE scale was found in several studies (Leganger, Kraft, & Røysamb, 2000; Schwarzer & Born, 1997; Schwarzer, Mueller, & Greenglass, 1999).

Felder and Solomon developed the Index of Learning Styles (ILS) specifically for engineering education. The ILS classifies students learning preferences in four dichotomic dimensions (Felder, 1996; Felder & Spurlin, 2005):

- Sensing/Intuitive. Sensing learners are oriented toward facts and procedures, concrete and practical information. Intuitive learners are more oriented toward theories and meanings, conceptual and innovative ideas.
- Visual/Verbal. Visual learners prefer visual representations of material whilst verbal learners prefer written and spoken words.
- Active/Reflective. Active students learn by doing and working with others. Reflective learners learn through thinking and prefer to do it alone.
- Sequential/Global. Sequential students learn in small incremental steps, orderly and linearly. Global learners have an holistic view of things and learn in large steps.

The ILS has 4 scales, corresponding to the four pairs of learning styles, with 11 items each. In all items, respondents have to chose one of two possible answers (e.g. "*I understand something better after if:(a) try it out; (b) think it through*").

Procedure

An assessment protocol was composed by soft skills rating, GSE and ILS. The protocol was distributed in classroom to undergraduates of electrical and electronic engineering, with subfields in computers, electronics and telecommunications.

Results

Four research questions were addressed in the study: (1) how do undergraduates rate their proficiency in a range of soft skills, at the present moment; (2) how do they rate the importance of soft skills for future employment; (3) in which soft skills do undergraduates indicate gaps; and (4) how does graduates' perceptions relate to self-efficacy and preferred learning styles. Results were also analyzed considering study cycle.

Histograms of the ratings for skills showed that the rating were not normally distributed. The participants predominantly used the upper end of the scale. As skills have been measured on a ordinal scale and do not meet the distributional assumptions of parametric statistics, nonparametric tests were used to analyze data (Cohen, 2001; Howell, 1997).

Proficiency, importance and skills' gaps

Table 1 shows undergraduates' mean rates for skills current proficiency and importance for future work, and also presents the skills' gaps. Mean ratings for all skills were above the middle of a five-point scale. Regarding skills' proficiency, higher ratings were found for "responsibility"(M=4.16; SD=.836), "continuous learning" (M=4.12; SD=.694), and "listening" (M=4.11; SD=.773). Lower rating were found for "time management" (M=3.37; SD=.965), and "creativity and innovation" (M=3.50; SD=.858).

Table 1. Skills' mean rates for current proficiency and importance for future work

Skill	Proficiency (P)		Importance (I)		Skill gap	
	Mean (SD)	Med (IR)	Mean (SD)	Med (IR)	I-P	Wilcoxon
Teamwork	3.85 (.753)	4.00 (0)	4.42 (.664)	5.00 (1)	.57	-10.429*
Oral communication	3.61	4.00 (1)	4.20	4.00 (1)	.60	-8.89*

	(.877)		(.787)			
Written communication	3.70 (.782)	4.00 (1)	4.04 (.740)	4.00 (1)	.34	-6.276*
Foreign languages	3.68 (.853)	4.00 (1)	4.26 (.726)	4.00 (1)	.59	-9.233*
Networking	3.70 (.819)	4.00 (1)	4.16 (.750)	4.00 (1)	.45	-8.472*
Listening	4.11 (.773)	4.00 (1)	4.29 (.735)	4.00 (1)	.18	-3.630*
Conflict resolution	3.75 (.801)	4.00 (1)	4.15 (.807)	4.00 (1)	.40	-6.757*
Argumentation	3.69 (.777)	4.00 (1)	4.10 (.732)	4.00 (1)	.42	-6.913*
Information sharing	3.94 (.825)	4.00 (2)	4.02 (.768)	4.00 (1)	.08	-1.280
Intercultural relation	3.91 (.861)	4.00 (2)	3.83 (.867)	4.00 (1)	-.07	-1.300
Time management	3.37 (.965)	4.00 (1)	4.43 (.721)	5.00 (1)	1.06	-12.313*
Work organization	3.59 (.888)	4.00 (1)	4.33 (.858)	5.00 (1)	.74	-9.606*
Autonomy	3.80 (.809)	4.00 (1)	4.30 (.718)	4.00 (1)	.50	-8.354*
Responsibility	4.16 (.836)	4.00 (1)	4.45 (.811)	5.00 (1)	.28	-4.703*
Goal orientation	3.84 (.784)	4.00 (1)	4.13 (.731)	4.00 (1)	.30	-5.736*
Pressure tolerance	3.67 (.937)	4.00 (1)	4.17 (.773)	4.00 (1)	.50	-7.204*
Meeting deadlines	3.99 (.885)	4.00 (2)	4.59 (.658)	5.00 (1)	.60	-9.785*
Problem solving	3.86 (.697)	4.00 (1)	4.27 (.756)	4.00 (1)	.41	-7.897*

Skill	M (SD)	Median (IR)	M (SD)	Median (IR)	r	Z
Systemic vision	3.60 (.787)	4.00 (1)	3.96 (.726)	4.00 (0)	.36	-7.340*
Cost estimative	3.63 (.940)	4.00 (1)	4.05 (.837)	4.00 (2)	.42	-6.909*
Creativity and innovation	3.50 (.858)	4.00 (1)	4.24 (.732)	4.00 (1)	.74	-11.228*
Persuasion	3.63 (.833)	4.00 (1)	3.89 (.786)	4.00 (1)	.26	-4.792*
Adapting to change	3.77 (.801)	4.00 (1)	4.20 (.767)	4.00 (1)	.43	-7.617*
Proactivity and initiative	3.73 (.834)	4.00 (1)	4.14 (.750)	4.00 (1)	.41	-6.884*
Attention to detail	3.85 (.856)	4.00 (1)	4.10 (.737)	4.00 (1)	.25	-4.761*
Continuous learning	4.12 (.694)	4.00 (1)	4.29 (.747)	4.00 (1)	.17	-3.370*
Flexibility	3.98 (.722)	4.00 (0)	4.18 (.671)	4.00 (1)	.20	-4.379*
Decision-making	3.83 (.843)	4.00 (1)	4.06 (.783)	4.00 (1)	.22	-3.616*
Leadership	3.64 (.863)	4.00 (1)	4.05 (.800)	4.00 (1)	.42	-7.154*

Notes: SD=standard deviation; IR=interquartile range

* p <.05

Regarding skills' importance, undergraduates indicated higher importance to "meeting deadlines" (M=4.59; SD=.658), "responsibility" (M=4.45; SD=.811), "time management" (M=4.43; SD=.721), "teamwork" (M=4.42; SD=.664) and "work organization" (M=4.33; SD=.858). The median of 5.00 was found for all of these skills. Undergraduates indicated lower importance to "intercultural relation", "persuasion" and "systemic vision". In general, the mean importance ratings ranged from 3.83 (intercultural relation) to 4.59 (meeting deadlines), and these results show that undergraduates consider soft skills as having high importance for professional practice.

As noted in previous studies (e.g. Nabi & Bagley, 1999), undergraduates rated the importance of soft skills more highly than their proficiency in the same skills. Wilcoxon signed-rank test was used to medians analysis. Significant differences were found between ratings of all skills, except for "intercultural relation" and "information sharing". That is, undergraduates ratings revealed gaps in 27 of the 29 analyzed skills. The most evident gap was found for "time management" (Z=-12.313, p≅0), however 8 skills obtained mean differences superior to 0.50, to know: "work organization", "creativity and innovation", "oral communication", "meeting deadlines", "foreign languages", "teamwork", "autonomy", and "pressure tolerance".

Mann-Whitney test was used to analyze possible differences between 1st cycle and 2nd cycle undergraduates. Significant differences were found regarding proficiency on "flexibility" ($M_{1st\_cycle}=3.88$, $M_{2nd\_cycle}=4.06$, $U=11300.000$, $p=.012$), "foreign languages" ($M_{1st\_cycle}=3.55$, $M_{2nd\_cycle}=3.77$, $U=11463.500$, $p=.026$), and "proactivity and initiative" ($M_{1st\_cycle}=3.64$, $M_{2nd\_cycle}=3.83$, $U=11537.500$, $p=.042$). According to these results, 2nd cycle undergraduates rated higher than 1st cycle undergraduates in the previous skills. Concerning skills' importance, significant differences were found again between study cycles, with higher ratings of 1st cycle undergraduates in "intercultural relation" ($M_{1st\_cycle}=3.92$, $M_{2nd\_cycle}=3.73$, $U=11781.500$, $p=.045$) and "creativity and innovation" ($M_{1st\_cycle}=4.33$, $M_{2nd\_cycle}=4.15$, $U=11633.500$, $p=.049$).

Self-efficacy and learning styles

Undergraduates showed preferences for active, sensing, markedly visual, and sequential learning styles, as has been referred by literature (e.g. Kolmos & Holgaard, 2008). They also reveal high self-efficacy levels. Table 2 shows the results for the total sample and study cycle groups.

Table 2. Self-efficacy and learning styles

Variable	Total sample (n=337)		1st cycle (n=154)		2nd cycle (n=173)	
	Mean (SD)	Median (IR)	Mean (SD)	Median (IR)	Mean (SD)	Median (IR)
GSE	30.85 (4.03)	31.00 (6.00)	30.99 (3.77)	31.00 (5.00)	30.72 (4.33)	30.00 (5.00)
Active	6.71 (2.19)	7.00 (3.00)	6.44 (2.39)	7.00 (3.00)	6.94 (1.98)	7.00 (2.00)
Reflective	4.27 (2.20)	4.00 (3.00)	4.54 (2.41)	4.00 (3.00)	4.05 (1.98)	4.00 (2.00)
Sensorial	6.87 (2.06)	7.00 (2.00)	7.03 (2.04)	7.00 (3.00)	6.77 (2.07)	7.00 (3.00)
Intuitive	4.05 (2.06)	4.00 (2.00)	3.91 (2.04)	3.00 (3.00)	4.16 (2.07)	4.00 (2.00)
Visual	8.39 (2.03)	9.00 (3.00)	8.33 (2.00)	9.00 (3.00)	8.55 (1.98)	9.00 (3.00)
Verbal	2.54 (2.03)	2.00 (3.00)	2.61 (2.02)	2.00 (3.00)	2.41 (1.99)	2.00 (3.00)
Sequential	6.25 (2.01)	6.00 (3.00)	6.53 (2.06)	7.00 (3.00)	6.05 (2.11)	6.00 (3.00)
Global	4.70 (2.09)	5.00 (3.00)	4.41 (2.06)	4.00 (3.00)	4.91 (2.10)	5.00 (3.00)

Notes: SD=standard deviation; IR=interquartile range

Significant differences were found between groups in learning styles preferences for sequential-global dimension. On one hand, 1st cycle undergraduates showed higher preference for the sequential style in comparison with 2nd cycle undergraduates ($M_{sequencial[1st]}$=6.53, $M_{sequencial[2nd]}$=6.05, U=11529.500, p=.034). On the other hand, 2nd cycle undergraduates showed higher preference for global style ($M_{global[1st]}$=4.41; $M_{global[2nd]}$=4.91; U=11427.000, p=.025).

A correlation analysis was performed to determine the relation between soft skills and self-efficacy, and between soft skills and learning styles. Table 3 shows Spearman correlation coefficients between variables.

Table 3. Correlations between soft skills and self-efficacy and learning styles

Skill	GSE	Act	Ref	Sens	Int	Vis	Verb	Seq	Glob
Teamwork	,194**	,254**	-,256**	-,015	,007	,138*	-,138*	,062	-,071
Oral communication	,244**	,049	-,047	-,159**	,153**	,015	,000	,049	-,046
Written communication	,204**	-,005	-,001	-,041	,030	,010	-,016	,038	-,053
Foreign languages	,246**	-,054	,059	-,114*	,136*	-,100	,130*	-,091	,098
Networking	,260**	,072	-,076	-,057	,055	-,010	,002	,007	-,010
Listening	-,019	,010	-,012	,094	-,099	-,110*	,099	,024	-,029
Conflict resolution	,236**	,030	-,031	-,097	,088	,030	-,044	,054	-,060
Argumentation	,356**	,024	-,027	-,176**	,160**	,030	-,030	-,044	,037
Information sharing	,161**	,165**	-,166**	-,046	,052	,077	-,089	,054	-,049
Intercultural relation	,172**	,031	-,032	-,105	,106	-,014	,006	-,033	,033

	GSE	Act	Ref	Sens	Int	Vis	Verb	Seq	Glob
Time management	,219**	,013	-,015	-,013	,002	,003	,007	,097	-,092
Work organization	,133*	-,029	,026	,046	-,052	-,025	,020	,151**	-,151**
Autonomy	,351**	,021	-,024	-,135*	,143**	,004	-,005	,047	-,052
Responsibility	,155**	,045	-,051	-,058	,036	,034	-,050	,093	-,096
Goal orientation	,344**	-,002	-,003	-,134*	,123*	-,002	,000	,094	-,100
Pressure tolerance	,276**	,082	-,083	-,141**	,137*	-,039	,021	-,085	,082
Meeting deadlines	,130*	,064	-,071	-,044	,048	,065	-,070	,092	-,097
Problem solving	,375**	,014	-,017	-,165**	,165**	,018	-,017	,014	-,023
Systemic vision	,291**	,072	-,078	-,036	,035	,022	-,023	,013	-,023
Cost estimative	,194**	,069	-,070	-,051	,064	,008	-,013	,052	-,058
Creativity and innovation	,345**	,035	-,034	-,289**	,293**	,075	-,067	,065	-,065
Persuasion	,257**	,063	-,055	-,073	,071	,006	,011	,161**	-,154**
Adaptation to change	,272**	,141**	-,139*	-,121*	,133*	,077	-,078	,080	-,074
Proactivity and e initiative	,334**	,019	-,012	-,097	,103	-,025	,046	,010	,000
Attention to detail	,221**	-,128*	,125*	-,001	,008	-,026	,033	,100	-,095
Continuous learning	,390**	-,013	,009	-,081	,090	-,041	,050	,116*	-,110*
Flexibility	,211**	,084	-,082	-,024	,024	,022	-,012	,049	-,039
Decision-making	,325**	,032	-,032	-,102	,096	-,040	,045	,022	-,016
Leadership	,395**	,102	-,098	-,166**	,154**	,066	-,068	-,041	,042

Notes: GSE=General Self-Efficacy; Act=Active; Ref=Reflective; Sens=Sensing; Int=Intuitive; Vis=Visual; Verb=Verbal; Seq=Sequential; Glob=Global

*Correlation is significant at the 0.05 level; **Correlation is significant at the 0.01 level

Undergraduates with higher self-efficacy tended to rate themselves higher in soft skills' ability, except for "listening" (r_s =-.019, p=.727).

We found significant positive correlations between active style and "teamwork" (r_s=.254, p=.000), "information sharing" (r_s=.165, p=.002) and "adaptation to change" (r_s=-.141, p=.009), and a significant negative correlation with "attention to detail" (r_s=-.128, p=.019). These results show that active undergraduates, that prefer learning by doing, tended to rate higher than more reflective undergraduates in their ability to work in teams, share information and adapt to change.

Sensing style showed negative significant correlations with "oral communication"(r_s=-.159, p=.003), "foreign languages" (r_s=-.114, p=.037), "argumentation" (r_s=-.176, p=.001), "autonomy" (r_s=-.135, p=.013), "goal orientation" (r_s=-.134, p=.014), "tolerance to pressure" (r_s=-.141, p=.009), "problem solving" (r_s=-.165, p=.002), "creativity and innovation" (r_s=-.289, p=.000), "adaptation to change" (r_s=-.121, p=.026) and "leadership" (r_s=-.166, p=.002). On the other hand, we found positive significant correlations between intuitive style and the same previous skills.

Results showed a positive significant correlation between visual style and "teamwork" (r_s=.138, p=.011), and negative significant correlation with "listening" (r_s=-.110, p=.044). Verbal style showed only one negative significant correlation with "teamwork" (r_s=-.138, p=.011).

At last, positive significant correlations were found between sequential style and "work organization" (r_s=.151, p=.006), "persuasion" (r_s=.161, p=.003), "continuous learning" (r_s=.116, p=.033). Negative significant correlations were found between global style and the same previous skills.

Discussion

Individuals need to become actively involved in the management of their own careers as early as possible rather than relying solely on external sources. Through assessment methodologies, undergraduates can promote awareness of the importance of soft skills for their future employment, and look for personal strategies to overcome possible skills deficiency. In line with is, curriculum development must focus on utilizing appropriate pedagogic techniques which enhance learning and develop soft skills, in order to prepare undergraduates for employment.

Although not exhaustive, the soft skills list used in the present study is applicable to multiple engineering work settings. Findings suggest that undergraduates identified deficiencies in the quality of skills they considered important for future work. Correlations between perceived ability in soft skills and learning styles preferences could have implications for curriculum design, despite the correlation coefficients founded in this study were relatively low. Specific training could be designed and delivered to respond to major skills' gaps, using learning styles based methodologies. For example, enhancing teamwork skills using active and visual learning strategies, and work organization skills using sequential learning strategies. Furthermore, by soft skills development, self-efficacy is promoted, and it is fundamental to competent performance.

Results should be interpreted paying attention that the sample consisted of only 337 undergraduates from four Portuguese universities, and that self-report methodology also limits the generalization of the current findings. The results must be viewed as indicative only. Further research, with employers and graduates, is required to refine the tested list of soft skills and to evaluate the most effective learning strategies for their development.

Acknowledgements

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ENSEÑANZA INTRODUCTORIA DE ECONOMIA PARA NO ECONOMISTAS: UN CONTENIDO PANORAMICO CLAVE

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Abstract

This article condenses some of the learning experience gained through the teaching of the subject Economics and Education, in a graduate program to form educational researchers (also tested in others, with similar results), which comes from different areas of knowledge, from social to exact ones, passing by the naturals. It is claimed that the content setting- panoramic and direct-, overcomes the usual resistance in these students to recognize that the knowledge provided by the Economy is essential for an integrated approach to all social phenomenon and, in particular, establish that causes are not always which violate the external social, this objectified the way it assumes the economic structure, usually confronted with sustainable development. In return, the traditional method of such teaching re-focuses in a mayor psychological sense, according in what the group inquires about the representations that support the educational phenomenon.

The suggested content, approachable in 6 sessions of 4 hours (unlimited adult participants), it begins by identifying the correct use of key concepts, followed by a brief history of the great dilemmas of economics, its writers and the object of study, together, allow any review of the general postulates of the three contemporary political-economic dominated systems. Along the way, interspersed explanations of the meanings for Mexico, cases are emerging whose analysis should benefit the interdisciplinary approaching pursuit of a holistic vision.

Economy, education, environment, *consumption and responsible production*

1. Introduction

The essence of economics, it is stated, it is pertinent to impart to students of any postgraduate in social sciences, it began to take shape after 1990, when it had to adjust an economics course to typically-bent-for mathematical formalizations Master of Education and subsequently administrative areas. This was the first mismatch to be corrected, it comes from adult students who entered to be users of the economy, not economists, even that at some point in their training took courses in mathematics, the memory of them is this asymptote to almost nothing, which makes the imposition of such a profile is inappropriate. The combination "profile of entry-time-topics" turned into a constant tension during the first courses, until we identified two circumstances:

The diverse professional origin of the assistants which, in the same group serves architects, engineers, lawyers, nurses, artists, teachers- predominating this last ones -, among others, to be a challenge, it became an advantage, because the complexity of the relationship between economy-education is consistent with the construction of explanations from disciplinary approach of each participant. Then, the next task became to structure a robust definition of the subject matter of economy.

During the first session is usually identified 2 precognitions:

• That "economy'' is a matter for mathematicians, being conducive to demonstrate that this is only descriptive and prognostic stage, but most useful is the discipline that addresses the ways in which human groups decide to resolve their material existence.

• The economy is the one '' to blame'' for the precarious situation of education, the nation and the planet, which makes appropriate for the immediate approach to avoid such disqualification, using brief examples of

how the culture of each human group and its practices the political scope, determine crucial economic distortions.

After the detection of resistance, a brief survey is made of the dominant representations in the group about what is education as a service, and for the purpose it serves or could serve.

At the end of the session the reading is promoted of the book designed for this purpose, winner of the first contest of the University of Guanajuato on didactic material, being also relevant to point along the short contemporary readings sessions on the topics that will be addressed as well the support in the dictionary of Economics preference.

2. Explanation of objectives

To reflect on a panoramic way on sense of the basic concepts of conventional economics, the purpose is that the student make it on their own, professional and personal, resizing is courses on welfare, economic growth and social development.

The specific objectives are: a) Support the precise handling and fluid core economic concepts, b) Understand the potentiality that economy offers to explain more fully the social surrounding and organizational environment on behalf of sustainability, understood as the ability of nature to be restored before the human action determinates that collapse in its nodes.

2.1. Purpose of the study of economics

It begins by explaining that there is not only one definition of economics, because in every treatise they will find the focus on some of its parts. What does exist is a single object of study, to be known: production --> distribution --> consumption, of goods and services for the satisfaction of "necessity and wishes".

It is clarified that the economy, either as discipline or as part of social reality, is limited to the scope of the form of how human groups "decide" to satisficed their materialities, with goods (that are tangible, with high inputs) and services (that are intangible, with less content of inputs). The intention is to allow compliance on a "optimal'' way the production, distribution and consumption. However, is warned that economy is not more than a reservoir where such practices are deposited, socially and culturally justified, so the "mistakes" about what is optimal or the bad decisions to select, are the personal responsibility, That use to happen in social prejudice aggregate by types of actors.

The next aspect of substance, is with precision identify the distinction between the physiologic derivation of the necessities and the psychological derivation of the wishes to achieve establish a mental structure of critical order between goods and services priority over the superfluous useful most of it in times of scare resources. Such activity has to prefigure personal responses to what common characteristic have the "goods" that now make up the majority consumption in Mexico or another country? Known that are soft drinks, alcohol, cigarettes, chips, canned goods and packaged, plastics, cosmetics, chemicals, toys and high energy consuming devices, etc.., Is subjected to wide scrutiny of whether it is edifying or destructive products the person and the planet, coming to trial if the current historical exploration is increasing human traits or decomposition.

The reaction of certain students begin to be dramatic when it states that this type of consumption, besides of damage the health of one who is willing to spend on what he gets ill of, goes against the public health sector budget, by the over demand that generate who consumes. This section requires skillful management of impersonal reminding almost always, the sensation of that it could have gone further, or that the reflection was cut by over-reaction of a participant, which is a risk that must be take, if we really want to help to reflect on the positive transformation of lifestyles.

In any case, the final statement is that "who demanding, commands," but if is made wrong ... the economy and the environment are those who receive the effect of such "habits." The purposeful corollary consequent is that if in the family "good" habits were form there would be no advertising, even as pertinacious it was, to induce to markets through negative paths, the time is suitable to exemplify the behaviour of those that with his purchase support organic products or use alternative energy. There is not left explanation that the marketing is a technic "for sale to the highest bidder", being more part of psychology than the economy, being more used to distort the rational election of the unwary and insecure-they prefer to deal by appearances than by essences, that provide objective information on the product concerned.

Then the conceptual strengthening the responsibility for what is deemed as a necessity and desire is personal, taking care to be clear that all economic good (subject to purchase-sale) is replaced, and that everyone must find the source of their beliefs in fixed behaviour patterns from childhood in the family, the development context, the influence for exposure to the media or in the present circumstances.

In function of the stinging observed, is it desirable to raise two debates derivatives: a) the reason of why economists often decide to legalize the drug, pointing out that loneliness and social dissatisfaction of those who purchase has more to do with the fractured families and values, with the bidders, which would disappear if the buy stops and, b) the case of imported products of the people without nationalist ruthlessly, who expects orders from outside to decide what to use, eat or see, putting on the side products of their own culture, valued as "ghetto" or out of fashion. Such cases make the student to ponder about their positive economic axiology, transcending to identify the consequences of their choice, at which point you can start looking for alternatives and solutions, personal or joint, and not keep looking "guilty ones" in government, businessmen, Chinese or Americans. In other words, we look that each one switch its sight from outside to inside.

At the end of the session, a basic method is presented to give an order to the cause and effects of social phenomenon of similar nature, that could help to reduce the saying that "everything has to do with everything" if this is certainly true, it is not the expected state of a social scientific, whose duty whose work resides in applying observational acuity to identify generalizations and special cases to explain the social order, obtaining ordered mental structures, lends their self to systematic analysis, in this case, exercising the discretion on whether it satisfies the essential belonging to the subject matter of economics, without denying the multi-factorial and multi-real causality, but determining what explains the most or actives the dynamics studied. The method reconstructs the phenomenon analyzed in four determinates instances: social, cultural, political and economic. Is warned that the ignorance of the cause (s), moves away the probability of producing the right solution or the phenomenon control. Then, how to know if the observe phenomenon is the study object of economics? First, divide the reality in 4 social instances: society, politic, cultural and politic; second, diagnose if the cause is in the economy object; if "yes", go ahead, but if "not" search another science for help to solve.

2.2. Key Concepts

In the second session will address the following concepts that stabilize the channel of communication to raise further issues of greater substance.

Resource

The instruction is directed to admit that resource is all element available for a productive use, requesting the identification of countries that possess exiguous material conditions, but with very proactive human resources, who come to determine the existence of the capital resources, assisted by historical joint, as are the cases of Japan and the Netherlands, in contrast, sets out cases of countries economically "poor" but favoured by nature with physical resources and plenty of human resources, but not able to the creation of capital resources. Consequently, the general content is discussed between a generalization about resources essence in

the production: Materials, are conditional; Humans are determinants; the Capital ones are the result of the interaction.

Because there are habitants on the planet that having the resources, do not see them, or prefer to wait for the gift of government, and others who, without have them, attempt them with technological developments and lots of coordinated work, being their imagination the limit and the interest to please the physical environment for (without discuss by the moment whether the production of profitability is done with care or not the environment and society, in example, the viability of life in long term), is concluded that those who do not apply their daily effort in such way, is often guilty of natural disasters, reason why are often called underdeveloped countries.

The discussion can also be detonated from sayings such the ones of theories of determinism of the physical environment, which claim that leisure is inherent to the natural rich and, on the contrary, the creation of technology is the result of natural precautious conditions or less fitted, to face extinction.

Inputs

They describe the resources already transformed to integrate some good or service. This concept helps to understand , now a days the vanguard lines of production are not explainable nationally, but by analyzing the integration of transnational corporations, reinforced since the 40's by the most technologically advanced countries, called outsourced (specialized in high-tech services) in the form of economies of scale or mass production. This led to a new international division of labour in which, countries with organizations capable of made direct foreign investment, act upon the world as their field of interest, with high independence of the existence of borders, forming it in groups of countries, in the current international basic division of labour, as know:

Develop countries (third sector)

Industrialized countries (endogenous or exogenous)

Manufacturing countries (importing inputs)

Primary-exporting countries (inputs suppliers)

Autarkic countries

The conjecture is formulated the main result of such division, led by the capitalist countries "developed", Is that dictated the financial and commercial rules through international agencies designed a way to redeploy its old industry to "selected" countries. These desires reach the stage of industrialized, even at the expense of their own territory to inherit a development model based on the guidance of exogenous structures. To open the dialogue, students are asked to arguments about whether they believe that the current way that global economy grows is already anachronistic, for standardizing and contaminant, entering the analysis tool denominated "globalization" application that helps the owners to stop the persistent decline in the rate of profit, taking advantage the countries willing to blur their culture, lower payment for work and open their finances abroad. In this point, it is good to raised at least a couple of commonly accepted of what is conceived by poverty, in order to contrast them with the "has to be" accepting extra economic points of view.

-Goods and services

Goods are conceptualized as tangible satisfactions and services as intangible satisfactions, one of their characteristics is that their consumption is simultaneous to their production, to be the case of educational services. Is explained that depending on the approach required, there are alternative types like: a) those that studied the use of income (goods are divided in "superior, normal and inferior), and b) welfare sensation (essential, desirable, pleasant).

The economic type by excellence is the first, which supports the knowledge of what each one believes it is more important to consume. The predilection to each product is tested by increasing the income, the vote is exercised of the buy in such product in such product, making the loss to the counterparty that is replaced, judged inferior (the normal is unchanged) the reading of connoted reports is suggested, that relating renowned products which are best positioned in the taste of different human groups, concluding that it is superfluous for widespread consumption in Mexico, even in times of crisis, which partly explains the form taken economic structure and situation of chronic insufficiency of income (debt).

- Market

The <u>third session</u> starts by defining that a market is the space (each time less physical, by electronic and catalog sales), in which suppliers and demanders attend, making actions of sale and purchase of goods and services, according to the tastes and bearing the preferences of each individual will determine. Thus, given the prices and quantities, it happens that the market is empty at the point of equilibrium, which implies the inexistence of wasted resources, since all that is offered is purchased-or imbalances emerging surplus or shortage someone has to pay. This can happen because of calculation errors or because there are infra-marginal buyers (who are willing to pay just below the equilibrium price) and supra-marginal (who are willing to pay above the equilibrium price).

As a result of observation of such situations, sets forth the laws of supply (when prices are high, production rises) and demand (when prices are high, the demand is low) that, either because they met or not, become practical as positive or normative claims of economic theories as target image to the scientist it shows the basic logical operation of the neoclassical graphical formalization for their predominance in the way that present economists usually communicate their ideas and analytical results.

Economic problems - crisis

Using the defragmentation, recalls that "problem" has the connotation of something negative and that the object of study of economics is the production-distribution-consumption of goods and services, whether in the real market (of product) or in the nominal market (of money), therefore, any interruption or obstacle in such order, constitutes in a economic problem, having to determine the stage, for its attention, if it worsens in time, space or amplitude, is denominated "crisis". Students are requested, cases of situations that began as an isolated problem and became the crisis.

3. Brief History of Political Economy

Through an image showing the genealogy of ideas of great thinkers who have left their mark on the approach to the subject of the economics study, it deals with social and historical circumstances that have mutated the unity of what is valued in different times and contexts: the slaves in the Slavery, land under Feudalism, and today, the capital (nominal, machinery, equipment and infrastructure) in the Capitalism. This helps to explain later, for example, that the Liberal Doctrine made possible the development of the political ideology that structures the capitalist system. So, is generalized in the books of Political Economy, the vague theoretical-philosophical of the economy is found through history and in the books of Economic Political, applications in making decisions guided by the requirements before mentioned in form of plans and public programs that seek to identify the effects, for example, fiscal policy (taxes), monetary (or banking), tariffs (or trade), etc.

If time is ripe, some graphic effects are shown in the key added markets such as labour, or any goods or services, as oil and telecommunications, raising awareness to study that the decisions of politicians (unfortunately not always knowledgeable about the discipline of economics or with the expert advisers are those who really impact the social spectrum. The conclusion may emerge by the awareness of the importance of exercising with great responsibility as a voter participation in elections, always preferable to abstention and the reprehensible indifference.

4. Tree Biggest Dilemmas of the Economy

Everything seen before the becomes more meaningful in the <u>fourth session</u>, to introduce three of the big dilemmas addressed by economists, with the aim of revealing the laws mechanisms or processes through which, goods and services acquire value (which is subjective) and its price is formed (which is objective, supply and demand).

4.1. The first dilemma is requested to speculate on for whom produce comes first? The tree big contemporary answers are named that humanity has given, to know:

Capitalist system: it favours the operation of market forces to produce first for those who have purchasing power (effective demand), refuting public intervention. To deepening its understanding, we recommend some reading of the liberal work of its founder, Adam Smith, who studied at essentially the supply side (cost and production function), being out of time of economic repression which involved Feudalism, stating that selfishness is the oil that makes it work in an "almost miraculous" way the economic machine (automatic adjustment of markets, in which no intervention from anyone, moves the capital from industries less profitable to more profitable), setting an individualistic conception of society, the central assumption is that everyone in the pursuit of enrichment, should look at the needs of those with money and satisfy it, thus ends up serving one another, even though it was not part of the original intention.

The contemporary extension of Liberalism, is the Neoliberalism, that studies with greater emphasis the demand side, every time that the consumer develops .is no longer "collector of goods", that is to say, for momentary attraction to become a skilled "hunter of prices "that treats markets as well thought only buy products from the best quality and best prices, admitting some government intervention, particularly as a referee " impartial " of the economic activity.

The solicitation subsequent to the students, is to identify what type of consumer it is, because if you buy at any price, any quality (laziness to go look), the off error's interpretations is that, it is indolent, sparking inflationary processes (up general price level), be the conduct of the applicant the opportunity. Demonstrated that everything is replaceable, it's sufficient to test that high prices should be stop using them for download.

Arguments are requested on the social consequences of the holders of money are those that define the shape of the markets and on the possible meaning that countries like France and Spain, which began its modern history in this position, are strengthening a twist towards socialism.

Social systems: the government directs production to the collective needs, and its intervention that defines the shape of the market: what is produced, how, such what type, amount and method of distributing wealth. K. Marx was the synthesizer of these postulates, led to a higher stage still theoretical, denominated *Communism*, in which the government has to disappear.

Mixed economy or Welfare State: involves the undifferentiated mixing (in no case there are pure states) between the two above requirements: public and private co-exist (there is social security and private hospitals too, also schools, businesses, possession of land, etc.). Today is the most supported system by the experience of countries such as northern Europe. At this point we tested the idea that none of the previous systems in good or bad *per se*, but in terms of the quality of governance and the closure that achieves consensus with the public to realign its forces.

The analysis of this dilemma ends by asking the students to value and express the three systems and that express advantages and disadvantages of each, particularly the way that is observed is been linked with the environment, and conclude on which one can respect more. If there is resistance to commit to an answer, is subjected to scrutiny the idea that values are prevailing in each place and time that direct the production, by the logic of relevance to the act which is challenged in any of them.

4.2. Second dilemma: at the <u>fifth session</u> students are asked, about the appropriateness they observed of the way that income is distributed, and for the particular case of the underdeveloped Capitalist System. In this dilemma, also known as distributive conflict, combines the relationship between:

a) The evaluative or subjective approach (typically practiced in developing countries), has a sense of collective consensus that under implicit qualities "substantial" differentiated earnings are given being the workers typical business and intellectual benefit.

b) The technical approach or objectivist (typically practiced in developed countries), resulting quantification favours productive action. For better understanding, provides the comparison of situations in which the investment exceeds the amount of the labour force and in the other way, to see consequences as, for example, who must pay the job training to technological changes?: The market resolved, as will tend to pay the employer if the labour is scarce, but it will work, it overflows.

Once more both forms are subject to scrutiny from students, who appreciate advantages or not of, coming to identify where performance is taken into consideration or the other and, in particular, in the midst of higher education of Mexico, in the case facing the productivism with experience value.

The concepts reviewed simultaneously, useful of their constant appearance in economic information sources are: joint and interdependent demand, marginal analysis, production of function, law of diminishing returns, economies of scale, automation and labour flexibility in the technological effect.

4.3. Third dilemma: in the <u>sixth and final session</u>, students are encouraged to identify cases of economic crisis, returning to those where there is conflict of interests in a single agent, given its multiple economic, as workers, consumers, savers, investor, and so on. This is useful to introduce the understanding of parallelism that must exist, given the currency regulations, including the market for goods -services and money market (and its price, which is the interest rate), focusing on the detection of possible crisis through the Quantity Equation of Money and the process of money creation (nodes of possible economic crisis: money--> merchandise--> money increased; each obstruction to the flow "money -products", so-called *crisis* of first, second and third stage. Verifying the performance of self-assessment exercises in the book recommended, the course closes with the presentation of *basic analytical method* through which it can quickly set and clear a context analysis to identify when to be used instrumental economical to approach to social desired phenomena having to search in some other discipline. Then, a basic analytical method is: check whether the observed phenomenon is the subject of study of economics; if yes, determine the cause (is it in production, distribution, consumption); described critical effects breakdown and, finally, pose alternative solutions consistent with the cause (choose the one that complies with effectiveness, efficiency and effectiveness).

Thus, noting that without the support of other disciplines, as exact and social, the diagnostic of dilemma becomes a mere abstraction or fatuous exercise of measurement (which justifies jokes about the economist spends half his life predicting what will happen, and the other explaining why it was not) and finally, depending on the availability of time, outlines the parties that the economy is conventionally divided, namely, in microeconomics, macroeconomics and international economics.

Conclusions

The configuration of this extra-condensed content, which began as the search for instruction in the essential understanding of economic thought to professionals who, without intending to become experts, need to become familiar with basic milestones, eventually hooking up with the analysis of large challenges facing humanity by thoughtlessness on the issues raised.

Then, this content is expected to contribute to the teaching of economics for students of introductory courses, very brief but ambitious, suitable for college, but also for non-university who wish to incorporate a basic understanding of economics as extracurricular. The matching contribution is difficult to set solid foundations still

maintain that the economy is the primary responsibility for achieving sustainable development management, being jointly responsible for direct, culture, politics and socio-historical practice, preceded by their values and judgments relevance of the action.

Certainly, the relativity of economic "laws" by which the ideological frame Neoliberalism and justify the production of "whatever" in pursuit of profitability that exploits appearances, enter recurring crisis abuses of natural resources and pollution of the environment, paradoxically, makes it increasingly scarce and therefore expensive, leading to the initial purpose otherwise. But this is not just the responsibility of Capitalism, for Socialism and Mixed Economy also upload their culpable ecocide. The fundamental problem lies in the historic walk of humanity, with individuals and conglomerates little awareness of the importance of caring for Mother Earth, living the life of everyone, in every decision and action of production and consumption.

In the interest of course, depending on the style of each guide, it should approach cases upgradeable ignore the catastrophic effects of the trinomial cultural political economy, is the involvement of a doctor or biologist to explain the effect of school or mother instead of feeding milk to give children junk food or soda, blocking their learning (synapses) but making it tedious and diabetic, excessive intake of sugars or supported by a physicist or chemist to explain the carcinogenic effect of long-lasting lipsticks containing lead, with damage to the air by the peroxide in the dyes hair, aerosols and plastic products in general, and what about cigarettes, alcohol and all kinds of non-biodegradable waste to water, batteries and consuming excess energy. Everyone, from their base discipline, has to make the diagnosis of cases and solutions that help reverse the tragedy of the commons, in which, each in its smallness, think that their actions do not impact, without thinking that the action collectively in the same direction as consumption is generated by the catastrophe to which it is leading the planet. This is not to stop using, but consumed with transcendental consciousness and, therefore, the producer will not convert their production other than in an ethical sense.

The reader may have already inferred that before closing the introduction should be made explicit two limiting situations: 1) the approach of almost all the issues discussed, given to complete courses of Economy, which is not to say that the findings imply that the profiled debate is over, and 2) the recursive tension during sessions, practices and customs as playing is deeply rooted collective thoughtless, makes the students react in defense of those who, though notoriously harmful and unnecessary, they have them and drop them clinging seems impossible, consisting this a real opportunity to transform that part of social action. Regardless of achieving such high claims, inevitably attends a meaningful practice of building interdisciplinary analysis.

Given that ecology, rather than a subject, is a way of life, it requires the continued support of resolute meditation in schools of all levels and of all types, that's where they have to recreate the high-power strategies to transform necrotic practices. Then, to help positively transform lifestyles, each teacher has to take up the mission that way, having proved that the support in the Economy is a timely and appropriate primer, as urgent reintroduce all know, even the way introductory suggested here.

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ENVIRONMENTAL EDUCATION IN CONDITIONS OF NATIONAL PARKS OF SLOVAK REPUBLIC

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Abstract

In this paper we focus on planning, environmental education in the National Parks in the conditions of Slovak Republic. As a very consequential and primary role would be realized not only National Parks, but also other protected areas in Slovak Republic to support environmental consciousness and improve environmental edification appears implementation of expertly processed Conception of environmental education and training of the protected area or National Park. This strategic document will account all the constitutive legislative documents of national and international significance relevant in Slovakia. This constitutive document today in several protected areas in Slovakia absent. Suggestion of Conception should be based on assessment of environmental consciousness and needs of the aggrieved groups population living around the National Park, but also other public. Also that have to account objectives of relevant Management plan of a protected area and to assist to their fulfillment.

Keywords: environmental education, National Park, protected area, conception of environmental education, Slovak Republic;

Introduction

The current system of protected areas of Slovak Republic according to the Act No. 543/2002 Coll. About Nature and Landscape Protection consists of 9 National Parks, 14 protected landscape areas and 1 094 small - scale protected areas, 1 protected landscape element, 172 protected areas, 388 nature reserves, 219 national nature reserves, 254 natural monuments, 60 national natural monuments. Total area of specially protected areas of nature which is in the protection level from 2nd to 5th is 1 222 839 hectares, what represents 24, 94 % from land of Slovakia (Klinda, Lieskovská et al., 2010).

Environmental education in National Parks globally in Slovakia

National Parks as areas to ensure preservation of the original nature of the Slovak Republic have also informative and educative function about natural values. A particularity of environmental education is mostly that it is happens in concrete environment. Uses specific conditions of this environment for its protection, but also to influence the public with its values, aiming at increasing its environmental consciousness. In this meaning environmental consciousness can be understand like the ability of an individual to realize and perceive phenomena and problems of the environment. In context of his own set of values orientation, personal experience also knowledge of wider sequences, but even is expressing in willingness optionally correct their behavior in behalf of conservation biodiversity of nature and ecological stability of landscape. In protected areas environmental education have to take

in consideration targets of protected areas as well as global environmental problems. It should effectively use as natural heritage of protected areas for a direct contact with nature. Another task is to bring nature near to people as something esthetically pleasurable, what inevitably needs protection. Environmental education of the protected area have to be organized by the visitors and target groups,   to whom are adjusted methods and language. To participants are presented concepts of implementation new attitudes into their daily lives and therefor there will be the change in their behavior. Important document in the environmental education in the Slovak Republic is the Conception of environmental education, which must be worked out in line with Management plan of a protected area. This task is clearly formulated also in Aarhur Convention, which says, that the management of protected areas and public authorities should promote environmental education and environmental consciousness. Management of protected areas and public authorities should assist and advise to the public in environmental matters. The recommended procedure for management of protected areas is to take on long-term concept to assist and advise to the public. This will encourage people in their efforts to connecting to decision-making process and help them develop their skills and knowledge, which simplify them alll. Good application of the conception should lead the public to greater interest. Working out Conception of environmental education brings necessity of material and technical assecuration in the form of development or purchase of tools for individual program offers as well as necessary equipment.

Environmental education is also non-violent and suitable form of promotion (contacts with citizens in communities, students in school) and through leaflets and promotional materials. Editorial and publication activities are the main source of information for various age groups or target groups. Also promotion of the National Park through exhibitions, permanent exhibitions for example in information centers is an important source of information for the public. One of the important role of the National Park is its active involvement to the process of environmental education in the region where is the National Park is situated, but also outside it, and encouraging the finding of new and to deepening old partnerships with other institutions in the region and outside it. The National Park should work out a shool program, which results from the Conception of environment education and it elaborating individual topics correspond with the content of curriculum and emphasize the importance of National Park´s propagation and system of protection of nature (for example with its topics like National Parks, forest, flora, fauna, water, human influence, adventure-experiences). Very important is the form of a presentation prepared topics, where as necessary selected a process of presentation in school field or in areas of the Management National Park and in providing adequate time setting to providing from the school especially in place in National Park´s area. To these topics are in - process practical activities depending up target group and conditions accordingly pupils and students start working more effective with given topic. Environmental education should be performed according to the local competency individual workplaces of National Park, where will be chosen lecturers for environmental education. In addition to the protection of unique natural ecosystems, plants and animals would be in the National Parks should primarily bring near to public, to people living in the region, visitors, owners and other their value. Without their involvement, understanding and active cooperation is threatened concrete target of the National Park and that is its protection (Tvevad, 2004; Hass, Ondrová, Švajda, 2008).

Impressed visitors requires developing interesting programs allowing interested not only learn a lot about the National Park, but mainly to get a lot of experience and the know and support them in changing their thinking and subsequent actions, that will be in behalf of nature. It is necessary focus on lifelong learning ensuring obtain certain environmental knowledge, which can affect the society-wide action aimed at every social and   age group in society. An important aspect is our understanding of nature. Nature is not only individual objects, trees or natural heritage, which we protect. It is a complex system of mutual relations, is an inseparbl part of our physical and mental existence (Demo et al., 2007).

Feelingful of nature and living out the experiences that offer National Parks to visitors and support holistic understanding of nature (complicated and complex interconnected relationship between nature and people). This built perception of the National Park is a very powerful tool for converting values and visitor behaviour, which in themselves by fulfilling their emotional needs, deepen their love of nature (Kyöstilä et al., 2001).

The environmental education (EE) in National Park, we should focus on:

Environmental education (EE) at schools – to schools should be distributed offer list where will be offer with themes and forms of environmental education activities. Based on the offer letters to contact the representatives of the school staff and arrange a schedule and form. Education of children and youth can be implement by primary and secondary education. By primary education is systematically influence the formation of personality of student impact through knowledge, skills, but also effect of creating his attitudes and lifestyle. Is creating conditions for lifelong learning for each individual. Secondary education by children and youth can be achieved by the action of the general public, including parents and other family and contribute to increase the level of environmental consciousness throughout the population (Švecová, Sásiková, 2008).

(EE) at non school settings – through after-school clubs, where one can attend the Circle of Nature´s Protection or Circle of Hiking, for instance once a week which can aim at using unconventional forms of nature´s protection. There is very necessary to work out the content of activities in cooperation with the after-school clubs.

(EE) aimed at visitors – there is a need to work out the offer list for group excursions aimed at various themes about protection of nature and National Park. Promote them in public places (hotels, cottages), where usually move big groups of people and such a form and this way speak to and give the opportunity to this target group hear about the National Park and its activities.

Other supporting activities include:

The organization of events aimed at promoting conservation and its importance – such as events and excursion on the occasion on the European Day of National Parks, Rangers Day, Days of nature protection etc., it is appropriate to organized entertainment – educational event to promote the work of personal connected with competitions and games.

Organization of voluntary jobs – like cleaning and garbage collection in the National Park, animal transfer (transfer of amphibians), repair of cultural monuments in the National Park.

Organization of competitions – for children and youth of different ages aim to the level knowledge of competing about the National Park and biodiversity in park and its promotion in local media.

Using information centers – for environmental education and raising environmental edification during the high tourist season.

Building nature trails - with a focus on the physically disabled people, reconstruction and updating of existing nature trails, construction of educational sites, green way and infokiosks. In consequence of insistency of the changes caused by anthropogenic activities is necessary to implement environmental education in all of the socio - educational and training levels. In the family, at school, in various institutions, in the media (Fazekašová, Manko et al., 2007). Very important is creating of partnerships that help improve the quality of environmental education of national park. Also that it is assistance in the area of acquiring new abilities and skills of employees and last but not least is here making room for assistance in he area of financing individual activities and functions within Environmental education, which is not always able to finance management of the National Park independently. Environmental education and activities as well as their implementation is an area of not only creating partnerships with local schools, but also other organizations functioning in the region, where is the national park (a hunting association, hiking clubs, etc.). Partnerships are supposal not only implementation of common projects, but above to increase duty and capacity of management of the national park.
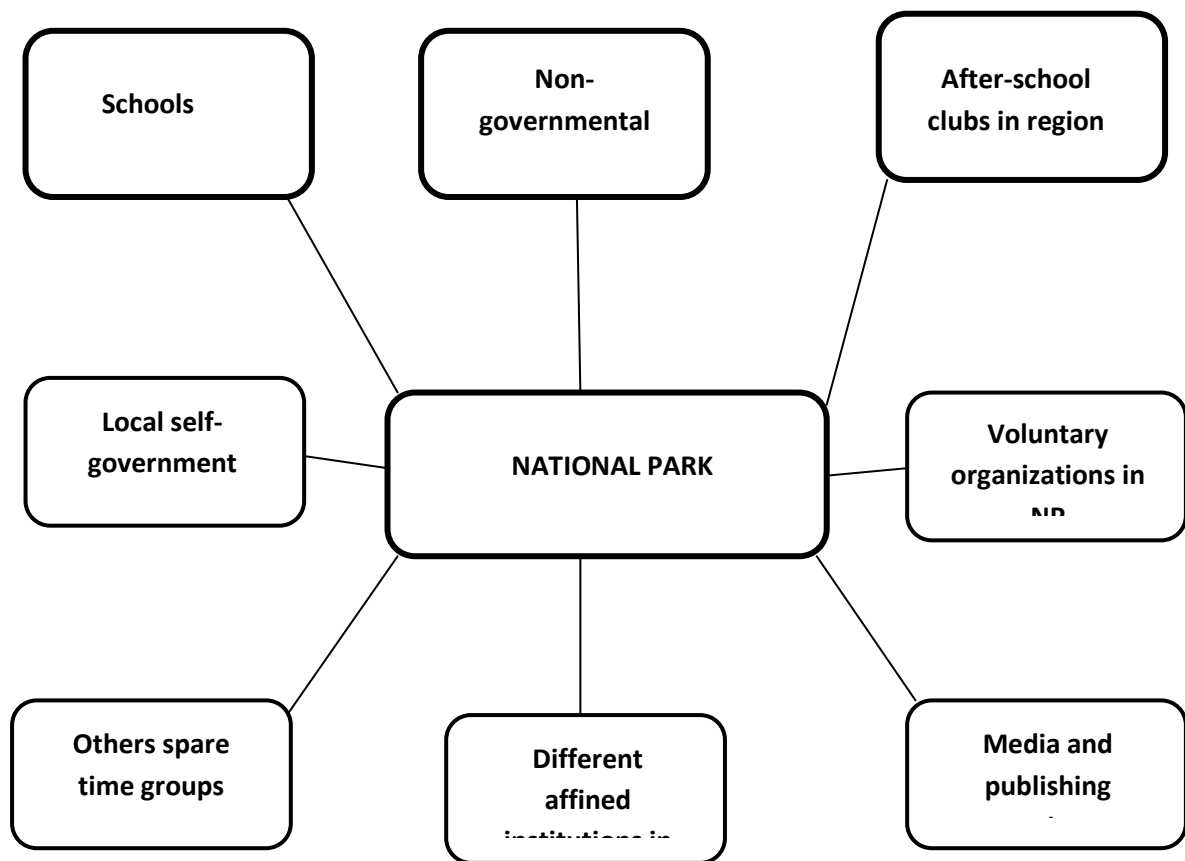
Fig. 1 Schema eventualy cooperation of National Park and important partners with (EE).

Methodology

Important part about creating of any strategy document are the input data. This condition seems to be very significant in the design and subsequent facture of the Conception of Environmental Education. As a highly adequate tool for obtaining input information such as identification of all the strengths and weaknesses as well as the opportunities and threats in this area in the national park help a lot by the SWOT analysis method, which aim is detailed knowledge of conditions. To interpretation the real state of environmental consciousness and edification in the region in which the national park, is appropriate to use exploratory method through research tool, which will be a questionnaire. This survey will help us suggest the measures and activities that will solve concrete inadequacies in environmental consciousness and edification ascertained by questionnaire survey and to which we will also focus on developing the conception of environmental education. This will lead to strengthen and upgrading the environmental edification and consciousness of the general public. Consequently is necessary to work up a suggestion of potential partners and their salutation, which will be able to participate in the implementation of the Conception of Environmental Education and fulfilling its goals through various activities, movements and common projects.

Conclusions

National parks are places where is realize important functions of ecosystems, which are result of various spectrum natural, semi-natural, but anthropogenic ecosystems which through their products and parallel processes allows to fulfill human needs (De Groote, 1992). In developing countries, poverty and low educational level in the area of environmental education main drive power of exploitation resources and destruction of nature. Citizens of developed countries of the world where education is accessible to all and its level is relatively

high, leaving their ecological and environmental feeling at the expense of its comfort (McKeown, 2002). It is very important that institutions such as national parks and protecting areas strive to development the internal feelingful of nature as such because, where else is it possible authentic nature feelingful the as fully as in herself? It is therefore very important that giving out to renewal of relations between man and nature, what will help environmental education in the national parks, whether theoretical or experiential.

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ENVIRONMENT IN MY POINT OF VIEW: ANALYSIS OF THE PERCEPTIONS OF ENVIRONMENT OF THE CHILDREN ATTENDING TO KINDERGARTEN THROUGH THE PICTURES THEY DRAW

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Abstract

The aim of this study is to examine the perceptions of environment of the children attending to kindergarten through the pictures they draw. 183 children in the group of 60-72 months attended the study. The data of the study, which was carried out using scanning model of descriptive research methods, was collected through draw-and-tell technique, and during the collection of the data, the children attending the study were asked to draw a picture related to environment and to explain the picture they draw. Their explanations of the pictures were recorded on the activity paper by the researcher. When the data obtained from the study were analyzed, it was found out that the children mostly included people, various plants and animals, mountains and especially elements such as sun and clouds. When the drawings are examined, it can be observed that they include environmental problems that they can observe in their immediate surroundings.

Key words: Kindergarten, Environment Drawings, Clean Environment, Dirty Environment, Children's Environment Perceptions

Introduction

Here introduce the paper, and put a nomenclature if necessary, in a box with the same font size as the rest of the paper. The paragraphs continue from here and are only separated by headings, subheadings, images and formulae. The section headings are arranged by numbers, bold and 10 pt. Here follows further instructions for authors.

Structure

"Environment is a system that is composed of the living creatures of the world and the air, water, soil and natural resources in the atmosphere where these creatures live". Environment includes the physical, chemical and biological elements that help creatures live and progress. All living and non-living creatures that the environment includes are in an interaction with each other (Yağlıkara, 2006). People try to take advantage of all opportunities in the nature while they continue to live their lives. In previous communities, human population was not very high and the opportunities of the nature were sufficient. Together with the increase in the world population and civilization, as production have not progressed in harmony with consumption and production has neglected the principle of "protecting the nature", natural processes of natural resources, natural order and the creatures in the nature. As a consequence, various environmental problems have appeared (Zabunoğlu, 1982). In this century, most significant environmental problems include rapid population increase, global warming, unconscious consumption of natural resources, increasing environmental pollution, increasing consumption in industrialized countries, extinction of species, hunger and drought (Redclift, 1984; Brown, 1991; Brundtland, 1987; MacNeill, Winsemius & Yakushiji, 1991; Goodland, 1995).

These environmental problems have come to the point of threatening the world and the future of all living creatures. Human beings, who are affected by these problems, have discussed them in national and international platforms in order to find a solution and prevent possible future problems. Handling the understanding of education for environment has revealed the need for education on how to gain environmental awareness. The

radical solution in environmental education is that, individuals must become conscious and aware of the environmental issues, and must be able to demonstrate the attitudes and behaviors related to this awareness. Individuals must also have the skills of taking advantage of the environment without harming it, participating in the decisions related to the environment, following and evaluating the consequences (Geray, 1997). It is accepted that understanding and preventing environmental problems, that education plays a great role in making individuals conscious of the environment that they live in, and that people demonstrate a more conscious and sensitive attitude towards environmental problems thanks to education (Flogaiti, 2006).

According to Basil (2000), knowledge on the environment and the attitude towards the environment starts to be shaped in the pre-school period. Wilson (1996) also states that similarly, environmental education offered in the early ages helps the children develop positive attitudes towards the environment in the following stages of their lives. When the studies on pre-school education in Turkey are considered, it is seen that research on environmental awareness in pre-school education are very few (Yağlıkara, 2006). In this period, considering the few number of studies on environmental education, the aim of this study is to determine the environment perceptions of pre-school children.

Studies on environmental education in Turkey and in the world generally focus on environmental knowledge, environmental literacy, attitude towards the environment; the thoughts of the children on the environment, how they perceive and make sense of the environment are seen as subjects that have not been sufficiently studied. It can be understood that generally interview method is used in order to determine the environment perceptions of the children and asking the children to draw pictures is not a way that is preferred. However, asking little children to draw pictures and analyzing these pictures is an effective method to determine their perceptions and discover their inner worlds (Falk, 1981; White and Gunstone, 1992). During the process of drawing pictures, the child synthesizes his thoughts and feelings on the issue with his observations, and expresses them through colors, shapes and lines (Malchiodi, 2005). Children reflect the way they perceive the world by combining their daily observations with their own thoughts. Drawing pictures is both an enjoyable activity and an expression technique for the children (Hayes, Symington and Martin, 1994; Johnson, 1993). While children do not like to answer questions in questionnaires or interviews, they draw pictures easily and voluntarily without getting bored when they are asked to (Lewis and Greene, 1983). Besides, drawings are also an alternative way for children who cannot express themselves verbally (Chambers, 1983; Rennie and Jarvis, 1995).When the pictures drawn by the children are analyzed well, they give the researchers detailed information on the knowledge they have and on their development (Yavuzer, 1997).

For these reasons, pictures drawn by children give the researchers more than written or verbal texts do. The drawings of the children related to environmental issues will provide valuable data for the researchers regarding the environment perceptions of the children, their knowledge on environmental issues and their attitudes towards the environment (Barraza, 1999).

There are a few studies in which the drawings of the children related to environment are analyzed. Thus, this study has been carried out in order to examine the environment perceptions of the pre-school children through the pictures they draw. The results of the study are significant as they will contribute to the information of environmental education and environmental awareness and it will be an example in determining the ideas of the pre-school children in Turkey on environment.

2. Methodology

This research, which aims to determine the environment perceptions of kindergarten children, is a descriptive research carried out using scanning model. Scanning model is an approach that "aims to describe a situation that existed in the past or still exists as the way it is" (Karasar, 2000). Interpretative content analysis of qualitative research methods was used in the collection, analysis and interpretation of the data. The work group of the research consists of total 183 children in the age group of 6 attending to different kindergartens in the city of Aksaray.

2.1. Measurement Tool

Draw-and-tell technique was used in order to determine the environment perceptions of the children (Brackett-Milburn, 1999; Shepardson, 2005). This technique involves the drawings of the children and the explanations of these drawings. Draw-and-tell technique is a diagnostic method that is used in order to understand how children construct thoughts and concepts (McWhirter, Collins, Bryant, Wetton and Bishop, 2000). The children were asked to draw a picture of what comes to their mind when they hear the word environment and explain their drawings. While the researcher took the papers from the children, he recorded the explanations of the children on the papers he had arranged beforehand, according to the codes place on each paper.

2.2. Implementation

The study was carried out in the spring semester of 2011-2012 academic year. After the necessary permission was taken, the researcher went to the pre-school institutions that will take part in the study and informed the teachers and the managers about the study. Then, an implementation plan was made with the school managers and when and how to implement the measurement tool was determined. The measurement tool was implemented by the researcher within one lesson.

2.3. Analysis of the Data

Visual and written elements comprising the environment drawings of the children constitute the data of the study. The data was analyzed using the interpretative content analysis of the qualitative analysis methods (Ball and Smith, 1992; Banks, 2001). Interpretative content analysis includes the determination and identification of the themes, subjects and phenomena in the visual and written elements obtained from the study (Giarelli and Tulman, 2003).

The codes and themes that were obtained for the validity and reliability of the data obtained from the study were revised by the researcher. Besides, they were analyzed by different researchers specialized in science education and pre-school education using the same processes. The reliability formula suggested by Miles and Huberman (1994) was used for measuring the reliability of the research.

Reliability = Agreement / (Agreement + Disagreement)

The reliability of the research was calculated 92%. Results over 70% in the calculation of reliability are considered reliable for the research (Miles and Huberman, 1994). The result obtained here was accepted as reliable for the research. The data obtained from the study was reported with descriptive analysis, percentage and frequency analysis.

3. Findings

The research was planned for the purpose of determining the environment perceptions of children attending kindergarten. The data collected for this purpose were analyzed, and the findings are presented in Table 1.

Table 1. Elements that Children Participating the Study Include in Their Drawings

Codes	60-72 Months	
	f	%
Environment		
Dirty	34	18.6

Clean	149	81.4
Total	183	100
PEOPLE	116	63.4
PLANTS		
Tree	63	34.4
Flower	71	38.8
Grass	72	39.3
MFruit	25	13.7
ANIMAL		
Bird	23	12.6
Butterfly	15	8.2
Dog	10	5.5
Cat	3	1.6
Spider	4	2.2
Rabbit	4	2.2
Sheep	1	.5
Tortoise	2	1.1
Ladybug	4	2.2
Fish	1	.5
Bee	2	1.1
Caterpillar	1	.5
ABIOTIC ELEMENTS		
Mountain	5	2.7
Cloud	101	55.2
Sun	131	71.6
River	11	6
Sea	2	1.1

Lake	4	2.2
Sky	7	3.8
Earth	6	3.3
Moon	3	1.6
Star	1	.5
BUILDINGS/VEHICLES		
House	111	60.7
School	4	2.2
Car	30	16.4
Plane	4	2.2
Road	19	10.4
Traffic light	5	2.7
Street lamp	1	.5
Flag	5	2.7
Refuse lorry	3	1.6
Sandal	1	.5
Train	1	.5
DIRTY ENVIRONMENT ELEMENTS		
Smoke	13	7.1
Rubbish	19	10.4
Dustbin	26	14.2
Acid Rain	8	4.4
CLEAN ENVIRONMENT ELEMENTS		
White smoke	5	2.7
Picnic	8	4.4
Recycling	1	.5
Balloon	2	1.1

Park	3	1.6
NATURAL EVENTS		
Rainbow	14	7.7
Rain	32	17.5
Lightning	1	.5

A total of 51 codes were collected as a result of the analysis of the data obtained from the study. The children generally included people; various plant types such as trees, flowers and grass; abiotic elements such as sun and clouds and houses in their drawings.

The elements that the children participating in the study and the frequency of these elements are given in Table 1. A great majority of the children drew a clean environment (81.4%) and 18.6% drew a dirty environment. 71.6% of the children included the sun, 63.4% included people, 60.7% included house, 55.2% included cloud, 39.3 % included grass, 38.8 % included flowers, 34.4% included trees. Whereas the most common animal in the drawings is bird (12.6%), butterfly (8.2%) and dog (5.5%) drawings were also performed. In the environment drawings, natural events such as rain (17.5%), rainbow (7.7 %) and lightning (0.5%) were also drawn.

3.1. Clean Environment Perception: Figure 1 is given as an example of a drawing including clean environment perception, and Figure 2 is given as an example of a drawing that includes elements that support this perception.

Figure 1. *An Example of Drawing Clean Environment*

In the drawings that are included in this theme, the children drew the environment as clean and green. These drawings generally include trees, grass, flowers, sun, mountains, cloud and river. The fact that sun, tree, river and grass are common shows that children associate the environment with green areas, clean water and a bright sunny day. Besides, smiling flowers and various animals are also included in the drawings in this theme. It is seen that the children draw elements such as white smoke, people having a picnic, recycling bin, balloon and park as a support to clean environment.

In Figure 1, clean environment is described with trees, grass, a blue sky with white clouds. In Figure 2, happy people having a picnic next to the river on a sunny day were drawn in order to support the description of a clean environment.

Dirty Environment Perception: Figure 3 is given as an example of a drawing including dirty environment perception, and Figure 4 is given as an example of a drawing including elements that support this perception.

The children drew rubbish thrown away in the environment, a black sky, unhappy people, flowers with a sad face, sick animals and included environmental problems such as air pollution and soil pollution. Moreover, it is seen that the children drew smoke, rubbish, rubbish bin and black raindrops in order to support the dirty environment.

Figure 4. *An Example of Elements that Support Drawing a Dirty Environment*

In Figure 3, dirty environment is described with rubbish that is not thrown into the rubbish bin and a rubbish bin that is not cleaned. When the paper of the child who drew the outside of the house in the colors of the rainbow is examined, it is seen that the people who live in the house clean their own house but they do not clean their environment, although their house is clean, they are affected by the smell coming from outside. In Figure 4, black raindrops, black clouds, an unhappy person, a faded flower and an ambulance that came to save the person in this dirty environment were drawn in order to support the description of dirty environment. When the records of the interviews made with the children are examined, it is understood that they say the black raindrops are acid rain. It is seen that children handle air, water and soil pollution from different perspectives.

4. Discussion and Suggestions

The environment is the atmosphere that people and other living creatures continue to interact through their whole life. Generations that are raised with an environmental awareness both will help arrange the existing environment and will make an effort to leave a cleaner and habitable environment for the following generations. In this study, the aim is to determine the environment perceptions of the children and the pictures about the environment that the children drew were used. While the children include animals that they often see in their immediate surroundings such as birds, butterflies, dogs, cats, spiders, rabbits, sheep, tortoise, ladybug, fish, bee, caterpillar, they drew grass, trees, fruits and flowers as plants. The results obtained are similar to the results of previous studies. The results of the studies of Keinath (2004) and Alerby (2000) demonstrate that the children include biotic and abiotic factors that they can observe in their immediate surroundings.

When the percentages of the figures included in the pictures are considered, it can be said the students frequently include people. This result shows that children regard people as a part of the environment. However, this case differs from the results of the previous research. In the results of the studies about the definitions of children related to the environment, they include living and non-living elements and these studies also show that children do not associate people with the environment and they do not regard people as a part of the environment (Littledyke, 2004; Loughland, Reid and Petocz 2002; Shepardson et al., 2007; Yardımcı and Kılıç, 2010). The findings obtained from the study show that the views of the children focus on a clean environment. At the same time, there are also drawings of a dirty environment. These results differ from the results of the study by Alerby (2000). Alerby collected the drawings of the students under categories of clean, dirty, both clean and dirty and activities in order to keep the environment clean. However, it can be said that this difference might have occurred because the age level of Alerby's work group was high.

Although the codes obtained from the study are high in number, limitations in the types of plants and animals, and few types of environmental problems that have been drawn makes one think that the children have

limited experience with the environment. If children who will have experiences with the environment and gain environmental awareness in the pre-school period are reinforced in their future education periods, individuals who can protect the environment, who can take measure against any environmental threat and who have the will to continue the measures that have been taken are raised. When it is thought that the solution of environmental problems is not possible through human effort, the children need to become aware of the environment and its problems. The studies have shown that field trips and studies carried out in the nature make it easier for the children to understand the relationships between living and non-living creatures in the environment and their effects on the nature (Ballantyne and Packer, 2002; Manzanal, Barreiro and Jimenez, 1999). However, environmental education which must be performed in the nature is carried out in classrooms, which are artificial. Taking the children far from the nature worry the educators who perform environmental education (Miller, 2007, Sobel, 2008; Louv, 2005). As the children get further away from the nature, their physiological and psychological senses decrease gradually, which restricts the experiences they will gain through nature (Louv, 2005). Curiosity, imagination, creativity, observation skills and communication skills of the children who interact with the nature and gain positive experiences will develop (Crain, 2001; Moore and Wong, 1997; Palmer, 1993). It is suggested that activities which will enable the school subjects to be covered outside the classroom, in the nature should be included in the programs so that these skills and environment perceptions of the children can be developed.

The pictures that the children draw can be used to determine the knowledge they have on a certain topic, their misunderstandings of a certain concept and their interest. Although evaluation of the drawings of the children is an effective method, there are very few studies on this issue. From this perspective, it is suggested that in the future studies, the drawings should be used more frequently on issues related to environment with different purposes. The pictures drawn by the children can also be used for the thoughts and perceptions of the children regarding environmental problems, the reasons of environmental problems and the ways of solution that they think of. Despite the fact that the thoughts of a limited number of students are determined, the data that was obtained is significant due to the fact that there is a very limited number of studies that aim to determine the environment perceptions of the children through the pictures they draw. It is suggested that similar studies should be repeated with different samples and the results should be compared. Though the drawings of the children are an effective method, there are certain constraints. In order to decrease these constraints, it is suggested that the drawings should be supported with interviews with the children.

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EXPLORING MINDS: ALTERNATIVE CONCEPTIONS IN SCIENCE

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Abstract

This exploratory study has focused on two major dimensions- students' conceptions and teachers' conceptions. First part explored alternate conceptions that are possibly present in the area of Newtonian Mechanics among a group of first year Master of Science (M.Sc.) students majoring in Physics. The plausible conclusion from the study strongly point towards presence of misconceptions amongst students. Second part explored whether university teachers are cognizant of students' alternate conceptions and if so, what kind of techniques do they suggest or employ to attend to them. The data collected through interviews did not show any evidence of teachers' awareness about students' alternate conceptions. The major conclusions derived from the present study strongly substantiate the fundamental need for teachers to understand the mental world of their learners and shift to 'student centered' classroom processes as against commonly practiced 'teacher centered' ones.

Keywords: Alternate conceptions; misconceptions; teachers' conceptions; learning

Introduction

Students don't understand everything in the class." This is a commonly discussed topic amongst science teachers.

Despite repeated instruction and explanation students still write wrong answers, which is a serious cause of concern.

Thinking deeply on this issue is likely to lead us to a very basic yet crucial question i.e. "What do students understand" or "how do students conceptualize?" From a constructivist standpoint, knowledge is 'constructed' and it is an interpretive process, wherein the prior experiences of he learner play a decisive role in what is constructed. The purpose of constructing knowledge is to organize and deal with our experiences. That is, we make working hypothesis which fits both our previous knowledge and new experiences. We continue to use them till we get a satisfactory picture; otherwise they are either modified or discarded. These constructs/hypotheses are called concepts, ideas, theories (Bettencourt, 1993). Thus, every student makes sense of the world in his/her own unique personal way. At times, these personal constructs differ from the well-negotiated, most viable scientific constructs of the time and this discrepancy may be called as misconception or preconception or alternate conception or mental model. There is lot of empirical evidence to suggest the existence of alternate conceptions among learners which clearly show that students may not always understand the same thing which is taught (Beatty, 1994; Galili and Lavrik, 1998; Sharma and Sharma, 2007; Bhadrapurkar, 2008; Rohtagi 2008). Further, these alternate conceptions may present some challenges to learning. For example, a study by Muller and Sharma, (2007) shows that these preconceptions are well fitted in a learner's cognitive structure, and are very stable. Therefore, they pose a challenge to learning of new knowledge. For instance, they give learners a false sense of knowing therefore mental effort invested in learning is limited. Hence, there is a strong need for teachers to explore their students' minds, to understand what they understand of what is taught in the class. In this whole process, teachers' own conceptions play a key role. What teaching, learning and knowledge means to teachers would influence the way they deal with students' conceptions (Bencze, Bowen and Alsop, 2006; Mulhall and Gunstone, 2008). Hence both the areas of research-students' conceptions and teachers' conceptions are very vital from the perspective of teaching and learning. In this study we have made an attempt to explore students' mental models in Physics at tertiary level and at the same time to unravel teachers' conception about learning and learner's alternative conceptions.

Research Questions

2. Do college/tertiary level students of Science (Physics) have misconceptions in the area of Newtonian Mechanics?

3. What does 'learning' mean to university teachers?

4. Are they (teachers) aware of student's alternate conceptions?

5. Do these teachers have any teaching strategies to deal with students' alternate conceptions?

Methodology

This study was conducted in an engineering institute situated in Delhi, India, where, apart from Bachelors (B.Tech.), Masters (M.Tech.) and PhD in technology; Master's courses in Science (M.Sc.) (Physics, Chemistry, and Mathematics) are also offered.

To address the first research question i.e. to explore misconceptions among students, M. Sc. (Physics - Ist year) students were selected as the sample group. They were 47 in number and had completed their Bachelor's degree in Science from institutes across India, (thus a heterogeneous group based on their educational and social backgrounds). However, all of them had done at least one course in Newtonian Mechanics at Bachelor's level.

In order to explore students' misconceptions, questionnaire was constructed as a research tool. It was in structured multiple-choice-question (MCQ) form in which each question had 4 options. These questions were conceptual in nature and apart from choosing one answer out of the four; students were required to compulsorily provide reason for their choice of an answer.

The initial draft of the questionnaire was given to three experts including their subject teacher (teaching Classical Mechanics) for validation. Final draft was made after incorporating the suggested changes. This was presented to students as part of their internal assessment task, and therefore students were informed beforehand about the test. After the data was collected, its content analysis was done in consultation with their subject teacher.

To address remaining three research questions of the study i.e. teachers' understanding of students' alternate conceptions; their strategies to deal with it; and their views about learning, a sample of seven teachers was selected with teaching experience ranging from 1 - 20+ years. Almost all of them had the experience of teaching B. Tech, M. Tech and M.Sc. classes. It was a convenient sample. Semi-structured interviews were carried out to explore teachers' conceptions and hence, answer to our research questions (II), (III) and (IV). The data collected was transcribed and content analysed.

Data Summary and Analysis

For Research Question I.

The first research question pertained to students' misconceptions for which questionnaire as a tool was used. Questions were based on concept of force and its role is determining the motion of the particle in different geometries. For this section, one of the questions based on the concept of impulse (i.e. force experienced by a body/particle for a very short duration of time) is discussed in detail and further, observations are discussed for rest of the questions.

Q. Despite a very strong wind, a badminton player manages to hit a shuttle with her racquet so that the shuttle passes over the net and lands in her opponent's court.

Consider the following forces:

A downward force of gravity(Fg)

A force by the "hit"(Fh)

A force exerted by the air(Fa)

Which of the above forces is (are) acting on the shuttle after it has left contact with the racquet and before it touches the ground?

1 only.

1 and 2.

1 and 3.

1, 2, and 3.

The data obtained for this question is tabulated below. 91% students attempted this question. 'Row 2' of the table comprises the responses of students who provided a reason for their choice. On the other hand, 'Row 3 ' of the tables includes the responses of the students who did not provide any reason for their choice.

Table 1.

	a	b	c	d
Answers with Reason	3	3	22	10
Answers without Reason	-	2	1	2

Those who chose 'a' as the right option either neglected Fh and Fa after the hit or considered that both Fh and Fa balanced each other. Thus, in effect only Fg acted after the journey. The one who chose 'b' recognized Fg to be acting throughout the journey and Fh to be acting only when shuttle is in contact with the racquet. Those who chose option'd' considered Fh>Fa, and one of them mentioned that forward motion of the shuttle was because of difference between Fh and Fa and downward motion of the shuttle was because of Fg. Most of those who chose 'c' as the option recognized that Fh is an impulse or contact force and acts for a moment but provided varied effects of that impulse. One of them said Fh gave the initial impulse that changed the direction of the shuttle; another one said that after contact, the energy is transferred to the shuttle and yet another participant explained that after shuttle has left the contact, it still remains under the effect of 'hit', but Fg and Fa affects the motion during its flight.

Analysis

From the above data, one point, which comes out very clearly is that many learners considered Fh to be acting even after the contact between shuttle and racquet breaks. Actually, force due to gravity and air acts continuously throughout the journey, whereas force due to hit is a contact force, which acts only for the instant when shuttle is in contact with the racquet. Thus in the above case , only force due to gravity and force due to air acts on the shuttle after it has left contact with the racquet and before it touches the ground.

Similarly, other questions were analyzed and following points were observed:

The participants did not understand under what conditions centrifugal force comes into the play. It was evident when they used expressions of centrifugal force even in the inertial frame of reference for an object under uniform rotational motion.

Many learners considered velocity and acceleration to be in the same direction in a uniform rotational motion (it was evident from their diagrams), whereas they are actually perpendicular to each other. Most probably they have carried this concept from rectilinear motion where, indeed both the velocity and acceleration are in the same direction.

Many learners showed confusion with the meaning of words "ascending" and "descending". It was evident from the figures they drew to explain their answers.

All the other research questions pertained to teachers for which interviews were conducted. In the following section thematic analysis of the interview is presented .To maintain the anonymity teachers have been referred to as T1, T2... .T7.

For Research questions II, III and IV What learning means to you?

Ali teachers (except T2) were of the opinion that learning involves active participation from both teachers and students. Teacher (T2) felt that self motivation of student is the only governing factor for learning, therefore, onus of learning is on the student; teachers can only show the path but it has to be treaded by the student. For one of the teachers (T4), true/actual learning is to understand the content to such an extent that one can play with it. For another one, reflection on the already done steps while solving a problem and ability to correct them is learning. The aspect of learning as mutual gain/sharing of knowledge is pointed out by both T6 and T1; they also talked about learning as a continuous ongoing process. The focus on culture as the source, which guides the content of learning, also came up along with the statement/belief that there can be many ways of teaching, which can be equally effective, and different people learn differently. One of the teachers (T7) emphasized punctuality and other virtues, which one learns through observation, as part of teaching-learning process. An important aspect of teaching as pointed by one of them was, guiding through a problem (not giving clear-cut answers but giving cues) to facilitate learning. He further points out that teaching plays a part in setting the initial interest level of the students. Therefore, if one does not teach well, students would get disinterested in the subject and will not work towards it.

For most of them, the way to test/assess learning is mainly through numerical questions, quizzes and conceptual questions and discussion (only at times). One of them (T6) also talks of constraints present in the educational system (specific to their institute) such as limited time, many courses to complete (which are quite rigorous in their approach), co-curricular activities , frequent tests, and so on; which proves to be overly stressful for many students. Thus, he does not consider grades/marks achieved as correct indicator of learning.

Analysis

Learning is understood as an ongoing process by a few in which both students and teacher gain mutually. A point, which clearly comes out, is that it is difficult to draw a line between teaching and learning; rather it is considered as an inter-related and inter-dependent and thus an interactive process.

T2 focuses on self-motivation and interest of the student as governing factors for learning. Therefore teacher is considered only to be a guide or a facilitator who can show the path but learner has to walk on it on his/her own. Hence, learning is taken to be a personal process of knowledge construction, which is highly dependent on or governed by self-motivation and interest of the student. This view is reflective of constructivist approach.

T4's stance is reflective of learning as 'Cognitive Information Processing' where he is talking about meaningful associations when he says '...the student has to go beyond the definitions and get into the meaning or message contained in the situation'. On one hand it reflects gestalt i.e. having a holistic view in which, understanding the meaning, ability to apply, inter and extrapolate are all considered essential/necessary components of learning. On the other, it is reflective of few concepts as given by Norman. When he (teacher) says that learning a law would also mean that student should be able to apply it (i.e. solve problems using it) which indicates the use of memory (to retrieve

essential information) and performance (i.e. being able to solve problem). In addition, when he mentions that students

should be able to decide in a given problem, which laws have to be applied, it indicates fine-tuning. Thus it is quite similar to the way Norman viewed learning as a deliberate act of study of specific material so that it can be "retrieved at will and can be used with skill" (Norman, 1982, p. 3).

T5 cited many examples from his life exhibiting varied views on learning. Firstly, he equated learning to the process of discovery. Here the concept of Discovery Learning as suggested by Bruner is quite evidently seen. According to the teacher, doing research, which is an organized process (not haphazard) is discovering something which was pre-existing and this discovery in turn is 'learning'. Similarly Bruner has pointed out that discovery is "all forms of obtaining knowledge for oneself by the use of one's own mind", i.e. one has to transform/reassemble the data in such way that one goes beyond it to gain new additional insights. It is not a haphazard activity but a planned endeavour of finding regularities and relationships in the environment. This actually is the process of research.

Secondly, he acknowledges that learning is both context and culture driven .Thus one's culture determines and interacts 'what to be learnt' i.e. the content of learning which in turn helps one to survive and flourish in that culture. E.g., "a school child may know 5x3 =15, but a farmer would rather know how much fodder a cow eats."

His third life instance (experience with a professor from Presidency College, Kolkata, India) was indicative of learning being facilitated by locating the subject in an overall structure of the discipline. It is much like the concept of Advance Organizers suggested by Ausubel. They are relevant and inclusive introductory material, provided in advance of learning material that serves to bridge the gap between what the learner already knows and what he needs to know before he can meaningfully learn the task at hand. Further, emphasis was given on learning through solving real life problems of physics in a class through brainstorming and discussions. Here teacher was also an equal and active participant. This is very similar to learning through group problem solving where the participants are constructing knowledge together. Teaching and learning is seen as a conjoined process.

He further emphasizes on learning as internalization of knowledge by student. He believes that learning would only happen when students themselves solve each step of the problem (after it is solved/derived in the class).

He lastly suggests that learning is dependent on teaching to a great extent in the sense that it guides the motivation level of a student. This makes teaching an inspirational process which acts as a trigger for learning.

T7's stance also exhibits many manifestations of learning. Firstly, he points at 'reflective abstraction' as a process of learning. He gives importance to learning through observation and then reflection. He further asserts that learning the content of subject is not enough but values such as punctuality are also important. He emphasizes self-learning as an ongoing process. Secondly, he suggests that learning is to connect new information with the existing cognitive structures, when he says, "If they don't understand I have to get down in level a bit". Thirdly when he says that "... (when students ask a question in class) sometimes I may just answer the question, sometimes I might pose a question back at them and tell them to work a bit harder as they are near the answer"; it quite clearly reflects Vygotsky's concept of Zone of Proximal Development (ZPD) where learning is leading the learner from actual to potential level of performance; from assisted to unassisted level of functioning.

Assumption about teaching learning as an intuitive process with which we are endowed is clearly evident.

Do all students learn the same way?

Most teachers acknowledge that not all students understand everything that is taught in the class. Some of them also realize that not all students understand the same way. A few teachers view learning as a concept, which is taken to be a linear, hierarchical structure in which different students can reach different levels. One of the teachers holds difference in capability (intelligence) of students as the cause for it. Few teachers assume the variation in backgrounds of students as the reason behind it. One of them does believe that initially they might understand variously because of different backgrounds but after the completion of course, their background is homogenized and they can therefore think in similar way. For most of them the only indicator available in the present set up to test students' understanding is exams, quizzes etc.

Can it lead to misconceptions?

Most of them agreed that there might be misconceptions (though not in a technical sense). Only one of them (T3) said that he has never noticed it, however partial understanding can take place but not contrary to what is being taught

in the class. According to T1, while teaching, he makes sure that everyone understands in his class. T6 preferred to call it a confusion (for a short period of time) rather than misconception. Two teachers tried to give reasons which could lead to misconceptions such as - teacher's lack of comprehension of the content, lack of attention paid to the limitation of each law (in science) which may lead to its extrapolation in different situations (where the law might not be applicable); unnecessary simplification (or dilution) of complex concepts. One of the teachers acknowledges that students make their understanding in a given context and they are comfortable with it which makes them resistant to change. However, all of them view construction and continuation of misconceptions as a short-term phenomenon, which is likely to cease once the students are able to understand or apply the same logic as the teacher does (i.e. somewhere leading to homogeneity).

How to deal with it?

Some of the ways/techniques adopted (or can be adopted) as suggested by the teachers were:

Repeated explanation;

Recapitulation of underlying concepts in content covered in previous classes;

Provide real life examples or practical use of concepts;

Unwinding their present learning by questioning

Giving day to day examples (analogies)

Solving lots of problems in the class

Giving references where problems are solved

Giving lots of application based questions so that students can check their logic while solving them.

Elaborate most things in the class (do not presume students would know certain things).

Show applicability of concepts in varied situations.

Clarifying or stressing the limitations of laws

Not diluting the complexity, rather giving them limited but right information. (For details, interested students can take the help of teacher).

Giving conceptual questions in quizzes

Whenever students ask doubts (if time permit), trying to get into a discussion to get an idea of their level of understanding.

Analysis

From interviews, we could ascertain that none of the teacher had come across any literature about alternative frameworks per say.

From the data few points, which can be clearly inferred, are:

The distortion of concept per se is not easily cognised by teachers. They only assume either incomplete or complete understanding of the concept - i.e. different levels of understanding of the concept among students rather than varied interpretation of the same.

Further, for teachers, teaching learning process seems to be subject centred rather than student oriented. The focus is much more on transferring concept to the students where they are expected to follow pre-determined set of logics

and thoughts. The underlying assumption is that student's mind is like clean slates where newer concepts (if explained effectively) can be understood exactly the same way. The capacity within a student to place same concept in their subjective context is not recognised by most teachers except for one. Thus, the teachers seem to be unaware to the process involved in concept formation in a student's mind. Hence, a student might have idiosyncratic construction is unimaginable by the teachers.

The teacher student ratio is extremely high, thus one to one or personal interaction with the students is not possible. In such a scenario the only workable method of feedback and evaluation are semester exams, quizzes, or the doubts/questions students ask. These help the teacher to know whether students have understood or not, in case the student has not understood or not performed up to the mark then the usual reason cited is lack of interest and motivation on the part of the student. The other approach teachers usually take up is that of explaining the concept again. This might prove useful in clarifying certain points; however it does not challenge (or create a state of disequilibrium in) the conceptual framework which has already shaped up in student's mind.

Also, the onus of clarification of any concept is completely put on students. It is assumed to be student's responsibility to take care of any conceptual problem arising in the subject matter and clarify with the teacher. Such an assumption implies that students have to or they can recognise/discover on their own when they have developed any misconception. Now the vital point, which is missed, is that students (or anyone else) are actually unaware of their misconceptions because their interpretation of concept fits their (personal) conceptual framework. Further, the high student teacher ratio and inflexible system act as structural barriers, which impede any effort to accept or understand the novel way in which a student might understand a concept. Thus misconceptions, far from being clarified, are generally not recognised by the teachers (in the same sense as done in literature).

Approaches/ techniques to deal with misconceptions seem to be varied and effective but they are only used for those students who come to teachers with their doubts or sometime those who have got very low grades.

Discussion and Conclusion

This research attempted firstly to locate misconceptions at tertiary level among a sample of master level students in Physics. Data quite evidently show that learners did carry misconceptions within the area of Newtonian Mechanics like-1) Force of a hit continues to act even after the two bodies leave contact; 2) Centrifugal force acts in an inertial frame of reference; and 3) In a uniform rotational motion direction of acceleration and velocity is same.

Simultaneously the other related aspect of research was to explore if university teachers are cognizant about students' alternate conceptions and this in turn is closely related to their conception about learning. Amongst the given participant teachers, notions of learning were varied and most of them seemed inclined towards constructivist ideas. In spite of the inclination, no evidence was found of their awareness about alternate conceptions. Most of them took it either as a temporary state of confusion or misunderstanding. Consequently, most of the strategies they suggested to deal with misconceptions did not aim towards conceptual change. More importantly, teachers made students responsible for locating and acknowledging their misconceptions, hence their (teachers) role in attending to alternate conceptions starts when student himself/herself comes to them with doubts. The most crucial point missed by them is that learners (or anyone else) have stable cognitive structures, which fit into each other coherently, thus they would remain unaware of their alternate conceptions until they get into a situation, which challenges their conceptions. Hence, it is imperative for teachers to explore how their students learn and conceptualise to make the whole process of teaching and learning more meaningful.

The implication of our research puts forth a huge and challenging task before teachers (keeping in mind the huge numbers we deal with in our classrooms) which involves peeping into every learner's mind, to unravel their preconceptions before teaching any concept. Further, while acknowledging these concepts, enabling learners to explore their own mental models and compare them with those of others and find if there are any inconsistencies and if so why. Thus, in the process, nurturing learners' metacognitive ability. To do so, teachers themselves need to reflect on their own epistemological beliefs about their subject (science in this case), teaching and learning. They need to understand the pluralism in the process of knowledge construction which is in consonance with the nature of science. Science is viewed as socially negotiated way of understanding the events and phenomena that comprise the experienced universe. Science cannot be thought of as a body of absolute, unchangeable truth rather tentative and

theory laden. This argument is supported by Kuhn's(1996) concept/model of paradigm shift where he says that the way reality (or science) is viewed in one paradigm will change as the paradigm shifts. Thus theories and laws (in science) are actually viable models which evolve through the process of consensus building and negotiation. As our experiences change so do the models. Thus what is essential is to build viable models in science, i.e. as coherent model of the experiential world as possible (Tobin & Tippins, 1993). In this regard alternate conceptions become very important as they may lead to paradigm shifts (Kuhn, 1996) through which science progresses. Thus, it is very important to locate them, acknowledge them and put them to debate so that a well-analysed clarity of the concept could be developed. Therefore, this area of research becomes all the more meaningful and relevant. Hence this study gives a very vital reason for 'why' there is a need for teachers to understand the mental world of their learners as well as their own; 'why' there is a need to make classroom processes student- centred rather than commonly practiced teacher -centred and for a teacher creating those learning environments that are in consonance with the learners' cognitive needs is one of the major challenge!

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EVALUATING THE FITNESS OF LECTURING WITH POWERPOINT PRESENTATIONS FOR ACCOUNTING EDUCATION- RESEARCH AT SAKARYA UNIVERSITY

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Abstract

In the study, it was aimed to evaluate the effectiveness of the lecturing via powerpoint presentations in accounting education. The questionnaire study prepared with this purpose was applied to the students at the Departments of Economics and Finance within the Faculty of Economics and Administrative Sciences and at the Departments of Business Administration and Tourism within the Faculty of Business Administration at Sakarya University. By means of the questionnaire applied, the traditional lecturing method and lecturing with PowerPoint presentations were comparatively evaluated in terms of efficiency and achievement factors. The results of the study were also evaluated according to students' departments, grades and genders. The questionnaire data was analyzed with Kruskal-Wallis Test, Independent Sample T test, Analysis of Variance (ANOVA) and Tukey test and as a result of the analyses, it was determined that there was a significant difference between the teaching methods and the grades students got in accounting education. Moreover it was determined that there is not a significant difference between the students' thoughts about Powerpoint presentations and traditional method in terms of their genders and class.

Keywords: Teaching methods, PowerPoint, Traditional Education, Accounting Education

1. Introduction and Literature Review

The developments in science and technology underlie active learning that occurred as a reaction to the traditional teaching method, in which a student is considered a simple receiver, under the influence of the changes and developments experienced in the world. Computer, an indispensable element of everyday life, has become a must in terms of the education & instruction system. In order for courses to be more efficient in auditory and visual senses and in order to achieve permanent, effective and fluent teaching, the computer technologies began to be utilized. The need to back up education & instruction with visual aids brought forward a lesson environment that was enriched with PowerPoint presentations in modern classrooms which had a technological infrastructure. PowerPoint presentations were brought to the classroom environment at every stage of education & instruction from the elementary education to graduate education and the lessons gained an interactive structure.

The rapid increase in information and in the number of students brought about some problems and the entry of new technologies that played an important role in the development of the education process and quality into the education institutions became inevitable (Akdağ & Tok, 2008). With the use of technological tools particularly such as Projector, PowerPoint, Video and the Internet in education in the recent years, visual education has become popular. A computer-aided presentation, defined as PowerPoint, is a method of display that supports lecturing (Suguhara & Boland, 2006). PowerPoint presentations are a dynamic communication tool in oral and visual senses and in terms of reading & writing. According to some studies made, individuals learn the conveyed information more effectively as a result of the supporting of information with visual elements besides lecturing (Levasseur & Sawyer, 2006).

Some studies on the efficiency of PowerPoint presentations in education reveal that students display a positive attitude towards the course which is lectured by means of PowerPoint presentations (Susskind, 2008; Susskind, 2005; Nouri & Shahid, 2005; Bartsch & Cobern, 2003; Szabo & Hastings, 2000; Lowry, 1999). In

addition, the studies which were carried out to determine the efficiency of PowerPoint presentations contain evidence of the fact that the PowerPoint presentations which have been prepared to be in order and comprehensive facilitate remembering the subjects (Wecker, 2012; James et al., 2006; Susskind, 2005; Şengün & Turan, 2004; Szabo & Hastings, 2000; Chanlin, 2000; Lowry, 1999), facilitate learning (Kahraman et al., 2011; Tang & Austin, 2009; Apperson et al., 2008; Susskind, 2005; Beets & Lobingier, 2001; Szabo & Hastings, 2000), make the relationships among concepts more comprehensible (Şengün & Turan, 2004), enhance motivation by making the lessons more interesting (Kahraman et al., 2011; Tang & Austin, 2009; Şengün & Turan, 2004; Szabo & Hastings, 2000), facilitate note taking by students in the lesson (James et al., 2006; Susskind, 2005) and enhance the achievement levels of students (Gürbüz et al., 2010; Akdağ & Tok, 2008).

On the other hand, some studies on the efficiency of PowerPoint presentations reveal that PowerPoint presentations do not create any difference in education as compared to the traditional techniques and that the presentations which have not been well-prepared even hinder learning (Kahraman et al., 2011). As a result of some studies, it was detected that there was no significant relationship at acceptable level between the course presentations performed with PowerPoint and the achievements of students in exams (Selimoğlu et al., 2009; Craig & Amernic, 2006; Susskind, 2005; Susskind, 2008; Szabo & Hastings, 2000; Harknett & Cobane, 1997). In some studies, however, it was expressed that PowerPoint presentations did not have any significant contribution to a student's development (Mantei, 2000) and that the bullets used in presentations even kept people away from thinking and made them learn by rote. Moreover, Butler & Mautz (1996) and Nouri and Shahid (2005) determined that PowerPoint presentations were influential on the short-term memory, but they had no impact on the long-term memory. In their research, Szabo & Hastings (2000) concluded that there was no difference in the exam results of the students in the classroom where the course was lectured with PowerPoint and in the classroom where the course was lectured on the blackboard.

Some studies made suggest that PowerPoint presentations are inadequate for effective teaching, but that the course presentations should be backed up by graphs, images and various animations (Gelişli, 2009; Savoy et al., 2009; Apperson et al., 2008). Bartsch & Cobern (2003) stated that the presentations containing animations, images and effects concerning the subject provided advantages by ensuring permanent learning of the things learned and that irrelevant sounds, interesting but irrelevant writings and irrelevant images provided disadvantages by reducing the comprehension capability. In their study, Selimoğlu et al. (2009) put forward that the courses lectured with presentations would enhance the achievement of students in the event that a favorable environment was provided and that the students had positive attitudes towards PowerPoint presentations. In his study, Kask (2000) highlighted the relationship of the success of lecturing with PowerPoint presentations with the physical conditions of classrooms, and with his research, he observed that a student's performance decreased by 50% in the courses lectured with PowerPoint in large classrooms like a lecture theater.

Some remarkable results occurred as a consequence of the studies performed to find out for which courses and subjects PowerPoint presentations were fit. As a result of their research, Savoy et al. (2009) determined that lecturing technique preferences varied by the expectations from the course. In the event that the course contained complex graphs, animations and figures, the students stated that lecturing with a PowerPoint presentation would provide advantages. On the other hand, it was revealed that the students preferred the traditional course method to PowerPoint presentations in the event that the course contained numerical information. As a result of their research, Şengün & Turan (2004) detected that there were considerable students' views on the fact that PowerPoint presentations would be more suitable for the field of physical geography within geographical subjects. With their research, Duman & Atar (2004) expressed that PowerPoint presentations enhanced the academic achievement of students and motivation with respect to the teaching of abstract subjects like climatology in the course of geography. Szabo & Hastings (2000) suggested that PowerPoint presentations were more beneficial in the teaching of specific subjects, but not in a course in general. Saguhara and Boland (2006) stressed that in the event that many subjects lectured orally were presented with visual and auditory means of media which were prepared with an accurate content, they had positive impacts on students, encouraged participation in the lesson and were positive in terms of students.

A limited number of studies have been made in order to detect the impact of the use of technology on accounting education and the results of these studies provide some clues for the impact of lecturing with

PowerPoint presentations on accounting education. In their study, Burke et al. (2009) examined the effect of the education provided with PPT in different courses on the understanding by students. In the research, the courses of accounting, law, economics, finance, management and informatics systems, and management and marketing were selected; it was examined how effective the courses lectured with PPT were in these selected courses; and it was concluded that the impact of lecturing the accounting courses with PPT was very small. In their study which they made by applying a questionnaire to 189 undergraduate students in Japan, Sugahara & Boland (2006) examined the academic performance of those students who received the accounting courses lectured with PowerPoint. As a result of the study, they concluded that the use of multimedia technologies in accounting courses had no effect on the academic achievements of students and even that the students were able to learn less. At the same time, in the study by Ijiri (1983), he concluded that the accounting courses lectured in a computer-oriented fashion put one off the idea of practicing by using pencil and paper and hindered their development in accounting. Ijiri (1983) considered the information technologies used thoughtlessly in the accounting classroom and insisted that computers could not replace a blackboard in accounting education as they drove students to laziness. In their research on the accounting students at Hiroshima Shudo University, Saguhara & Boland (2006) expressed that the presentation with PowerPoint in the accounting course had negative impacts on the students.

Besides the studies concerned which put forward that PowerPoint presentations were not fit in accounting education, there are also studies alleging that they were fit. In the studies by Apperson et al. (2008), Albrecht & Sach (2000) and Perry & Perry (1998), they concluded that lecturing the accounting course with multimedia presentations like PowerPoint enhanced students' interest in and motivation for the course. Nouri & Shahid (2005) explored the impacts of PowerPoint presentations on the students who received the accounting course in terms of attitude and memory. In the study, it was emphasized that properly designed presentations which were prepared with a well-arranged content would contribute to the course, enhance efficiency in note taking and facilitate the course and it was stated that PowerPoint presentations might have a positive effect on temporary memory but they had no impact on permanent memory. There are few studies which were carried out in Turkey with respect to the efficiency of PowerPoint presentations in accounting education. The results of these studies are summarized below.

To determine the views of university students about the effectiveness of accounting courses lectured both in the classical fashion and with PowerPoint presentations, Fidan (2012) applied a questionnaire to the students who studied at the Departments of Business Administration, Economics and Public Administration within the Faculty of Economics and Administrative Sciences at Bilecik University and who received the course of Accounting Procedures. According to the results of the questionnaires, it was detected that the students who were lectured in the classical fashion had more positive opinions about the course of accounting than the students who were lectured with PowerPoint in terms of perception and judgment. Furthermore, it was determined that for accounting courses, the students generally preferred the application of techniques in which technology and the classical method were used together. In their fieldwork in the Faculty of Economics and Administrative Sciences at Karadeniz Technical University in order to determine whether there were differences in achievement, interest, perception and judgment between the students who received the accounting courses with PowerPoint presentations and in the classical fashion, Çankaya & Dinç (2009) determined that the students who were lectured with PowerPoint presentations were more successful than the students who were lectured in the classical fashion in terms of academic performance. In addition, when an examination was made in terms of students' perception of the accounting courses, it was revealed that the students who were lectured with PowerPoint presentations found the course more attractive, more enjoyable and more relaxing and thought it became more beneficial, whereas the students who were lectured in the classical fashion found the course more monotonous, more boring and more tiresome than the other group. In her study, Hatunoğlu (2006) aimed to determine students' evaluations of the current situation of the accounting education provided at the university and of the level which it should reach in terms of course presentation. With the questionnaire prepared to this end, she intended to reveal the effects of the use of information technology in accounting education on the quality of presentations. The questionnaire study was applied to the students who studied at the Departments of Business Administration and Economics in the Faculty of Economics and Administrative Sciences and in the Faculty of Business Administration at 23 state and 7 foundation universities in Turkey. The majority of the students

(98.3%) stated that the use of tools of information technology in the presentation of accounting courses would facilitate the understanding of courses.

In this study, it was intended to determine students' perception of the use of PowerPoint presentations in accounting education and it was investigated whether the achievements of those who received the accounting course with PowerPoint presentations differed as compared to the achievements of those who received the course with the traditional lecturing method because despite the availability of many studies on the use of education technologies in education, there are very few studies that investigate the contribution of the use of technology in accounting education by the students studying accounting at the universities in Turkey to education. Nevertheless, it is necessary to explore the most efficient methods of allowing the student to comprehend the accounting course, one of the courses in which students have difficulty in comprehending in the field of social sciences, and to enhance efficiency in accounting education. In this study, it was aimed to determine whether the projection apparatus, which was considered an efficient instructional tool, could be used as a tool in making accounting courses efficient/in enhancing efficiency.

2. Research

a) Scope of the Research: The population of the research comprises the students at the Departments of Economics and Finance within the Faculty of Economics and Administrative Sciences and the students who studied at the Departments of Business Administration and Tourism within the Faculty of Business Administration at Sakarya University and received the courses of General Accounting, Cost Accounting and Accounting Procedures. The distribution and grades of the students who participated in the research by department are presented in Table 1.

Table 1: Distribution and Grades of the Students who participated in the Research by Department

Department/Grade	Freshman	Sophomore	Junior	Senior	Total
Economics	43	50	49	54	196
Finance	0	60	50	50	160
Tourism	70	56	60	0	186
Business Administration	62	63	115	56	296
Total	175	229	274	160	840

b) Hypotheses and Method of the Research: The research encompasses students' evaluations of the use of PowerPoint presentations and the traditional lecturing method in accounting courses. Nine hypotheses were developed depending on the purpose of the research. H_1: The grades for General Accounting vary by the type of being lectured. H_2: The grades for Accounting Procedures vary by the type of being lectured. H_3: The grades for Cost Accounting vary by the type of being lectured. H_4: The levels of preferences for using PowerPoint presentations vary by department. H_5: The preferences for using the traditional method vary by department. H_6: The preferences for using PowerPoint presentations vary by gender. H_7: The preferences for using PowerPoint presentations vary by class. H_8: The preferences for using the traditional method vary by gender. H_9: The preferences for using the traditional method vary by class.

c) Data Collection and Analysis: The data was collected by means of the questionnaire form developed by the researchers. The questionnaire form developed so as to collect the data consists of three parts. The first part includes questions containing demographic information on the gender, age, department and grade of the respondents. The second part contains 19 expressions in order to determine students' views on lecturing with PowerPoint presentations and 13 expressions in order to determine the views on the traditional lecturing method. These questions that constitute the second part of the questionnaire form were prepared in 5-point Likert type (1: Strongly Disagree; 2: Disagree; 3: Neither Agree Nor Disagree; 4: Agree; 5: Strongly Agree). In the third part, questions were posed with respect to whether the students received the courses of general accounting, accounting procedures and cost accounting with PowerPoint presentations, with a blackboard and through the use of a blackboard and PowerPoint presentations together. In this part, the achievement grades of the students from the courses of general accounting, accounting procedures and cost accounting were also asked. SPSS 17.0 statistical package program was used to evaluate the research data.

d) Testing the Hypotheses

H_1: **The grades for general accounting vary by the type of being lectured:** The Kruskal-Wallis Test was used to detect whether the letter grades that the students received from the course of general accounting varied by the type of being lectured. The test results are shown in Table 2. H_1 is accepted, for the statistical value of the Chi-Square test is 98.483 and sig=0.000<0.05. That is, there is a difference between the grades for general accounting in terms of letter grades. When the column of mean rank was considered, it was seen that the most successful groups were those lectured with a blackboard, those lectured with PowerPoint presentations and a blackboard together and those lectured with PowerPoint presentations, respectively.

Table 2: The Analysis Of Relation Between The Teaching Method And Students' Success In Basic Accounting Education

Lecturing Method	N	Mean Rank	Chi-Square	98.483
Use of PowerPoint presentations only	137	234.32	df	2
Use of the traditional method	431	462.82	Asymp. Sig.	.000
Use of PowerPoint presentations together with a blackboard	255	421.57		
Total	823			

H_2: **The grades for Accounting Procedures vary by the type of being lectured:** The Kruskal-Wallis Test was used to detect whether the letter grades that the students received from the course of accounting procedures varied by the type of being lectured. The test results are demonstrated in Table 3. H_2 is accepted because the statistical value of the Chi-Square test is 172.695 and sig=0.000<0.05. That is, there is a difference between the grades for accounting procedures in terms of letter grades. When we considered the column of mean rank, it was seen that the most successful groups were those lectured with a blackboard, those lectured with PowerPoint presentations and a blackboard together and those lectured with PowerPoint presentations, respectively.

Table 3: The Analysis Of Relation Between The Teaching Method And Students' Success In Inventory Balance Sheet Education

Lecturing Method	N	Mean Rank	Chi-Square	172.695

Use of PowerPoint presentations only	107	255.93	df	2
Use of the traditional method	396	559.62	Asymp. Sig.	.000
Use of PowerPoint presentations together with a blackboard	215	408.87		
Total	718			

H₃: The grades for cost accounting vary by the type of being lectured: The Kruskal-Wallis Test was used to detect whether the letter grades that the students received from the course of cost accounting varied by the type of being lectured. The test results are shown in Table 4. H_3 is accepted, for the statistical value of the Chi-Square test is 6.646 and sig=0.036<0.05. That is, there is a difference between the grades for cost accounting in terms of letter grades. When we considered the column of mean rank, it was seen that the most successful groups were those lectured with a blackboard, those lectured with PowerPoint presentations and a blackboard together and those lectured with PowerPoint presentations, respectively.

Table 4: The Analysis of Relation Between The Teaching Method And Students' Success In Cost Accounting Education

Lecturing Method	N	Mean Rank	Chi-Square	6.646
Use of PowerPoint presentations only	57	104.80	df	2
Use of the traditional method	109	134.25	Asymp. Sig.	.036
Use of PowerPoint presentations together with a blackboard	84	128.19		
Total	250			

H₄: The levels of preferences for using PowerPoint presentations vary by department: An Anova test will be made to test this hypothesis. Before the Anova test, it is necessary to perform the Levene's test to measure the homogeneity of the deviations. According to the result of the Levene's test statistic, the statistical value is 0.912 and the sig. value is 0.435. As sig=0.435>0.05, H_4 is accepted. Considering this, it might be stated that the variances are homogeneous. The fulfilment of the condition of equality of the variances indicates that the analysis can be carried on. The results of the Anova test regarding the preference for using PowerPoint presentations are shown in Table 8.

Table 8: The Analysis Of Students' Thoughts About Using Powerpoint Presentations In Accounting Education According To Their Departments

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16,918	3	5,639	5,457	.001
Within Groups	860,862	833	1,033		
Total	877,780	836			

When the data in the table is considered, the F score is 5,457. As sig=0.001<0.05, H_4 is accepted. This result proves that the preferences for using PowerPoint presentations vary by department. The Tukey's test was made so as to determine between which departments there was a difference and the test results are provided in Table 9.

According to the Tukey's test, it is seen that there is a difference in the preferences for using PowerPoint presentations between the Department of Finance and the Department of Business Administration. When the discrepancy between means is examined it can be said that the students who study Public Finance agree on the positive items more than the students who study Business Administration

Table 9: The Discriminant Analysis Of Students' Thoughts About Using Powerpoint Presentations In Accounting Education According To Their Departments

(I) Question 3 department	(J) Question 3 department	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Economics	Finance	-,19827	,10831	,260	-,4771	,0806
	Tourism	,00475	,10406	1,000	-,2631	,2726
	Business Administration	,19767	,09368	,151	-,0435	,4388
Finance	Economics	,19827	,10831	,260	-,0806	,4771
	Tourism	,20301	,10961	,250	-,0792	,4852
	Business Administration	,39593*	,09981	,000	,1390	,6529
Tourism	Economics	-,00475	,10406	1,000	-,2726	,2631
	Finance	-,20301	,10961	,250	-,4852	,0792
	Business Administration	,19292	,09518	,179	-,0521	,4379
Business Administration	Economics	-,19767	,09368	,151	-,4388	,0435
	Finance	-,39593*	,09981	,000	-,6529	-,1390
	Tourism	-,19292	,09518	,179	-,4379	,0521
*. The mean difference is significant at the level of 0.05.						

H_5: *The preferences for using the traditional method vary by department:* An Anova test will be made to test this hypothesis. Before the Anova test, it is necessary to perform the Levene's test to measure the homogeneity of the deviations. According to the result of the Levene's test statistic, the statistical value is 1,206 and the sig. value is 0.306. H_5 is rejected as sig=0.306>0.05. Considering this, it might be stated that the variances are equal. The fulfilment of the condition of equality of the variances indicates that the analysis can be carried on. The results of the Anova test regarding the preference for using the traditional method are

demonstrated in Table 11. When the data in the table is considered, H₅ is rejected because the F score is 1.1377 and sig=0.248>0.05. This result proves that the preferences for using the traditional method did not vary by department.

Table 11: The Analysis of Students' Thoughts About Treditional Teaching Method In Accounting Education According To Their Departments

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,455	3	1,152	1,377	,248
Within Groups	695,718	832	,836		
Total	699,173	835			

H₆: The preferences for using PowerPoint presentations vary by gender/ H₇: The preferences for using PowerPoint presentations vary by class/ H₈: The preferences for using the traditional method vary by gender/ H₉: The preferences for using the traditional method vary by class: The "independent t test" was used to detect whether the preferences for using PowerPoint presentations and the preferences for using the traditional method in accounting courses varied by gender, while an ANOVA test was used to determine whether they varied by class. The test results are given altogether in Tables 12 and 13.

Table 12: Independent Sample t test and Anova Analysis on the Preference for Using PowerPoint Presentations and Traditional Method

Hypotheses	F/t value	Sig.	Accept / Reject
H₆: The preferences for using PowerPoint presentations vary by gender.	-1.065 (t test)	0.287	REJECT
H₇: The preferences for using PowerPoint presentations vary by class.	1.576 (ANOVA)	0.179	REJECT
H₈: The preferences for using the traditional method vary by gender.	1.308 (t test)	0.191	REJECT
H₉: The preferences for using the traditional method vary by class.	1.003 (ANOVA)	0.405	REJECT

Lastly, the students' choices of Powerpoint presentations or traditional teaching method were compared in the study. Cronbach Alpha value was calculated in order to test the reliability of the items in the questionnaire which was about the students' preferences about powerpoint presentations or traditional teaching method used while lecturing. Cronbach Alpha value was found as 0,794. The result showed that the answers of the items were coherent. When the means of the items students answer is examined it is seen that students agree on the positive items about traditional teaching method more.

Table 14: The Results of The Mean And Standart Deviation Of The Students' Thoughts About Accounting Education According To Teaching Method

Item Statistics			
	Mean	Std. Deviation	N
S.6 A course presentation with PowerPoint provides a better comprehension of the subjects.	3,14	1,332	834
S.23 Lecturing the courses with traditional lecturing provides a better comprehension of the subjects.	3,58	1,160	834

S.7 A course presentation with PowerPoint enables the instructor and the student to communicate more effectively.	2,81	1,327	834
S.24 Lecturing the courses with traditional lecturing enables the instructor and the student to communicate more effectively.	3,66	1,187	834
S.9 A course presentation with PowerPoint provides active participation of the student in the course.	2,49	1,263	834
S.25 Lecturing the courses with traditional lecturing provides active participation of the student in the course.	3,62	1,135	834
S. 10 A course presentation with PowerPoint facilitates note taking by students.	3,12	1,347	834
S.26 Lecturing the courses with traditional lecturing facilitates note taking by students.	3,43	1,220	834
S11 A course presentation with PowerPoint increases the interest of the student in the course.	2,95	1,266	834
S.27 Lecturing the courses with traditional lecturing increases the interest of students in the course.	3,47	1,164	834
S.13 A course presentation with PowerPoint enables the student to consider different dimensions of a subject.	3,04	1,222	834
S.28 Lecturing the courses with traditional lecturing enables the student to consider different dimensions of a subject.	3,45	1,544	834
S.14 A course presentation with PowerPoint enables the subjects to be remembered easily.	3,12	1,255	834
S.29 Lecturing the courses with traditional lecturing enables the subjects to be remembered easily.	3,50	1,118	834
S.15 A course presentation with PowerPoint helps the student to form a relationship between the concepts.	3,18	1,231	834
S.30 Lecturing the courses with traditional lecturing helps the student form a relationship between the concepts.	3,47	1,128	834
S.16 A course presentation with PowerPoint enhances the quality of education.	3,24	1,239	834

S.31 Lecturing the courses with traditional lecturing enhances the quality of education.	3,35	1,137	834
S.17 A course presentation with PowerPoint facilitates learning.	3,22	1,333	834
S.32 Lecturing the courses with traditional lecturing facilitates learning.	3,41	1,123	834

3. Conslusion of Research

In this study, the aim is to evaluate the effectiveness of lecturing via powerpoint presentations in accounting education. Varieties of questions are asked to the students who got accounting education by means of a questionnaire prepared to evaluate this. It is tried to determine whether there is a significant difference between the success of the students lectured with Powerpoint presentations and traditional method by using this questionnaire. The results are also evaluated according to the students' departments, class and genders. These results below are reached after the analysis of the data.

According to the answers of the participants, it is seen that the students grades they took from accounting course within the study, differentiate depending on the teaching style. In the result of the study, the students who were taught via blackboard are the most successful. The students who were taught both with a blackboard and powerpoint presentations are less successful and the students who were taught with just powerpoint presentations are the less successful. This result shows that most of the students become more successful when they are taught with traditional method.

It is seen that there is a difference in the prefences of using powerpoint between Public Finance Department and Business Department. It is thought that the difference is because of the lecturers different teaching methods and different classroom environments in those departments.

It is seeen that the prefences of using tradional method don't differentiate according to departments,grades, and gender. Thus, it can be said that students point of view about tradional teaching method is the same regardless of departments grades and gender.

It is seen that the prefence of using powerpoint differentrate according to departments. However it doesn't differenciate according to grades and gender. Therefore, it can be said that students point of view about using powerpoint presentatioon is the same regardless of grade and gender.

As seen in the results of the study, there is no difference between the point of view of the students who learned accounting towards lecturing via powerpoint presentations or lecturing with a tradional method. However, it is seen that the students taught with a tradional method are more successful in accounting. It is thought that the difference is because of the lecturers different teaching methods and different classroom environments.

Accounting in university is called a difficult course for both lecturers in terms of teaching and the students who haven't learng anything about the course before.It is thought that the problems which emerge from the current teaching methods, can be solved via new technology. Moreover it is thought that it is possible to change the students attitude towards the course ,success and attendance ,thanks to new technology. Lecturers having information about teaching methods along with learning styles and using them while lecturing is benefical for the quality of education and increases the students success.

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EVALUATION OF AN E-LEARNING SCENARIO FOR BIOMEDICAL ENGINEERS

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Abstract

The new co-operative blended learning concept is being developed under leadership of the TU Dresden team with collaborative partners in Saxony. In the new e-learning system TheraGnosos - Biomedical Engineering, a new framework and feedback scenario have been developed. This has been compared with the previous version of e-learning software Labyrinthos - Medical Terminology, in which immediate feedback was implemented. 20 students studied for exam, using the old version, and 28 could use the new one. The average exam result in the first group was 2.26, and in the second group 1.72. In control exam in another subject, there was no significant improvement of score. The new developed feedback scenario might influence the learning effect, measured by exam score.

Keywords: e-learning, feedback scenario; biomedical engineering

Introduction

Rapid development of electronic media in last decade provides new opportunities in education of biomedical engineering specialists. E-learning offers are an important part of university and lifelong learning courses. They allow students to train individually without supervision. Essential for high quality e-learning offers are didactically well prepared e-learning content, opportunities to repeat and learn the new information in a sustainable manner as well as an attractive design and intuitive usability of the e-learning program. High quality scenarios might reduce learning time up to 30 % [1].

Reorganizing and structuring curricula due to Bologna process required concentrating of teaching stuff. This leads together with introducing of school leaving exam already in 12th class (one year earlier) to a situation in which the higher number of students has to be served with more comprehensive knowledge within relatively short time.

There is a long tradition of e-learning at the Institute of Biomedical Engineering on the Technische Universität Dresden since 2001. The first program "Labyrinthos" dealing with medical terminology was developed using authoring tool IDEA 3.24 [2] under Windows NT. It had a simple navigation and interactive exercises with immediate feedback. A few program components were developed later: Medical imaging and visualization tutorial, ventilation mechanics for students of medicine (in co-operation with the Clinic for Anesthesiology and Intensive Care in Dresden University of Technology) and bio-cryotechnology for mechanical engineers (in cooperation with the Faculty of Mechanical Engineering, Leibniz University in Hannover).

Within the current project "Interactive e-learning software in biomedical engineering for blended learning on universities in Saxony as a part of a cooperative internet-based masters program – Blended Learning BMT" we have developed an appropriate framework and e-learning scenario, respecting the various aspects for high quality e-learning offers. In addition to issues on navigation and user profile functions like favorites, learning track or

possibility to create custom notes on individual pages, we have dealt with feedback in exercises and tests to motivate students and to enhance the learning process.

Feedback scenarios can be sorted into the following categories: immediate and delayed feedback, and intrinsic and extrinsic feedback. In intrinsic feedback, user receives information about possible consequences of his answer. For example: What happens to patient, if the therapeutic device was not set appropriately. While using extrinsic feedback, user is only informed whether the answer is correct or not. Selection of an appropriate e-learning scenario plays an important role for motivating students.

E-learning software system TheraGnosos

System design

All the functions in an e-learning system have to be usable and accessible. To achieve this, we put the focus on usability from the beginning on. Using the creative technique named 'pen and paper method', the user interface design concept was developed. Especially for ensuring an optimized workflow, this method has proved, because it makes usability-tests possible in an early stage. It allows going through all user scenarios without programming a prototype. Furthermore part of the interactive e-learning software for example exercises are tested with another usability testing technique called 'thinking out loud'. Concluding the whole System is tested by questionnaire, so that perfecting the usability is still in process.

Our e-learning program framework consists of two layers: a basic matter layer of essential information, interactive exercises, tests and animations; and an extended learning layer, that includes text and tables for further reading (Figure 1). In order to support the individual user settings, a saving learning track and the evaluation of the software, we developed our own user management system using PHP and MySQL. Individual user accounts allow detailed user tracking enabling evaluation of e-learning components. Furthermore, the students may use feedback form to communicate their impressions on the e-learning system.

The e-learning framework has been developed using the authoring tool IDEA for an interactive content creation based on HTML/JavaScript [3]. This Integrated Development Environment (IDE) allows building event driven pages with interactive exercises with an automated feedback. The content is structured in XML metadata files and can be exported into the SCORM-compliant format. The IDEA environment has been selected due to extended positive experience and solid individual user support from the IDE provider. It allows producing complex interactive content with rather low initial developer training. In comparison to standard learning management systems [4], our framework developed using IDEA allows higher variety of exercises and their layout. Using the IDE is a trade-off between WYSIWYG editors with only a low range of functions and complex IDEs like Adobe/Macromedia or Click2Learn Toolbook [5, 6]. The development times are comparable with the state of the art [7].

Fig. 1. Design of the e-learning system TheraGnosos (completed exercise with free text and pull-down choice)

With the reference to figure 1, the user interface consists of the main field with e-learning content, which includes mandatory part with learning stuff and optionally a second page with additional information. The navigation zone in the left part enables the user to jump directly on a desired page, check the own learning track and save favourite pages. The glossary, references and lists of symbols and abbreviations can be opened using corresponding tabs in the right edge of the e-learning content field. They appear as a sub-window within the e-learning content field. User might set the status for each chapter, so that she/he can see her/his overall learning progress.

Modules of the e-learning software
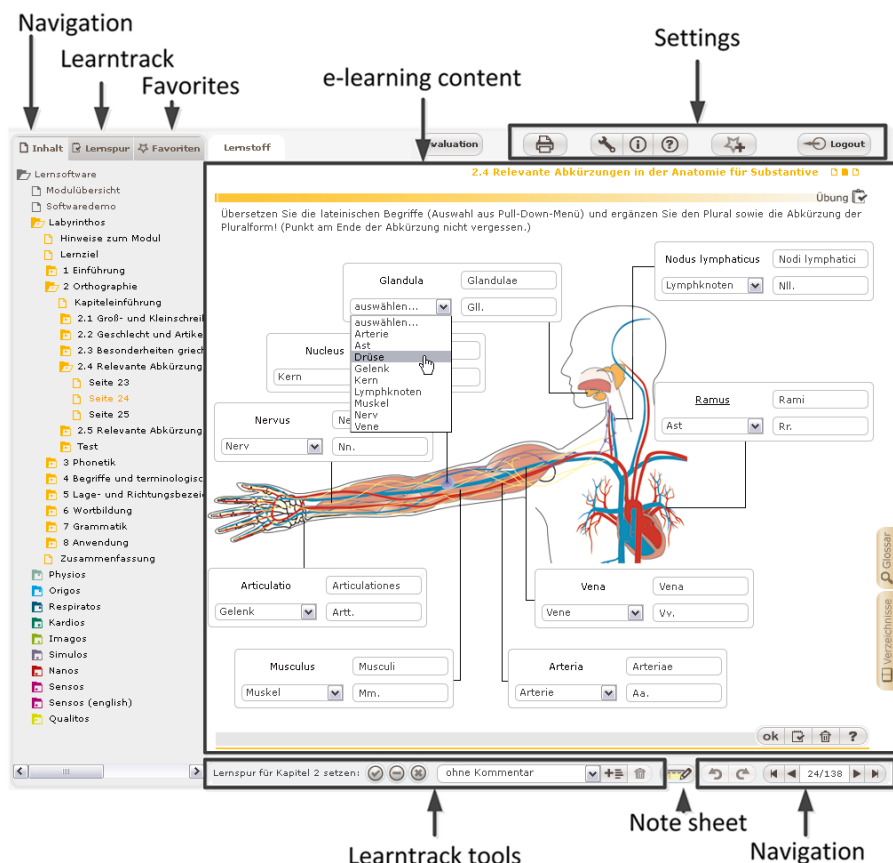
Ten modules of the e-learning software TheraGnosos are being developed:

- Biomedical Engineering - Overview (Origos)
- Anatomy and Physiology (Physios)
- Pulmonary diagnostics and mechanical ventilation (Respiratos)
- ECG and pacemaker (Kardios)
- Imaging and Visualization (Imagos)
- Modeling and Simulation (Simulos)
- Cellular transport and Nanotechnology (Nanos)
- Biosensors and biohybrid technology (Sensos)
- Quality assurance (Qualitos).
- The course "Medical Terminology" (Labyrinthos) was implemented as a prototype module.

Previous feedback scenario

In the first version of Labyrinthos theoretical content and exercises were separated. The most theoretical content was trained only once in exercises, no intentional didactical repetition was provided. If you left the exercise, it was reset. There was an immediate extrinsic feedback implemented, which means each answer in an exercise was evaluated immediately and "right" / "false" indicator was displayed. Referring to figure 2, the student had to drag greek prefixes on their latin equivalents. Immediately after dropping the panel with greek prefix, the panel either disappeared, and correct answer was indicated, or false answer was indicated and the panel flied back to its original position. Student could finish the exercise using trial&error method and was not motivated to think over his/her answers seriously. Thereby, the information of the choice of the right answer will only be stored in the short-term memory. We hypothesise, that the learning effect is quite low in such a case.

Moreover, the student got only the information false or right. While dealing with exercises to fill in single words or to check multiple choice boxes, the student got no hint for the right solution. It was only possible to try

on until getting the right answer feedback. So the student is lost in trying and will soon be demotivated.

Fig. 2. Exercise in previous version with continuous immediate feedback: while putting a box to a false place (mouse pointer) the feedback text "Das ist leider falsch!" (That is unfortunately wrong!) appears at the display.

In the System TheraGnosos, most exercises from the previous version of Labyrinthos were implemented. The exercises are integrated into the theory. The functions of the exercises can be: activate attention, motivate, reactivate existing knowledge, repeat and train new stuff. The new information is directly repeated and trained in multiple exercises in which the learning content is combined in different ways. That will lead to a real learning situation with storing the new information into the medium-term and long-term memory. The main types of exercises include: Multiple-Choice Questions, Single-Choice Questions (Button, Pull-down-Choice), Drag & Drop exercises, Free-Text writing, and the combinations thereof. The new feedback scenario was adopted: Users have to complete the exercise first. After finishing, they press the OK button to evaluate the exercise. The right answers are highlighted with a green border, false answers with a red border and a green point (cheat sheet). Referring to figure 3, the user drags the panels with latine and greek words to corresponding German labels and elements in the picture. After pressing OK button, the user gets the right and false answers. Nevertheless, she/he does not see the correct solution of false answered questions immediately. The user can decide if she/he want to retry another answer or to press the green point (cheat sheet) in order to display the correct solution of particular question only. It is also possible to display the correct solution of the whole exercise or to reset the exercise completely. When leaving the page, the individual working state is saved. This enables the user to search the right answer in the theory or to look later again at her/his results in that exercise. Additionally, writing individual remarks at the note sheets, or adding comments to the learning track can support the learning process. All these aspects together provide a higher level of flexibility in the learning process, so that different learning types are considered.

Fig. 3. New e-learning scenario with delayed extrinsic feedback: a Drag & Drop exercise after pressing button "ok", right
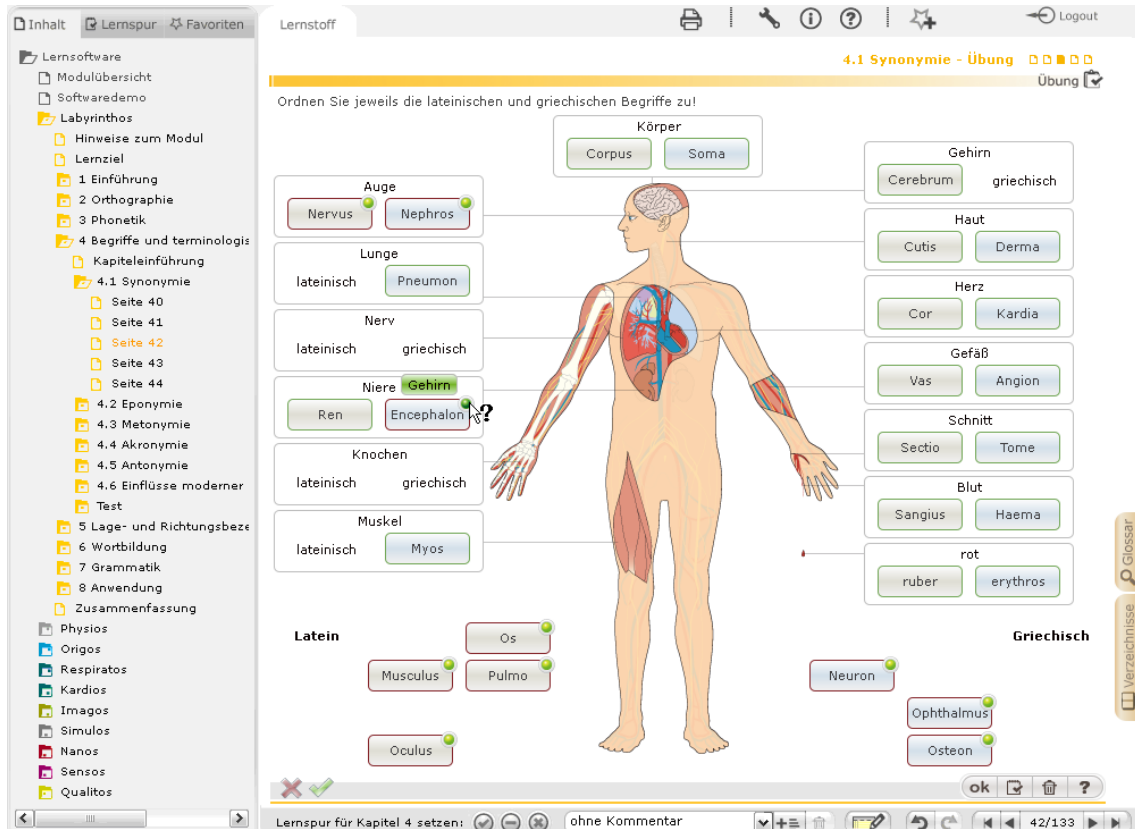
answers: green border, false answers: red border, green point (cheat sheet): click to see the right answer in a full colored green box

Evaluation procedure and results

There were 48 students of specialization biomedical engineering envolved into the evaluation. 20 students in the first group (2011) used the previous version of e-learning software Labyrinthos for exam preparation. The second group used the new system TheraGnosos with the innovated e-learning scenario described in section 2.4. Both groups absolved a 60 minutes written exam. The exam on Medical Terminology included multiple choice questions and open questions. , The students who used the new system achieved better score than the students using the old version of the system. To eliminate possible error caused by selection of more skilled students for the second group and less skilled in the first one, we have compared exam results in one control subject (basics of electrical engineering) for the same students. There was no score improvement in this exam, see table 1.

Table 1. Exam results in Medical Terminology and for comparison in basics of electrical engineering for the same students.

Exam	2011 (N = 20)	2012 (N = 28)
Medical Terminology	2.26±0.90	1.72±0.37
Basics of Electrical Engineering (verification exam)	2.34±0.87	2.61±0.80

Users had to fill in a questionnaire containing 39 questions on usability, functionality, content and their subjective impression of the e-learning system. Summary of evaluation of the pilot module Medical Terminology – Labyrinthos is provided in table 2. The most interesting subjective impression of users was the following: "I do not need to study especially for the exam, if I use this e-learning software for pre-exam training."

Table 2. Evaluation and assessment of the e-learning module Medical Terminology by pilot participants.

Exam	Value	Min .. Max
Average netto learning time	11.5 h	5.5 – 19.5 h
Content comprehensibility	2.2	2 – very good … 4 – bad
Simulations	2.3	2 – very good … 4 – fair
Level of interactive exercises	2.8	2 – too easy … 3 – adequate … 4 – too complicated
Number of interactive exercises	3.1	2 – too high … 3 – adequate … 4 – too low
Level of tests	2.8	2 – too easy … 3 – adequate … 4 – too complicated
Navigation in e-learning Software	2.5	2 – very good … 4 - fair

Discussion and conclusion

The findings of this study provided information how the innovated e-learning scenario influences learning effect of an e-learning system. Higher variability of exercises, repeating the same stuff in different situations, enhanced navigation, user specific functions, as well as the selective delayed extrinsic feedback lead to improving the exam score in the studied course. As there was no score improvement in control exam in another course, we assume, the results were not influenced by selection effect and both group consisted of comparable skilled students.

Even in such a specific field like Biomedical Engineering, it is possible and desirable to use e-learning, especially because of improved learning effect and efficient work of tutoring personal. Further development of presented e-learning scenarios as well as designing intrinsic scenarios is intended. This should be preferred, however, even changing the feedback timing and selectivity might substantially contribute to better learner performance.

The developed scenario has proved its worth. The prototype was tested successfully. Further modules are being implemented according to the designed scenario. Our experience confirms that complementary e-learning offers to face-to-face teaching attract students for independent study and contributes to better understanding of the subject matter.

Acknowledgements

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EVALUATION OF SECONDARY EDUCATION PROGRAMS IN THE CONTEXT OF SOCIAL FOUNDATIONS

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Abstract

A program should act based on the reality of the society which it is formed for. It is impossible for a program to be successful unless it leads the social changes, make its citizens be social individuals and provide the society with the equality of educational opportunity. Within this study, it was aimed at evaluating secondary education programs in accordance with the thoughts of the teachers about the level of the importance of socialising, social changes and the equality of educational opportunity which are the social bases of the program as well as their views about the realization level of these elements in the current programs. This research covered 175 teachers working in 13 secondary schools. A measurement tool developed by the researchers themselves was used for collecting data. As a result of the findings from the analysis, it was found that teachers regard programs enabling the equality of educational opportunity, social changes and socializing as significant. In the research, it was identified that teachers thought these social bases weren't realized adequately. As a result, it can be said that social bases of programs are very important, however, there are some problems in their applications.

Key words: *Socializing, equality of educational opportunity, social changes, program*

1. Introduction

Programs have social bases as well as their philosophical, psychological and economic bases. A program should act based on the reality of the society which it is formed for. The idea of approaching a program not just considering it as a matter of education but by understanding its place in the society is based on Durkheim (Young, 1999). Durkheim (cited by Doğan, 2010) mentions that education is the effects of physical and social surroundings on humans. Moreover, Durkheim takes education as a social event. According to him, every society conditions education system as a setting. Every education system responds to the needs of the society and it is the expression of the society. In addition, society is the purpose and aim of the education system. Society is one of the causes that identifies the structure of an education system.

According to Young (1999), who has some significant views on the importance of the social bases of a program, program is a way to question how learning and knowledge is related especially with educational aims and the idea of educating people as social. In addition, Olivia (2009) states that in the process of the development of education programs, some necessities of the society such as politic, social, economic, educational, environmental, health and defense should be considered.

On the other hand, Carl draws attention to the bases of programs with the question "What is a program?''. According to him, program was used as a constricted and special tool in order to cover topics and content taught in schools. Later this definition was broadened to include educational aims, teaching methods, procedures and classroom organizations. Although these definitions made program and school experiences be better understood, they made people ignore and hide the significant politic and social role that programs take in cultural, politic social and practical relationships of the society. Last attempts draw attention to ''reconstruction theory'' in order to understand in what ways programs affect existing economic, cultural and politic examples of the society. An

American philosopher Walter Feinberg (1983, s:155;cited by:Carr,1998) underlines this point in his book titled "understanding education" as:

''Talking about education as a social constitution is to realize the continuation of a social identity for generations and the prior role to last the permanence of generations. In this context, education has two functions. The first function is the constitution of the abilities in response to social necessities. The second one is the reconstruction of the understanding and consciousness providing a basis of the social life. At the most basic level, works on education contain analysis of the process. In the course of time, a society reconstructs itself so that it can stay as the generation belonging to the society that is the same as the former and next ones.'' (cited by: Carr, 1998)

As it can be seen above, program is accepted as a ''social event'' and a close relationship is established between the society and the program. We can evaluate program in the context of social bases under three main titles:

- Socializing and program
- Social change and program
- Equality of educational opportunity and program

1.1.Socializing and program

Socializing is the adjustment of an individiual to his society, being integrated or identified with the society. (Celkan,1996). Socializing can be defined as adopting the cultural traits of the society the individual lives in. Passing on cultural values is one of the basic functions of education systems in every society. Every society wants its citizens to acquire the culture it owns through education. In this sense, the duty of education is to provide social integrity and continuity by making new generations get the culture of the society. Materialistic and spiritual cultural elements, values, beliefs and norms of a society can be transfered to new generations by means of programs (Demirel, 2004). Through programs, an individual learns how to establish relationships with other individuals in his own society, how to behave within the society and the expectations of the society from him (Eskicumalı, 2002).

1.2.Social problems- change and program

Social change can be defined as, 'change in social structure, social network constituting it and social institutions that determine these relations (Tezcan, 1994). Social change is the sum of changes that occur in social and cultural structure, social relationships, social institutions and integration, conflict and balance of the society.

The power of programs in social change has been argued for a long time. On the other hand, social bases have become more important nowadays. According to Ornstein and Hunkins (1988), another reason why social bases are so significant in the works of program is that society has never changed in every aspect so fast. Today, society is changing very fast and there are some difficulties in dealing with these changes, adapting these changes to the modern day and preparing them for the future. Unfortunately, in the process of this social change, programs lag behind this change.

Ornstein and Hunkins (2004) mention that some factors such as knowledge explosion, increase in the diversity of philosophical views which are related with the nature of knowledge, some changes in the behaviours of teachers and students, changes in attitudes and values, increase in the demands of some social segments, changes in the nature of workforce, changes in the quality of work life and obsolescence of the products affect changes in educational process tangibly and cause basic elements of education programs not to be determined in an exact and static way.

According to Alvin Toffler (1996), societies that have changed from primitive societies into agriculture, industry and lastly, knowledge society have entered the ''future shock'' process. In this process of change, education systems, relatedly programs take huge responsibilities to make people overcome this shock.

Reymond Williams supports in his impressive book called ''Long Revolution'' that we live in the middle of an era of social change that started in the second half of the 18th century and is still going on at full steam. According to him, we all see a long revolution throughout. This is a real revolution that changes the shape of the institutions, widening and deepening with the acts of millions of people, opposed constantly and distinctly under the effects of accustomed ideas, patterns and a certain reaction (cited by:Carr, 1998). Williams advocates that this long revolution has changed our politic, economic amd cultural life experiences considerably.

Briefly, humanity is in the process of social change. In this process, programs should be the pioneer of social changes. Moreover, how social changes will affect programs should be taken into consideration.

1.3.Equality of educational opportunity

Equality of educational opportunity is to have opportunity of benefitting from education existing in a society in accordance with every person's own attention, demands and abilities. According to this dimension, nobody can be deprived of the right of education. Tezcan (1981) explains the types of equality of opportunity as providing everyone with equal education, entitling every individual to minimum right of education in a certain level, making people have educational opportunity that enables every individual to make the most of his own ability and potential and allocating economic sources to education at maximum level.

Providing equality of educational opportunity is under the responsibility of states, accordingly programs. In modern and democratic socities, education is considered as a basic right, however, equality of opportunity keeps on being one of the most important problems of the whole world.

As a result, in the process of development of education programs, especially while determining aims, dimensions related with social reality (social need, expectation, change, etc) besides philosophical, economic, psychological bases should also be taken into consideration since an education program reflects a society and helps the society to be formed. A program can't be away from society or social structure (Büyükkaragöz, 1998; Demirel, 2004; Ertürk, 1997). Secondary school is the period when individuals start to be involved in social life actively. At this level, programs should provide equality of educational opportunity, make individuals socialize and consider psychological traits of individuals as well as social reality. This research was also done with the aim of evaluation of secondary education programs in the context of social foundations.

2.The Aim of the Research

The aim of this research is to evaluate secondary education programs in the context of social foundations. In accordance with this general aim, it was tried to ascertain teachers' thoughts about the importance and realization level of ''socialism'', ''social change'' and ''equality of educational opportunity'' which are components of social bases affecting programs.

3.Method and Application

3.1.Sampling

The research covered 13 secondary schools that can be defined as upper, lower and mid and 175 teachers working in these schools which are located in the centre of Şehitkamil district of Gaziantep province. Data of the teachers taking place in the sampling can be seen in the table above.

Table 1 Frequency and Percentage Levels Related with Sampling

		f	%
	Women	59	33,7
Gender	Men	116	66,3
	Total	175	100
	1-5 year	14	8,0
Work experience	6-10 year	34	19,4
	11-15 year	71	40,6
	15 and more	56	32,0
	Total	175	100,0

3.2. Data Collecting Tool

A data collecting tool, which was developed by the researchers, has been used to gather data. In that process, an item pool related to the social basis of the program has been formed. Content validity has been meant to be provided by presenting these items to lecturers in educational sciences with the viewpoint of experts. They are also presented to lecturers in Turkish Teaching Department to determine the level of suitability and comprehension in terms of language. After this process, it is determined that 32 items must take place in evaluation scheme. It has been designed as a two-dimensional measurement tool.

Table 2 Sample items of evaluation device

Please notify the level of importance of the propositions related to the social basis below for you		Please notify the level of actuation of the social basis of programs

(5) very important	(4) important	(3) Partly important	(2) unimportant	(1) not important at all	Programs should	(5) highly sufficient	(4) sufficient	(3) average	(2) insufficient	(1) not sufficient at all
					provide individuals to adopt the culture of the society					
					develop students in the way of their abilities					
					prepare students for social change					

On the left hand side of the tool, the level of importance of propositions is shown, and on the right hand side of it, the level of actuation of these propositions with existing applications is shown.

After these processes, the measurement tool has been applied to the sample group. Exploratory Factor Analysis (EFA) is applied in order to determine the validity of the data collecting tool. As a result of the analysis, it is found that the value of Kaiser-Meyer-Oklin's test (KMO) is 0,93 and the one of Barlett Sphericity test is 2525,581 ($p<.001$, df=231). It is also specified that the anti-image value of the device ranges from, 846 to, 931.according to these findings, it can be uttered that data is appropriate to the factor analysis.

After it is determined that data is appropriate to the factor analysis, 32 devices are studied to see the number of maximum factors by using straight-line method and it is confirmed that devices concentrate on five (5) factors. However, in the process of developing the measurement tool, the results of rotation factor analysis and principal components technique are limited to three (3) factors as it is intended to reach a three-factor (3) structure. As a result of this process, a three-factor structure, which explains 63,125 % of the total variation, is reached. In the measurement tool, six (6) of the devices are eliminated since two of which have similar load value and four (4) of which are not supported hypothetically to the factors they exist. After these processes, there remains 22 factors total in three factors. The first factor is 'socializing', the second one is 'social change and issues', and the third factor is 'equality in educational chance and opportunities'. There remain 7 devices total in the first factor. In the second one, there remains 8 devices total, and in the third factor, there remains 7 devices total. The load of device factors varies as ,536-,815 for the first factor; ,457-,776 for the second one, and ,665-,801 for the third one. The common item variation of the items in the measurement tool ranges from ,470 to ,742. Correlation of the items is meaningful, and it varies between ,436 and ,644.Pearson product-moment correlation coefficient has been calculated in order to determine the relation among factors in the measurement tool. Data gathered here is presented in Table 3

Table 3 Correlation values among factors

	Socializing	Equ.in edu.	Soc.chang	General

	Opp.	e	
Socializing	1	,668**	,715**	,873**
Equality in educational opportunities and chances	,668**	1	,768**	,899**
Social change and importance	,715**	,768**	1	,928**
General	,873**	,899**	,928**	1

As it can be seen in Table 3, there is a positively and statistically meaningful relation among factors (subscales). The highest correlation is between 'Equality in educational opportunities and chances' and 'Social change'. This finding supports the structure validity and it demonstrates that dimensions in the measurement form a meaningful unity with one another. After the processes above, the reliability co-efficient of the measurement is calculated.

Table 4 The reliability co-efficient of the measurement

Dimensions	Internal Consistency (Cronbach Alpha)	Splitting the test half (Split Half)
Socializing	,86	,77
Social change	,90	,84
Equality in educational opportunities and chances	,91	,84
General	,87	,83

The findings in the table demonstrate the measurement tool is sufficiently reliable. According to the findings above, it can be uttered that the measurement tool is sufficiently valid and reliable.

3.3. Data Analysis

Data gathered via the measurement tool has been analyzed in the program SPSS 17.00. Means and standard deviations of each item in the subscales have been calculated. For interpretation of the arithmetic mean, interpretations below have been used.

Table 5 Values used for the interpretation of means

Score interval	Graduation (level of importance) →	Interpretation ←	Graduation - (actuation)

1.00 - 1.80	Not important at all	Very low	Not sufficient at all
1.81 - 2.60	Unimportant	Low	Insufficient
2.61 - 3.40	Partly important	Average	Partly sufficient
3.41 - 4.20	Important	High	Sufficient
4.21 - 5.00	Very important	Very high	Very sufficient

4. Findings

In the research, it is firstly searched for the viewpoints of teachers about the importance of socializing, which is one of the social basis of programs, and the level of actuation of this dimension in existing programs. The findings gathered here is below.

Table 6 the importance of socializing and values related to the levels of its actuation

Items	Importance			Actuation		
	m	S.D.	Interpretation	m	S.D.	Interpretation
-providing the individual to adopt the culture of the society.	4,47	,741	V. important	2,98	,887	Partly
-being based on the realities of the society	4,39	,726	V. important	2,72	,868	Partly
-enabling the values of the society (patriotism, etc) for individuals.	4,48	,822	V. important	2,88	,929	Partly
-making an effort to educate students as individuals adapted to their environment.	4,50	,685	V. important	2,68	,851	Partly
-aiming the student development on social and cultural issues with students' own traditions.	4,33	,747	V. important	2,76	,882	Partly
-giving students the chance of having good relationships with themselves and their environment	4,42	,775	V. important	2,65	,849	Partly
-considering our history as a functional tool to plan the future.	4,25	,869	V. important	2,79	,942	Partly
General	4,41	,574	V. important	2,78	,620	Partly

   When the findings in Table 6 are analyzed, it is seen that teachers think it is *very important* for a program to enable students to adopt the culture of the society, to be based on the realities of it, to enable the values of the society for individuals, to aim the social development with students' own traditions, and to make an effort to educate students as individuals adapted to their environment. In the same table, it is seen that teachers think necessities related to the actuation of the programs in terms of socializing are *partly-average leve*l in existing programs.As a result, it is seen that actuation does not occur in existing applications and programs do not manage to provide socialization although they are considered to be very important in terms of providing socialization.

   In the research, it is also searched for teachers' viewpoints related to actuation and social change, which is in the basis of programs. The findings are presented in Table 7.

Table 7 Values of the importance of social change and level of actuation

	Importance			Actuation		
	m	SD	Interpretation	m	SD	Interpretation
-preparing students for social change	4,34	,814	V.Important	2,69	,887	Partly
-meeting the demands of changing conditions and necessities of social life	4,42	,722	V.Important	2,65	,958	Partly
-including the issues the society cares about	4,22	,738	V. Important	2,61	,882	Partly
-educating the individuals the society needs	4,42	,790	V. Important	2,56	,893	Insufficient
-pioneering the social novelty	4,38	,770	V. Important	2,56	,979	Insufficient
-meeting the demands of the society	4,35	,809	V. Important	2,56	,887	Insufficient
-paying attention to social issues	4,43	,715	V. Important	2,49	,981	Insufficient
-preparing students for the complex problems in life	4,32	,772	V. Important	2,48	,889	Insufficient
General	4,36	,601	V. Important	2,58	,73	Insufficient

In Table 7, it is seen that teachers consider programs as very important in terms of paying attention to social issues, meeting the demands of changing conditions and necessities of social life, pioneering the social novelty, meeting the demands of the society, preparing students for social change, including the issues of the society. However, it is seen that existing programs provides social change poorly when findings are analyzed related to the provision of social change despite its value.

As a result, it can be uttered that teachers consider programs as very important, but they think social change is insufficient in existing conditions.

Finally, in the research, it is searched how important the equality in educational opportunities and chances is and how much it actualize in the existing conditions. The findings gathered are displayed in Table 8.

Table 8 Values related to the importance of equality in educational opportunities and chances and the level of actuation

Items	Importance			Actuation		
	m	SD	Interpretation	m	SD	Interpretation
-paying attention to the problems of disabled and blue ribbon students	4,48	,709	V.Important	2,41	,978	Insufficient
-contribution to the reduction of social and economic inequality	4,37	,873	V.Important	2,52	1,03	Insufficient
-foreseeing the equality in educational opportunities and chances	4,49	,757	V.Important	2,56	1,00	Insufficient
-preparing teaching opportunities for everyone under equal conditions	4,50	,733	V.Important	2,57	,990	Insufficient
-unauthorization to religious, ethnic and political differences	4,62	,673	V.Important	2,71	1,04	Partly
-considering the individual privacy, which is accepted as the bill of rights	4,54	,700	V.Important	2,73	,966	Partly
-improving students in the way of their abilities	4,61	,659	V.Important	2,38	1,00	Insufficient
General	4,51	,596	V.Important	2,55	,780	Insufficient

In the table, when the findings about the importance of programs in terms of equality in educational opportunities and chances are studied, it is specified that teachers give importance to the program's paying attention to the problems of disabled and blue ribbon students, contribution to the reduction of social and economic inequality, preparing teaching opportunities for everyone under equal conditions, unauthorization of discrimination, considering the individual privacy, and improving students in the way of their abilities. In this factor, like other factors, the equality in educational opportunities and chances is important. Yet, it is insufficient in existing applications.

For teachers, the level of importance and actuation of socializing, social change, and equality in educational opportunities and chances, which are the social basis of the program, can be observed in the bar chart below.

Graph 1 the importance of the social basis of the program and its levels of actuation

As it can be seen from the graph, teachers consider programs as very important for socializing, social change and equality in educational opportunities and chances; however, these bases are not sufficiently achieved in existing applications.

5. Discussion

This study is carried out in order to evaluate the secondary education programs in terms of social basis. In this study, it is aimed to determine how important it is for programs to provide socialization, social change, and equality in educational opportunities and chances, and in which levels it actualizes in existing conditions.

It is seen that, although teachers working in secondary education think that it is very important for programs to actualize socializing, they think that it is partly actualized with existing applications. When the problems in Turkish secondary education institutions are considered, the importance of the issue is understood better.

It is stated by some pedagogues that problems arise since the educational system and the cultural structure of the society do not match. As a result of this, according to Yahya Kemal Kaya, , the educated, whose origins are in society, try to blame it by judging 'This society will never get better', which is the fault of alienation from the society. The community is narrow-minded for them. It is possible to see this clash between the intellectuals and the community in the famous novel called "Yaban" by Yakup Kadri Karaosmanoğlu. Likewise, in his study called "Kültür değişmeleri", Mümtaz Turhan empirically depicts a secondary school teacher who collaborates with the values of the society and how successful s/he becomes and the one who does not and how unsuccessful s/he becomes.

In addition to this, Ziya Gökalp is a good example related to the topic with his observation he made many years ago. According to him, 'There is a specific situation for Turkey, which makes it different from other countries. In other countries, the people of good character and ethics are the ones who have studied further. However, in Turkey, the ones who harm the nation are the ones who have studied further. From this statement, it can be concluded that schools in Turkey corrupt the people whom they educate.'

As it is understood from this example, the inability of education to provide socialization causes many problems. One way to overcome these problems is that cultural technicians should analyze the culture and include some options from the central culture in the program.

In the existing system, it cannot be uttered that high schools are good at that as they digress their main mission, which is to enable academic information, and they are in the pursuit of being successful in university entrance exams. Besides, it is doubtful whether vocational high schools fully accomplish their goals. It is true that all the high schools, regardless of which, are not able to fulfill their duties in terms of making the students sociable.

One of the most important functions of programs is to pioneer the social change. Another conclusion from the study is that teachers point out it is insufficient in practice although they think it is important for programs to

pioneer the social change. In Turkish society, knowing the problems detected can make it possible and necessary to raise manpower, which can solve them. For instance, the existing conditions, and their reasons for problems in Turkey such as migration, diseases, strikes, lockouts, divorce, vendetta, terrorism,etc, and the results of these ones should be analyzed and a solution to them should be found and applied. It is the man to carry out these studies, to find a way of solution and suggest them and apply them. Thus, the system of education is supposed to raise these people in quantity and quality. Therefore, the system of education should determine targets related to the solution of its problems, content, education and evaluation. If it does not do it, it can cause the social system to destruct as well as itself.

In the study, programs have also been evaluated in terms of equality in educational opportunities and chances. Concerning this dimension, it is concluded that teachers think it is very important for programs to provide equality in educational opportunities and chances, but it is insufficient in application.

6. Conclusion and Proposals

As a result of this study, it is understood that programs are very important in terms of i) providing socialization, ii) pioneering the social change and iii) providing equality in educational opportunities and chances. It is fundamental for sharers affected directly or indirectly in preparation of programs to give importance to this issue. Every system has to collaborate with the realities of the society for which it is designed. Otherwise, the system, which is not based on that reality or collaborate with it, will probably have to perish. In short, ignoring the living conditions of the society, and socio-economic situation, and social dynamics largely affects the actuation of programs.

In this study, the importance of social basis of programs and levels of their actuation has been analyzed. Yet, factors affecting the actuation have not been studied. In other studies related to this one, it can be studied what factors affect the actuation of the social basis. That study can be carried out in a larger scale.

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EXAMINING PREDICTIVE ROLE OF PSYCHOLOGICAL NEED SATISFACTION ON HAPPINESS IN TERMS OF SELF-DETERMINATION THEORY

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Abstract

This examination aimed to examine relationships between happiness and psychological need satisfaction and investigated whether psychological need satisfaction significantly predicts happiness. Participants were 192 Sakarya University students, between 17-45 age ranges (54.7% female, 44.3% male). Needs Satisfaction Scale and Oxford Happiness Questionnaire were used as measurement instruments. Multiple regression analysis indicated that happiness is significantly predicted by psychological need satisfaction among university students. Need for competence is the best predictor of happiness and need for autonomy and need for relatedness follow it, respectively. Findings show that predictor variables account for 54% of total variance of happiness. Happiness and psychological need satisfaction and its sub-dimensions. autonomy, competence and relatedness, are also significantly associated in a positive way (p<.01). Finally, psychological need satisfaction and happiness do not significantly differ in terms of gender. Consequently, these results suggest that increments of basic psychological need satisfactions for autonomy, competence and relatedness of university students contribute to happiness levels.

Keywords: Happiness; psychological need satisfaction

1. Introduction

A human being has physiological, sociological and psychological needs, and evolves as satisfying these needs. Throughout the historical process, human needs have always protected their current value and importance in the basic concepts of psychology. After the initial discussion about human needs, which started with McDougall in 1908 and continued with Freud, Murray and Hull, Maslow made the 'concept of need' popular and functional in the area of psychology (Özer, 2009; Türkdoğan, 2010; İlhan, 2009). Maslow's hierarchy of needs model in the 1970s and 1980s, however, has been found insufficient to verify the significant estimates in research about needs, and the model has started to lose popularity since that period. In recent years, both because the theory of Maslow left some situations unexplained, and because research about positive psychology has been gaining weight, new and different approaches to the needs model have been focused (Sheldon & Bettencourt, 2002). One of these, developed by Deci and Ryan (1985a, 2000), is the theory of basic needs. This falls within the theory of self-determination, and is known in widespread use as psychological need satisfaction. This research is also based on the theory of psychological needs, self-determination.

According to the theory of self-determination, there are three basic psychological needs, known as autonomy, competence and relatedness. The need for autonomy requires the individual to act in respect to their own feelings and choices, and behave like the initiator of their own actions (Gagne & Deci, 2005; Deci & Ryan, 1985a, 1985b; Deci & Ryan, 2000). In this context, the individual has the choice of their behavior and responsibility and stands behind their own behavior.. The need for competence requires the effort to succeed toward to changing

tasks and the ability to attain the desired outcomes despite challenges. This need also includes the desire to influence the environment, and while individuals with this desire try to influence the environment and cope with environmental conditions, they want to feel competent at the same time (Baard, Deci & Ryan, 2004; Deci & Ryan, 1985a). Finally, the need for relatedness is defined as an individual's desire to be related to other people and the social environment. Need for relatedness also reflects a sense of belonging to the environment, and establishing close and meaningful relationships (Deci & Ryan, 2000; Baumeister & Leary, 1995; Kowal & Fortier, 1999; Reis, Sheldon, Gable, Roscoe & Ryan, 2000).

According to the theory of self-determination, the three needs of autonomy, competence, and relatedness, as well as guiding the human behavior, have an important role in protecting or enhancing mental health. In recent years, many studies have noted that psychological needs have a significant role in life satisfaction or level of happiness (Sheldon & Bettencourt, 2002; Vansteenkiste, Ryan & Deci, 2008), since these unsatisfied needs bring with them psychological dissatisfaction which causes physical and psychological distress (Ryan, Sheldon, Kasser & Deci, 1996; Morsünbül, 2012). On the other hand, satisfying these needs allows individuals to choose their own behaviors, to be functional by taking their own responsibility, to be active in reaching the predetermined goals, and to have a sense of belonging by reinforcing social relations, which eventually increases the individual's level of well-being and happiness (Deci & Ryan, 2008).

Research on happiness carried out by Diener (1984), defined as frequent positive feelings, infrequent negative feelings and high life satisfaction, demonstrated that happy individuals are more successful at interpersonal relationships, as well as feeling good and experiencing positive feelings (Diener & Seligman, 2002). In this manner, determination of how and on what level satisfaction of psychological needs influences happiness will contribute to studies aiming to promote happiness, and to protect and enhance psychological health. Although there are several studies about the relationship between psychological needs and happiness in the USA and other countries (e.g., Ryan & Deci 2000, 2001; Reis et al., 2000; Sheldon & Elliot, 1999; Sheldon, Ryan & Reis, 1996; Ryan, 2009) these studies are limited in Turkey. Determining the level of happiness affected by satisfaction of psychological needs in Turkish culture will make a useful contribution to the existing literature. The study will also contribute to cultural and cross-cultural comparisons.

2. Method

This study was performed using relational screening models. The aim was to examine the relationship between happiness and satisfaction of psychological needs, and to ascertain at which level satisfaction of psychological needs predicts happiness. For the purpose of the study, happiness was treated as a predicted variable, and satisfaction of psychological needs was treated as a predictor variable.

2.1. Participants

Participants of the study are 192 university students continuing their education in academic year 2011-2012. When classified by gender, 105 of participants are female (54.7%), 85 of them are male (44.3%), and 2 subjects withheld their genders. Participants of the study are in the 17-45 age range, with the mean of 20.55 and standard deviation of 2.57.

2.2. Measures

2.2.1. Needs Satisfaction Scale (NSS)

Needs Satisfaction Scale (NSS) was developed by Deci and Ryan (1991) and adapted to Turkish by Bacanlı and Cihangir-Çankaya (2003). This Likert-type scale has 21 items and three sub-dimensions: autonomy,

competence and relatedness. As a result of the psychometric evaluations at the time of Turkish adaptation of the scale, it was reported that the internal consistency coefficient is .71 for autonomy, .60 for competence and .74 for relatedness, and .83 for the whole scale. Validity of the three factor-structure of the scale was investigated by the "confirmatory factor analysis" method. After the analysis, consistency indexes of the derived model were reported as RMSEA: 0.07, GFI: 0.86, AGFI: 0.82, CFI: 0.82, NNFI: 0.80 and the three factor-structure was confirmed as in the original of the scale.

2.2.2. Oxford Happiness Questionnaire (OHQ)

This scale, which was developed to measure happiness by Hills and Argyle (2002), was adapted to Turkish by Doğan and Sapmaz (2012). Results from confirmatory factor analysis also show that one factor-structure of scale stays the same in Turkish university students sample as in the original. Criterion-related validity analysis indicates significant relationships between OHQ and other measurement instruments evaluating happiness and optimism. In reliability analysis, Cronbach Alpha coefficient for internal consistency of OHQ was found to be .91, and reliability coefficient assessed using split-half reliability was found to be .86. Composite reliability of scale was determined as .91.

2.3. Analysis

For the purpose of the study, to examine the relationships between happiness and satisfaction of psychological needs, Pearson Product-Moment Correlation Analysis was used. Multiple Regression Analysis was used in order to determine the prediction level of satisfaction of psychological needs to happiness. The study also includes the descriptive statistics such as mean and standard deviations. Statistical significance level in this study was p<.05 and data was analyzed using Statistical Package for the Social Sciences (SPSS) 15.0.

3. Results

In the results section, descriptive statistics of dependent (happiness) and independent (satisfaction of psychological needs) variables are first demonstrated. After that, correlational values between variables, and finally multiple regression analysis results are presented.

Table 1. Descriptive statistics of dependent and independent variables

Variables	Min	Max	X	Ss
Happiness	46.00	165.00	121.22	20.03
Need for Autonomy	12.00	35.00	26.01	4.79
Need for Competence	13.00	30.00	20.84	3.62
Need for Relatedness	20.00	40.00	31.00	4.30
Psychological Need Satisfaction (Total)	50.85	101.00	77.87	10.32

n=192

Table 1 shows the means and standard deviations of happiness and psychological need satisfaction sub-dimensions which are need for autonomy, need for competence and need for relatedness. Mean of happiness scores, measured by Oxford Happiness Questionnaire (OHQ), was found as =121.22 (Ss=20.03). When scores from the Need Satisfaction Scale were examined, it was found that need for autonomy mean score is =26.01 (Ss=4.79), need for competence mean score is =20.84 (Ss=3.62), need for relatedness mean score is =31.01 (Ss=4.30). Total mean scores of psychological need satisfaction is =77.87 (Ss=10.32). It can also be seen in Table 1 that the lowest score taken from OHQ is 46, the highest score is 165. For the psychological need satisfaction, the highest scores of the need for autonomy, competence and relatedness are 35, 30 and 40; on the contrary the lowest scores are 12, 13 and 20, respectively. When total mean scores from the Need Satisfaction Scale were examined, it was found that the lowest score was 50.85 and the highest score was 101.00.

Whether psychological need satisfaction and happiness differs in terms of gender or not was also examined. According to the results, there is no significant difference, in terms of gender, between the need for autonomy ($t_{(188)}=1.031$, p=.304), the need for competence ($t_{(188)}=.325$, p=.745), the need for relatedness ($t_{(188)}=.167$, p=.868) and total psychological need satisfaction ($t_{(188)}=.660$, p=.510). Similarly, there is not a significant difference between happiness ($t_{(188)}=-.026$, p=.980) scores in terms of gender.

Table 2. Correlation coefficients of happiness and psychological need satisfaction

	1	2	3	4	5
1. Happiness	1	.61**	.60**	.57**	.73**
2. Need for Autonomy		1	.50**	.54**	.87**
3. Need for Competence			1	.39**	.75**
4. Need for Relatedness				1	.81**
5.Psychological Need Satisfaction (Total)					1

**p< .01, n=192

It was found that there are positive significant relationships (p<.01) between happiness and psychological need satisfaction and its sub-dimensions which are the need for autonomy, the need for competence, and the need for relatedness (see Table 2). Similarly, there is a positive significant relationship (p<.01) between total scores of psychological need satisfaction and its sub-dimensions; autonomy, competence, relatedness. There are also positive significant relationships between each sub-dimension of psychological need satisfaction (autonomy-competence, autonomy-relatedness, relatedness-competence). Correlation coefficients of research variables are presented in detail (see Table 2).

Table 3. Multiple regression analysis of happiness prediction

	B	SEB	Beta	t	p
Need for Autonomy	1.21	.26	.29	4.58	.000*
Need for Competence	1.91	.32	.35	5.97	.000*
Need for Relatedness	1.28	.28	.28	4.60	.000*

R=0.74, R^2=0.54, F=73.64, p<.01

*p< .01

Findings of Multiple Regression Analysis, conducted to assess how psychological need satisfaction sub-dimensions autonomy, competence, and relatedness predict happiness; can be seen in Table 3. According to the findings, psychological need satisfaction sub-dimensions significantly predict happiness of university students (R=0.79, R^2=0.54, F=73.64, p<.01). When the relationships between predictor variables (need for autonomy, competence, relatedness) and predicted variable happiness are examined one by one, it was found that the need for competence most significantly and positively predicts happiness (β = .35; p<.01). Following the need for competence, the need for autonomy (β = .29; p<.01) and the need for relatedness (β = .28; p<.01) predict happiness significantly and in a positive way, respectively. According the analysis results, all predictor variables account for 54% of the total variance of happiness.

4. Discussion and Conclusion

In the present study, the aim was to examine the relationships between psychological needs and happiness. Findings showed that there are significant and positive relationships between psychological needs and happiness. According to the theory of self-determination, it was concluded that three psychological needs, autonomy, competence and relatedness, significantly and positively predict happiness.

Findings of the study show congruence with literature on psychological needs and happiness. For instance, Sheldon and Niemiec (2006) found that satisfaction of each of the needs for autonomy, competence and relatedness significantly predicts subjective well-being and happiness (Sheldon and Niemiec, 2006). Another study by Reis et al. (2000), showed that level of perceived satisfaction of the psychological needs within the theory of self-determination significantly predicts the perceived subjective well-being during the day. Cihangir-Çankaya (2009) demonstrated, in their study with Turkish university students, that an individual's perceived autonomy support from their family and friends influences satisfaction of basic psychological needs; and satisfaction of basic psychological needs also positively influences subjective well-being (Cihangir-Çankaya, 2009). The findings of these research studies support the results of this present study. It was concluded that each of the needs for autonomy, competence and relatedness significantly predicts happiness in Turkish culture. According to the results of this study conducted with Turkish university students, on the other hand, it is interesting that the need for competence is the most significant predictor of happiness, and the need for autonomy and relatedness follow it, respectively. This is the reason why many studies (e.g. Ryan, Deci, Grolnick

& LaGuardia, 2006; Gagne, Ryan & Bargmann 2003; Morsünbül, 2012) within the theory of self-determination emphasize the need for autonomy. Other studies also underline the importance of balance in satisfaction of psychological needs. For instance, in a study by Sheldon and Niemiec (2006), balance of need satisfaction, which means the satisfaction of the needs for autonomy, competence and relatedness in the same average levels, significantly predicts the subjective well-being and happiness as a fourth variable (Sheldon & Niemiec, 2006). In this study, it can be also said that balance of need satisfaction has an important mediating role on the level of happiness, when the prediction levels of each need are examined. Results of another study, conducted by İlhan and Özbay (2010) to examine which level life goals and need satisfaction predict subjective well-being in Turkish culture, supports this idea. Findings of the study by İlhan and Özbay (2010) indicate that psychological need satisfaction is the most predictive variable of subjective well-being. In other words, as the satisfaction level of university students for basic psychological needs such as autonomy, competence and relatedness increases, subjective well-being levels also increase.

It is important to support the findings of this study with other studies conducted by similar and different subject groups, especially in Turkish culture. Furthermore, based on the findings, individual or group counseling programs aiming to increase happiness and include psychological needs one by one or together could be designed, and efficiency studies may have utility in literature. Similar studies with different age, education and socio-cultural sample groups and comparisons between these studies could also be carried out. Although satisfaction of psychological needs indicates happiness, subjective well-being and life satisfaction in many cultures, distinctive and changing influences of individual and cultural factors should always be taken into consideration (Deci & Ryan, 2008).

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EXPERIENCING CULTURE IN A NURSERY SCHOOL. AN EMPIRICAL STUDY

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Abstract

Culture carries a broad range of meanings. In this article, culture is shown as an inherent component of education. In other words, the article deals with cultural entanglements of education. Cultural experiences of preschool children are discussed to illustrate the subject. The observations described by the author show the culture of indifference, fear, violence and exclusion. The conclusions make us reflect on what kind of world we offer to the youngest people, a world composed of childhood experiences in an educational institution, and to ask ourselves how these cultural experiences will affect the future of young people.

Keywords: school and preschool culture, socialization experiences, cultural experience, cultural entanglements of education

Introduction

It would be naive to claim that a school, a pre-school or any other educational institution is just to teach and educate. In all institutions, people interact with one another and consequently modify their personalities. Thus, what matters in every school is not only teaching and education, but also social reproduction, selection and normalization of behaviour patterns (Tillmann, 2006). Increasingly more often, the pedagogical literature raises the question of culture. School cultural contexts are discussed, for example, with respect to language (Bernstein, 1990),violence (Bourdieu, 2006), power (Foucault, 2009), knowledge (Klus-Stańska, 2000) and other areas. All these discussions show how culture in education shapes people. The present article tries to describe the culture that children experience in a pre-school.

The cultural context of education.

In my presentation, I use the term 'cultural entanglements of education' in order to show the whole network of meanings and associations permanently involved in education. I do not claim to provide here a complete and exhaustive presentation of these relations, but I would like to shed some light on several of the approaches described by some researchers.

The oldest understanding of the relation of culture to the society was given by functionalists. It is both the most classical and the most traditional approach. With respect to school, culture is understood as a superior value. School is to prepare students to participate in culture (Durkheim, 2000), but it also assigns notions and a whole network of meanings that students will use in the future as a tool for understanding the world. Dorota Klus-Stańska calls it a monologue of one version of culture: under one and the only valid convention, school teaches children by superimposing on them certain meanings (Klus-Stańska 2000). Zygmunt Bauman suggests

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that functionalism sees culture as a concept made to fit the idea of 'the manufacture of order'. In this sense, culture reflects a system where everything has a role to play (Bauman, 2000). In functionalism, culture is superior to education, and education is to transmit and preserve culture in the shape in which it exists in the society. School is therefore an institution which preserves, maintains and ensures the stability of culture (cf. Illich 1976).

Certain criticism of functionalism has generated an alternative understanding of culture and its relationship with education. Post-functionalist approaches have been critical towards the relation between culture and education. An example of such a critical attitude is the theory of cultural reproduction developed by Pierre Bourdieu. In this concept, school is an institution where culture is reproduced, and where it is decided how the school culture should be imposed and implemented (Bourdieu, 2006). Such imposition of uniform culture was referred to by Pierre Bourdieu as 'symbolic violence'. The power exercised by school primarily consists in the imposition of notions which function as the only valid ones (Bourdieu, 2006).

Bourdieu's concept is in line with the idea of understanding culture through the language, a concept authored by Bernstein (1990). In this theory, the language is a basic tool for transmission of culture, which helps us to encode the reality. The language is, or actually becomes through educational practice, an instrument applied to control individuals, who are socialized in such a way as to internalize the institutionalized social order (Bielecka-Prus, 2010). The categories which we produce owing to codes impose an order over the world and are passed on to the next generations (transmission). Codes are a medium of culture transmission, which establish the interpretation and creation of linguistic acts in a socially determined communication context (Bielecka-Prus, 2010). "Where a child is sensitive to an elaborated code, the school experience for such a child is one of symbolic and social development; for the child limited to a **restricted code** the school experience is one of **symbolic and social change**" (Bernstein, 1980).

A completely different entanglement is presented by Bruner, who perceives education as an intimate relationship embedded in culture, which establishes the school educational context (Brzezińska, introduction to Bruner 2010). Bruner understands culture in categories of exchange: "Life in culture is, then, an interplay between the versions of the world that people form under its institutional sway and the versions of it that are products of their individual histories" (Bruner, 2010). Bruner notices the existing cultural methods of interpreting natural and social worlds. However, he perceives education as a chance to alter interpretations because - as he claims - "in the contemporary world change is the norm" (Bruner, 2010).

In another approach to school culture, different from the above ones, culture is searched for as a product of a specific educational institution. Thus, rather than speaking about the school culture, one has to discuss cultures of schools (cf. Bauman, 1966). The culture of an educational institution becomes its property, i.e. "properties, a way of life or characteristics of different sets of individuals", as cultures can be understood in post-modernist times (Burszta 1998). Thus, organizational culture (cf. Konecki, 1985) is the personality of an institution or a company, seen as an immanent property generated by school. By principle, research and work on organizational culture can be performed in line with one of the three approaches to culture: as a set of notions, a set of abstract constructs or a variable that explains what happens in an organization or company. The theory of management assumes that organizational culture is the key to quality. Organizational culture, being a community of thoughts, feelings and actions, creates a perfect form of an organization and ensures high quality of a final product (Hofsteede, Hofsteede, 2007).

Socialization experiences as experiencing culture in education

Considerations on cultural entanglements in education could be multiplied by referring to other numerous approaches and interpretations. For the purpose of this article, having discussed the main directions in the understanding of the education and culture relationship, I must limit such a broad scope of ideas to a certain class of understanding. In order to 'see' culture in education and to show exemplifications of culture, I have chosen

the category of experiencing culture in an educational institution such as a nursery school. This method of studying culture corresponds to Edgar Schein's concept of organizational culture or to ethnographic studies, where people's actions are observed in order to draw conclusions on culture (Eller, 2010). Nursery school teachers' actions will represent a class of people's behaviour in my presentation. Experiencing these actions by children will be a socializing activity, which will evidence the culture of the preschool. I refer the cultural experience to the socialization process, which is generally understood as (...) an intentional and unintentional impact of the environment on a child (Nowicka, 2010). I see socialization as a process and culture as a tool (socialization through culture) as well as a product (socialization for culture). Culture, as worded by Nowicka, is always the context for socialization behaviour (Nowicka, 2010), whereas enculturation or socialization is a process of learning culture (Eller, 2010).

Experiencing indifference.

In the observed nursery school, the children frequently experienced indifference on behalf of adults. The research often captured such actions of the teachers that demonstrated lack of response to the children's behaviour. The teachers either failed to notice or chose to ignore what the children were doing. These could be harmless activities considering the children's safety or attainment of the nursery school's goals. But they can also be dangerous or harmful actions, or example when the children were aggressive, that is they were physically or verbally abusive. Some of the observed situations happened when the teacher was busy doing other things, most often making phone calls, talking to a colleague, preparing materials for school activities or talking to a parent.

Experiencing fear

In the analyzed preschool, it was not a sporadic observation to see a teacher threatening a child. An example is the situation which occurred while the children were sitting in a circle and having a talk. The teacher asked one of the children (Maciej) to stop talking. Maciej was unresponsive to the teacher's request. A boy sitting next to Maciej could not bear the teacher's helplessness so he stopped Maciej's mouth with his hand. At that point, Maciej bit the boy's hand. The teacher said that what Maciej had done was unacceptable and that right after breakfast she would take him to a dentist to have all his teeth taken out. Whatever else could the omnipotent teacher do? She drew an image of a dentist as someone who causes pain and suffering, and she showed her power to the child using such means of terror as the threat that he would lose all his teeth. The child, for whom what matters is only now and here, and who lacks distance to time and adults, is certain that the teacher's threat is realistic, just like other things she has done to other children before.

Another observed situation was even more dangerous because it proved that such practices had taken place in that nursery school before. When one of the girls keeps waving her arms, the teachers tells her: *Shall I bind your arms? You know I can do it*. In what she says, the teacher refers to the previous experiences, either with this child or other ones, who may have had their arms tied up.

On several occasions, it was observed that the teacher told some of the boys that they would not go on a trip to a castle because they had been pushing other children, or that they would not receive presents from Santa Claus because of their misbehavior, but the teacher would get them (after all, adults also receive presents). The teacher uses her power and forces the children to behave as desired under the threat of punishment. The punishment here is not being allowed to take part in a school ballroom party or to play with new, attractive toys. The teacher threatens the children and makes them behave as she wants.

Experiencing violence

Shouting seems to be very common in the preschool; it happens every day. Most often, the teacher shouts at children to keep them quiet. On other occasions, she shouts and humiliates them, using derogative names and

especially comparing children to younger age categories (toddlers). The worst insult is to be called 'an infant'. Depreciating younger persons is a cultural pattern that appears to be nurtured in nursery schools.

In another observed situation, the teacher even hit a girl for taking her time while changing clothes before going to sleep. The teacher quickly noticed that she was being watched and afterwards excused herself to the observer saying: *I have told her three times to hurry up*.

On many occasions, the teachers in the analyzed nursery school encouraged the children to use physical force. The teachers repeatedly said: *You should have hit him back. If he got spanked by other kids a few times, he might behave better.* Thus, violence becomes a valid way of dealing with difficult situations, and it is not just violence demonstrated by adults. It is also encouraging children to resort to violence.

Experiencing isolation

The teachers observed in the nursery school often separated a group of children from other kids. Most often it was punishment for not listening to the teacher or for breaching the rules which governed the preschool culture. A child or children are most often isolated by being excluded from the activities that the other children are engaged in. While the others are having a good time, the children who are punished must sit next to a wall unit, at a table or on a carpet behind the teacher. Another practice, similar in its sense, is the exclusion of a child from an activity by taking away an item that is necessary to participate in a game (e.g. building blocks, a sack, etc.).

The most controversial way of isolating a child during preschool games was observed when the teacher decided that Szymon had breached the rules so badly that he had to be punished by being moved to another group, obviously a younger one, because in the preschool culture such transfer was humiliating. The child felt deeply hurt; when he came back to the classroom, the teacher commented on the situation by saying: *I have run out of patience with you. Next time you will go and have a midday nap with the youngest group of toddlers*. When the teacher had left the classroom, the boy began screaming and kicking a wastepaper basket. His reaction showed the tragedy of a child, who protested against the harm the teacher had inflicted on him.

Another teacher's reaction to the breaching of preschool rules was the exclusion of guilty children. It was rather astonishing to notice that one of the children (Mieszko) was quite often subjected to exclusion. The softest form of exclusion was to make him carry out some preschool activities alone, after all the other children had finished a given task. Thus, the boy had to wait until the others finished and then was allowed to do the same thing himself. The teacher, for example, told him: *You will brush your teeth alone, after all the others leave the bathroom*. On many occasions, the boy seemed to have been excluded for no reason, but when he asked the teacher to let the children play, the children were 'rewarded' by the teacher who let them play as a whole group, except the boy who had asked for permission: *The children can play, but you cannot!* Another time, the boy tried to engage himself in the preschool life by helping the teacher set up beds for a midday nap. When rebuked by the teacher: *You're disturbing me!* he sat down unhappy on the floor. When he was the first to get dressed in the cloakroom, as he wanted to get ready for a walk as quickly as possible, the teacher punished him by sending him to the end of the queue and saying: *Whoever said you would be the first in the queue. Quickly, go to the end of the queue!* It was also noticed that this child, so often excluded by adults, continued to experience the exclusion on behalf of his peers. When the children evaluated constructions they had made from building blocks, Mieszko asked the others if they liked his construction. None of the children answered his questions.

Conclusions

Childhood is a very special time. It is the time when children enter new roles and face new situations, such as education, first in a preschool and them at school. The first stage of pedagogical work is the very beginning of instilling culture (Kłoskowska, introduction to Bourdieu, 2006).The questions arise: what does this first step in the educational system look like? What kind of culture do the youngest schoolchildren experience?

The socialization experiences observed in the analyzed preschool introduce the children into the culture of indifference, violence, fear and isolation. The cultural entanglements of education show the culture which imposes the meanings, interpretations and behaviour demonstrated by the teachers, who quite often breach the standards of decency ... .

As Katarzyna Gawlicz puts it: "Culture generated through everyday practice in preschools remains an integral part of culture dominating in Poland" (Gawlicz, 2009). How do such practices change children's personalities? "Experience goes beyond what has happened to people (...); experience also pertains to the events people have faced and how they have tried to deal with these events" (Bauman, 2000). What world do we, the adults, create and what cultural patterns do we provide the children with for their future lives? In the light of the observations presented here, it appears that we endow children with a culture of indifference rather than a culture of being there, a culture of fear and not security, a culture of violence and not protection, and a culture of isolation instead of a culture of interaction ....

How the children will face the above experiences is what we are bound to discover soon ...

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EXPLORING PUPILS' HISTORICAL KNOWLEDGE WITHIN THE JUNIOR HIGH SOCIAL STUDIES COURSE

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Abstract

Traditionally, the centerpiece of social studies, particularly at the junior high school level, has been history. This is, as it should be, because an understanding of our history is critical to being an informed and active citizen. However, the extent to which pupils are exposed to the nitty-gritty (logical dimensions) of the history subject at that level within the social studies course where history has been encapsulated is not known in literature. This paper, therefore, explores pupils' historical knowledge within the junior high social studies course. The research entailed a qualitative case study, using focus group discussions with pupils in form three of the University of Cape Coast Junior High School. Discussions were transcribed into written texts for analysis. Thematic analysis was used for the analysis of the data as it dealt with naturally occurring events. Commonalities and distinctions regarding the discussion of the key themes have been presented.

Key words: concept of history, sources of history, historical evidence, continuity and change, cause and effect, ethical dimensions in history.

1. Introduction

The junior high school social studies programme provides a coordinated, systematic study drawing upon such disciplines as economics, geography, history, law, political science, psychology, religion, and sociology, as well as appropriate content from other humanities disciplines. Traditionally, the centerpiece of social studies, particularly at the junior high school level, has been history. Indeed, history got encapsulated into the social studies programme during the 1980s and the 1990s, when history in schools was gathered into a generic social studies framework, a trend which had its origins back in the 1960s and 1970s. It was during these earlier decades that the social studies approach to teaching humanities had begun to dominate the primary and lower secondary school curriculum in many jurisdictions. At that time, the 'new social studies', originally based on the work of Fentoni (1991), was seen as inclusive, progressive and relevant. School history, on the other hand, was regarded by some leading Australian educators as elitist, backward-looking (always stuck in the past) and irrelevant (having little or no relationship to students' lives, experiences and the contemporary world). However, during this time, history continued to enjoy its place at that level of education in the social studies curriculum.

It is understood that teaching social studies in the basic schools is an essential part of the framework of an overall social studies programme. Knowledge, skills, and attitudes necessary for informed and thoughtful participation in society require a systematically developed programme focusing on concepts from history and the social studies. A report by the National Council of Social Studies (1988) indicates that, social studies provides a sense of history, a sense of existence in the past as well as the present, a feeling of being in history. Even though young children find the concept of time difficult, they need to understand how the present has come about and to develop an appreciation for the heritage of this country. Huck and Kuhn (1968) posit that even though children

have difficulty with time concepts, they can develop an appreciation for their historical heritage through factual presentation of history, biographies of famous people, and historical fiction.

Drew (2000), on her part, also indicates that social studies helps pupils to learn about historical events such as the issues that led to some revolutions like the American revolution, the French and Indian War, Colonial taxation and world wars. Other topical issues may include the Declaration of Independence, Bill of Rights and Constitution Development as part of the standard content of social studies. She added that eighth grade students are taught to make connections between historical events and current trends. Crossover curriculum topics are innumerable. For instance, students can relate Reconstruction-era amendments to the Civil Rights movement of the 1960s in America, the 1948 riots to current demonstrations in Ghana, and current events that relate to racism or human rights activism. Early Irish and German immigration movements connect to current discussions about immigration in the U.S., and the development of the women's suffrage movement can be connected to current discussions about affirmative action.

Specifically, pupils in early grades learn to locate themselves in time and space through their social studies course. They gain experience with sequencing to establish a sense of order and time, and begin to understand the historical concepts that give meaning to the events that they study. The use of stories about the past can help children to develop their understanding of ethical and moral issues as they learn about important events and developments. They begin to recognize that stories can be told in different ways, and that individuals may hold divergent views about events in the past. They learn to offer explanations for why views differ, and thus develop the ability to defend interpretations based on evidence from multiple sources. There is also the understanding of the linkages between human decisions and consequences. The foundation is, therefore, laid for the further development of historical knowledge, skills, and values at a high level.

2. The Theme and Context of the Study

Whether the potentials of social studies influence history, as reported in the literature is yet to be established empirically. The social studies curriculum for junior high school level organises pupils' learning around a set of fundamental concepts: systems and structures; interactions and interdependence; environment; change and continuity; culture; and power and governance. History offers different perspectives on these concepts. In history, for example, students may consider historical evidence, cause and effect, change and continuity over a relatively short period that covers only a few years in the story of a country or person. So does the social studies course ensure that the teaching of such historical concepts to follow the academic discipline of the subject.

It must also be noted that the designers of the social studies curriculum clearly identify the primary purpose of the subject, and indicate that the curriculum is not designed nor intended to teach discrete social sciences disciplines such as history, geography, and economics (Trinidad and Tobago Ministry of Education [MOE], 2008). This does not mean, however, that history concepts are totally absent from the social studies curriculum. At the lower secondary school level, for example, basic concepts such as identity, resistance, and change form part of the content of social studies (MOE, 2008). Still, key history concepts such as historical evidence, causation, and historical explanation cannot be adequately explored in a social studies curriculum that must also include a wide array of concepts in economics, government and politics, geography, and international relations. This is due largely to the fact that history is not part of the prescribed basic school curriculum; and while some students may obtain a knowledge of history from educational films and selected television programmes, the only exposure a student is likely to get to the subject might be oblique references to history in a social studies curriculum (Joseph, 2011).

Given the structure of social studies and the treatment of history as one of several components of the subject, it is very difficult to determine what students actually take away from social studies as historical knowledge that are later built upon (Joseph, 2011). The understanding of this issue and its relationships is a quite demanding cognitive task. Therefore, the crucial impact of the social studies course on pupils' historical knowledge is of immense significance. Therefore, such an impact needs to be established. Consequently, this paper presents a study that explores pupils' historical knowledge within the junior high social studies course. Contextually, in

examining the theme, the researcher employs the framework provided by Seixas (2009). Seixas (2009) presents an interesting framework for history education, where he highlights six concepts for developing historical thinking. These concepts have been adopted to guide the study: the concept of history, sources of history, historical evidence, cause and effect, and ethical dimensions in history. These concepts would be explored to find out whether pupils have been exposed to them, during their study in the social studies curriculum.

3. Methodology

In this study, the researcher adopted an interpretive phenomenological methodology using a case study approach. This approach helped me to understand the meanings and essence of an experience and how participants make sense of these (Grbich, 2007). The intention and adoption of this approach was to gain insight into the views of respondents and to describe their knowledge and understandings to a certain phenomenon (Fraenkel & Wallen, 2006). Being a qualitative study, the procedure of the qualitative technique was used in collecting and analysing appropriate evidence during the investigation. Specifically, the research entailed a qualitative case study using focus group discussions with pupils in Form Three of the University of Cape Coast Junior High School. The use of Form Three pupils was informed by the fact that they had studied the course for three years which put them in a position as it were to know what the course entailed and what they drived from it. Discussions were transcribed into written text for analysis. Thematic analysis was used for the analysis of the data as it dealt with naturally occurring events and it provided thick descriptions and information that led to answers. Commonalities and distinctions regarding the discussion of the key themes are presented.

4. Discussion of Results

The discussion of the results is done within the framework provided by Seixas (2009) as stated in the context of the study. These are the concept of history, sources of history, historical evidence, cause and effect, and ethical dimensions in history. In doing this, the researcher adopts the style of discussing the results according to the themes in the framework.

4.1. The Concept of History/Understanding History Concepts

Four focus group discussions were conducted to probe deeper into pupils' knowledge of key concepts in history. Findings from the first thematic strand in the framework revealed that pupils have a fair idea about what history was. That is, most pupils demonstrated some degree of understanding of what the history concept was. Two of such responses were that "history is like things that happened in the past", "it is the past events that took place during the days of our ancestors". Another respondent puts it this way: "History is the record of an important past event". These responses clearly show that the pupils understand what history is in their social studies course. The responses made by the pupils also appear that pupils operate at a lower cognitive level with regard to what history is. If these pupils view history mostly as the compilation of records of the past, then they are operating at what Hallam (1970) describes as the concrete operational level of thinking. According to Hallam, such pupils possess the ability to give organized answers, yet very often their responses are limited to what is immediately apparent in the text. In a similar view, LaCapra (1989) simply tells that if history is regarded as a story about the past and goes no further in its efforts is, at best, dull and forgettable, at worst, reckless and irresponsible because it ignores the duties of the true historian. "The point of historical inquiry, for LaCapra, is to arrive at 'meaningful guides to thought and practice' in the present for the sake of the future" (p. 29). It is necessary, therefore, that teachers guide students beyond this threshold to the point where they could move from past records to engage in deeper probing about what history is.

Indeed pupils' understanding limits history to everything that took place in the past as within the purview of history. Participants were, therefore, asked "what qualifies an event to be regarded as a historical event or as having historical significance? In the minds of the participants, there were differing views on this subject. One echoed that "when that particular event has not changed in our time." However, a majority of the participants

shared the view that an event qualifies as a significant point in history when that particular event has an impact on the lives of people. One such response was " ...when that event manages to change the lives of people present at the time of the event." This response, therefore, puts pupils' understanding of historical significance within the perspective of the horizontalists or idealists historians who view historical events from the point of their practical effects on the people living during the time of the event. Though acceptable, it is important to point out that such an explanation could also be equally valid, using the lenses of the vertical perspectivists who see historical events in the light of their effects on the people living presently. In either case, it can be said that pupils have fair understanding of what history was and what qualifies an events to be regarded as historically important. Based on these findings, one could assume that students' understanding of history is likely to improve with greater exposure to the subject at a higher level.

4.2. Sources of History

Information gathered from the focus groups showed that pupils' knowledge about the sources of history in the social studies course is not appreciable as all the participants answered an emphatic "No". According to the views expressed by participants, it was clear that they had no knowledge about the sources of history indicating that pupils are not taught the specific sources through which history could be reconstructed in the social studies course. However, when prompting questions were put forward by way of explaining what historical sources are and some examples, participants acknowledged that indeed they have heard about some sources like archeaology, oral tradition, ethnography, among others, but do not know what they are. It, therefore, appears that the fundamental issues in historical studies such as the sources of history which pupils ought to have been exposed to before any 'proper' content issues are exposed to them are not taught. One possible assumption for this finding may be that the social studies syllabus does not cater for such a topic (sources of history) to be taught at that level. Granted that this is the case, it can also be argued that such a topic could be taught not necessarily being captured in the syllabus bearing in mind that teachers could add certain things they consider as important that could enhance the understanding of certain topics in the syllabus, a decision which would fall within the domain of the informal curriculum. The onus is, therefore, on social studies curriculum designers and teachers to incorporate this thematic strand into the social studies syllabus if indeed they continue to tout social studies as an integrated subject for which history is part. Teachers, on the other hand, could also clarify this conceptual misunderstanding by instruction. This would help expose pupils to historical sources at an earlier level where teachers have adequate time to properly introduce students to the subject of history. Wineburg (2007) supports the view that the development of historical thinking requires what he refers to as an orientation to the past informed by disciplinary canons of evidence (logical requirement) and rules of argument of the subject. Lévesque (2008) is perhaps correct in concluding that students may well need powerful conceptual and procedural historical-thinking tools and ideas now more than ever. However, this cannot be achieved if learners are not exposed to the rudiments of the subject of which the sources of writing history form a critical part. But this can only be achieved by careful history instruction and engagement over a period of time starting from the basic level. Once this is done, pupils' knowledge of history is likely to improve. But given the complexity of this particular historical concept as not captured in the social studies syllabus, one needs to be sympathetic with pupils who are generally not taught such a topic at that school level.

4.3 Historical Evidence

On this particular theme, participants were asked whether historical evidence ought to be questioned. In the focus groups, discussants were unanimous in their views. They all agreed that, historical evidence should be questioned as they believe that historical evidence, as subjective as it could be, should be questioned, and that the historian, like a detective, uses a number of clues to unlock the mystery of the past (Joseph, 2011). Sampled views of the discussants include the following: "Any one could make up something and just come put it there as something that had happened in the past. But if they are questioned we will find out the detailed aspect of that event and you will then know if it really happened", "because some historical facts or narrations may not be true" and "...once you were not there you have to question historical evidence."

Given this understanding on the part of the participants, one can reasonably assume that the pupils are aware of the element of subjectivity in historical writing and explanation as embedded in the relativists' philosophy and espoused by Burston and Green (1967) that history cannot be an objective account of the past. Reasons ascribed include the fact that historians are influenced by a myriad of factors such as age, circumstance, personality, nationality and a host of others when reconstructing the past. Respondents' hesitation to state categorically that historical facts were really true suggests that there is need to question the past. The mere mention of an alleged incident in a book does not guarantee its authenticity. It is for this reason that Muslims have, since the earliest days of Islam, developed the system of isnad in terms of which the narrator or the documenting author had to state each and every successive source through whom the report had been handed down to him or her, on the basis of which its authenticity could then be determined. No author, whatsoever eminent and learned, confers the benefit of authenticity upon the material he or she includes into his book merely by virtue of his personality. Therefore, even a historian like Ibn Jarir at-Tabari, whose history is meticulously recorded with complete chains of narration, makes no claim of authenticity for the material documented in his book.

Pupils' understanding would, therefore, be somewhat postmodern, deconstructionist approach, questioning the validity of certain historical sources. Deconstructionists generally challenge what they consider as the old modernist principles of historical truth and methodological objectivity (Munslow, 1997). In the candid opinion of the researcher, if pupils at that level have realised the essence to question historical evidence then it is possible that learners are likely to engage their teachers at any level in their schooling in interrogating historical facts, a strategy recognised as 'doing history', granted that they would pursue history at higher levels. Should this be the case, the boring nature of history instruction could be reduced which the subject has been criticised of. Since pupils are aware of this element of subjectivity in history, teachers need to adopt the right approach and attitude when teaching. This they could do by exercising caution in the selection of history textbooks. Indeed, chosen books should be those with academic integrity and not those that contain deliberate distortion of facts.

4.4. Cause and Effect

Cause and effect is one of the strands in the framework and the researcher essentially dwelt on the following issues: whether history is caused by a complex mix of factors or a single factor; whether human beings determine the cause of history; whether historical events have effects. The study of cause and effect - which requires a strong grasp of historical chronology - constitutes one of the basic approaches to the discipline of history. The underlying principle is one adapted from physics: for every action there is an equivalent reaction; every cause results in an effect. In historical terms, every event has a cause, and is itself the cause of subsequent events, which may, therefore, be considered its effect(s), or consequences. Findings of the focus group discussions show mixed responses to the question of causation. While pupils demonstrated an understanding of multiple causation in history, they continued to offer single-factor explanations for events in history. For example, when asked to explain what causes an event to happen, students gave responses like: "Historical events are caused by so many factors like the 1948 riots in Ghana", "They are caused by multiple or different factors". This means that pupils believe that historical events are caused by a multiple of factors, and that they are multifaceted in nature. However, when asked whether human beings determine the cause of history, they all agreed that indeed human beings are responsible for historical happenings and nothing else. This also implies that pupils do not consider natural happenings as cause in history. Therefore, holding fast to their response that human beings determine the course of history, pupils generally failed to consider other possible factors such as social and political events, technology, or even natural forces, as other possible explanations for events of the past. This suggests a lack of clear understanding on the part of pupils of what constitutes historical causal explanation. Based on the responses, it appears that students believe that an event is caused by one single factor, rather than by a mix of different factors (Joseph, 2011). It may be that the topics that pupils are exposed to in their social studies course are probably limited to the activities of men at that level of their schooling.

Concerning the effects of historical events, discussants were unanimous in their views that historical events had both positive and negative effects on society as well as humans. One participant's illustration is used to sum up their views. "The colonisation of Ghana has impacted on the country positively and negatively. It

brought the introduction of formal education which is a good thing. At the same time, it brought separation in society". This means that pupils understand that historical events or happenings do affect societies, and that such effects could be positive or negative. Reasonably, teachers might have been examining historical events in terms of their merits and demerits within a given epoch. This point leads the discussion to the ethical dimension in history whether making judgment in history is an ideal thing to do.

4.5. Ethical Dimensions in History

A lot of issues were explored within this theme as ethical matters have gained prominence in recent times. Participants were first asked whether they make judgment about historical actors. Unanimously, they all indicated that there is the need to make judgment about the actions of the past in the past. As echoed by one participant "we make judgment about them because how they behaved may affect others today". Another expressed his view as "...because the judgment make us aware of past mistakes committed by people". This implies that pupils see the need to judge historical figures with the thinking that their mistakes would not be repeated. This response led to a follow-up question that in making judgment do they use the standards of today or make it within the context of that historical epoch. There were mixed responses for this question. Some intimated that they used today's standards and reasons ascribed included the fact that "...because we do not know their standards [past standards] emphasis added" or "their standards did not help them". This clearly tells us that because of ignorance of the past pupils tend to use their own standards in judging the past. They also think that had their standard being perfect, it would have guided them properly. Others, on the other hand, indicated that they make judgments within the historical context in which those activities were performed. One such response is that "Because everything that they did depended on the circumstances that prevailed at the time. For instance they might have not been educated to understand the effects of their actions so you cannot use today's standards in judging them". Pupils have the believe that each epoch in history has its own standard, and there is nothing like trans-epochal standards that could be used in judging historical actors across historical periods.

Notwithstanding the differing positions of the participants, one thing stands out, which is the need to make judgment in history. Their positions could best be described as the views shared by moralists and anti-moralists historians who have been arguing about making judgments in history. In either case, the responses show that pupils are aware of the ethical issues in history within the social studies course. This new pursuit of the ethical aspects of historical enquiry operates on the premise that all historical works, whether they are consciously structured so by their actors or not, possess ideological and psychological underpinnings that we may not know. The ethical turn calls for a conscious and willing acknowledgment of this theme by learners, much as the linguistic turn sought an open awareness of the primary importance of language as a matrix that structures reality (Thomas, 2005). Such an understanding, according to historians, can sensitize an individual to the universality of the human experience as well as to the peculiarities that distinguish cultures and societies from one another (Daniels, 1981). With such knowledge, pupils are more likely to show tolerance and appreciation of others bearing in mind differences in standards, norms and values. They are also better equipped to coexist with those who think and live differently in a multiracial and multicultural society (Joseph, 2011). Ferretti, MacArthur, and Okolo (2001) also support the view that certain skills pupils obtain from history ethics are essential for active and engaged civic participation. The use of stories about the past can, therefore, help children to develop their understanding of ethical and moral issues as they learn about important events and developments. They begin to recognize that stories can be told in different ways, and that individuals may hold divergent views about events in the past. They learn to offer explanations for why views differ, and thus develop the ability to defend interpretations based on evidence from multiple sources.

5. Conclusion

It must be pointed out that the only thematic issue participants acknowledged they had no knowledge of was the sources of history which happens to be an important ingredient in understanding and reconstructing the past. So such a gap in pupils' historical knowledge is worrying and must be addressed. This also suggests a lack of

clear understanding on the part of pupils of what constitutes historical sources. But this is not surprising as these pupils are not adequately exposed to historical concepts at that level where social studies is often taught as an alternative to history. On this point, I share the view of Joseph (2011) who suggests that the preferred seamless approach to address such a lacuna in the literature would be to introduce history to pupils as early as the primary level a call that needs political backing. This study is also a pioneer in its nature; for that reason, more studies are recommended with large number of students and schools in nationwide population.

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FORENSIC ACCOUNTING TRAINING: A PROPOSAL FOR TURKEY

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Abstract

In time of globalization and developments in many fields and increased diversity in business administration, reliability of financial activities has become significantly important. These developments have pushed up the white-collar crimes such as fraud with the implicit approval of both employees and senior management. Therefore, especially in the USA, Canada and England, a new area of expertise has emerged: "Forensic Accounting". The forensic accounting activities, which have not sufficiently been discussed in Turkey, aim at giving expert witness litigation support in the field of accounting. In this study, forensic accounting will be analyzed and a training model will be proposed.

Keywords: Forensic Accounting, Litigation Support Services, Expert Witnessing, Fraud Examination, Forensic Accounting Training

Introduction

As a result of developments and diversity in business administration activities, accounting data have an important place in institutional management. Thus, the information has to be reliable in order to enable the financial activity results to help in the administrative decision making process and related parties. In parallel to aforementioned developments, the number of fraudulent conducts attempted by the accountants - with the implicit approval of both employees and senior management - has dramatically increased. This increase has affected not only the financial statements of the companies and their activity results but also the economies of the countries. Therefore, it has been inevitable to make new regulations, to set new standards and applications and to create new accounting fields as a result of the pressure from outside of the company and the international organizations. Accordingly, accounting control and several occupational groups such as internal auditing, independent auditing and certified councillorship have gained importance within the field of accounting in Turkey just as in many other countries.

Nowadays fraudulent conducts are gradually increasing, however detection and prevention such conducts have become more difficult than it was before. Likewise, the commercial transactions have become more complex and thus the disagreements between the individuals and institutions have increased. In this respect, both sides have started litigate more often. Consequently, experts on accounting have become more important for lawyers and courts need the support of experts on accounting more than it was before. When we examine the applications outside of Turkey, "forensic accounting" draws our attention. When we take "forensic accounting" into consideration –as a requirement of globalization and standardization- it is commonly supposed that it can be applied in Turkey.

Forensic Accounting

The fraudulent conducts in accounting records affect not only company owners and investors but they also affect employees, credit institutions, government and audition companies. Accounting records, notebooks, invoices and balance sheets etc. can be manipulated by malicious experts. Numbers and sales can be decreased or increased according to the demand of managers. Only an accountant auditor can say which points should be taken into consideration on the subject. The support of accounting specialist is needed in controversial forensic

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issues. AICPA (American Institute of Certified Public Accountants) describes this support as "the professional support which no lawyer can give to another" (Pazarceviren, 2005: 2).

The need for reliable information has made accurate financial statements and accounting knowledge important as well as fraud examination. In the USA, a new occupation which involves finding out accounting frauds has emerged: "forensic accounting". However it has not been legally described in our country yet. In dictionaries the word of "forensic" means "judicial" or "to be accepted as a standard at a judicial cases" (Bozkurt, 2000: 56). Thus the term "forensic accounting" refers to accountants working in the field of law. Forensic accountants help decision making process combining their accounting, auditing and investigating skills at forensic issues.

The increase of international companies as results of globalization and technological advancements requires a more comprehensive fraud examination and specialist on accounting fraud. Forensic accountants have the necessary legal permission and education to realize this. The most important feature of forensic accounting is that forensic accountants are more knowledgeable with accounting fraud than any other occupation (Caliyurt, 2007: 185).

The term "forensic accounting" usually refers to CPA, Certified Public Accountants who carry out "analysis, inspection, investigation, audition and questioning" process in order to reach to truth and to obtain an expert witness opinion. Fraud examination and litigation support consulting include the services of certified public accountants (Crumbley, 1995: 25). Forensic accountant is the person who assists lawyers informed about accounting and law courts for applying accounting to law and debatable issues (Telpner and Mostek, 2003:1).

Forensic Accountants focus on the prevention and detection of fraud, the investigation of occupational and financial statement fraud and related law courts Forensic accounting can be described as "carrying out applications and relationships in the viewpoint of low while applying financial issues to the business problems (Peterson and Reider, 2001: 25).

Accounting As An Occupation And Forensic Accounting

If we try to make a very brief and definite comment on the difference between an accountant and a forensic accountant, we can say "accountants look over numbers, whereas forensic accountants look beyond numbers" (**www.investigation.com**) or "other accountants look over financial statements while forensic accountants penetrate into events" (www.bus.lsu.edu).

The forensic accountants who were educated so as to find out the reality reading beyond numbers have begun the use their accounting skills and knowledge while trying to identify and solve legal issues (www.forensicaccounting.com(a)). They should have the ability to apply their accounting knowledge to legal interrogation. A certified public accountants is a civil person who will question the written report, help at dismissals, approve an expert witness, start fraud investigation and help with crime research (www.forensicaccounting.com(b))

Both forensic accounting and financial accounting are significant disciplines. They are very helpful in the viewpoint of institutional partners, investors, capital markets within the management and integrity of the company. Both occupational groups will have reached their goals if they are supported by informational cooperation putting their fields' complexity into consideration (Ronallo, 2005:116)

The Need For A Forensic Accountant

In the emergence of forensic accounting -as a combination of auditing and investigation skills and as an expertising field of accounting- the reasons below have been influential (Bozkurt, 2000: 56-57):

Individual or institutional litigations have gradually increased as a result of more complex commercial transactions.

In the society, the relationship between the individuals, the institutions and the state have started to cause problems.

Accounting fraud has been increasing day by day and fraud detection and prevention have become harder.

Management failures has been gradually increasing,

Lawyers and courts need expert reviews more than ever.

The ones who may require a forensic accountant can be grouped as lawyer, the police, insurance companies, state representatives, juristic institutions connected with the state, banks, courts and business world (Pazarceviren, 2005: 2-3).

The increase of hackers and cyber crimes in parallel with technological advancement, has attached more importance on forensic accountants due to the need for security and for the skills required to conduct forensic investigation.

Required Skills For A Forensic Accountant

Forensic accountants must behave as detectives. In a recent survey, forensic accounting was correlated with Sherlock Holmes and it was emphasized that there is much for forensic accountants to learn from him while collecting data and analysing them (Crumbley and et al, 2004:1). So, a good forensic accountant must be a good detective as well. Forensic accountants are people who look beyond numbers and do not accept the visible amounts in financial statements. He must examine and investigate cases very meticulously and be able to apply their accounting knowledge to legal investigation.

Forensic accounting has been changing the public opinion on accounting. In general accountants are supposed to be deprived of original ideas. Moreover the people think that they wear glasses and spend their times in tiny rooms among dusty accounting notebooks. The distinctive feature of forensic accountants from the accountants is their experience on accounting and they are becoming more important in western countries (Ozkol, 2005: 73).

Crumbley and Apostolou listed the skills a forensic accountant must have as follows:

A strong accounting background

A thorough knowledge of auditing procedures

An understanding of risk assessment

An understanding of the legal environment

An understanding of internal controls

Knowledge of fraud detection techniques

Good communication skills (Crumbley and Apostolou; 2002).

Bozkurt and Hunter listed the personal skills of a forensic accountant as fallows (Bozkurt, 2000: 60; Hunter, 1995: 14):

To be curious: A forensic accountant must be curious about and interested in the developments in his occupation. He must exert effort to bring out the truth.

To be tough: A forensic accountant should not give up when he face with difficulties, he must be insistent on what he defends.

Creativy: A forensic accountant must be as creative as possible besides obeying the general principles and standards.

Perception: A forensic accountant must investigate each event in detail. He must have a good perception of business administration and a strong reasoning ability. He must be clear, analytic and logical in his decisions.

Reliability: A forensic accountant must know how to listen to people carefully and also must be good at written and oral communication; he must set up healthy social relationships.

Depending on nature of forensic examination, some forensic accountants work in the public sector such as police departments (FBI or IRS) while the others work in the private sector such as banks, insurance companies (www.forensic-accounting-information.com).

Success of forensic accounting investigation depends on determining which evidence will be considered as valid or invalid.

Working Areas Of Forensic Accountants

Forensic accounting is rapidly developing in the USA and other countries. Although problems are getting bigger and more complex, available opportunities are also getting more. Forensic accounting is the activity field of skillful and successful auditors who face with theorical and practical problems (Golden and Pilkington, 2006: 546). They serve in very different sector and in a vast area. The basic target of the research carried out by The USA Department of Justice and SEC (Standards Executive Committee) is the leaders of companies.

Fraud/material misstatement cases are occasionally very complex so they need to be handled by experts. A forensic accountant's working area includes many specific areas. When we generally handle these issues it will be more understandable why forensic accounting expertise is needed. The issues of forensic accountant deals with are as follows:

Partnership and shareholder cases,

Business together with state,

The construction sector,

Individual injury cases/ automobile accidents,

Stopping of work/ other compensation demands from insurance companies,

Fraud examination corporation/ employees,

Financial conflicts regarding divorces,

Work assessment,

Cases regarding the financial losses of companies,

Occupational negligence,

Mediation and fortification,

Environmental problems,

Cyber crimes,

Issues about intellectual capital.

Types Of Forensic Accounting

Forensic accounting has three different application fields: litigation support consulting, expert witnessing and fraud examination

Litigation Support Consulting

It is described as professional support given to lawyers by non-lawyers during a case (www.bus.lsu.edu/accounting/faculty/lcrumbley/forensic.html) or giving an accounting support to a continuing case. The forensic accountant undertakes the functions below (Özkol, 2005: 74; www.forensicaccounting.com/cphome.html):

To collect the necessary documents to support or refute a claim,

To revise the related documents to make an early examination of the case and the determine lacking points,

To help questioning the witnesses and to list the questions regarding financial prooves,

To assist in financial issues revising the statements and joining witness questioning for preparing the supplemental questions,

To examine the opposite part's expert's report, to report its strong and weak points,

To assist in meeting held to reach a consensus,

To listen to the opposing part's testimony and to be present at the trial to be helpful in cross questioning.

Expert Witnessing

The new tendency in litigation -especially in the USA and Canada- is charging much more experts with regarding the case investigated. Before the trial, to determine their opinions about the case, experts must be more interested in and closes to it. For being accepted as an expert, the courts demand various expertising abilities besides official education and accreditation.

The need for expert witnessing generally emerges in issues requiring accounting expertise. A forensic accountant can be hired to reach economic realities, to prepare tax analysis, to refute the testimony of the opposing part, to determine the issues to be investigated, to help commenting on documents, to give support in obtaining information from other witnesses.

The duties of forensic accountants in their expert witnessing activities can be listed as below (Bozkurt, 2000: 58; Ozkol, 2005: 75):

Making necessary research regarding the case, collecting various data,

Reaching an opinion utilizing these data,

Reaching this opinion in such a way to enlighten and inform the judge and lawyers at courts.

Expert testimonies have become more efficient during litigation period and giving expert testimony is the final step for a forensic accountant at the trial period (Lawrence, 1998: 1115). Forensic accounting is almost independent from the legal system but legal standards are very important at describing it. The duty of a forensic accountant as an expert witness is "to enable both opinions and realities to be revealed" (Lawrence, 1998: 1115). Therefore, during the determination period, some individuals are chosen depending on their "skills at issues which require witness opinion".

Fraud Examination (Investigative Accounting)

The advancement of technology, the accounting knowledge of management, the globalization of economy and the creation of large complex business organizations with hundreds of transactions can create a situation in fraud detection where extensive research is necessary. Occupational fraud and abuse lead to losses of billions. Illegal conducts "characterized by deceit, concealment, violation of trust and not dependent upon the application of threat of physical force or violence" are defined as white-collar crime (WCC). Association of Certified Fraud Examiners (ACFE) referred to this type of crime as "occupational fraud and abuse" and defined it as the using of one's occupation to personally enrich one's life by the deliberate misuse or misapplication of an employer's resources or assets. This type of crime has reached epidemic proportions that amount to an estimated $600 billion per year in the USA alone (Christensen and et al, 2005). In order, fraud auditing is an important tool to eliminate these problems.

Material misstatement by a joint-stock company does have not only financial results but also gives harm to its reputation. Some of the most obvious corporate examples of WCC include Enron, Pharmalat, WorldCom and Tyco International.

Types of fraud in corporations can be listed as follows (Bozkurt, 2000: 59):

White collar crimes,

Financial misstatement by top management to mislead the authorities,

Fraud related to investments,

Commercial bribe and commissions,

Fraud in banking transactions,

Fraud in electronic fund transfers,

Fraud related to credit cards,

Fraud related to computers,

Fraud done via the internet.

Types of fraud listed above are so various that it seems impossible for a non-expert accountant to detect and prevent them (Ozkol, 2005: 75). They can only be solved by people who are experts and have occupational knowledge on the subject.

Characteristic A Forensic Accountant Must Possess

A forensic accountant is the person "who does not appropriate the visible values at once and looks beyond their background, who is sceptical about the documents, who prepares the expert witnessing testimony, who

interferes when some people seem to lie and who reveals the truth with all its aspects interviewing with individuals in detail (Crumbley, 1995: 23). As it can clearly be understood from the description that forensic accountants are different than independent accountants and auditors must have extensive knowledge on some issues. Besides possessing these characteristic skills they must have knowledge at the issues below (Bozkurt, 2000: 59).

An extensive accounting knowledge,

Investigation and examination techniques,

Law,

Auditing,

Business administration,

Psychology,

Criminology,

Computer studies,

Statistic.

In addition to different auditing roles of forensic accountants and the independent auditors, the training and certification for these positions vary. The training and certification of forensic accountants gives them much stronger background for fraud detection than that of the traditional auditor.

Forensic Accounting Training: A Proposal For Turkey

The second cycle (master's degree) program of Florida Atlantic University comprises nine forensic accounting courses. In order to be a certified forensic accountant in the USA one has to pass through different steps. These steps can be listed as below (Bozkurt, 2000: 60-61):

To have a bachelor's degree,

Two years of professional experience,

To pass the exams applied by "Association of Certified Fraud Examiners" in the USA.

Many professional forensic accountants have an occupational certificate as a CFE (Certified Fraud Examiner) or a CPA (Certified Public Accountant). The CFE examination can be taken any time during the year with four sections being offered as follows (Christensen and at al, 2005):

Section : Fraudulent Financial Transactions

Section : Legal Elements of Fraud

Section : Fraud Investigation

Section : Criminology and Ethics

ACFE, professional organization with 25.000 members, is accepted as the most important organization in the world. It is dedicated to offer extensive assistance on forensic accounting and fraud auditing, to arrange training courses and seminars and to create publications. Its examination has the four main sections below (Pazarceviren, 2005):

Financial transaction

Investigation

Legal issues

Criminology

In order to be successful in the examination a bachelor's degree is not sufficient. Therefore, an extra training regarding the four issues above must be included in the education system.

It is possible to include them in the university programs in various ways:

Including the courses in routine bachelor's degree curriculum

Forming a different postgraduate program

Forming a course program

The possible topics of a forensic accounting education -depending on the studies of Rezaee and Burton- can be ordered as follows (Rezaee and Burton, 1997):

Investigation and Law

Statute and regulations for bribery and criminal fraud

Knowledge of the legal system

Legal elements of fraud

Trial and cross-examination

Litigation and counseling techniques

Expert testimony and expert witness techniques

Corporate governance and compliance with applicable laws and regulations

Bribery and corruption investigation including resolution of allegation of misconduct

Fraud and Fraud Auditing

Theory of fraud examination and prevention

Fundamentals of fraud

Rules of evidence and reporting standards for forensic accounting

Fraud auditing methodology

Professional standards on forensic accounting

Document collection and analysis

Types of fraud (e.g. bankruptcy, computer, management, employees)

Professional interview skills and legal aspects of interviews

Financial Reporting Process

Financial fraud and accountants' responsibilities

Internal control evaluation and statistical sampling

Techniques in locating hidden assets

Financial reporting process and analysis including analytical review procedures

Effective report writing

Ethics

Conflicts of interest investigating techniques

Principles of ethics and corporate code of conduct

Environmental and personal red flags

CONCLUSION

As a result of globalization and developments in many fields, new arrangements in accounting are required for modernization. This paper introduces "Forensic Accounting" which is existed in some states, especially in the USA and Canada and aims to evaluate the subject from the perspective of Turkey.

Nowadays, arguments and claims on disputable issues such as accounting records and financial statements and legal conflicts must be well-founded. In Turkey, the applicability of forensic accounting must be studied examining if current witnessing system can meet the demands or not. Necessary studies must be initiated by the leadership of TURMOB and if it seems feasible, legal arrangements must be done. It will be an asset for Turkey to initiate necessary rehabilitation in education system to meet the requirements of this occupational group.

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FROM PAST TO PRESENT: TREND ANALYSIS OF COOPERATIVE LEARNING STUDIES

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Abstract

The descriptive analysis of 2037 papers which used cooperative learning as a key word in the Education Resources Information Center' digital library between 1966 and 2010 was conducted in this paper based on several criteria. Results of the study indicated that the first paper on cooperative learning was appeared in 1988 and researchers' interest on cooperative learning increased in following years. Robyn Gillies appears to be the one who has the highest number of research studies on cooperative learning and most of the studies conducted in foreign countries using educational technologies with students who are in high school or other upper levels.

Keywords: Cooperative learning, ERIC, trend analysis, educational technology

Introduction

Cooperative learning is a learning where small number of students in a group cooperate to support each other's' learning to complete a task (Siegel, 2005). The roots of the cooperative learning come from many theories: the social interdependence theory, the cognitive developmental theory, the behavioral learning theory and the cognitive elaboration theory (Slavin, 1995; Johnson & Johnson, 1999; Kauchak & Eggen, 2003; Jacobs, 1990; Johnson, Johnson & Smith, 1998).

Any group work to be considered as a cooperative learning should contain following properties (Açıkgöz, 2003; Johnson & Johnson, 1999; Stahl, 1994; Kagan, 1994):

Positive Interdependence: Students should be aware of the fact that they have a common goal and they can achieve this goal by not only learning the instructional materials but also by helping their pears to learn the instructional materials (Johnson & Johnson, 1999).

Individual Accountability: Each student in the group should know that everyone is responsible in the group to complete the task and all students should take responsibilities to achieve the goal (Stahl, 1994). In another word, students should feel responsibility to support other students in the group to achieve group's final goal (Cohen, 1986).

Heterogeneous Groups: Constructing the groups, students should be selected based on various criteria to make the distribution of the groups heterogeneous. Allowing students to select pears in the group may lead to the construction of homogenous groups (Stahl, 1994).

Interpersonal and small group skills: Before the cooperative learning, assuming that students have interpersonal skills can be a mistake (Cohen, 1986; Johnson & Johnson 1999). In order to have effective cooperation, initially students should be furnished with interpersonal skills and then motivated to use them. Unless students gain interpersonal skills, they can not learn the subject to be taught in an expected level (Johnson & Johnson, 1999).

Face To Face Promotive Interaction: Students in the groups should gather often while supporting and encouraging each other's works (Açıkgöz, 2003).

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Group Process: Effective group work depends on the fact that whether students think on the process of the group work. The group process is a process that students judge the activities of each other and make decision on whether to continue or not (Johnson & Johnson, 1999).

Equal Opportunity for Success: Each student should contribute the group work while increasing their past achievements. In this way, students with low, medium and high achievement try to complete their task while increasing their grades (Slavin, 1995). Each group member's contribution is valuable. Each student in the group should have equal opportunity to contribute the group work (Cohen, 1986).

Different factors exist in cooperative learning which increases the achievement. There are social factors: cooperation, support, encouragement and feedback that students provide each other; cognitive factors: learning new topics and sharing information and other factors: task sharing, reward mechanism and rolls where students actively contribute and the teacher acts as a mentor (Knight & Bohlmeyer, 1990).

Many techniques are used in cooperative learning. Well known techniques are Student Teams Achievement Divisions (Slavin, 1991), Team Game Tournament (Slavin, 1991), Co-op co-op (Kagan, 1985), Cooperative Integrated Reading and Composition (Slavin, 1990), Team Assisted Individualization (Slavin, 1990), Group Investigation (Sharan & Sharan, 1989/1990), Jigsaw (Slavin, 1995).

Although popularity of cooperative learning is increasing, there was not found any study in the literature investigating the trends of research studies on cooperative learning to guide researches. Such trend analysis would have the potential to guide curriculum developers to reach studies and researchers working on cooperative learning easily and to identify current trends.

This study was conducted to answer following research questions:

Who are the top ten researchers conducting studies on cooperative learning?

What are the top ten descriptors used with cooperative learning?

What are the top ten journals which have published articles on cooperative learning?

What is study participants' grade levels based on the frequency appeared on research which used cooperative learning as a descriptor?

What are the target audiences of studies on cooperative learning?

Method

In this descriptive study, the descriptive analysis of 2037 studies used cooperative learning as a key word and were conducted between 1966 and 2010 and listed in the ERIC database was done in this study to identify the trend on cooperative learning. The content analysis was used to analyze the data.

Findings

Figure 1 presents the frequency of studies found at the ERIC database from the past to the present. The first paper appeared in 1988 on cooperative learning. Also it was observed that the number of research increased in following years which indicated that the interest of researchers increased in following years on cooperative learning.

Figure 1. Publishing frequency of papers on cooperative learning
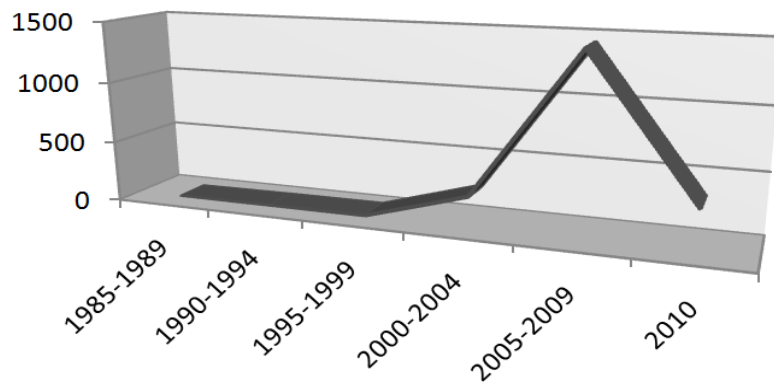
Table 1 presents the top ten researchers who conducted research on cooperative learning. Robyn Gillies conducted the highest number of research with eleven papers found on the ERIC database on cooperative learning. It was also found that researchers on this topic have three paper published in 2010.

Table 1. Researchers conducting studies on cooperative learning

Researchers Conducting Studies On Cooperative Learning And Their Publishing Frequencies	
1966-2010	**2010 Only**
o Gillies, Robyn(11)	o Yang, Stephen(3)
o Valcke, Martin(9)	o Valcke, Martin(3)
o Nussbaum, Miguel(8)	o Nussbaum, Miguel(3)
o Jarvela, Sanna(8)	o Warwick, Paul(3)
o Fischer, Frank(8)	o Thurston, Allen(3)
o Weinberger, Armin(7)	o Mercer, Neil(3)
o Dimitriadis, Yannis(7)	o Topping, Keith(3)
o Mandl, Heinz(6)	o Van Keer, Hilde(3)
o Schellens, Tammy(6)	o Kershner, Ruth(3)
o Yang, Stephen(6)	o Christie, Donald(3)

Top ten descriptors used with collaborative learning on research papers based on the frequency of their appearance are presented at the Table-2. Teaching method, foreign countries and educational technology are found to be the first three descriptors used with cooperative learning. These findings indicate that studies on cooperative learning are dominantly conducted in foreign countries and educational technologies are used in studies.

Table 2. Other descriptors used with cooperative learning

Top ten descriptors used with Cooperative Learning	
1966-2010	**2010 Only**
o Cooperative Learning(2037)	o Cooperative Learning(326)
o Teaching Methods(909)	o Teaching Methods(139)
o Foreign Countries(551)	o Foreign Countries(122)
o Educational Technology(366)	o Educational Technology(89)
o Student Attitudes(353)	o Instructional Effectiveness(80)
o Computer Mediated Communication(330)	o Computer Mediated Communication(75)
o Instructional Effectiveness(266)	o Computer Assisted Instruction(65)

o Computer Uses in Education(243)	o Student Attitudes(54)
o College Students(234)	o Electronic Learning(52)
o Computer Assisted Instruction(226)	o Computer Uses in Education(47)
o Science Instruction(214)	o College Students(46)

Table 3 presents the top ten journals publishing research studies with a cooperative learning as a descriptor and number of paper published. Computers & Education journal found to be the top journal which has the most papers using cooperative learning as a descriptor. Journals at the top ten appear to publish papers primarily on educational technology. These results indicate that researchers mainly investigate the use of cooperative learning on various technologies.

Table 3. Journals having research studies on cooperative learning

Journals Having Research Studies On Cooperative Learning And Their Publishing Frequencies	
1966-2010	2010 Only
o Computers & Education(104)	o Computers & Education(34)
o International Journal of Computer-Supported Collaborative Learning(76)	o International Journal of Computer-Supported Collaborative Learning(11)
o Educational Technology & Society(51)	o Intercultural Education(8)
o Teaching Sociology(33)	o Educational Technology & Society(8)
o Journal of Chemical Education(33)	o Australasian Journal of Educational Technology(7)
o Journal of Educational Computing Research(22)	o Teaching and Teacher Education: An International Journal of Research and Studies(6)
o Journal of Computer Assisted Learning(21)	o British Journal of Educational Technology(6)
o International Journal of Science Education(20)	o Teaching Sociology(5)
o Australasian Journal of Educational Technology(20)	o International Journal of Science Education(5)
	o Journal of College Teaching & Learning(5)

Table 4 presents the groups used as participants in studies on cooperative learning. Results indicate that majority of the studies are conducted with students at high school or other higher levels. This finding indicates that students in higher age groups are preferred to conduct research studies on cooperative learning.

Table 4. Groups selected as participants on studies on cooperative learning

Groups Selected As Participants On Studies On Cooperative Learning	
1966-2010	2010 Only
o Higher Education(956)	o Higher Education(169)
o Postsecondary Education(256)	o Postsecondary Education(62)
o Elementary Education(203)	o Elementary Secondary Education(49)
o Elementary Secondary Education(148)	o Elementary Education(37)
o High Schools(113)	o Secondary Education(30)
o Secondary Education(109)	o High Schools(20)
o Middle Schools(104)	o Middle Schools(13)
o Adult Education(45)	o Adult Education(9)
o Grade 6(40)	o Grade 5(8)
o Grade 5(38)	o Grade 8(7)

Conclusion

Cooperative learning takes its place in applications whose popularity is increasing and which requires individuals to work together to reach information. This paper reviewed studies conducted to review research papers published on cooperative learning until today. Following results were found;

- The first paper on cooperative learning was appeared in 1988 and researchers' interest is increasing every day,
- Robyn Gillies conducted the most research on cooperative learning,
- Majority of studies are conducted in foreign countries using educational technologies and
- High school and other upper levels have been selected as a study participant for studies conducted on cooperative learning.

The trend analysis of studies published in peer reviewed journals and used cooperative learning as a descriptor and enlisted at the ERIC (Education Resources Information Center) data base between 1966 and 2010 was conducted. Results of this study have the potential to guide especially novice researchers preparing to conduct research on cooperative learning in the near future to find researchers and research journals and target audiences of such research. Curriculum developers can also use this research to identify the researchers and research journals popular on cooperative learning.

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GAMES, MATHEMATICS AND CHILDREN WITH SPECIAL NEEDS

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Abstract

A few years ago, children with special needs like blindness or deafness, were seen as strangers and different inside of classroom environment. Most of the teachers have serious difficulties to deal with cases like this. Nowadays this situation has changed: the society is more able to analyse questions concerning to children with special needs. The other, so called normal children, are more prepared and able to communicate with this colleagues. So school classrooms are no longer unfriendly spaces for these children, but, in spite of this help from the school community, colleagues, teachers and staff, there still exists some problems. They are related, especially in teaching and learning process from teacher's point of view, to the few didactical materials present in schools. Only the will of community is not enough to promote learning, so the existence of materials that could help to promote activities is very welcome. In this article the first author has face the problem of having in the classroom this special children. So he had tried to solve this issue by adapting some games to teach mathematics and other themes, like the alphabet. In this communication we want to present some of the games related to mathematics learning. Apart from the presentation of the games we will show some conclusions after the use of this didactical games in school environment.

Keywords: Games, Mathematics, Specials Needs, Pre-School

GENELLENEBILIRLIK KURAMININ DOLDURMA KAVRAM HARITASI DEĞERLENDIRME ÇALIŞMASINA UYGULANMASI

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ÖZ

Bu çalışmada genellenebilirlik kuramı iki farklı teknikle hazırlanmış doldurma kavram haritası değerlendirmesine uygulanmıştır.

Araştırmada kullanılan veriler ilişkiler yaratılarak (C tekniği) ve ilişki kümesinden seçilerek (S tekniği) oluşturulan, madde konulu iki farklı doldurma kavram haritasının, 2010-2011 öğretim yıllarında Sakarya Üniversitesi Fen Bilgisi Eğitimi Bölümü 3. Sınıf'ta okuyan 64'ü (%70,6) kız 26'sı (%29,4) erkek toplam 90 öğrenciye uygulanması ile elde edilmiştir.

Uygulamalar için 90 kişiden oluşan grup rastgele olarak 2'ye ayrılmıştır. 44 kişiden oluşan gruba S tekniği ile hazırlanmış kavram haritası ve 46 kişiden gruba C tekniği ile hazırlanmış kavram haritası uygulanmıştır

Analizlerde C ve S uygulamalarının genellenebilirlik kuramına göre ana ve ortak etkiler için varyans değerleri kestirilmiş, puanların güvenirliği için G ve Φ (Phi) katsayıları hesaplanmıştır. C ve S tekniği ile elde edilen doldurma kavram haritası değerlendirmesinde karar çalışması tek boyut altında yer alan madde sayısının arttırılıp azaltılmasına göre yapılmıştır.

Bu araştırmanın sonucunda C ve S teknikleri ile uygulanan doldurma kavram haritası değerlendirilmesinde yer alan 10 maddeye tümüyle çaprazlanmış O x M modeli uygulanarak yapılan G çalışması sonucunda tek boyut için kestirilen varyans ve toplam varyansı açıklama oranlarına göre; öğrenci (O) ana etkisi için kestirilen varyans bileşeninin tüm uygulamalar için toplam varyansın büyük bir oranını açıkladığı görülmüştür. Tüm uygulamalar için madde (M) ana etkisi için kestirilen varyans bileşeni büyüklüğü diğer ana etkiler içinde ikinci sırada yer aldığı görülmektedir.

Araştırmadan elde edilen bulgulara göre C tekniğini uygulamasından S tekniği uygulamasına göre daha yüksek güvenirlik (0,90) elde edilmiştir.

Karar çalışması sonucunda doldurma kavram haritası C ve S uygulamaları değerlendirmesinde daha yüksek genellenebilirlik ve güvenirliğe ulaşmak için madde sayısını arttırmanın uygun olacağı sonucuna varılmıştır.

Araştırma ile farklı tekniklerle uygulanmış doldurma kavram haritası değerlendirmesinde yüksek güvenirlik için madde sayısı arttırılmış C uygulamasını kullanmanın uygun olacağı sonucuna varılmıştır.

Anahtar Sözcükler

Doldurma Kavram Haritası, C Tekniği, S Tekniği, Genellenebilirlik Kuramı

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Application of Generalizability Theory to Fill-in Concept Map Assessment

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ABSTRACT

In this study, Generalizability Theory was applied to the assessment of fill-in concept maps which were prepared with two different techniques.

The data of this study were collected by using fill-in concept maps which are prepared with two different techniques; construct-a-map with created linking phrases (C) and construct-a-map with selected linking phrases(S).

Fill-in concept maps applied to 90 students who were studied in Sakarya University in the department of science education in 2010-2011 spring semester.

For the applications students were randomly assigned to two groups. Group which took S technique has 44 students and other group with C technique has 46 students.

In the analyze of the data; variance values, generalizability and dependability coefficient of C and S applications were calculated. Based on the information from G studies, for C and S techniques, the effects of increasing the number of items in a series of D studies were examined.

In the result of this study by using O x M (all facet crossed with each other) design, variance component patterns in all applications were similar: variance created by students was the largest proportion of the total variance. Items were the second largest source of error and mapping techniques were the smallest source of error.

According to all results C application had bigger generalizability coefficient (0,90) than S application.

In the result of D study, to have bigger generalizability and dependability coefficient for C and S techniques, it is better to increase number of items.

With this study, it was seen that for the assessment of fill-in concept maps which were prepared with two different techniques it is better to use C techniques with more items to have higher generalizability coefficient.

Key Words

Fill-in Concept Map, C Technique, S Technique, Generalizability Theory

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1. GİRİŞ

Geleneksel eğitim yaklaşımlarının yetersiz kaldığı durumlarda yapılandırmacı ve çoklu zekâ gibi eğitim yaklaşımlarının ön plana çıktığı görülmüştür. Bu yaklaşımlarla eğitim sürecinde, öğretmen merkezli anlayışla öğrencinin davranışını değiştirme yerine; öğrenci merkezli anlayışla öğrencinin zihinsel becerilerini geliştirmeye ve bilgiyi yapılandırmaya ağırlık verilmektedir (Güneş, 2005).

Ausebel (1968)'e göre anlamlı öğrenme kartopunun yuvarlanarak büyümesi gibi bilgilerin gelişigüzel bir araya gelerek rastgele birikmesiyle değil; yeni öğrenilen daha az kapsamlı kavramların, zihinde 'önceden' edinilerek var olan "daha az" kapsamlı kavramlarla ve yine zihinde daha önceden edinilerek yer alan "daha kapsamlı", "daha genel" kavramların altına bu sıra dâhilinde bilinçli olarak belirli bir düzen ve hiyerarşi içerisinde sıkı bir şekilde bağlanmasıyla oluşur.

Ausebel' in teorisine bağlı olarak kavram haritaları bireylerin önceden edindikleri bilgilerle yeni öğrendikleri arasında köprü oluşturan, bireylerin zihinlerinde kavramları nasıl ilişkilendirdiğini gösteren şemalar olarak tanımlanmaktadır (Novak ve Gowin, 1984).

Kavram haritalarının ortaya çıkışında Ausubel'in "bilişsel öğrenmeye dair asimilasyon kuramı" çok önemli bir rol oynamıştır (Novak, 1990). Ausubel'in (1968) "Eğer tüm eğitim psikolojisini bir tek ilkeye indirgeyecek olursak: Anlamlı öğrenmede en önemli etken; öğrenenin hali hazırda ne bildiğidir. Bunun ne anlama geldiğini araştırın ve buna uygun şekilde öğretin." şeklinde ifade ettiği ilkeye dayanarak Novak ve arkadaşları yaptıkları çalışmada öğrencilerin ne bildiklerini ve anlamalarının zaman içinde nasıl değiştiğini araştırırken bir yandan da bir araç geliştirmişler, buna önce 'bilişsel haritalar' daha sonra da 'kavram haritaları' yöntemi adını vermişlerdir.

Kavram haritaları, "bilgiyi organize eden ve sunan araçlardır." Bilgi yapıları, kavramlar ve önermelerden oluşan anlamlı öğrenmeyi temsil eder. Kavram haritalarındaki karakteristikler:

1. Kavramlar hiyerarşi göstermelidir, en genel kavramdan, özele doğru gitmelidir.

2. Çapraz bağlar kavramların ilişkilerini göstermelidir.

3. Özel örnekler kavramların anlamını tanımlamak için kullanılmalıdır (Novak, 1993).

Diğer araştırmacılar, kavram haritalarının hiyerarşik olması görüşüne katılmamaktadırlar. Jonassen ve diğerleri (1997), hiyerarşinin yapısal olarak tek model olmadığını belirtmektedir. Kavramlar arasındaki ilişki birçok şekilde olabilir.

Bir kavram haritası kavramların birbirleriyle ilişkisini gösteren iki boyutlu bir şemadır. Bu bağlamda bir kavram haritası; *oval şema* içinde yazılmış kavramlar, *dikdörtgen kutular* içine yazılmış kavramlara verilen örnekler ve bu kavramlar ile örnekler arasındaki ilişkileri gösteren *oklardan* oluşur.

Bilginin zihinde somut ve görsel olarak düzenlenmesini sağlayan kavram haritaları tüm bir öğretim yılı, tek bir ünite ya da bir ders içinde önemli kavramlar arası ilişkileri şematize etmede etkili bir yol olmasından dolayı diğer alanlarda olduğu gibi fen öğretiminde de anlamlı öğrenmeyi sağlamada önemli yöntemlerden birisidir. Bu özelliğinden dolayı fen bilimleri eğitiminde bir öğretim tekniği olarak kullanılan kavram haritaları öğrencilerin düşünme, analiz etme, problem çözme gibi yaratıcı yeteneklerini geliştirerek kavramları daha iyi anlamasını sağlar (Novak, Gowin ve Johansen, 1983). Fen bilimlerinde kavram haritasını kullanılması gerekliliğinden yola çıkarak yapılan bu çalışmada kullanılan kavram haritaları Fen ve Teknoloji dersinin 'Madde' konusunu kapsamaktadır.

Kavram haritaları yapılarına göre farklılaşırlar. En çok bilinen kavram haritası türü olan hiyerarşik kavram haritaları kendi içerisinde boyutlar içerir. Kavram haritasının hiyerarşik olup olmaması konuyla ilişkilidir. Eğer konu hiyerarşik bir yapıya sahip değilse kavram haritasının da hiyerarşik bir yapıya sahip olmasına gerek yoktur. Kavram haritalarında görülen yapısal değişikliklerden biri de; kavramların öğrenciye verilmesi ya da öğrencinin kendisi tarafından belirlenmesi şeklindedir. Bu şekilde yapılandırılan kavram haritaları 'oluşturma kavram

haritası' (construct map) olarak adlandırılır. Kavram haritaları kavramlar arasında olan ilişkilerin verilmesi ya da verilmemesine göre de değişiklik gösterebilir. Bunlar; bağlantı sözcükleri verilmeden yapılması istenen kavram haritaları, bir diğer deyişle ilişkiler yaratılarak oluşturulan kavram haritaları (C 'created' tekniği), ve bağlantı sözcükleri verilerek yapılması istenen kavram haritaları, bir diğer deyişle ilişki kümesinden seçilerek oluşturulan kavram haritaları (S 'selected' tekniği) olarak adlandırılır. Bir diğer yapısal değişiklik; öğrencilerin verilen kavramları, kavram haritasında bırakılmış olan boşlukları doldurmak için kullanması şeklinde olabilir. Bu şekilde yapılandırılan kavram haritaları 'doldurma kavram haritası' (fill-in map) olarak adlandırılır.

Doldurma kavram haritaları uzmanlarca çizilmiş kavram haritalarından bazı ya da tüm, kavram ya da bağlantı sözcüklerinin çıkarılmasıyla oluşturulur. Doldurma kavram haritaları öğrencilerin bu boşluklara dolduracakları kavramları seçmeleri ya da üretmelerine göre ikiye ayrılır. Öğrencilerden kavram haritalarındaki bu boşlukları üreterek doldurmaları isteniyorsa bu tür kavram haritalarına üret ve doldur (create and fill-in) kavram haritaları, verilen kavram ya da bağlantı sözcükleri kümesinde seçerek doldurmaları isteniyorsa 'seç ve doldur kavram haritaları' (select and fill-in) denir (Schau et al., 1997). Doldurma kavram haritaları ölçme aracı olarak ilk olarak Surber tarafından 1984'te kullanılmıştır. Naveh-Benjamin, Lin ve McKeachie (1995) doldurma yaklaşımını sınıflandırılmamış ilişkileri içeren hiyerarşik kavram haritalarında kullanmışlardır. Bu çalışmada üret ve doldur (create and fill-in) ve seç doldur (select and fill-in) türünde oluşturulması istenen 2 farklı doldurma kavram haritası kullanılmıştır. Çalışma içerisinde bu haritalar kısaca C ve S tekniği ile hazırlanmış doldurma kavram haritaları olarak isimlendirilmiştir.

Yapılarına göre farklılık gösteren kavram haritaları puanlama yöntemlerine göre de farklılaşır. Novak ve Gowin (1984), birkaç kriter üzerinde puanlamayı önerir, bunlar: sayı ve anlamlılık olarak kavramlar arası bağlantılar, haritada kavramlar arası hiyerarşik yapının gösterilme derecesi, değişik kavram hiyerarşisi arasında bağlantının var oluşu ve uygun örneklerin sağlanmasıdır. Bu kriterler sadece hiyerarşik kavram haritalarında uygulanır. Sadece bazı kavram haritaları hiyerarşiktir ve hiç hiyerarşik yapı yoksa hiyerarşi için yapılan puanlama dikkate alınmadan diğer puanlamalar yapılarak işlemler yürütülebilir. Bazı puanlama yöntemleri, bağlanmış kavram çiftlerini sayar. Bu bağlar hiyerarşik, çoklu ya da çapraz olabilir. Puanlar bağların sayısına göre verilir (Shavelson, 1993). Diğer bir yöntemin odağında, kavram haritalarındaki önermeler yer alır. Bu yöntemde önermelerin üç parçası puanlanır. Bunlar; kavramlar arasındaki ilişki, etiket, kavramlar arasındaki hiyerarşik ya da nedensel ilişkileri ifade eden okun yönü. Bunun yanında kavram haritaları dereceli puanlama anahtarı (rubrik) kullanılarak da puanlanabilir. Dereceli puanlama anahtarı, performansı tanımlayan ölçütleri içeren puanlama rehberidir. Herhangi bir çalışmanın puanlanması için geliştirilmiş ölçütleri içeren bir araçtır (MEB, 2005). Doldurma (fill map) şeklinde hazırlanmış olan kavram haritaları doğru yanıtlara 2, kısmen doğru yanıtlara 1 boş ve yanlış yanıtlara 0 verilerek puanlanabilir. Kısmen doğru yanıtlar doldurma kavram haritası hazırlanacak olan konunun uzmanları tarafından belirlenir. İki kavram arasında ilişkinin var olduğunu bilen ancak aradaki bağlantı sözcüğünü yazamamış olan öğrencinin bu cevabı kısmen doğru olarak kabul edilir. Bu çalışmada kullanılan doldurma kavram haritaları doğru yanıtla 2, kısmen doğru yanıtlara 1 ve boş ve / veya yanlış yanıtlara 0 verilerek puanlanmıştır.

Kavram haritaları üzerine yapılan araştırmalarla kavram haritalarının iç tutarlık güvenirliği, kararlığı, uyum geçerliği, yordama geçerliği, farklı puanlama yöntemlerinin denkliği ve farklı kavram haritalarının denkliği konularına ışık tutulmuştur. Bu çalışmalar uygun olmayan seçenekleri elemede yardımcı olacak olan; farklı kavram haritaları konuları, yanıtlama formatı ve puanlama cetvelinin teknik özellikleri hakkında önemli bilgileri bize sunmuştur. Buna rağmen kavram haritası değerlendirmesinde değişkenlik kaynakları o kadar fazladır ki klasik test kuramı (KTK) bu değişkenlerle etkili olarak başa çıkamaz.

Başarısı ölçülmek istenen adayın kavram haritasından elde ettiği başarı puanını tüm adayların her türlü değişen durum altında- konu, cevaplama yöntemi, puanlama sistemi- kavram haritasından elde ettiği puanlar evreninden bir örnek olarak görecek olursak kavram haritası değerlendirmesi Genellenebilirlik Kuramı çerçevesinde yapılabilir.

Genellenebilirlik (G) kuramı ölçme sonuçlarının güvenirliğinin belirlenmesini, güvenilir gözlemlerin tasarımını, araştırılmasını ve kavramsallaştırılmasını sağlayan istatistiksel bir kuramdır. Genellenebilirlik (G) kuramının temeli varyans analizi (ANOVA) üzerine kurulmuştur. Varyans analiziyle toplam varyans desendeki

bağımsız değişkenlere bölünür. Böylece ölçme sonuçları farklı varyans kaynaklarına ayrılarak bireylerin ya da objelerin gözlenen puanlarının evren puanlarına (gerçek puanlarına) genellenebilmesi sağlanır.

G kuramı KTK'nı geçersiz kılmamakla birlikte karşılaştırıldıklarında aralarında bazı faklılıklar bulunur (Shavelson ve Webb, 1991). G kuramı KTK'ndan öncelikle hata kaynaklarını ele alışı bakımından ayrılır (Cronbach ve ark. , 1995). Bu kuram, hata terimini birçok hata kaynağına ayırmakla birlikte birçok değişkenlik kaynağından gelen hataların (puanlayıcı, madde, zaman vb.) birlikte değerlendirilmesine (hata kaynaklarının birbirleriyle ortak etkileşimlerine) olanak tanır (Shavelson ve Webb 1991). Böylece G kuramıyla KTK'ında olduğu gibi farklı hata kaynaklarına göre farklı güvenirlik katsayıları hesaplamak yerine tek bir güvenirlik katsayısı hesaplanabilir. Bunun yanı sıra Genellenebilirlik Kuramında Klasik Test Kuramından farklı olarak bağıl ve mutlak değerlendirmeler arasında bir ayrım söz konusudur. Bu nedenle güvenirlik hesaplanırken hata varyansları arasında bağıl ve mutlak hatalara göre farklılık vardır (Brennan, 2001). Bir diğer farklılık güvenirlik hesaplanırken Klasik test kuramına göre güvenirliğin hangi amaç için kullanılacağı göz önüne alınması ve hesaplanmasında buna uygun bir yol seçilmesi gerekirken (Baykul, 2000) genellenebilirlik kuramının güvenirlik yöntemlerinin tümünü içine almasıdır (Eason, 1989).

Genellenebilirlik kuramıyla en etkili ve daha yüksek güvenirlik elde etmek için karar çalışması (K çalışması) yapılabilmesi G kuramını klasik test kuramından ayıran başka bir gelişmedir. Genellenebilirlik kuramı ile K çalışması yapılarak sonraki çalışmalar için oluşturulan senaryolarla gelecek çalışmalar için bilgiler elde edilebilir.

Genellenebilirlik kuramında öğrencinin bir performansın ölçülmesinde yer alan görevde gösterdiği performansı, puanlayıcı ve görev gibi olası tüm değişkenlik kaynaklarının bir arada bulunduğu karmaşık bir evrendeki performansından çekilen bir örneklemi olarak görülür.

Tüm açıklamalara dayanarak Genellenebilirlik kuramı performansın ölçülmesinde güvenirliğin kestirilmesine uygun bir kuramdır denilebilir.

Genellenebilirlik kuramı, klasik test kuramının sadece yeniden yorumlanması olmayıp, aynı zamanda güvenirlik ile geçerlik arasındaki yerleşe gelmiş farkın, güvenilir ölçmeler düzenleyerek nasıl ortadan kaldırılabileceğini de ortaya koymaktadır. Genel anlamıyla yapı geçerliği, ölçülmek istenilen bir yapının yani bireylerde var olduğu kabul edilen bir özelliğin, ölçme sonucunda ortaya konulma derecesi olarak yorumlanabilir (Baykul, 2000). Oysa klasik kurama göre güvenirlik, paralel ölçmeler sonucunda gerçek puana ilişkin doğru tahminde bulunmanın bir derecesidir. G kuramında yer alan "evren" kavramı; tüm gözlem koşulları ve değişkenlik kaynaklarını kapsamaktadır ki bu da klasik kuramdaki geçerlikte yer alan "yapı" kavramını tanımlamaktadır. G kuramı, bu örtük yapıya (kabul edilebilir gözlemlerin evreni) ilişkin kestirimlerin doğru olarak elde edilmesini sağlarsa, güvenilir sonuçlara ulaşılabileceğini ifade eder. Böylelikle G kuramı, güvenirlik ile geçerlik arasındaki geleneksel ayrımı ortadan kaldırır.

Genellenebilirlik kuramına göre evrende bir ya da birden çok varyans kaynağı bulunmaktadır. Bu varyans kaynakları genellenebilirlik kuramında değişkenlik kaynağı (facet) olarak adlandırılır (Brennan 2001). G kuramında kullanılan bir kavram olan "değişkenlik kaynağı" (facet) deneysel desenlerin literatüründeki faktör kavramına benzer.

Bir değişkenlik kaynağının tesadüfi olarak mı yoksa sabit olarak mı ele alınacağı tamamıyla araştırmacının kararına bağlıdır. Eğer araştırmacı, örneklemin ötesinde genelleme evrenine genelleme yapmak istiyorsa, bu durumda değişkenlik kaynağı tesadüfi olarak ele alınacaktır. Diğer taraftan, eğer araştırmacı örneklemin ötesinde bir genellemeye gitmek istemiyorsa, o zamanda değişkenlik kaynağı sabit olarak düşünülecektir. Değişkenlik kaynağının tesadüfi ya da sabit olarak ele alınması güvenirliğin kestirimini etkilemektedir.

Genellenebilirlik kuramına göre değişkenlik kaynakları çapraz (crossed) ya da yuvalanmış (nested) şekilde olabilir (Rentz 1987). Bir değişkenlik kaynağının koşulları başka bir değişkenlik kaynağının koşullarıyla örtüştüğü duruma çapraz (crossed) denilmektedir (Shavelson ve Webb 1991). Çapraz olarak tasarlanmış bir desende değişkenlik kaynakları arasında "x" işareti kullanılır. Değişkenlik kaynaklarının diğer değişkenlik kaynaklarıyla örtüşmediği yani çaprazlanmadığı durumlar da söz konusudur. Bir değişkenlik kaynağının

koşulları diğer değişkenin bazı koşullarıyla örtüşüyorsa değişkenlik kaynakları yuvalanmış (nested) olarak tasarlanmalıdır. Yuvalanmış olarak tasarlanmış bir desende değişkenler arasında ":" işareti kullanılır (Shavelson ve Webb, 1991).

Değişkenlik kaynaklarının düzeyleri koşullar (conditions) olarak adlandırılır. Örneğin, bir başarı testinde maddeler değişkenlik kaynağı olarak adlandırılırken testte bulunan her bir madde de bu değişkenlik kaynağının koşulu olarak düşünülebilir (Wang 2005). Gözlemlerin yapıldığı eldeki örneklemin yerine geçebilecek olası gözlemlerin tümüne "kabul edilebilir gözlemlerin evreni (the universe of admissible observation)" denir. "Genelleme evreni (the universe of generalization)" ise araştırmacının genellemek istediği koşulların setidir. Pek çok ölçme durumunda bireyler, ölçmenin amacıdır (the object of measurement).

Evren puanı amaçlanan değişkenlik kaynakları için kabul edilebilir gözlemlerin evreninden elde edilecek puanların ortalaması olarak bulunan, ölçme puanı olarak tanımlanır. Evren puanları varyansı, klasik test kuramında yer alan gerçek puan varyansına benzer. Klasik test kuramından farklı olarak, G kuramında iki ayrı hata varyansı bulunur. Bu farklılık, G kuramında iki ayrı anlamda karar vermenin mümkün olmasından kaynaklanmaktadır. G kuramında hem göreceli hem de mutlak hata varyansı bulunmaktadır. G kuramındaki göreceli hata varyansı klasik kuramdaki hata varyansı gibi düşünülebilir (Shavelson ve Webb, 1991).

G Kuramında, güvenirliğin araştırılmasında iki aşamadan söz etmek mümkündür (Goodwin, 2001). Bunlardan ilki Genellenebilirlik çalışması (G-çalışması) ve ikincisi Karar çalışması (K-çalışması)dır.

G çalışmasının amacı, ölçmenin birden çok kullanımını kestirmek ve bu sayede varyans kaynakları ile ilgili mümkün olan en çok bilgiyi sağlamaktır. G çalışması, mümkün olan en çok değişkenlik kaynağını içerecek biçimde tasarlanmalıdır. Yani G çalışması, kabul edilebilir gözlemlerin evrenini mümkün olan en geniş şekilde tanımlar (Shavelson ve Webb, 1991).

K çalışması ise, G çalışmasından elde edilen bilgiyi belli bir amaç doğrultusunda sosyal bilimlerdeki ölçmelerde mümkün olan en iyi deseni oluşturmak için kullanır (Shavelson ve Webb, 1991). K-çalışması, karar vermek üzere belirli bir amaç için veri toplanan çalışmadır. Yapılan bir K çalışmasında, incelenen bireyleri tanımlamak için veri toplanabilir. K-çalışması sürecinde araştırmacı, farklı senaryolar kullanarak daha yüksek güvenirlik ve daha düşük hataların olduğu durumlar elde etmeye çalışır. Örneğin; "Daha fazla sayıda puanlayıcı kullandığımda ne olur?", "Görev sayısını azaltırsam ölçme aracımın güvenirliğinde kaybım çok fazla olur mu?" vb. sorularının cevabı K-çalışması yapılarak araştırılır. Sonuç olarak, tek bir G-çalışmasından elde edilen aynı varyans kestirimlerine dayalı pek çok K-çalışması düzenlenebilir.

Bir çalışmanın desenine bakarak o çalışmayı sadece G çalışması veya K çalışması olarak sınıflamak ise mümkün değildir (Crocker ve Algina 1986). Farklı puanlayıcılar tarafından puanlanan bir testin güvenirliğini kestirmek bir G çalışması iken, bu testi puanlamak için uygun olan puanlayıcı sayısının belirlenmesi bir K çalışmasıdır.

Genellenebilirlik kuramı çerçevesinde, hangi modelin uygun olduğu daima uygulama amacına yani araştırmacının ölçme sonuçlarını nasıl kullanacağına bağlıdır. Eğer bir öğrencinin bir sınavdan geçmesi veya kalması sınavı alan diğer öğrencilerin o sınavdaki performanslarına bağlı ise araştırmacı göreceli model kullanmalı; eğer öğrencinin sınavdan geçmesi veya kalması diğer öğrencilerin o sınavdaki performanslarından bağımsız olarak sadece kendi performansına bağlı ise araştırmacı mutlak model kullanmalıdır.

G kuramı sosyal bilimlerdeki ölçmelerde hataya sebep olan varyans kaynaklarına odaklanmasına rağmen, genellenebilirlik (G) katsayısı adında bir güvenirlik katsayısı da sağlamaktadır. G katsayısı, bir bireyin gözlenen puanından o bireyin evren puanının ne derece doğru genellendiğinin bir göstergesidir. Klasik test kuramındaki güvenirlik katsayısı gibi, genellenebilirlik katsayısı bireylerin puanlarındaki çeşitliliğin oranını yansıtır (Güler, 2008).

Genellenebilirlik katsayısı (G-katsayısı), klasik test kuramındaki gerçek varyansın gözlenen varyansa oranı olan, güvenirlik katsayısıyla benzerlik gösterir. Özellikle (1) değişkenlik kaynağının maddeler olduğu, (2) K çalışmasındaki düzeylerin testte yer alan maddelerin sayısına eşit olduğu ve (3) sadece göreceli modelin

kullanıldığı durumda, tek değişkenlik kaynaklı (maddeler) çaprazlanmış desenlerdeki G-katsayısı, klasik test kuramındaki Cronbach alfa'ya eşit olmaktadır.

G-katsayısı, göreceli modellerde kullanılır ve gerçek varyansın, gerçek varyans ile göreceli varyansın toplamına bölünmesiyle hesaplanır. Güvenirlik indeksi (Phi-katsayısı) ise mutlak modeller için kullanılmaktadır. Güvenirlik indeksi gerçek varyansın, gerçek varyans ile mutlak varyansın toplamına bölünmesiyle elde edilir. Diğer bir deyişle, bu iki katsayı hatanın nasıl ele alındığına bağlı olarak değişmektedir.

Bu çalışma ile Fen ve Teknoloji dersinin "Madde" konusunu ölçen iki farklı doldurma kavram haritası tekniğinin genellenebilirlik kuramı ile elde edilen parametreleri araştırılmıştır. Bu amaca dayalı olarak G çalışması ile C ve S tekniği ile yapılandırılmış doldurma kavram haritaları uygulamalarından elde edilen sonuçların varyansları ve toplam varyansları açıklama yüzdeleri, K çalışması ile madde sayılarının arttırılması ve azaltılmasıyla G ve Phi katsayılarındaki değişim araştırılmıştır.

Bu araştırmayla klasik test yöntemiyle değerlendirmesi zor olan kavram haritası tekniklerinin genellenebilirlik kuramı ile değerlendirilebileceğinin ortaya çıkarılabileceği düşünülmektedir. Genellenebilirlik kuramının gücü, elverişliliği ve esnekliğine dayanarak kavram haritası değerlendirilmesinde klasik test kuramına göre tercih edilebilir olduğunu göstereceği ve bu nedenle önemli olduğu düşünülmektedir.

Araştırma 2010-2011 öğretim yılında Sakarya Üniversitesi Fen Bilgisi Eğitimi Bölümü 3. Sınıf öğrencileri ve Fen ve Teknoloji dersi 'Madde' konusu ile sınırlıdır.

2. YÖNTEM

2.1. Araştırmanın türü

Bu araştırmada madde konulu iki farklı kavram haritası tekniğinin genellenebilirlik kuramı kullanarak parametrelerinin elde edilerek incelendiğinden bu yönüyle çalışma betimsel bir araştırma niteliğindedir.

2.2. Çalışma grubu

Bu araştırmanın çalışma grubunu 2010-2011 öğretim yıllarında Sakarya Üniversitesi Fen Bilgisi Eğitimi Bölümü 3. Sınıf'ta okuyan 64'ü (%70,6) kız 26'sı (%29,4) erkek toplam 90 öğrenci oluşturmuştur. Öğrenciler öğretim yöntem ve teknikleri dersi kapsamında kavram haritası hazırlamayı aynı öğretim üyesi tarafından öğrenmişlerdir.

2.3. Verilerin elde edilmesi ve veri toplama araçları

Araştırmanın problemini yanıtlamak için gerekli olan veriler biri S tekniği diğeri C tekniği ile hazırlanmış olmak üzere iki farklı doldurma kavram haritası ile toplanmıştır.

Uygulamalar için 90 kişiden oluşan grup rastgele olarak 2'ye ayrılmıştır. 44 kişiden oluşan gruba S tekniği ile hazırlanmış doldurma kavram haritası ve 46 kişiden gruba C tekniği ile hazırlanmış doldurma kavram haritası uygulanmıştır.

2.4. Verilerin analizi

Bu çalışmada elde edilen veriler çalışmanın problemine cevap verecek şekilde genellenebilirlik kuramının analizleri kullanılarak çözümlenmiştir.

Uygulamalar sonucunda genellenebilirlik kuramına göre ana ve ortak etkiler için varyans değerlerinin kestirilmesinde, puanların güvenirliği için G ve Φ (Phi) katsayılarının hesaplanmasında ve K çalışmalarında EduG programı kullanılmıştır.

C ve S tekniği ile elde edilen doldurma kavram haritası değerlendirilmesinde karar çalışmaları tek boyut altında yer alan 10 madde sayısına göre yapılmıştır.

3. BULGULAR

Farklı teknikle hazırlanmış kavram haritalarının uygulama sırasına göre öğrencilerin 10 maddeye verdikleri cevaplardan elde edilen puanların betimsel istatistikleri Tablo 1'de verilmiştir.

Tablo 1. Farklı teknikle hazırlanmış kavram haritalarında yer alan 10 maddeye öğrencilerin verdikleri cevaplardan elde edilen puanların betimsel istatistikleri

İstatistikler	C	S
N	46	44
Ortalama	11,96	15,43
Ortanca	12,50	16,50
Tepe değer	5	17
Std. Sapma	5,337	4,145
Çarpıklık	-0,31	-1,320
Basıklık	-1,354	1,899

Tablo 1'de görüldüğü gibi, 10 maddeden 0 - 2 puan ölçeği üzerinden aldıkları puanlara ilişkin ortalamalar C uygulaması için 11,96 ; S uygulaması için ise 15,43'tür. Her iki harita tekniğine ilişkin ortanca aritmetik ortalamadan büyüktür ve harita tekniğine ait puanlar sola çarpık dağılım göstermektedir. Bu durum, her iki harita tekniği için çarpıklık katsayısının negatif çıkmasıyla da görülebilmektedir. Basıklık katsayılarına bakıldığında, C uygulamasından elde edilen basıklık katsayısı 0'dan küçük bir değer olup puanlar normalden daha basık, S uygulamasından elde edilen basıklık katsayısı 0'dan büyük bir değer olup puanlar normalden daha sivri dağılım göstermektedirler.

C uygulaması olarak adlandırılan tek boyutta toplanan doldurma kavram haritası değerlendirilmesinin G çalışması ile elde edilen varyanslarını ve varyans yüzdelerini hesaplamak amacıyla, 10 maddeye çaprazlanmış O x M modeli uygulanmıştır. Değerlendirmenin uygulandığı 46 öğrenci (Öğrenci) ve 10 maddeden (madde) oluşan orjinal verilerle tek değişkenli modelle yapılan G çalışması için; kestirilen varyans bileşenleri ve toplam varyansı açıklama yüzdeleri O ve M ana etkileri ile OM ortak etkileri Tablo 2'de verilmiştir.

Tablo 2. C Uygulamasına ait Kavram Haritası Değerlendirilmesinin G Çalışması ile Kestirilen Varyanslarını ve Toplam Varyansı Açıklama Oranları

Varyans kaynağı	Sd	Kareler toplamı	Kareler ortalaması	Varyans	%
O	45	128.191	2.848	0.255	41.0
M	9	32.826	3.647	0.073	11.7
OM	405	119.373	0.294	0.294	47.3
Toplam	459	280.391			100%

Tablo 2'de verilen tek değişkenli G çalışması sonucunda C uygulaması değerlendirmesinin tek boyutu için kestirilen varyans ve toplam varyansı açıklama oranları incelendiğinde, öğrenci (O) ana etkisi için kestirilen varyans bileşeninin (0,255) toplam varyansın % 41,0'ini açıkladığı görülmektedir.

Madde (M) ana etkisi için tek değişkenli modelle yapılan G çalışmasından kestirilen varyans bileşeni (0,073) toplam varyansın % 11,7'sini açıklamaktadır. Madde ana etkisinin varyans bileşeni büyüklüğünün, öğrenci ana etkisine göre daha düşük olduğu görülmektedir.

Öğrenci x Madde (OM) ortak etkisi (0,294) toplam varyansın % 47,3'ünü açıklamaktadır.

C uygulaması olarak adlandırılan doldurma kavram haritası değerlendirilmesinin tek boyutunda yer alan 10 madde sayısının beş arttırılıp azaltılması senaryosuna göre yapılan K çalışması sonucunda G (genellenebilirlik) ve Phi 'Φ' (güvenirlik) katsayılarına ilişkin değerler Tablo 3'te verilmiştir.

Tablo 3. Doldurma Kavram Haritası Değerlendirmesi C Uygulamasına İlişkin K Çalışması ile Madde ve Sayıları Senaryosuna Göre G ve Phi Katsayıları

Madde sayısı	5	10	15	20	25
G	0.81	0.90	0.93	0.95	0.96
Φ	0.78	0.87	0.91	0.93	0.95

Tablo 3'te görüldüğü gibi, doldurma kavram haritası değerlendirmesinin tek boyutu altında yer alan uygulamadaki 10 madde sayısına G katsayısı 0.90 ve Φ katsayısı da 0.87 olarak kestirilmiştir. Buradan görüleceği gibi, uygulamadaki durumda değerlendirmeden elde edilen puanların G katsayısı Φ katsayısından daha yüksektir. Madde sayısının beş azaltılması (5) durumunda kestirilen G katsayısı 0.81 ve Φ katsayısı 0.78, madde sayısının beş arttırılması (15) durumunda ise G katsayısı 0.93 ve Φ katsayısı 0.91 olarak hesaplanmıştır.

Tablo 3'te uygulamadaki madde sayılarının azalması durumunda G ve Φ katsayılarının giderek azaldığı, arttırılması durumunda ise G ve Φ katsayılarının giderek arttığı açıkça görülmektedir. Tüm madde sayılarına göre, G katsayısı Φ katsayısından daha yüksek değerlere sahiptir.

Benzer şekilde S uygulaması olarak adlandırılan tek boyutta toplanan doldurma kavram haritası değerlendirilmesinin G çalışması ile elde edilen varyanslarını ve varyans yüzdelerini hesaplamak amacıyla, 10 maddeye çaprazlanmış O x M modeli uygulanmıştır. Değerlendirmenin uygulandığı 44 öğrenci (birey), 10 maddeden (madde) oluşan orjinal verilerle tek değişkenli modelle yapılan G çalışması için; kestirilen varyans bileşenleri ve toplam varyansı açıklama yüzdeleri O ve M ana etkileri ile OM ortak etkisi Tablo 4'te verilmiştir.

Tablo 4. S Uygulaması Kavram Haritası Değerlendirilmesinin G Çalışması ile Kestirilen Varyanslarını ve Toplam Varyansı Açıklama Oranları

Varyans kaynağı	Sd	Kareler toplamı	Kareler ortalaması	Varyans	%
O	43	73.879	1.718	0.146	31.2
M	9	27.793	3.088	0.064	13.8
OM	387	99.508	0.257	0.257	55.0
Toplam	439	201.180		0.146	100%

Tablo 4'te verilen G çalışması sonucunda S uygulaması değerlendirmesinin tek boyutu için kestirilen varyans ve toplam varyansı açıklama oranları incelendiğinde, öğrenci (O) ana etkisi için kestirilen varyans bileşeninin (0,146) toplam varyansın % 31,2'sini açıkladığı görülmektedir.

Madde (M) ana etkisi için tek değişkenli modelle yapılan G çalışmasından kestirilen varyans bileşeni (0,064) toplam varyansın % 13,8'ini açıklamaktadır..

Öğrenci x madde (OM) ortak etkisi (0,257) toplam varyansın % 55'ini açıklamaktadır.

SS uygulaması olarak adlandırılan doldurma kavram haritası değerlendirilmesinin tek boyutunda yer alan 10 madde sayısının beş arttırılıp azaltılması senaryosuna göre yapılan K çalışması sonucunda G (genellenebilirlik) ve Phi 'Φ' (güvenirlik) katsayılarına ilişkin değerler Tablo 5'te verilmiştir.

Tablo 5. Doldurma Kavram Haritası Değerlendirmesi S Uygulamasına İlişkin K Çalışması ile Madde Sayıları Senaryosuna Göre G ve Phi Katsayıları

Madde sayısı	5	10	15	20	25
G	0.74	0.85	0.89	0.92	0.93
Φ	0.69	0.82	0.87	0.90	0.92

Tablo 5'te görüldüğü gibi, doldurma kavram haritası değerlendirmesinin tek boyutu altında yer alan uygulamadaki 10 madde sayısına göre elde edilen G katsayısı 0.85 ve Φ katsayısı da 0.82 olarak kestirilmiştir.. Madde sayısının beş azaltılması (5) durumunda kestirilen G katsayısı 0,74 ve Φ katsayısı 0.69, madde sayısının beş arttırılması (15) durumunda ise G katsayısı 0.89 ve Φ katsayısı 0.87 olarak hesaplanmıştır.

4. SONUÇ VE ÖNERİLER.

C ve S teknikleri ile uygulanan doldurma kavram haritası değerlendirilmesinde yer alan 10 maddeye çaprazlanmış O x M modeli uygulanarak yapılan G çalışması sonucunda tek boyut için kestirilen varyans ve toplam varyansı açıklama oranları aşağıda açıklanmıştır.

Her iki teknik için de Öğrenci (O) ana etkisi için kestirilen varyans bileşeninin tüm uygulamalar için toplam varyansın büyük bir oranını açıkladığı görülmüştür. Uygulamaların tümünde tek değişkenli modelle bireyler için kestirilen varyans bileşeni, toplam varyans içinde yüksek bir paya sahip varyans bileşeni olmuştur. Genellenebilirlik çalışmalarında, birey ana etkisi evren puanı varyansı olarak değerlendirilir ve ölçülen özellik açısından bireyler arası farklılaşmayı ifade eder (Shavelson ve Webb, 1991; Brennan 2001). Bireyler için kestirilen varyansın toplam varyans içindeki oranının en büyük olması istenilen bir durumdur. Buna göre, yapılan değerlendirmenin, elde edilen boyutta bireyler arası farklılıkları ortaya çıkarılabildiği sonucuna varılmıştır. Bu sonuca dayanarak kavram haritası ile yapılacak değerlendirmelerde bireyler arası farklılıkların ortaya çıkarılması istendiğinde C ve S tekniği ile hazırlanmış kavram haritaları uygulanabilir.

Benzer şekilde madde (M) ana etkisi için kestirilen varyans bileşeni büyüklüğü her iki uygulama için diğer ana etki olan öğrenci ana etkisine göre daha düşük olduğu gözlenmiştir. Buna göre, doldurma kavram haritası uygulamasında yer alan maddelerin güçlük düzeylerinin birbirine yakın olmadığı, bir maddenin diğerinden daha zor olduğu sonucuna varılmıştır. Buna göre farklı tekniklerde bulunan maddelerin güçlük düzeylerinin farklı olduğu sonucuna varılmıştır.

Öğrenci x Madde (OM) ortak etkisi her iki uygulama içinde varyans yüzdesi en büyük olan etkidir. Bu durum, bu ölçme için belli bireylerin bağıl durumlarının bir maddeden diğerine çok farklılaştığını göstermektedir. Ayrıca artık etki olarak adlandırılan bu varyans tesadüfi hataların büyük olabileceğinin bir göstergesi olabilir

C ve S tekniği ile elde edilen doldurma kavram haritası değerlendirmesinde tek boyut altında yer alan 10 madde sayısına göre elde edilen genellenebilirlik (G katsayısı) ve güvenirlik (ϕ katsayısı) her iki teknik içinde birbirlerine çok yakın ve oldukça yüksek değerler olarak elde edilmiştir. Bu değerler sırasıyla C tekniği için 0,90 - 0,87 ve S tekniği için 0,85 - 0,82'dir. Elde edilen sonuçlara göre tek boyut altında yer alan 10 madde sayısına göre C tekniği daha yüksek güvenirlik vermektedir. Ayrıca Yapılan K çalışmasında madde sayısının arttırılmasıyla G ve Φ katsayılarında da artış gözlenmiştir. Ancak bu artış C tekniği için 25 maddeyle G katsayısı için en fazla 0,06 S tekniği için 0,08'dir. Madde sayılarını arttırmanın, G ve Φ katsayılarında elde edilen bu

kadar küçük artmalara sebep olmasından dolayı emek ve zaman açısından fazlaca ekonomik olmadığı yorumu yapılabilir.

Yapılan analizler sonucunda her iki uygulamanın değerlendirmesinde daha yüksek genellenebilirlik ve güvenirliğe ulaşmak için madde sayısını arttırmak uygun olabilir.

Araştırmadan elde edilen bulgulara göre önce C tekniğinden daha yüksek güvenirlik (0,90) elde edilmiştir. Ayrıca diğer uygulamaya göre daha yüksek güvenirlik veren C uygulamasına yapılan karar çalışması sonucunda madde sayısını arttırarak daha yüksek güvenirlik elde edilebileceği vurgulanmıştır. Bu sonuçlara dayanarak farklı tekniklerle uygulanmış doldurma kavram haritası değerlendirmesinde yüksek güvenirlik için madde sayısı arttırılmış C uygulamasını kullanmak uygun olabilir.

Bu çalışma sadece Fen ve Teknoloji dersi 'madde' konusu düşünülerek yapılmıştır. Daha genelleyici sonuçlara ulaşabilmek amacıyla, farklı derslerde ve farklı konularda doldurma kavram haritalarının güvenilir ve geçerli sonuçlar verip vermediği araştırılabilir.

Bu çalışmada doldurma kavram haritası değerlendirilmesinin güvenirliği genellenebilirlik kuramının O x M modeli ile analiz edilmiştir. Benzer çalışmalar genellenebilirlik kuramının farklı modelleri ve farklı değişkenlik kaynakları ele alınarak yapılabilir.

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GENERATIONS OF DISTANCE EDUCATION: TECHNOLOGIES, PEDAGOGIES, AND ORGANIZATIONS

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Abstract

Distance education has often been discussed in terms of generations as its forms and methods have been evolved over years. Most often, generations of distance education has been discussed in terms of the dominant technologies it utilizes in teaching and learning. There has been another attempt to classify distance education into generations in terms of its dominant pedagogy. This paper proposes the discussion of distance education in terms of its organizational structure, and proposes a new organizational structure for distance education in which a division of labor can be observed across institutions.

Keywords: distance educaiton; ICT, educational technologies, pedagogies, educational organizations, generations

Introduction

The term "distance education" may sound somewhat outdated nowadays as in today's technologies of education, its "distance" nature no longer matters as much as before. What matters more nowadays is "flexibility" and "distributed" aspect of teaching and learning using technologies. However, still "distance education" exists as a field of research and practice and many educational scholars and practitioners identify themselves as those in the field of "distance education."

There have been numerous attempts to classify distance education in the past. Most of them classify distance education in terms of dominant technologies used. Distance education and technologies are considered inseparable as in order to reach students at a distance, one must use certain tools or technologies to do so. While technologies of instruction have been examined closely, the organizational transformation those technologies necessitate tends to be overlooked. In changing the mode of instruction or the educational model of distance education, an institution must also rearrange or transform its organizational structure to enable and effectuate such changes. Actually many distance education institutions fail to transform themselves to adapt to the changes and stay behind in adopting new technologies and methods of teaching and learning.

Generations of Distance Education

Technological Perspective

The history of distance education tells us the evolving use of technologies. Bates(2005) as well as Peters (1994) mentioned that distance education had gone through three stages. The first generation of distance education refers to those which mainly utilize written and printed texts and postal services for delivering such texts in the forms of books, newspapers, and manuals. It is so-called print-based correspondence education. In this stage, the interaction between teachers and students was usually limited to correspondence, meaning hand-

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written texts that were sent via postal mail. It is difficult to gauge the extent of student learning in this mode as student evaluation is usually summative and left at the end of the course.

The second generation is characterized by the use of radio and television as instructional media in addition to print materials. This generation is often referred to as the "industrial mode" of distance education with highly specialized division of labor in producing and delivering instructional materials and the potential to educate thousands of students at once. Many open universities in the world including British Open University, Anadolu University's Open Educational Faculty in Turkey, Korea National Open University and the Open University of Japan also started as this second generation institutions. When those institutions were started, broadcasting media such as television and radio were selected as the mediums of instruction as they could easily reach mass audience and it matched the mission of open universities to expand educational opportunities. All of those institutions began as national initiatives and the respective national government was heavily involved. In the case of the Open University of Japan (OUJ), it was given a television and radio station by the government for the purpose of providing lifelong learning opportunities to the citizens.

The third generation of distance education utilizes information and communication technologies (ICT) to provide interaction in addition to content delivery. There are two aspects of interactivity in the use of ICT: the interactivity between the learner and the content as seen in interactive multimedia learning materials in CD-ROM as well as on the Web and the interactivity between teachers and students and among students. The latter interactivity makes the fourth generation of distance education, in my opinion. The third generation of distance education allows personalization of content depending upon learners' learning preferences.

Taylor (2001)suggested five generations of distance education: First, the Correspondence Model based on print technology; Second, the Multi-media Model based on print, audio and video technologies; Third, the Tele-learning Model, based on applications of telecommunications technologies to provide opportunities for synchronous communication; Fourth, the Flexible Learning Model based on online delivery via the Internet; and Fifth, Intelligent Flexible Learning Model based on the interactive nature of the Internet. As this model was originally suggested before social media and Web 2.0 came into scenes, it is understandable that this model does not include the emerging generation of distance education, which utilizes Web 2.0 extensively.

Pedagogical Perspective

Criticizing those classifications based on technologies, Anderson and Dron (2010) suggests three generations of distance education in terms of its dominant pedagogy: the cognitive-behaviorist pedagogy, the social-constructivist pedagogy, and the connectivist pedagogy of distance education. According to Anderson and Dron, the first generation, the cognitive-behaviorist pedagogy, is characterized by the thinking that learning means some behavioral changes instigated by learning stimuli, and was the dominant thinking in computer-assisted instruction and instructional systems designs. The second generation of distance education pedagogy, the social-constructivist pedagogy, was originated in the work of Vygotsky and Dewey, and focuses more on learning instead of teaching. In this pedagogy, human interaction (student-teacher and student-student) is emphasized, which makes it costly for an institution to adopt. The third generation, the connectivist pedagogy of distance education, is built around networked connections and based on the learners' ability to actively participate in networked communities of their choice.

As Anderson and Dron state that, "Connectivism is built on an assumption of a constructivist model of learning, with the learner at the centre, connecting and constructing knowledge in a context that includes not only external networks and groups but also his or her own histories and predilections," the connectivisit pedagogy does not seem significantly different from the social-constructivist pedagogy, but it may be significantly different from other paradigms of teaching and learning in terms of the degree of control an institution has over students' learning. In the previous paradigms of distance education, the role of institutions in designing and evaluating students' learning is quite large while in the connectivist model where learners rely upon existing networked communities to develop their own net presence, the role educational institutions play in individual learning may be reduced to credentialing what students have learned.

Organizational Perspective

So far the evolution of distance education has been classified into generations in terms of its dominant technology and its dominant pedagogy. Here it is suggested that distance education can be classified into three organizational models. The first organizational model of distance education is the "supplementary model," where distance education is supplementary or complementary to traditional education, which targeted those who were excluded from traditional education for some reasons and needed some "access and equity" in their lives (Terry Evans, 2008). As the distance education programs are supplemental to on-campus programs, the institutional investment in offering the distance educational programs is minimal and usually managed by a special office called "extension programs," "external study," "independent study," etc. It also has been called "independent study," "self-directed learning," and "non-traditional and open education" (Saba, 2011).

After the introduction of the Internet in distance education, many existing educational institutions have taken this supplementary model as its core and started to offer dual mode (online and off-line) of teaching and learning. In many such institutions, a division specialized in helping schools and departments offer distance education classes and courses has been established and schools and departments have started to expand their student base beyond on-campus students.

The second generation of distance education is the industrial model discussed earlier. The industrial model has been associated with mass education where hundreds or thousands of students learn in the same program using the same content and the same method. In order to enable this, the institution has to have a division of labors within the institution; hence, it becomes the "industrial" model of production and delivery of courses. Those institutions who utilize educational broadcasting such as radio, television, telecommunications satellites and cable television must organize themselves into this model as it is labor intensive to produce such educational broadcasting programs and it requires different skillsets and expertise to do so. The drawbacks of this organizational model are: difficulty of responding to changing needs of learners, inflexibility of adopting new methods and content, and large organizational overhead.

The third and emerging model of distance education is the "ad hoc model," in which institutions may play one part in the whole process of learners' learning in various ways. In this model, the beauty of utilizing technologies should be realized in providing individualized learning programs and structures responsive to individual learners' needs instead of one size-fits-all system. However, in order to achieve this, it becomes too costly for one institution to offer all the diverse programs and systems depending on diverse learners' needs. Hence, an institution may offer services covering some part of the whole learning process of a learner.

For example, one institution may offer learning content while another institution may offer tutorials and student support. Yet, some other institution may offer evaluation of learning and credentialing of what students have learned. It's a division of labor across institutions to meet the demands of learners being arranged by an ad hoc institution based on learning goals students want to achieve. This third organizational model is still emerging, and has not yet been seen beyond experimental bases. As discussed above, there are many different models (whether it is termed as "generations" or not) of distance education and it is usually the case that evolving from one generation to another, or transforming itself from one model into another requires tremendous institutional efforts. It is so much easier to start anew rather than transforming one institution into that of a different generation or model.

Conclusions

In today's world, distance education has been becoming more complex and multi-faceted as time has gone by with added features and technologies. Educational institutions which have been created before the times of technological availability of today have to restructure themselves in order to benefit from those technological advances. With those technologies, now it is possible to achieve the ideal learning environment for a learner, that is customizable according to the individual learner's needs and preferences. For that end, educational institutions

have to reconsider the meaning of their own existence to equip learners' with the skills needed today and in the foreseeable future.

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GPSS INTERACTIVE LEARNING ENVIRONMENT

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Abstract

This work presents an open source web environment to learn GPSS language in Modeling and Simulation courses. With this environment, students build their models by selecting entities and configuring them instead of programming GPSS codes from scratch. Teachers can also create models so that students can apply, analyze and interpret results. Thus, it includes a simulation engine that stores snapshots of models as they are executed, and allows students to navigate through these snapshots. The environment may be combined with existing learning management systems.

Keywords: Modeling and Simulation; GPSS; interactive learning

Introduction

Programming discrete simulation models can be successfully accomplished using general purpose programming languages, such as Java or C++, or specialized languages like General Purpose Simulation System (GPSS) or Simula. While the former are known by any programmer, the latter introduce entities and processes in a higher abstraction level as well as a set of analysis tools to obtain data from simulated models. Thus, simulation languages greatly facilitate the development and execution of simulations of complex real-world systems. Most general purpose programming languages are designed around a set of instructions that control the execution of an algorithm: sequences, iterations and conditions are organized in objects, routines and subroutines. According to this simplification of programming languages, learning to build programs requires understanding what basic routines do and how they can be combined to deliver a recipe for the computer to execute.

The behavior of a system as it evolves over time is usually studied by developing a simulation *model*. This model usually takes the form of a set of assumptions concerning the operation of the system and, once developed and validated, it can be used to investigate a wide variety of "What if?" questions about the real-world system. Each simulation language generally possesses an orientation to real-world situations, which may be classified as event-oriented or process-oriented. Simulation languages exist to make it easier to build models for analysis and to answer those *what-if* questions. Understanding the output of a simulation after it was executed is as important

24

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as programming the model. To learn an event-driven simulation approach, a few major concepts need to be incorporated: entities, events, queue theory, simulation times, etc. Thus, learning a simulation language requires understanding the syntax and semantics of the language to manage those new concepts. Unlike general programming languages, simulation languages are not built around basic or atomic instructions. Instead, they are based on high level sentences representing entities with abstract attributes and specific behavior. The combination of these sentences describes several system components and their interactions. Simulation languages are so powerful because they allow programmers to create complex models with very few lines of code, run those models and finally retrieve information – general data and statistics – that explains the behavior of the system. In the academia, GPSS (General Purpose Simulation System) is a widely used alternative for modeling and simulation used for teaching discrete systems. GPSS is processes-oriented and defines the structure of models based on a set of language commands. Each command describes processes, with attributes and subroutines inside, which affect the model being represented. The language supplies lots of entities for the programmer and more than 50 commands to deal with them: create, use, release and query their status. There exists a small set of available tools and integrated development environments (IDE) for GPSS dialects. Most of them offer a place to write the model and to run it and they display reports regarding the simulation execution results. Code assistance and visual aids for the user during the programming stage are rarely seen here. Besides, deep analysis tools of how the simulation – and its entities – progressed and changed are quite unusual too. All of these tools are tremendously useful once programmers know GPSS well, but they are not suitable for newcomers that need to learn everything from the ground up. Consequently, students spend most class time learning how to specify and combine entities in a particular language instead of focusing on acquiring important simulation skills, such as mapping real systems into abstract models, identifying input and output variables and so on.

In this work, a web-based interactive learning environment (ILE) for GPSS is presented. The ILE was built upon an intuitive graphic user interface (GUI), based on dialogues and visual aids and a simulation engine improved for learning purposes. As with most web applications, no installation process is involved since the whole application can be exposed through a web server. In addition, the application architecture –split into several layers based on the client-server model– enables the ILE to be plugged into other web systems, in particular Learning Management Systems (LMS) such as Moodle (Moodle, 2012) Sakai Project (Sakai Proyect, 2012) and LRN (LRN, 2012). Models created on the client side of the ILE can be sent to the simulation engine on the server for its execution. The engine handles everything related to code parsing, interpretation, simulation running and report generation, keeping the client lightweight. Last but not least, for each simulation run, the server registers all changes as different simulations' snapshots which are kept in persistent media. Thus, students can fetch *snapshots* of their simulations and analyze in deep detail how the whole model –or even a particular model entity– progressed during execution time. The following section shortly reviews some previous modeling and simulation related publications as well as current GPSS implementations. Next, in the *Methodology* section, some issues related to GPSS learning are explained and the most important aspects of this work are introduced. Then, the application is presented and its implications related to those issues are described, followed by a section with some important notes about the development and its advantages. Finally, suggestions for future work have been included in order to offer a wider point of view of the project.

Related work

Simulation teaching in general and GPSS learning in particular are topics that have already been discussed over the last decades. Zikic and Radenkovic (Zikic, A. M.; Radenkovic, L. J, 1996) discussed GPSS learning problems. After some years of observation, they have summarized in four points the reasons why it takes so long for students to accept an entirely new approach to programming:

- - Students acquired programming skills based in Pascal or C, which employ strict and explicit typing for variables/objects;
- - GPSS does not have explicit declaration or strict typing of variables and objects;
- - Pascal and C propose a very structured and organized approach for programming;
- - GPSS syntax is of assembler type, with labels and transfer statements, which completely clashes with structured programming;

In their work, the authors introduce a new simulation language, based on GPSS concepts but oriented to a structured programming layout. This language, named ISDS, has different syntax rules and semantics compared to traditional GPSS dialects, and introduces some important changes such as explicit declaration, types and routine code organization. Even though the base concept seems correct, the authors suggested that it could delay the learning process in a second stage: the students would eventually have to use GPSS or some other commercially available system. Thus, once they have learned ISDS, they would still need to learn GPSS or another simulation language.

There exist few active implementations of GPSS language, among which MinutmanSoftware's version, named GPSSw (Minuteman Software, 2012), excels other developments as the most widely used one. GPSSw is a desktop application, and quite fast for developing and running simulations under MS Windows. To code models, GPSSw users have at their disposal a plain text area to write GPSS sentences. The application allows the creation of the simulation as well as to start its execution by inserting a *START* command. Simulations are usually run in a few seconds; the results are displayed in a text report which summarizes the most important aspects of the previously run model. GPSSw also offers some debugging tools such as pause and resume points during runtime, and some live examination tools for most GPSS entities (facilities, storages, transaction chains, etc...). GPSSw is also very useful to generate screening, optimization or user defined experiments. Wolverine Software Corporation (Wolverine Software, 2012) has also developed a GPSS implementation, which shares some common points with GPSSw. It is also a MS Windows application which lets users run models over the simulation engine and outputs a simulation report similar to that of GPSSw. However, models have to be compiled first, which results in a MS Windows executable program representing the simulation ready to be run. Compiling source files allows users to define external so-called ampervariables (routines) in C++ programming language, which will be compiled altogether with the model file(s). Even though the compilation process adds an extra step, it proves very useful for users to enable the extension of the simulation engine, either to connect the model to external data sources or to generate different output files. WebGPSS is another application that implements GPSS dialect. Models are created by defining and connecting block diagrams. This facilitates learning since engineering students are used to representing models with diagrams and charts. Models are created in a client desktop application and sent to a server for execution. The term *web* is owing to the fact that the server process could be run in a remote computer and thus be accessed. Both server and client are executable programs included in the package.

As learning tools, all GPSS dialects presented above share some common aspects that students and teachers need to deal with. As mentioned before, no current GPSS implementation includes either code assistance or syntax highlighting. On one side, WebGPSS implements a drawing-based alternative in which the user chooses blocks from figures and arranges them in a connected network. On the other side, GPSSw includes a plain text editor and GPSS/H has no editor at all. All GPSS alternatives require some installation process and all of them are also MS Windows dependent. Even though all alternatives can be run in Unix-based platforms using an MS Windows layer like Wine or Crossover, there is of course some performance drop. Besides, and more important, although some developers include a limited or trial version, there exist neither open source nor free alternatives available. In education environments, only WebGPSS includes some visual aid for the user. However, all mentioned versions are intended for users that already handle GPSS syntax, semantics and entities usage. In addition, there is no possible integration with existing web LME's.
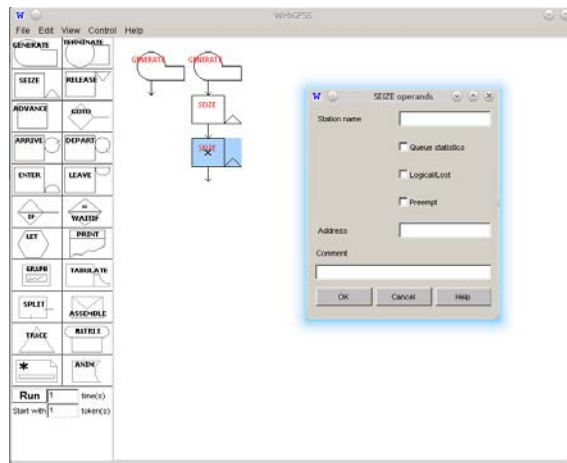
Fig. 1: WebGPSS IDE displays dialogues and graphs

Desporovic et all implemented a GPSS/FON (another less used GPSS dialect) based environment, which they called FONWebGPSS. The purpose of their work is to combine a GPSS implementation with Moodle. With this purpose in mind, teachers prepared case studies and problems related to the area of discrete event simulation, and students used GPSS/FON via Moodle to write and run the models. Simulation execution results are also integrated into Moodle, mixing standard GPSS reports with statistics charts created ad-hoc. Although the simulation engine was not adapted for teaching purposes, this work exposes the need to transform simulation learning via web environments, and to integrate simulation tools in existing LMS. In a different approach, Fonseca et all designed a framework with a Java-based desktop application to build GPSS models from graphics. The framework lacks, on purpose, the implementation of the simulation engine. The main idea of their work is to let students complete the engine by programming themselves the behavior of GPSS entities. This would help students understand how the engine works and would motivate them to write their own simulation engine. In addition to the *empty shell*, JGPSS also includes a regular GPSS engine and statistics generator. Note that in that work the authors considered the importance of understanding a simulation engine by accessing its core implementation and modifying its source code in a language they feel comfortable with.

Methodology

Between 2005 and 2011, during the development of Simulation and Modeling courses in Computer Science School at the National University of La Plata, students mainly used Minuteman Software's version of GPSS. During that period, some common obstacles that most students came across when starting with GPSS were identified:

Unlike general purpose programming languages, GPSS has many sentences and only two sentence categories: blocks and commands

Each sentence may require a different amount of parameters; some of them are mandatory and some are optional, some refer to other entities and some expect numeric expressions only

Although GPSS blocks are semantically different from GPSS commands –and that difference is key to understanding the simulation model– they are displayed in the same way, in the same place and they might even be syntactically mixed

- Some blocks are used for general flow control, while others are used specifically to deal with a single entity
- There is no code assistance or highlighting. One of the obstacles that arises from this is that it is hard to remember which entities have already been defined –especially in large models– and how they must be referenced
- When the simulation ends, the system displays a report which resumes in few statistics what happened during the execution of the model. Thus it is not easy to know what really happened: when entities were created or destroyed, how the system clock advanced or which entities were interacting
- The code organization and the language itself are very different from other programming languages that students had learned before (i.e. C++, Pascal or Java)

This paper proposes an interactive learning environment (ILE) to improve GPSS learning which tackles all previous issues in the very first stages of simulation courses. The bottom concept of the ILE is quite simple: instead of programming models by writing code from scratch, students can build their models by selecting and configuring entities and sentences. To that end, the GUI has been designed to explain some commonly confusing aspects of GPSS from the beginning and to allow students to focus solely on core simulation concepts and entities. The application presented here is suitable during the simulation development stage and also after the simulation has been executed, in the results analysis stage. In the next two sections, most elements introduced in both stages (development and analysis) are expounded.

Aids during development time

During the stage of development, students need to focus on their model and the flux of entities through it. They should not be distracted by issues of one particular programming language. To that aim, a first visual element introduced is the use of dialogues to insert blocks and commands, instead of writing code. Many efforts have been put into dialogue boxes, including a set of small but useful visual elements that avoid dispersion and most common mistakes.

- Dialogue boxes show all possible parameters for each sentence (block or command)
- Parameters include hints for the user to get a clue of what they are for
- Mandatory fields are clearly distinguished from optional data
- Since some sentences require the use of previously created entities, many dialogues display a list of optional entities to choose from
- Listed entities are just the ones having the correct type required for the sentence which narrows the possibilities to cause a mistake, mixing sentences with entities of incorrect type

In addition to dialogue boxes design, the ILE displays available blocks and commands grouped by their main function or by the entity they deal with. For example, since ENTER and LEAVE blocks are used to access and free *storage* units, they are shown in the same group; similarly, given that SEIZE, RELEASE, PREEMPT and RETURN blocks exist for *facilities* manipulation, they are shown in another group. Grouping blocks helps students make associations between blocks and entities and among related blocks too. Block groups are also separated from command groups, which reinforces the idea that, even though they look similar, they are not. Once confirmed, dialogues create GPSS sentences and entities in an inner representation and they are displayed in a GPSSW-like dialect. Code is rendered highlighting keywords and parameters, and again sentences have been split into two code zones: commands above and blocks below. In addition to GPSS code representation, blocks are presented as a list, and commands as a queue, which is the actual internal representation of the simulation engine. Among other features, blocks and commands can be moved up/down, dragged and dropped from the list (or queue respectively) and removed. Code parts can be intuitively organized, although blocks and

commands can never be mixed. The GPSS model, created in the web client application, can be sent to a server for its execution, which contains a GPSS interpreter and a modified simulation engine that runs the simulation.

Simulation execution analysis

GPSS is designed for the sub-area of discrete simulation systems, which basically means that each simulation is controlled by a finite simulation clock that changes discretely. For each clock change (*tick*) the system being simulated updates its status, cascading to all entities in order to be ready for the upcoming clock change. This behavior affects both permanent entities (facilities, storages, chains) and temporary entities (transactions). Hence, a simulation run can be decomposed as a sequence of clock changes and entity updates associated with those changes. Each component of that sequence represents a *snapshot* of the simulation in a precise clock time. This concept leads to a different way of interpreting a simulation run, based on the analysis of entity changes during running time. Even though this might not be very useful for real simulation analysis, it clearly helps students understand how the simulation advanced and what *really* happened in each advance: how the clock moved forward, which entities existed in each *clock time*, what they were like and how they interacted with each other. It is of particular interest that this model also helps to understand the transaction scheduling system inside the system chains, which is a particularly problematic topic. The previous concepts were implemented by making major changes to the GPSS interpreter and the simulation engine to enable them to take full snapshots of the simulation during runtime. Snapshots are taken each time the system clock changes and they are queued in an in-memory data structure as the simulation runs. It must be considered that snapshots are quite heavy in memory and CPU terms, since they represent the whole simulation graph, composed by all model entities and its relationships. Once taken, each snapshot is persisted in a relational database system (RDBMS) for further analysis. Persistence is also a heavy task that involves saving all entities to a relational database and it is handled by a concurrent thread that maps objects to tables and stores them in the DB in disk.

When the simulation is sent to be run in the server, it only takes few seconds until the execution ends but it could actually take a while to be fully stored by the persistence thread. To make that clear for the user, the system GUI has been designed to display a brief simulation report in the final stage and to show the user the persistence process as it advances. Once all snapshots have been persisted, the GUI enables the user to access snapshots, sorted by its system clock. Then, the student can browse snapshots, and inspect the status of self created entities as well as system default entities and data structures. Each entity can also be selected individually, which results in a specific report for the entity itself displaying it status in each system clock and other entities being affected. Again, these entities can also be selected, allowing the user to recursively navigate through entities and simulation snapshots.
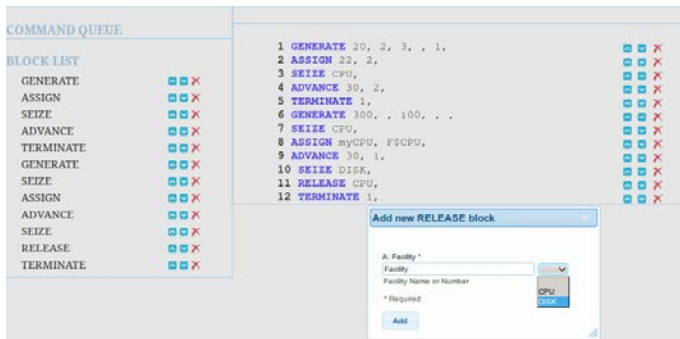
Fig. 2: GPSS ILE: dialogues display entities lists and field hints
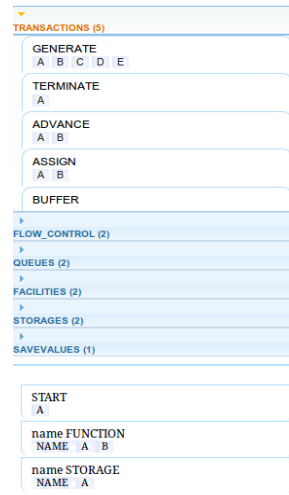
Fig. 3: Block and commands grouped by function or entity

Results

The application has been organized into a multi-layer architecture mainly composed by a thin client on one side and GPSS interpreter with the simulation engine and the RDBMS on the other side. Both parts of the application are completely independent one from the other. For them to work together, a MVC application has been developed to acts as a bridge between them, transforming requests from the client to messages to the interpreter and vice versa. The high decoupling level also allow application parts to be easily embedded into other environments. The client side was built using only HTML, Javascript and Cascading Style Sheets (CSS), and works as an independent pluggable module. The GPSS interpreter and engine is a common open source Java and MySQL application. It has been adapted to the Maven2 standard, which makes it really easy to download, extend and compile. Even though it is not likely that GPSS students will try to modify or extend something they still do not understand at first, accessing the source code of the simulation engine is a powerful way to understand how GPSS entities really behave inside, by reading it in a well known language. Similarly, having snapshots that compose a simulation stored in a database gives the students an opportunity to write their own SQL queries and to research much deeper about the entities than any front-end could offer. The application can also load and execute *preexisting models*; teachers can create their own models and leave them available for students to understand particular issues, review any class subjects or prepare quizzes and activities. Once models are created by the teacher, students will see an icon to load them in one click. After a model is loaded, users have full access to it just as if they had written it block by block and command by command. They are able to modify it too or even to extend it, which proves very suitable for some activities of interpretation and system improvement or optimization. In the meantime, as they analyze the model, the system will have sent it to be run in the background and at the end it will output the same kind of results as any model created by hand.
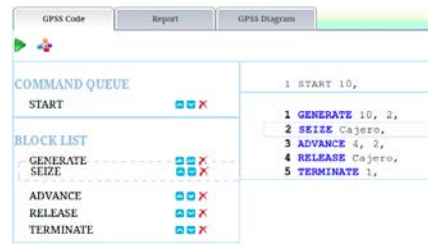
Fig. 4: Drag and Drop over the block list

Social implications in education were also considered in this work. An open source application results in a helpful teaching tool and the ability to plug it into other systems represents a great opportunity for teachers and students. In third world countries, license fees are hard to afford. Commercial applications and trial versions are not a real solution, although they mitigate limitations. Platform dependent applications make it even harder for non Windows users. By using a web application, students can use it in any computer, tablet or even mobile phone: all they need is an operative system with a web browser. No installation process is required. Last but not least, colleges can naturally host their own GPPS full stack: client, web application and interpreter. This allows them to count with a full repository of new learning objects: GPSS models ready to be run, modified or extended, and already executed GPSS models to deeply analyze and understand them from the ground up.

Conclusion

A web application for GPSS learning has been presented here. The application is targeted to students in their very first encounter with modeling and simulation subjects, in special with a programming language like GPSS. The main purpose of this work is to shorten simulation learning times by eliminating the need for students to deal with specific issues of a particular simulation language and letting them focus solely on important modeling and simulation concepts such as abstraction, resources, statistics and experimentation. To that end, the application focuses on two key stages of modeling and simulation learning: model building and simulation run. The former is tackled by providing the students with an interactive GUI that helps them build the model by selecting and configuring sentences, organizing code parts, and laying GPSS elements out making key aspects clear from the beginning. The latter is faced under the premise that a simulation run is too complex to be understood from a single text report with some statistics results, especially when students are still learning what a simulation is or should be. The solution presented proposes a *navigable report*, where the students can surf from their simulation entities and access the state of each one in all simulation clock changes. This way, they can understand how entities are affected by other entities and how the simulation system deals with the execution of temporary entities created on the fly. Another important aspect of this work is that it has been released as open source software. This license has two main implications in this context. First, and as with any other open source software, anyone can download, use and extend the applications as needed; of particular interest is the possibility of integrate it with other LME's or with any web application. Secondly, students can be encouraged to study the software as it is, to improve it and extend it, either on their own or as a class exercise.

Future work

There is much work to do to improve this environment. Many but not all GPSS entities have been implemented, so a first improvement would be the inclusion of more entities and their associated sentences. Dialogue boxes can also be improved by including visual clues for students to make associations between GPSS entities and real-world objects: if the student is creating a FACILITY, the GUI would show something that *works* as a facility, like a toll barrier or a computer processor. Reports can also be extended to include new entities and to allow students to compare different snapshots side-by-side, highlighting changes in existing entities as well as entities created on one side only. The ILE still lacks a view for the professor, to create models and organize activities and class members. Even though the latter can be accomplished by most existing LMS, model creation, testing and publication must be improved to encourage teachers to add new models for their

students. Integration with existing LMS must also become better. As any web application, the GPSS ILE in its current state can be embedded into any web page using, for example, an iframe. However, it would be very helpful to integrate it with existing LMS via installable plug-ins/extensions. This would demand many efforts, since each addition must be customized by hand, but would encourage system administrators to offer the tools to its users.

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GRADUATE STUDENT MIDDLE SCHOOL MATHEMATICS TEACHERS' COMMUNICATION ABILITIES IN THE LANGUAGE OF MATHEMATICS

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Abstract

It was aimed to investigate graduate student middle school mathematics teachers' communication abilities in the language of mathematics. The study was designed qualitatively with fourteen middle school mathematics teachers who were graduate students in mathematics education program. Data of the study was collected through an open-ended test including ten questions with several items. Responses of the test were analyzed by coding qualitatively.

Keywords: The language of mathematics, communication in mathematics, mathematical literacy

Introduction

Mathematics can be defined that it is a language; in fact it is a universal language. However, the language of mathematics differs from other natural languages since there are no native speakers of mathematics language and it requires a natural language to communicate. Additionally, mathematics has its own vocabulary. Therefore, it has a syntactical and rhetorical structure. According to Jamison (2000), the language of mathematics has a nearly universally accepted logical and rhetorical structure, and it has been presented following a format of definition-theorem-proof. Moreover, each of three main elements which are definition, theorem, and proof has a definite rhetorical structure.

The importance of the mathematics language in learning is indisputable. Students should gain the mathematics language skills and mathematics concepts simultaneously to communicate in this language. Thus, mathematics teachers are responsible to provide the mathematics language skills apart from the mathematics concepts. Jamison aimed to show how making the syntactical and rhetorical structure of mathematical language clear to students can increase their understanding of mathematical concepts. Then, he concluded if the rules of the language of mathematics are made explicit, students will learn them and use them as tools to understand abstract mathematical concepts. Owens (2006) questioned the reason why students become reluctant once they reached higher grades while they were eager to learn mathematics at the beginning of the school. Owens emphasized that teachers need to know where in the curriculum to introduce the vocabulary words and how to make connections with the students' knowledge to support the use of appropriate mathematical vocabulary in the classroom. Owens considered that every classroom needs a mathematical dictionary, and he constructed a mathematical dictionary that can be used in the primary and middle grade levels.

It is a fact that mathematics teachers generally focus on only mathematical concepts because they expect students to learn mathematics language skills through exposure, they rarely focus on mathematical language knowledge and skills. Gray (2004) worked on why teachers rarely focus on the language while teaching mathematics. According to Gray, the reason is that teachers are either unaware of how to teach the language of mathematics or they may not believe that they are capable of successfully implementing language instruction in their mathematics classrooms. According to Gray, Bandura's self-efficacy theory is a possible explanation for why teachers rarely focus on mathematical language (Bandura, 1997). Bandura's theory emphasizes that teacher's self-appraisal may shape her/ his choices to teach. Gray explained this idea that if teacher does not believe that she can teach a mathematics topic successfully, she will not choose this topic to teach and she will probably not be able to. Gray designed a measurement instrument called Language of Mathematics Teacher Efficacy Scale (LoMTES), to measure teacher' self-efficacy about this issue.

Increasing the importance given mathematical literacy has emerged as one of the results of international examinations like PISA or TIMMS, it is seen that most countries give special importance to communication in the language of mathematics, which is one of the elements of mathematical literacy. In this regard, National Council of Teachers of Mathematics (NCTM) gives importance to students' communicating in mathematical language beginning from the early ages. Communication standards for school mathematics are as follows:

Instructional programs from prekindergarten through grade 12 should enable all students to-

- organize and consolidate their mathematical thinking through communication;
- communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
- analyze and evaluate the mathematical thinking and strategies of others;
- use the language of mathematics to express mathematical ideas precisely.

(2000, p.60)

Structure of mathematics

As it is mentioned above, mathematics is a language like any other language, so it can be got in semiotic perspective. That is mathematics has own words (symbols), semantic and syntactical rules (Cathcart, 2003). Cathcart states that symbols convey meaning and associated rules. Kenney (2005) emphasized distinction between mathematical content and process. As cited in Kenney (2005), first model of the language of mathematics proposed by the Balanced Assessment Program at the Harvard Graduate School of Education. Kenney states that this model suggests thinking about mathematical nouns, or objects and arrangements and mathematical verbs may be regarded as following four actions:

Modelling and formulating,

Transforming and manipulating

Inferring

Communicating.

When we consider these actions as elements of mathematical literacy, we have seen that generating a model for mathematical literacy has received a great deal of attention in literature. Pugalee (1999) indicated necessity of definition and a model of mathematical literacy and he studied on a model. According to Pugalee, a model of mathematical literacy must first embody the NCTM's processes through which students obtain and use their mathematical knowledge. The five processes through which students obtain and use their mathematical knowledge were valuing mathematics, becoming confident in one's ability to do math, becoming problem solvers, communicating mathematically, and reasoning mathematically in NCTM standards in 1989. Furthermore, Pugalee adds that as a second, a model of mathematical literacy should demonstrate the intricate interrelationships between various essential processes in development of mathematical literacy and specify 'enablers' facilitate development of the five processes. Pugalee presented a model for mathematical literacy by considering these three standards he indicated as in Figure 1.
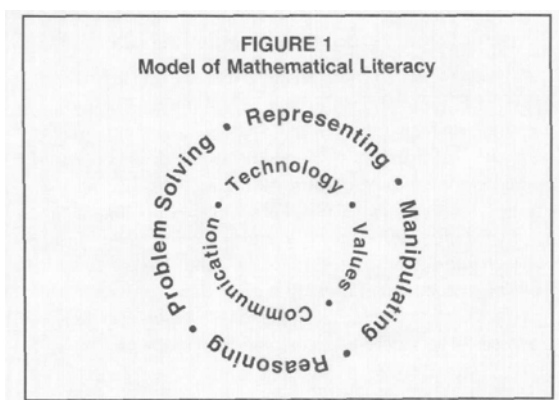
Figure 1. Model of mathematical literacy (Pugalee, 1999, p.20)

On the other hand, as Kenney emphasized, distinction of mathematical processes and content is essential for conceptual knowledge and communication in the language of mathematics. , Tall (2004) claims that symbols that we use for calculation and manipulation are begins with actions as pointing and counting. By using symbols, actions are encapsulated as concepts. Tall states that encapsulation of actions as objects allow us to switch from process to do mathematics to concepts to think about. Gray and Tall (1994) call this switching by the term 'procept'. Tall claims that symbols act dually as process and concept. For instance, a symbol like 1+3 acts as the process of addition or the concept of sum. From Piaget's perspective, when actions on fundamental mental objects are routinized, they are conceptualized as processes. Then, these processes are considered as mental objects at higher levels. We used some aspects of these frameworks in this study.

Purpose of the study

We aimed to investigate middle school mathematics teachers' communication abilities in the language of mathematics in this study. The research questions that were considered are the following:

How are communication abilities of middle school mathematics teachers who were graduate students in mathematics?

How are reasoning abilities of middle school mathematics teachers who were graduate students in mathematics?

What are conceptual levels of middle school mathematics teachers who were graduate students in number concept?

Methodology

The study was designed qualitatively with fourteen middle school mathematics teachers who were graduate students in mathematics education program. We should also note that we can call participants by junior mathematics teachers, since the most experienced of them had seven years experienced. Data of the study was collected through an open-ended test including ten questions with several items.

The test was prepared to asses participants' abilities of reasoning, communication and conceptual level. For instance, some simple sets of numbers were given with common-properties representation in two questions and

asked to read with comprehension and the meaning of the given representation to assess participants' reading and conceptual level in number concept. Similarly, a proposition and a number set were given in natural language and required to write in the language of mathematics to assess their writing abilities. Moreover, with some given prepositions in natural language, it is aimed to assess participants' reasoning abilities, structural knowledge of mathematics language that is knowledge of syntactical and semantic rules. For instance, two propositions were given in the language of mathematics and required negations of them. In another question, following mathematical expression was given and asked to evaluate if it was convenient.

$$\text{If } \{x \in \mathbb{R} | 5 < x \leq 8\} \text{ then } x > 7$$

Findings

Results of the study indicated that junior middle school mathematics teachers did not have communication abilities in the language of mathematics as expected from a mathematics teacher. It was seen that eight participants out of fourteen had ability of reading with comprehension. In the aspect of writing a mathematical sentence, given in natural language, in the language of mathematics, only seven of fourteen participants were completely successful. Almost all of the participants, except only one, able to write the given set of numbers in the common property notation, while only seven of them could write the preposition given in the natural language in the language of mathematics. Moreover, these seven participants successful about writing were also able to read with comprehension. Furthermore, we saw that only five participants demonstrated that their conceptual levels in the number concept were object level. That is, remaining nine participants were not able to take a set of numbers as a mental object. They expressed the elements of the following number set by reading word by word.

$$\{x \in \mathbb{R} | 5 < x \leq 7\}$$

These participants who gave such an expression explained the elements of the set as an answer of the item in which the meaning of this notation was required. Another important thing was that five participants who demonstrated object conceptual level were also successful about reading with comprehension and writing in the language of mathematics.

Another crucial result obtained from the study was that most participants had weak reasoning ability and weak structural knowledge of mathematics. For instance, answers of the item in which the following conditional sentence was given to be asked to evaluate if it was convenient can be taken as examples of this result.

$$\text{If } \{x \in \mathbb{R} | 5 < x \leq 8\} \text{ then } x > 7$$

Except three participants, all of them evaluate this conditional sentence with the value of x that satisfy the conditional sentence. Therefore, they changed one of the equalities in the sentence. We saw that they were not aware that connective of "if…..then" connects propositions, but hypothesis part of the given conditional sentence was not a proposition. Moreover, also four participants reading with comprehension were not able to evaluate this conditional sentence successfully by reading with comprehension.

In the aspect of reasoning ability, it was seen that junior middle school mathematics teachers had weak abilities. Furthermore, participants who had strong reasoning abilities also demonstrated abilities of reading with comprehension and successful writing in the language of mathematics. One of the questions that we assessed

participants' reasoning abilities included two compound propositions that can be seen in the following. Negations of them were asked in this question.

"$For\ all\ \varepsilon > 0\ there\ exist\ at\ least\ one\ \delta > 0\ such\ that\ |x - a| < \delta\ implies\ |f(x) - L| < \varepsilon$"

"$For\ all\ x < 10, f(x) < 0$"

It was seen that any participant could obtain negation of the first compound proposition successfully. Most of the participants negated the first proposition word by word by memory. They negated each quantifiers, symbols and words, while some of others exchanged hypothesis for conclusion to negate it. It was obvious that any of them check the meaning of expressions that they obtained. One of wrong negation can be seen as an example in the following:

$$[\forall\varepsilon > 0, there\ exist\ \exists\delta > 0\ \ni\ |x - a| < \delta\ implies\ |f(x) - L| < \varepsilon]'$$

$$\exists\varepsilon \leq 0\ there\ exist\ \forall\delta < 0\ \ni\ |x - a| \geq \delta\ implies\ |f(x) - L| \geq \varepsilon$$

On the other hand, seven participants out of fourteen were able to obtain correct negation of the second proposition. It was seen that these seven participants expressed the proposition in the language of mathematics first and then negated it. But, this result did not mean that they were able to negate this proposition successfully, since the proposition did not have connective and one can obtain correct result by negating word by word by memory. The student whose negation is seen in above gave following correct answer to the second compound proposition. When her responses for negating were considered, it was thought that she might negate by memory without giving meaning as in the first proposition.

$$(\forall x < 10, f(x) < 0)'$$

$$\exists x \geq 10, f(x) \geq 0$$

Following expressions are examples for the participants who exchanged hypothesis for conclusion and negate word by word to negated it.

$$f(x) > 0, \forall x > 10$$

$$f(x)' > 0, \forall x' > 10$$

Conclusion

We concluded junior middle school mathematics teachers had weak abilities of reading with comprehension and writing in the language of mathematics. Moreover, their reasoning ability and knowledge of logical structure were not sufficient to support middle school students' mathematical literacy. For instance, mathematics teachers who were responsible for developing middle school students' mathematical reasoning ability did not evaluate the

meaning of the mathematical sentence that they wrote.   Consequently our findings indicated necessity of some developments in mathematics teacher training programs in the context of mathematical literacy.

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GRAPHICAL DESIGN ELEMENTS THAT SHOULD BE CONSIDERED IN COMPUTER BASED INSTRUCTION

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Abstract

Educational technology has emerged as a new field of education because the main means of having access to information has become technology. Thus, basic curriculums in all over the world have been in the process of restructuring; Classical teaching materials have been replaces by technological equipments (Smart boards, tablet PCs, mobile phones etc.) and new materials are designed for these technological tools (Course presentations, notes for distance education, educational software etc.). With the design of teaching materials for technological tools, graphical designs have become one of the most important ways of presenting information. Therefore, instructors should be knowledgeable about graphical design elements such as color of the background, the font used, the size of writing, the density of the text and the relationships among background color and font contrast etc. In this paper, the main focus is the elements to be considered in color selection and harmony which are among the principles of graphic design while designing computer based instruction materials.

Keywords: Computer based instruction; Computer assisted language learning; Educational software; Educational technology; Ggraphical design

Introduction

Graphic design started with the drawings on cave walls by primitive human beings. The designs drawn on cave walls by first people were the visual reflections of verbal language. Hence, graphic design is one of the ways of a person's expressing himself/herself. Therefore, the choices made by an individual while forming the design include elements of his/her inner world; and like fashion, they change depending on some factors such as the education taken, the environment resided (city, country), upbringing (oppressed, free), gender, politics of the era, technological and scientific developments, peace or war atmosphere etc. In case of graphic design suggestions are not made not to restrict the creativity of the person, only factors to be considered and situations to be avoided can be mentioned (Fiell, 2005).Yet, the design has some basic components and the greatest care should be taken while making educational designs as it is very difficult to correct them.

Principles of design

Graphic design is viewed to be a discipline in the field of visual arts. However, it has many sub-concepts. The components of design can be subsumed under two categories. These are principles and elements. The basic principles are balance, rhythm, proportion, and unity. Elements are line, shape, texture, white space, mass, value and color (Fidan, 2012). The present study only focuses on the element of color.

Features of color and its use in design

Color is one of the cornerstones of a design. Sometimes, color can lay the basis of creative thinking and all the design is built on color (Wong, 1997, Fidan 2009):

Colors existing together with the light can create various effects on people. There are three dimensions of color: Length (type of the color), width (shade of the color), and depth (intensity of the color).

- The type of color is the terms used to describe the color such as yellow, red, blue, purple, green, orange etc.

- The shade of color is its lightness or darkness. When a color is enriched with white color, it becomes lighter, and when black is added, it becomes darker.

- The density of color is related to brightness. The colors with high density are bright colors.

The most important one among these three dimensions is the shade value of color. The element which describes a visual image best is the shades it contains.

Effects induced by color on people

In addition to reflecting the sensitivity of the designer, the choice of the colors in the design of educational software should be in compliance with the color preferences of the target group. Therefore, it is of great importance to know the effects of colors on people. Some of the effects induced by colors on people are personal and some are generalisable. For instance, warm colors' becoming stimulating and cold colors' being soothing can be considered to be the generalisable effects of colors.

Generalisable effects of colors

Green and blue colors are known to be cold, red and yellow colors are regarded to be warm colors. By bringing cold and warm colors, new colors can be obtained. For instance, a cold color, blue, can be mixed with a warm color, red, then we get a color of blue close to purple. This new color is a bit warmer than blue. In this way, we can have less cold color.

Grays called to be neutral colors can be cold or warm depending on the mixture ratios in their pigments.

While warm colors stimulate and cheer watchers, cold colors soothe and relax them. The reason why restaurants are painted with warm colors is to stimulate visitors to eat fast and in the similar manner, hospitals are painted with cold colors to calm the people who are panicked. Excessive use of cold colors may result in the emergence of gloomy and depressing atmosphere. In the same token, excessive use of warm colors may lead people to aggression.

On graphical surfaces, warm colors seem as if they would leave the surface and they seem in the front. Yellow is the color which is seen at the forefront of all the colors. Cold colors on the other hand give the impression of distance.

Psychological effects of colors

When the psychological effects of color are considered, it is usually accepted that green means jealousy; blue is the symbol of loyalty and sincerity; red represents activity and courage; brown and purple are the symbol of monotony and boredom; white represents submission; black symbolizes pessimism. In addition to these, some researchers argue that red increases blood pressure and pulse beating.

Cultural effects of colors

When the colors are considered from a cultural perspective, they have various connotations. For instance, in oriental culture, the golden yellow is considered to be a sacred color; yet, in some westerns cultures it is the symbol of cowardliness and treason. Red stands for passion. Orange represents science, civilization, energy and power, purple close to blue is the symbol of spirituality and purple close to red is the symbol of courage.

Blue which is a passive and cold color symbolizes both distance and formality and honesty and loyalty. It connotates authority and power. It is cooling and associated with sky, ice and water.

Green is the symbol of freshness and fertility. It symbolizes environment and nature and it is relaxing and soothing. White represents honesty and innocence; black is the symbol of sorrow, gloom, grief and dead. Moreover, it connotates extreme passion and elegance.

Female and male colors

There are two important concepts to be considered while selecting not only the color of the surface but also the color of the letters of the writing on the surface. These are female and male colors.

Female colors: light color on dark surface. For example; white writing on blue surface

Male colors: dark color on light surface. For example; blue writing on white surface

However, there are no certain formulas showing how to operationalize these concepts in a design. A graphic designer should consider following four elements in color selection:

1- Cultural connotation of a color,

2- Color preference of the target culture,

3- Character of the product,

4- Type of approach to design

Things to be considered in color use

The designer should know how colors are perceived by the eye, their wavelength characteristics and their effects on the health of eye. For instance, yellow color is first perceived as purple and the process through which the color is perceived to be yellow is tiring for the eye. Long-time focusing on yellow color may lead to visual disorders. Therefore, yellow should not be selected as the color of surface or front color while designing products requiring long-time reading. Moreover, the designer should be knowledgeable about the effects of visual disorders on the perception of colors by people. For example, he/she should know what color blindness is

and what effects it induces; learn how to use red and green colors on the same surface or to create a contrast appropriately so that undesired outcomes can be avoided.

The use of colors in computer assisted language learning software

In most of the educational software programs, pictures, figures, tables etc. are used in teaching of subjects, yet, in language teaching, particularly in teaching of grammar, most powerful elements to enhance teaching are colors. Suffixes and prefixes, tense suffixes, changes and differences in verb inflections can only be emphasized through colors. Look at the following example to teach some suffixes in Turkish (Figure 1):
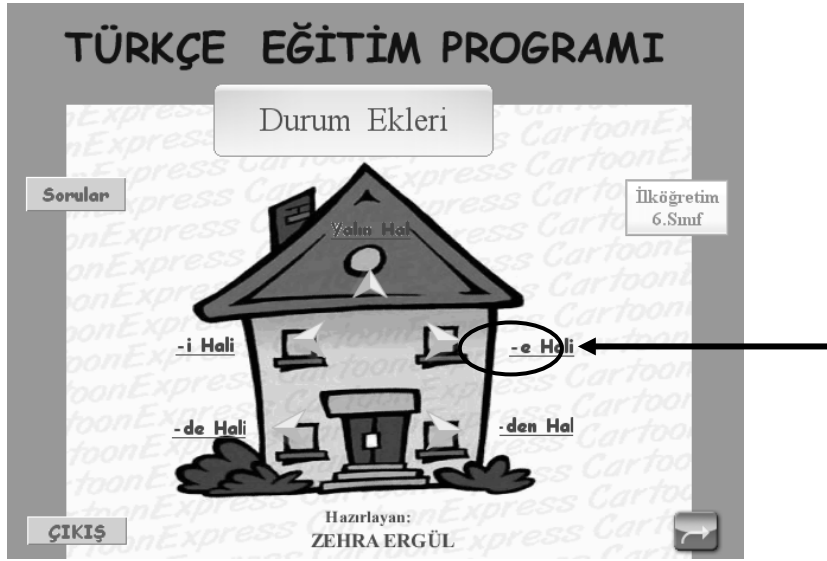
Fig. 1. Educational software sample to teach some suffixes in Turkish

In figure, you can see the subject selection screen of the educational software programs developed by Turkish language pre-service teachers to teach some suffixes in Turkish. In this screen, you can click on the subject you want to learn and then you are directed to the relevant screen (Figure 2).
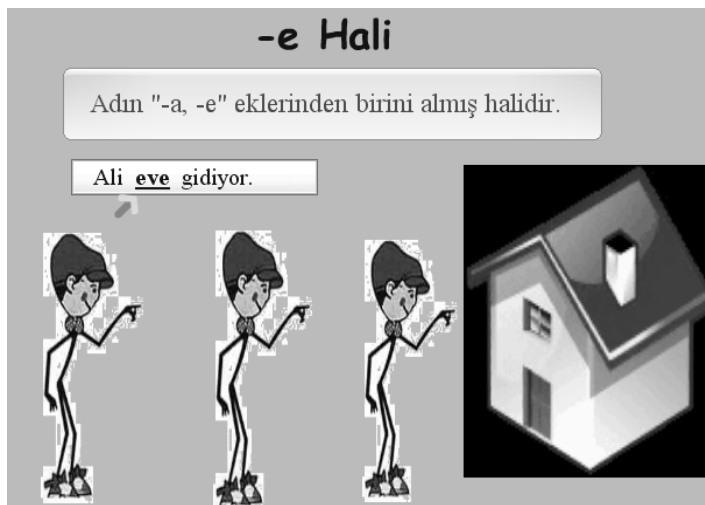
Fig. 2. Subject teaching screen (-e suffix added to word "ev")

In figure 2, there is a hero in this software program: "Ali". The subject is taught through the activities Ali carries out. As an object "Ev" (house) is selected. Some suffixes are taught by using the interactions between Ali and "Ev". In the sentence "Ali eve gidiyor", the purpose is to teach –e suffix. The subject is taught with a sentence. In the example, for better presentation, -e suffix can be shown in a different color or at least it can be underlined or written in bold. In subject teaching, while presenting the word ev(e) in the sample sentence, -e suffix can be zoomed. Moreover, a color inside the house (for example, blue) may be selected, and Ali's hat, the title of the subject and –e suffix in the title and –e suffix in the sample sentence can be in blue, in this way subject teaching can be consolidated.

In figure 3, the sample sentence is "Ali evde" and here the purpose is to teach –de suffix. In the subject selection screen, Ali's entrance to the house should be shown through an animation and in this screen, the subject should be taught by showing that Ali is in the house. To teach better, the door of the house can be yellow and –de suffix can also be written in yellow. Moreover, the teaching can be consolidated by making the color of the room where Ali is yellow, subject selection button (-de) in subject selection screen can be in yellow, subject title (figure 3) can be in yellow.

Fig. 3. Subject Teaching Screen (Suffix showing the state of being inside the house)

As a result, every element used in the design (character, surface color, font color, button design, subject title, sample and explanation) should be designed in such a way that each should complete each other and contribute to the teaching of subject.

Conclusion

When the fact that educational technologies are developing fast and all the educational settings will be presented in digital environments in the future is considered, it seems to be clear that the people who will design educational software programs should be knowledgeable about the basic principles of education and main principles of graphic design. In this paper, we focused on one of the most important elements of design, color, and some samples were given here to show how color can be used to make language teaching more effective. It should be noted that "Design is not a magic, many trails are made until the correct design is found (Atasay, 2012)". Therefore, it should be underlined that for good design, much time should be spent on the material. But it is worth doing because in the digital environment, the information can be reached by millions of people.

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GRAPHICAL UNDERSTANDING IN MATHEMATICS EDUCATION: DERIVATIVE FUNCTIONS AND STUDENTS' DIFFICULTIES

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Abstract

Effective teaching is one of the most important factors to improve students' achievement. Therefore, many researchers in mathematics education are looking for several ways to improve the quality of learning. The purpose of this paper is to investigate an overview of specific difficulties based on the graph of derived function, another words, how students find the connections between the graph of derived function and the some properties of the original function.

The subjects were 102 high school students in grade 11. The study was conducted during the fall semester in two calculus classes. The data of the research has been collected from 5 diagnostic the graph of derived function involved the chance in slope, decreasing, increasing, a local maximum, a local minimum, the point of inflection.

The questionnaires were designed to assess how well the students had learned procedures the connections between the graph of derived function and the some properties of original function. Each student was asked explain how you arrived at your answers. While working on the answers of the students, not only the accuracy of the students' answers was examined but also the methods were being analysed even if they were incorrect.

The results indicated that the students find it difficult to make connections between the graph of derived function and the original function. Usually, they were to interpret the graph of derived function as the graph of function. The students did not use the mathematical language to describe the graph of derived function

Effective teaching in calculus course should be informal, intuitive and conceptually based on graphs and functions in order to improve the quality of learning and develop the understanding of calculus concepts.

Keywords: Function, Derivative Function, Graph of Derived Function, Effective Teaching

1.Introduction

Derivative function is a new function which is formed from given function. The subject of derivation forms important chapter of analysis in university level as much as high school level. Additionally, the subject of derivation is mathematically cryptic subject. When conceptual structures, logical structure, abstract and symbolic character of derivation combine with deficiencies in conditions of education, complications in learning arise.

To gain theoretical thinking character of derivation encloses discussion activities graphically as researches, solutions of problems. Graphical discussion of derivation is needed thinking skill. Due to the usage of derivation concept in many disciplines, to know difficulties of students met in this level is important. These difficulties in understanding on this main subject were a studying topic for many researchers who are working on mathematics education.

Graph of derivative function was analysed. In this research graph of derivative function was analysed. Just because of the use of derivative function in various disciplines, the students have to be aware of these difficulties that they face in this level.

Visualisation in mathematics education, i.e. in other words, graphical interpretation became important increasingly. Until years of eighties, mathematics education was made operationally. At subsequently years, many mathematics

educators emphasized meanings of derivation in various disciplines and suggested a new method that used graphical operations (Decker, 1985, tall, 1997, Asial et al 1997).

Tall and Vinner (1981) defined some difficulties that students faced while they were using graphical methods in order to solve a function. In similar study, before giving the graph of derivative function Ferrini-Mundy and Graham (1994) investigated finding the equation of function given graphically and then defined difficulties.

Usage of graph in the subject of derivation have the students be concentrated on this subject of derivation and simplified examination of concerned problem solutions (Tall, 1986) To establish relationship between the graph and algebraic operations provides gaining power of knowledge which is obtained by the students (Dreyfus and Halevi, 1990).

Heid (1988) investigated that the college students' difficulties on understanding the subject of derivation, the mistakes made by students and effects of computer usage on this subject. In addition to this subject, to simplify understanding the derivation conceptually, Heid indicated the importance of computer usage and drawing graph. Mathematics is not a discipline demerged different subjects, operations and rules, it is a consecutive discipline abided to basic principles and concepts. When the basic concepts of analysis of derivation have not been understood by students thoroughly, the students will be ignorant of applications, formulas and their meanings. Thus, learning abided memorization of rule and definition gets difficult and doesn't contain real life applications (Orhun, 2012).

In similar study, Orton (1983) showed that many students in mathematics department have many basic errors in the subject of derivation and derivation can not be understood conceptually.

The students understand the subject of derivation algebraically. One another purpose of this research is to understand and to deepen the epistemology of subject of derivation.

By means of the strategies developed, learning of the students will be increased.

In this research graph of derivative function was analysed. Just because of the use of derivative function in various disciplines, the students have to be aware of these difficulties that they face in this level.

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The students understand the subject of derivation algebraically. One another purpose of this research is to understand and to deepen the epistemology of subject of derivation.

By means of the strategies developed, learning of the students will be increased.

2.Method

The subjects were 102 high school students in grade 12. The study was conducted during the fall semester in two calculus classes. The data of the research have been collected from 5 diagnostic the graph of derived function involved the chance in slope, decreasing, increasing, a local maximum, a local minimum, the point of inflection.

The questionnaires were designed to assess how well the students had learned procedures the connections between the graph of derived function and the some properties of original function. Each student was asked to explain how they did find the answer. The results that taken from the students' attempts were analysed. While working on the answers of the students, not only the accuracy of the students' answers was examined but also the methods were being analysed even if they were incorrect.

3.Findings

The results indicated that the students find it difficult to make connections between the graph of derived function and the original function. Usually, they interpreted the graph of derived function as the graph of function. The students did not use the mathematical language to describe the graph of derived function

It was determined that conceptual and practical errors which arised from this study, resulted from skill to understand basic principles, skill to think on the graph, skill to argue from graph and lack of relation in relationships which problems contained.

The questions that were asked to the students have been exemplified below.

Research Question 1.

The derived function graph is given in figure 1.

Find the generally the equation of function y=f(x).
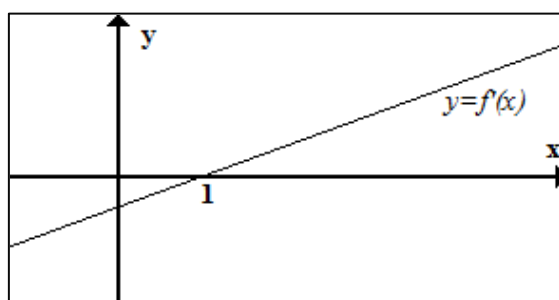
Figure 1.Graph of derived function

The aim of this question is to build relation between derivative function and degrees of original function. Almost every single student knows that algebraically the degree lessens one in operation of derivation. Contrarily, the students have difficulties finding the degree of original function on the given graph of derivation.

The answers were as follows:

Generally given answers were to form symmetric line for graph of function unless making declaration (42%).
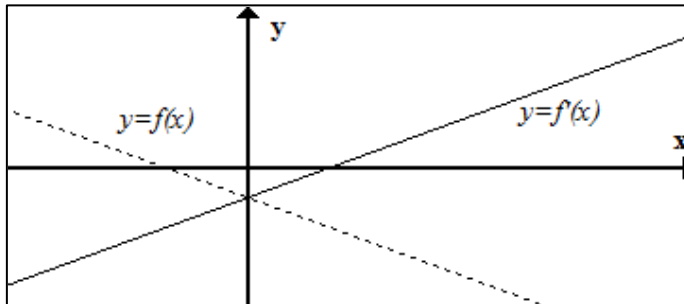
Figure 2. Graphs of derived function and original function

Another answer is derivative function is a linear function, base function can not be found (10%).

The equation of derivation must be given. In this position the equation of function could be everything (15%).

Research Question 2

The derived function graph is given in figure 3. Find the points of local maximum and local minimum of original function.
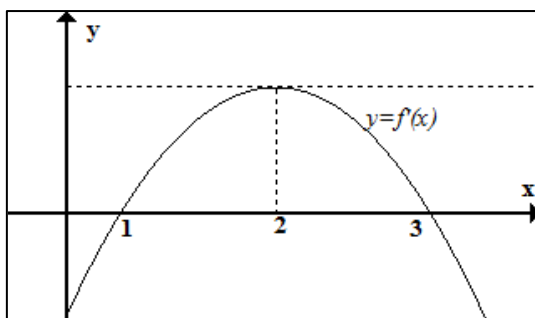
Figure 3. Graph of derived function

The aim of this question is to apply the definitions of points of local maximums and local minimums on derivative function. However the majority of the students (72%) answered this question that there is a local maximum at the point of $x=2$ and there isn't any local point of minimum. Here, derivation of graphically representation of derivative function could be converted to properties of function. This graph was generally perceived as the graph of function.

Research Question 3

The derived function graph is given in figure 4. . Find increasing and decreasing intervals of the original function.
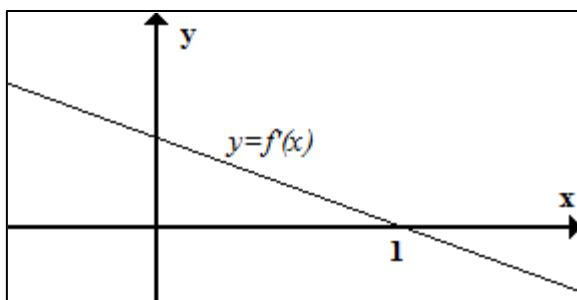
Figure 4. Graph of derived function

The aim of this question is to specify on which intervals derivative function takes positive or negative values and to apply the condition of occurring to decrease and to increase of original function. The answer of majority of students to this question (53%) is that function is descending at any point. The other answer (39%) is that due to derivative function is increasing, main function is decreasing.

Research Question 4

The derived function graph is given in figure 5. Is there any inflection point of function at the point of x=1 Explain.
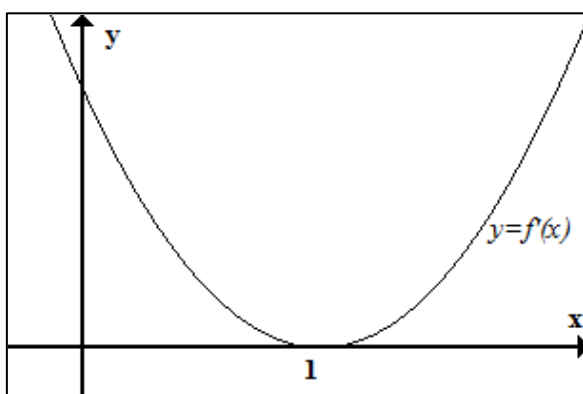
Figure 5. Graph of derivative function

.The answer of majority of students to this question (67%) is that there is inflection point, or there isn't inflection point. There is no explaining.

4.Conclusions and Suggestions

According to results produced, the students were not succesful in analysing derivative function. This case could be the result of traditional teaching method.

The derivation concept is derivative operation for students. The students haven't interpreted the graph of derivative function.

The graphs convey many concepts and collect much information. Then, the graphical interpretation and construction include the understanding connection among various mathematical topics. All of them, first approximation to calculus is not only theoretically, compounding with real life, giving place to numerical and graphical discussion.

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HOW THE SCHOOLING ENVIRONMENT SHAPES THE CONSCIOUSNESS OF SCHOLARS TOWARDS PEACE AND WAR

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Abstract

People are at war with themselves. Bullying has become the norm and fights continue on the playground; students show hostility towards their teachers and the world is at war, as people go on rampages, killing learners at schools. This study will discuss why classrooms should be considered spaces in which children can learn, understand and comprehend what peace and love is as opposed to war. Humans are taught from a young age to compete with their siblings and fight for survival, which creates a sense of clear winners and losers. The level of learner consciousness of respect for life and being at peace with themselves and those around them should be enhanced through teachings about life principles and through mindful training.

Children spend most of their lives at school and in the classroom. If the school environment can make children more aware and conscious of what it means to be giving and accepting through teaching about mindful learning which encourages justice, peace, kindness, courage and goodness, then perhaps the world will be a better place, as opposed to accepting it when children bully, fight, tease, compete and undermine each other's potential. Children already display dictatorial behaviour from a young age because of the examples adults have set, as children tend to imitate figures of authority. Teachers should take the lead in ensuring social justice and peace.

We teach children to take from the world as opposed to give to it, through subjects such as mathematics and accounting; accumulate, expand, make money at any expense. The playground and school environment promote the idea that scholars consider themselves only, damaging the environment, fighting for survival and the needs of human beings only. Littering, ganging up on the helpless, oppressing those less popular, going with the crowd and being tough, heartless bullies have become acceptable within the schooling system. If this is what we are teaching our children to become, will they be the leaders that we want them to be? The paper will touch on mindful learning as a means of creating a conducive peaceful schooling environment for learners.

Keywords: Mindful learning, peace, schools, consciousness and awareness, meditation, peace education

INTRODUCTION

"We can't solve problems by using the same kind of thinking we used when we created them."

—Albert Einstein

"A mindful nation is about recognising that we are all connected: we are in this together. At present we feel divided and scared, and have been made to believe that independence means we are totally on our own. But our experiences – as individuals and as a country – tell a different story. We know that when we join together, and care about each other, our freedom actually increases. Real independence emerges when we know how to support each other. The Declaration of Independence was a communal act."

—Congressman Tim Ryan

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We are conditioned to operate in a mode that is acceptable to society. From a young age we adapt to social norms and become programmed to think and behave in a certain manner. A typical example is that children should not question why the Earth moves around the Sun, it is a given because it has been proved. Routine has become so entrenched in our psyche and social constructions that we don't realise that there might be another means of doing things which has not yet been discovered (Morris, 2009; 180). Not only does this prevent us from being more creative, it also hampers the discovery of new ideas which can make a positive impact on the world.

This type of routine mode is passed on from generation to generation, as children live similar lives to their parents and the symptoms of forgetfulness, fatigue and their emotionality remains. The outcomes include emotional elements such as fear, anxiety, bullying at school, classroom wars, psychological and mental problems which get carried on from childhood to adulthood (Hooker and Fodor, 2008; 83). Perhaps that explains why we continue to have deadly wars, economic decline and environmental damage. The schooling system is an instrument which ensures that we remain within the status quo. School environments should be places of hope, peace and love, but instead they have become spaces where dictators in the making are bred; a place where scholars learn to start civil wars through their bullying, ganging up on the weak and displaying dictatorial behaviour towards teachers. This behaviour starts at school and ends with the creation of the likes of Adolf Hitler, Robert Mugabe and the militia.

The schooling environment is characterised to be multicultural and diversified. Due to the dynamic nature of the schooling environment, it is imperative that schools remain receptive to new ideas, approaches and attitudes. The current schooling system promotes academic distinction, overconsumption, stressed out teachers and reinforces creativity with the goal of promoting competition trough detrimental arms races, economic growth and war. Current education in schools focuses on different disciplines as opposed to reinforcing values such as respect, justice, compassion, tolerance and empathy (McInnis, 2007; 5)

This will be a quantitative study on the nature of peace within schools that practise mindfulness and how this practice contributes to shaping the consciousness of scholars towards peace and war. This calls for a strong and sustained case which will contribute to diminish a low-level consciousness and awareness to peace within the young. Secondly, conflicts such as bullying and ganging up on the weak in the school environment will be examined and it will look at whether mindfulness can positively impact on eradicating this phenomenon.

Banai said (2005–2007; 2–5) that he does not have faith in the current schooling system as learners are spoon-fed by their teachers; as they consume information without thinking about it or being mindful about the knowledge. Banai does however believe that children's "innocence, the excitement, the love, the authentic self-expression, the aliveness and high level of inner energy, the sensitivity to pick up what is happening to another and to be responsive to it in a simple manner – are due to the strong sense of Being." This is one good reason for further studies to be conducted on the matter. Based on previous research, mindful learning can have an immensely positive impact on children. He also concludes that mindfulness can increase quality of life, reinforce humanness and restore a balance of goodwill in the cold world and end conflicts by transforming individuals.

Between 1970 and 1990 alone, African states endured ratios of 50 per cent of states having coup d'états, 33 per cent attempted coups and 50 per cent reported plots. These figures are high (Ayoob, 1991; 3) and has been demonstrated in states such as Sierra Leone; Rwanda, Libya and Ethiopia, due to intrastate wars, genocide and military regimes and poverty (Cheru, 2002). There is a growing urgency for new methods of ensuring that peace within continents becomes reinforced in the minds of the young from an early age. Mindful learning and peace education encourage greater consciousness for oneself and one's environment which allows for learners to be more conscious of their thoughts and actions.

Hence, mindful learning plays an important role in creating greater awareness about oneself and ones conscious thoughts and actions, which plays an important role in behaviour and the relations between scholars, teachers and the broader community. Schools have started to view mindful learning as a strategic resource in shaping behaviours, attitudes and interactions among their learners and teachers, valuing its outcomes as can be seen in a reduced anxiety, conflict and attention disorders (Suttee, 2007; 1).

Mindful learning teaches children to become more present in the moment than they have been, in a non-judgemental way. People therefore become more aware of their environment and themselves and accept the moment in a more indulgent manner and let go of the specific experience in order to focus on the next experience (Kabat-Zinn, 2003; 145). This type of learning results in environments which have led to peaceful classrooms and schools. The relative influence of mindful learning within the schooling environment will allow for learners and teachers to be more aware of their actions, more productive, less reactive, less aggressive, more compassionate and ultimately more peaceful.

MAIN PROBLEM AND RESEARCH OBJECTIVE

As scholars of today will eventually become the leaders of the world, this can turn out to be detrimental for the future of human existence and the maintenance of peace and the prevention of war. There was a need to investigate to what extent the schooling environment; system and curriculum instil in learners values that promote a peaceful world. Teachers, school boards, teaching and learning methods are set in their ways and fail to cultivate a sustainable culture of innovation which focuses on human rights and social justice.

The basic principle is that all education stakeholders must participate in a process which can ensure that learners have a respect for life and peace. The study will focus on how schools, through mindful learning and their teaching methods can ensure that students become more peaceful. The study will discuss mindfulness and peace education to explore and make a significant contribution to the existing literature.

The study will seek to answer the following key research questions:
- Have schools been successful in fostering peace within the consciousness of learners?
- What is the result of schools practising mindful learning in ensuring peace and in creating a more peaceful world?

Primary objective

The primary objective of this study was to investigate peace within schools practicing mindful learning.

Secondary objectives

The following secondary objectives were identified in order to achieve the primary objective:

* To conduct a literature review which will assist in identifying what mindfulness entails and what its learning methods are

* To review current empirical research on the topic

* To summarise, draw conclusions and provide recommendations based on the empirical results.

Literature review

Mindful learning teaches children to become more present in the moment, in a non-judgemental way. People therefore become more aware of themselves and their environment, and accept the moment in a lenient manner and let go of the specific experience in order to focus on the next experience (Kabat-Zinn, 2003; 145). This type

of learning is conducive for a peaceful environment, school and classroom. The relative influence of mindful learning within the schooling environment allows for learners and teachers to be more aware of their actions, to be less reactive, less aggressive, more compassionate and ultimately more peaceful.

The study believes that the way in which we think and behave has an effect on our brain which impacts on our health and wellbeing. Mindfulness has contributed to reduce stress and pain through Mindfulness-Based-Stress-Reduction (MBSR) by Jon Kabat-Zinn. Buddhist meditation and mindfulness have been documented for their contribution in decreasing psychological suffering (Ostafin et al, 2006). Smith (1975), Grossman, Nieman, Schmidt & Walach (2003) concluded that mindfulness has been used to treat mental and psychological disorders such as stress, anxiety, cancer, Aids, ADDH and aggression more specifically. Kabat-Zinn (1982) said that mindful meditation impacts on individual thoughts and actions. This aims to prevent negative thoughts in order to prevent negative experiences (Hayes and Stosahl, 2004). Flaxman and Flook (unknown) illustrate that current research on mindfulness focuses on the effects of the brain, effects on the body, metal effects and how participants practicing mindfulness behave toward people and the environment.

This burgeoning field has concluded that mindfulness creates greater concentration and sensory stimulation, while compassion meditation activated the part of the brain that prompts emotional cues thus leading to more empathy, awareness and compassion (Flaxman & Flook, unknown). There are a number of intertwined facets of mindfulness which must be more aligned.

The bulk of the literature on mindfulness has had notable success and has focused on the effects on children and there remains a gap in the investigation of its effects on young learners. The research that has been conducted with children and adolescents has concluded positive outcomes such as to reduce anxiety and promote higher grades as a result of greater attention.

There remains great interest in the study of education and mindfulness. Studies that have been conducted within education settings revealed greater social skills and greater attention, as well as greater connectivity to environments. This raises questions about the powerful effects that mindfulness within the schooling system can indeed lead to calmer and attentive learners, better academic results and more awareness and greater connectedness among learners that promotes respect for oneself and harmony with everything. (Flaxman and Flook, unknown). The literature demonstrates that mindful learning can create more peaceful minds, peaceful children, peaceful schools and communities and ultimately a peaceful globe. There is however not enough evidence based on adequate control groups and big sample groups to conclude that the findings are universal (Baer, 2003).

Singh, Lancioni, Joy, Winton, Sawaawi, Wahler, et al (2007), Eifert, McKay and Forsyth (2006), Birnbaum (2005) and Barbieri (1997) conclude in their journal articles that mindfulness contributes to reducing aggression in its participants. McLeod and Reynolds (2010) in their book *Peaceful pedagogy: Teaching human rights through the curriculum* illustrates how peace building can become a part of the schooling curriculum. In their study they conduct a case study on five schools. The model that McLeod and Reynolds (2010) present is based on peace education and focuses on the interpersonal level (individual) and intrapersonal level (schools, teams, groups, communities). The model promotes peace building within classrooms, schools and the community. Their perspective is that peace education focuses on transformation, caring, inviting emotions, being value laden, building intercultural peace and an understanding within a global context.

McLeod and Reynolds (2012) in their book demonstrate that schools can become agents of peace building although much work is still needed by all involved. They also believe that the school body, teachers, textbooks, course material and the subjects offered can all contribute to instilling peace building into the minds and actions of learners. The model promotes the implementation of human rights principles such as social justice, peace and harmony into the curriculum through teaching and learning.

Morris (2009) in his book *Teaching happiness and wellbeing in schools: learning to ride elephants* provides a model based on personal experiences in the classroom through a curriculum based on happiness and wellbeing. This perspective equips students with skills that are necessary for them as a rider to ride the elephant which is a

metaphor for the world and become not only riders but excellent riders in their experiences with the world. This model is similar to Kabat-Zinn as it teaches children to be more aware, intervene through action and to reflect and it is based on peace within and outside the individual. He also gives reference to the importance of learning methods, teachers, principals, students and the body of knowledge taught within the school environment.

Morris (2009: 199) said that the teaching of the wellbeing of all can transform education so as to create more attentive and aware, mindful, compassionate and peaceful individuals from an early age. This is one way that we can prevent the world from going into greater turmoil in the future. Mindfulness research suggests that the study has had positive effects on reducing psychological pain. Eisler (Mclnnis, 3–4) calls this the Dominator System which promotes values around competition, dominance and wins only, and further suggests that children should be given the freedom to explore past survival methods that have worked, tolerance and not inflicting any pain, and being in harmony with nature as we are all interconnected in some way or another.

Marshall and Rosenburg (2003) in their book *Life Enriching Education* illustrates that children should be taught to create a future that ensures equality and respect for everything to ensure human survival in a peaceful manner as opposed to aggression, intolerance and inequality, in a non-judgemental way, a sense of caring for another person out of kindness and love as opposed to duty or expectation.

The term "secular ethics" entails basic human wisdoms such as compassion, kindness, love and empathy. Eisler (2000) demonstrates that there is a need for this to be instituted into the learning of children as they will require this in the environmental, social and economic problems that might transpire in the future. She also said that this will allow for leaders who look for sustainable peace, harmony with the environment and ensuring social justice throughout the globe (Mclnnis, 2007; 5). Reardon (1997) concludes that the teacher is the pinnacle of education development; they are to nurture elements of peace, justice and tolerance. The literature illustrates that teachers who promote peace and tolerance are true ambassadors of peace and display this type of behaviour verbally and non-verbally, ensuring that children enact their behaviour (McInnis, 2007; 7).

Hooker and Fodor (2008; 83) and The Prevention Research Centre in Pennsylvania State University conclude that there is not much research based on mindfulness and children, even though younger children are considered to have higher consciousness levels than adults as they live in the present moment, are non-judgmental and are attentive. If research can be done in the early stages of these children's lives, it could be cultivated even more.

Baer (2003) points out those adults enjoy learning about mindfulness. Based on the fact that children often imitate adults, they too will enjoy learning this practice. Based on probability, children will benefit in the same manner as adults – this has already been depicted in some schools practicing mindful learning. Children will become more aware and remember better therefore they will get better grades due to their learning (Fontana & Slack, 1997). Children will also become less aggressive and more aware of themselves, (Fontana and Slack, 1997) and their environment, creating greater understanding, harmony and connectivity to everything, creating a respect for life, human dignity, and social justice. It will also make them more responsive, which are all characteristics which go against wars, conflicts and injustices.

Gunaratana (1991) illustrates a number of myths held by children on meditation such as that it is for saints or holy men, and children often learn of it in descriptive ways using humour, such as comics and cartoons. However, children respond differently and Hooker and Fodor (2008; 83) said that although some children might become anxious, they should accept their experience and will move on. This might take a few sessions, but they should continue trying. Hooker and Fodor (2008; 84) study how mindfulness can be introduced to children through their environment, their body, mindfulness meditation and through practise.

Jacobi (2012) concludes in her article *Do bad grades and violent video games lead to violent kids?* that in a study done in the Netherlands, it was illustrated that boys who played violent video games had lower academic results and were more aggressive than those who did not. The researchers don't imply that the two go hand in hand, but they did conclude that there is a correlation between violent TV games, aggression and violence in learners. The study does however remain open for future investigation on whether this aggression could remain a part of the participant into adult life.

RESEARCH DESIGN AND METHODOLOGY

Firstly, the study conducted a quantitative study on the nature of peace within schools that practise mindfulness and how this practice contributes to shaping the consciousness of scholars towards peace and war. This calls for a strong and sustained case which will contribute to diminish a low level consciousness and awareness of peace in youths. Secondly, conflicts such as bullying and ganging up on the weak in the school environment were examined and whether mindfulness can positively impact on eradicating this phenomenon.

A desktop research study was used. This aim of this study was to investigate how mindful learning contributes to the consciousness and actions of learners and how schools that practise this contribute to peace and war. Primary and secondary sources were used to conduct desk research, such as library sources, internet sources and documents reports, websites and papers.

FINDING AND CONCLUSIONS

The study examined how schools that practise mindfulness impacted on the consciousness levels of their learners towards peace and war. Future research would be in controlled groups that have bigger sample sizes.

Beigel et al (2009) demonstrates that better controlled studies are needed to reveal the shortcomings of the study and more research based on previous findings must be replicated before generalisation can be made.

Findings

Ohio State University and the University of Amsterdam observed more than 800 adolescent boys in the Netherlands. Boys were divided into three groups. The results concluded that boys with lower grades believed that the video games were real and they related to the video game characters (Jacobi: 2012; 1).
A study which involved Grade1–3 children over the 12-week period where yoga and breathing exercises showed improvements in concentration, social interactions, reduced anxiety in those who participated in comparison to those who did not (Williams, Zylowska: 2008; 4–5).
A study that combined MBSR and Tai Chi for middle school children over five weeks resulted in better sleeping patterns, greater awareness and connection to the environment and a calmer group (Flaxman & Flook, 4–6).
A pilot study on Mindful Learning was conducted with preschool and elementary schools children over an eight-week period which impacted on their self-regulatory abilities. The study revealed that mindful learning benefited children within the school environment (Flaxman & Flook, 4–6).
Nylicek and Kuijpers (2008) concluded in their study that MBSR reduced stress, increased living quality and had positive effect overall, In adolescents, mindful learning decreased depression and somatic complaints

(Flaxman & Flook, 9).

Toluca Lake elementary school in Los Angeles practices mindful meditation methods once a week for 10 to 12 weeks. This has resulted in increased attention and concentration levels, positive thoughts, more responsive students, less reactive students, better grades amongst students, less conflict on the playground and in the classroom (Suttie: 2007; 1).

The Garrison Institute in New York in a study promoting mindful meditation in education concluded that children become more focused, less distracted, calmer, less stressed and more responsive as opposed to reactive.

The Mindful study at Standford concluded that there has been increased control in attention and less negative thoughts within participants (Brown: 2007; 2).

The Mindful Awareness Research Centre concluded in their study based on the effects of school children that the children became more calm, peaceful and managed to deal with stressful situation (Brown: 2007; 2).

In Welby Elementary School in South Jordan Utah, a fifth-grade teacher has been practising mindfulness in her classroom and has reported that the attitude of students are positive, there is greater peace in the classroom, the students are happier, they are more attentive and concentrate better (Kabat-Zin, 1997; 2–3).

Conclusion

It was found that schools produced more attentive, aware, awake and conscious learners. The aggression levels of learners have decreased and students became calmer and receptive as opposed to reactive. Students also became more conscious of themselves, of others and the environment. The respondents also became positive towards the importance of individual action and the impact that this can have on peace and the environment. This means that they have a positive attitude towards everything, that they respect everything, and that their consciousness goes against social injustices.

Recommendations and Implications

Based on the results of schools who are already practising mindful learning, it seems that mindfulness can be used as incubation hubs for contributing to greater levels of consciousness towards peace and harmony, which will ensure better performance due to better learning, concentration and creativity and greater awareness of their

thoughts and actions. Students will be in harmony with everything due to less anxiety and aggression, which will ensure more peaceful children and schools and, ultimately, a peaceful globe.

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ICT INTEGRATION INTO CHEMISTRY-PHYSICS CLASSES IN MIDDLE SCHOOLS THROUGH A PARTICIPATORY PILOT PROJECT APPROACH

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Abstract

Information and Communication Technology (ICT) based education was examined, through an integrated project, to experimentally determine how such technology could influence the motivation and performance of students in science (Chemistry-Physics, Mathematics, and Life-Earth sciences) in Morocco. The experiment was deliberately run at middle school level (age 12-14) as it constitutes the best stage in student life to influence their choice for the field of study. Two schools were selected based on their location and environment; one in a semi-rural area of Ifrane, and the other in the large city of Fes. The present study focuses more on the physical sciences (Chemistry-Physics), as they are taught together by the same teacher and represent a structural template of what was carried out within the framework of the pilot project.

The project was the first of its kind in Morocco since it permitted decent usage of ICT in classroom sittings and allowed integral participation of middle school teachers in the elaboration of ICT pedagogical teaching resources using Arabic as teaching language. Control (standard) and experimental (ICT-based) classes were both taught by the same teachers and all the experiments were carried out in close collaboration between the authors and the teachers, with assistance from ICT engineers and technicians.

Quantitative evaluation of the experimental data based on general balanced 3-stage nested design, together with qualitative assessment show a positive impact on the performance and motivation of students as well as their teachers.

The project established successful practice guidelines and has set a promising roadmap for extending it at a larger scale to the rest of the country.

As expected, this project encountered obstacles and limitations. Lessons learnt as well as suggestions are presented in this paper

Keywords: Morocco; ICT education; Chemistry; CITI project; Participatory approach

INTRODUCTION AND BACKGROUND

The application of ICT-based education in science has been the focus of several studies [1-13]. This interest stems from efforts to improve education in terms of effectiveness and efficiency through the use of ICT.

In general the education of science and technology in Morocco is confronting challenges at times the country needs more quality engineers to satisfy its exponential industrial development[10]. In fact, the level in science courses of the majorities of Moroccan students in middle and high schools has been described as below expectations and consequently a decent percentage of Moroccan pupils do not reach higher education [11]. In order to address these issues, the CITI [14] had conducted a three year project sponsored by the Korean International Cooperation Agency (KOICA) [15], with the goal of developing competency and useful IT-based instructional materials for Moroccan Junior High level mathematics and science instruction as a foundation for the larger project that would improve and assist primary and secondary education in Morocco. More details about the background, the constraints, the structure of the project, its human and physical resources, the

development of the e-learning environment and digital resources can be consulted in [12]. In this paper, the focus is on the approach used and the analysis of the results achieved in improving motivation and performance of pupils as well as teachers in Chemistry-Physics education. We also shed some light on the obstacles encountered and the lessons learned from this project. The originality of this study is not so much in the introduction of ICT in education, which has been tried and/or is in use in many countries, but in its research-based operation methodology and its participatory approach. Thus, making teachers directly involved in content development and facilitating their acceptance of the technology. However a resistance or rejection to change in pedagogy with little or no participation by the teaching body can be observed if this ICT approach is imposed from above. In addition, the introduction of technology in educational institutions without providing any structure for maintaining the equipment or training users (pupils and teachers) in how to make effective use of the equipment for educational content development, presentations, studying and learning may result in failure.

METHODOLOGY

Experiment Strategy

The project involves three implementation stages: development of the pedagogical tool, testing, and evaluation. The two pilot institutions in this experiment are Al Arz Middle School in Ifrane (a small town in the Middle Atlas mountains of Morocco) and Kassim Amine Middle School in Fez (an imperial city located at 60 km north of ifrane). Most of the students in these schools are from low income families, and are therefore less exposed to computer technology. Three Chemistry-Physics teachers together with one pedagogical inspector from the same discipline, in each of the two pilot middle schools, contributed to this project. Each teacher was responsible for the experiment in one middle school grade. Before the start of the experiment, the teachers and the inspectors (who jointly constitute the pedagogical teams) were requested to design scenarios of lessons integrating ITC in the Moroccan curriculum. The technical team, composed of ten engineers and technicians at CITI, was responsible for digitizing modules proposed by the pedagogical team, managing the project platform and installing and maintaining the computer equipment in the multimedia rooms, as well as recording typical distinctive class lectures and presentations. Joomla was chosen as the platform for managing the digital content (Content Management System, CMS). The choice of Joomla was based on its easiness to configure and to personalize, in addition, Joomla is one of the rare platform that provide support for Arabic language (Joomla won the best Open Content Source Management System award in 2006). This platform includes functionalities necessary for teaching with digital resources, permitting therefore the addition of modules such as quizzes, interactive tests, text and video courses, whiteboards, agendas, forums, blogs, surveys, RSS news feed, games, chat, television and radio streaming, etc.. Users of this platform can as well create their own templates by arranging the menus offered to suit their own interests.

Digital courses were organized by class level and by subject matter. With each course containing several elements, such as: lecture notes in PowerPoint format, introduction and summary of lectures, videos, quizzes, interactive exams, simulations, educational games and virtual laboratories.

Registered users were given access to personal agenda allowing them to organize their work. They were as well able to share files, post events, create blogs, and contribute to a whiteboard in order to exchange ideas online. Forums allowed for virtual meetings, exchange and offered significant teacher-teacher, teacher-student, and student-student interactivities [14].

Furthermore, teachers who use the platforms can upload lectures and participate in the development and diversification of the content. Readers of all uploaded educational material have the possibility of introducing their comments.

Preparation for the Experiment

The entire pedagogical team benefited from appropriate training sessions and workshops. Teachers and inspectors from the participating middle schools took part in training course organized by CITI. The training, spanning 24 hours over the space of 6 weeks, targeted the basic tools: Word, Excel, PowerPoint, Internet exploration, e-mail, and use of the digital platform of the project. The center also organized approximately ten pedagogical workshops on ICT integration in teaching for all participants to the project. These workshops allowed different actors to share and discuss their experiences thus allowing an effective and improved execution of subjects contents.

Resources' Development

For each discipline and in each pilot middle school, the three teachers in charge of the experimental class were responsible for designing the scientific and pedagogical content, integrating ICT according to a plan drawn up by CITI and advised/approved by an academic inspector. This design was based on the official Moroccan education program. The chosen model is constructivism and the development methods for different pedagogical scenarios were based on the experimental process and/or the problem situation. Worth mentioning that in physics and chemistry, we recommend that the teacher opts, whenever possible, practical (manual) experiments/exercises to computer simulation.

Digitization of Scientific and Pedagogical Content

The technical team from CITI was responsible for the digitization of different content (implementation of flash animations, interactive exercises, film sequences, virtual experiences, photos, power point presentations,...) proposed by the pedagogical team and its insertion into the platform. The team's technical work was closely followed by CITI coordinator, as well as the proper pedagogical team. The digital products created by them were also evaluated from a scientific and pedagogical perspective.

Internal and External Validation of Multimedia Outputs

Once the digital pedagogical resources were produced by the "content experts" and the CITI computer technicians, regular discipline-specific meetings were scheduled in order to internally validate the coherence of the products and their adherence to pedagogical objectives set out by the actual national programs.

Within the framework of the collaboration between Al Akhawayn University in Ifrane (AUI) and the Ministry of National Education, and with the aim of better judging the technical quality and pedagogical orientation of the elaborated resources, an external audit was set through by a team from the Ministry of National Education representing the National Centre for Pedagogical Innovation and Experimentation (CNIPE). This team as well as ICT Education experts reviewed the content of this educational digital products

After having formulated various comments on the different aspects of the products, notably at the pedagogical, ergonomic and multimedia levels, the main team submitted an evaluation report followed by recommendations for improvement.

Experimental Model

To investigate the impact of ICT-based education on the scholastic performance in the two middle school students in Chemistry-Physics, we designed a three stage nested experiment. More detailed explanations about this design can be found in our previous work [12].

For each middle school level, two groups (A and B) of twenty students each (one student for each computer in the multimedia room) were randomly chosen (with the usual distribution except that, in ordinary classes, the class size is forty). In parallel, the chemistry-physics teacher was also randomly assigned to teach one level in each middle school.

Group A (the experimental class) followed the course of study with the aid of ICT in the multimedia class. Group B (the control class) followed the same course of study with the same teacher but in an ordinary classroom and without the aid of ICT (See Figure 1). The two groups underwent identical evaluations each trimester. A statistical analysis of the results of the two classes, A and B, would permit a quantitative evaluation of the impact of integration of ICT.

For all three middle school levels, the performance of the experimental and control groups in each discipline in both schools was assessed using the same examinations.
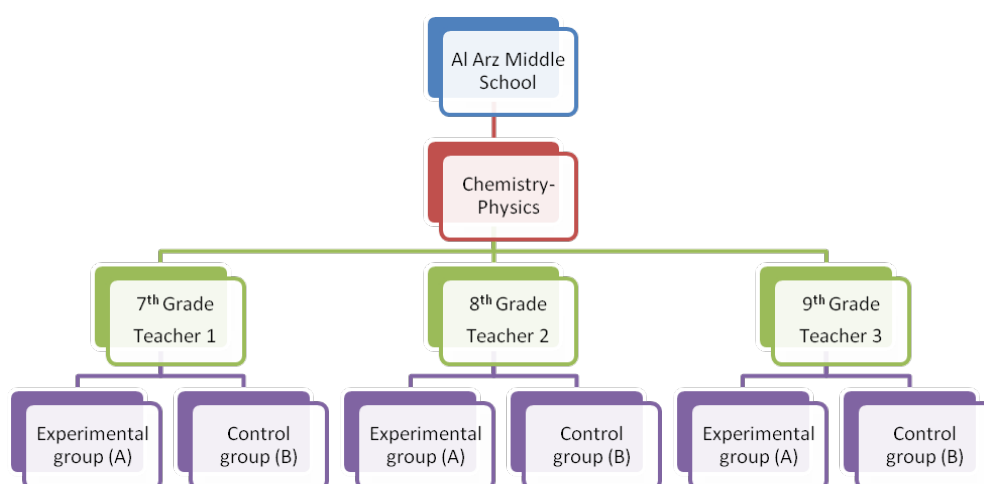
Figure 1: Experimentation flowchart for one middle school. Both experimental and control groups are taught by the same teacher. Both classes of the same level were assessed using the same examinations.

3. RESULTS AND DISCUSSIONS

By comparing the class averages for both the experimental and the control groups, in each grade of each middle school (Figure 2), we noticed the outperformance of the experimental group as compared to the control group.
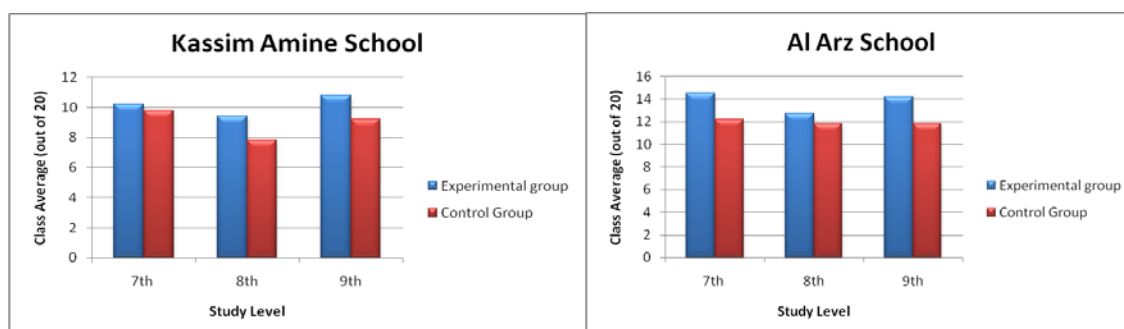
Figure 2: Class averages of the experimental and control groups in both schools.

For more accurate statistical evaluation, we conducted a T-test as described in our previous work [12]. The null hypothesis of the T-test states that the means for both groups are the same and the alternate hypothesis states

that the mean of the experimental group is higher than the mean of the control group. Our T-test was conducted at an 85% confidence level and our decision was based on the p-value of the test as follows: tests with p-values less than 15% reject the null hypothesis, meaning the experimental group outperforms the control group. Results of this first analysis are summarized in Table 1.

	Kassim Amine Middle School			Al Arz Middle School		
Level	7th	8th	9th	7th	8th	9th
P-value	0.632	0.102	0.098	0.014	0.182	0.027
Test results	No	Reject	Reject	Reject	No	Reject

Table 1: Results of 85% confidence level one sided T-test comparing experimental and control groups' performance for the three considered grade levels

Our analysis indicates positive impact of using ICT on student's learning and performance in Chemistry-Physics for the 8th and 9th grades in Kassim Amine middle school and 7th and 9th grades in Ifrane middle school. Overall, this represents a successful rate of about 67% in both schools. In parallel to the quantitative analysis, we conducted a surveys and classroom observations in order to measure qualitative impact of using ICT in classes. One of the noticeable results is the high motivation for the use of ICT tools in the teaching and learning of chemistry and physics.

4. CONCLUSION

This study shows positive impact of ICT-based education in chemistry-physics education in middle schools. We noticed that our T-test analysis, even though with a 67% success rate, was not consistent across all levels in the two pilot middle schools except for the 9th grade. Knowing that proper pedagogical usage of ICT tools is a deterministic factor in classroom performance, we believe that the observed discrepancies are probably due to this factor. We believe, therefore, that teachers need to be accompanied towards efficient integration of ICT in their daily teaching practices.

Some aspects and learned lessons from the conduction of this project could be summarized as follows:

A rigorous planning of the project (definition of objectives, means, resources and actions) allowed the project to advance, not as a predefined product, but rather as a continuous act of regular questioning of adaptation to context and constraints.

The coherency of needs and the delivered training programs for teachers are vital for the successful implementation of any ICT based project in science education.

The creation of a climate of confidence that limited to some extent the degree of resistance to changes.

Psychological motivation and material incentives for different actors in the project are of crucial importance to carry out similar studies.

ACKNOWLEDGEMENTS

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İLKÖĞRETİM OKULLARİNDA EĞİTİM TEKNOLOJİLERİNİN KULLANILMASININ YÖNETİMİ: YÖNETİCİ VE ÖĞRETMEN GÖRÜŞLERİ

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Özet

Bilgi çağı olarak tanımlanan günümüz koşullarında kişisel gelişim için gerekli olan tüm bilgiler bilişim teknolojileri yolu ile kolayca erişilebilir hale gelmiştir. Bu durum eğitim sistemlerini temelden etkilemiş, bireylerin öğrenme gereksinmelerinin artması, okullarda öğretme-öğrenme sürecinin verimliliğini yükseltmeye dönük çalışmaların da artmasına neden olmuştur. Okulda yöneticiler bilgi ve eğitim teknolojileri kullanımında öğretmen ve öğrenci arasındaki bağlantıyı gerçekleştirip yönetecek bilgi ve yeteneğe sahip olma rolü üstlenmiştir.

Bu araştırmada ilköğretim okulu yönetici ve öğretmenlerinin eğitim teknolojilerinin okulda kullanılması ile ilgili yönetim etkinliklerinin gerekliliğine ilişkin görüşleri betimlenmeye ve yorumlanmaya çalışılmıştır. Bu genel çerçeve içerisinde probleme dayalı alt problemlere de yanıt aranmıştır. Bunun için araştırmacı tarafından hazırlanan bir veri toplama aracı ile ilköğretim okulu yöneticilerinin ve öğretmenlerin görüşlerine başvurulmuştur. Araştırmanın çalışma evrenini Ankara İli Yenimahalle İlçesindeki ilköğretim okullarında görev yapan 85 müdür ve bu okullarda görev yapan 3308 öğretmen oluşturmuştur. Öğretmen sayısının fazla olması nedeni ile çalışmaya katılacak öğretmenler ilçe merkezinde görev yapan öğretmenlerin arasından random olarak seçilmiştir. Okul yöneticilerinin tamamına ulaşılmaya çalışılmış ancak 79 okul yöneticisinden veri toplanabilmiştir. Buna göre çalışmanın örneklemini 79 okul müdürü ve 66 öğretmen oluşturmuştur. Araştırma da araştırmacı tarafından geliştirilip geçerlik ve güvenilirliği (.88) test edilmiş veri toplama aracı kullanılmıştır. Toplanan veriler frekans, yüzde, aritmetik ortalamalarına göre betimlenmiş, karşılaştırmalar t-testi ve tek yönlü varyans analizi (anova) kullanılarak analiz edilmiştir.

Araştırma bulgularına göre; ilköğretim okulu yöneticilerinin eğitim teknolojilerinin okulda kullanılması ile ilgili yönetim etkinliklerinin gerekliliğine ilişkin olarak öğretmenler yöneticilere göre daha olumlu görüş sahibidirler. Yönetici görüşleri ile öğretmenlerin görüşleri arasında anlamlı farklılıklar tespit edilmiştir. Yönetim yeterlikleri çalışma süreleri bakımından değerlendirildiğinde öğretmen ve yönetici görüşleri arasında anlamlı bir fark tespit edilmemiştir.

Anahtar sözcükler: Teknoloji, Eğitim Teknolojisi, Teknoloji Liderliği, Eğitim Teknolojileri yönetimi,

MANAGEMENT OF THE USE OF EDUCATIONAL TECHNOLOGIES IN PRIMARY SCHOOLS: OPINIONS OF SCHOOL PRINCIPALS AND TEACHERS

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Abstract

In the information age, people have an easy access to all the information they need for personal development by means of information technologies. This situation has influenced the educational systems from its roots and; an increase on learning needs of individuals caused an increase on the efforts for the effectiveness of learning-teaching process. School principals have the role of having the knowledge and talent to make the connection between teachers and students and manage it, for the use of informatics and educational technologies.

In this study, it was aimed to determine the opinions of primary school principals and teachers about the necessity of managerial activities for the effective use of educational technologies. To determine the opinions of school principals and teachers and a data collecting device was developed by the researcher. The population of this research is 85 school principals and 3308 teachers who work in Ankara Yenimahalle district. As, the population of teachers is too large, the sample was randomly selected from the total number. 79 school principals 66 teachers replied the survey. The collected data was analysed by using frequency, percentage, mean and for the comparisons t-test and one way Anova was used. According to the findings of this research, teachers give more importance to the necessity of managerial activities in the effective use of educational technologies in primary schools than the school principals. Significant differences were found between the opinions of school principals and teachers. When the managerial competencies were analysed according to the length of service, no significant differences were found between the respondents.

Keywords: school principal, educational technologies, technology leadership

Giriş

Teknoloji ve iletişimde yaşanan hızlı gelişme eğitim ve öğretim sürecini de etkilemektedir. Okullarda eğitim öğretim hizmetleri artık internete bağlı bilgisayarlar, projeksiyonlar, elektronik tahtalar kullanılarak verilmeye başlanmıştır. Okul yöneticileri öğretim ve öğrenimde teknolojinin verimli kullanılması için yeni roller üstlenmiş ve sorumluluklarında değişiklikler meydana gelmiştir (Akbaba-Altun & Gürer, 2008). Bu yeni rol ve sorumluluklar okullara eğitim teknolojilerinin alınması, güncellenmesi, uzman personel istihdamı, öğretmenlerin eğitilmesi gibi konularda yoğunlaşmaktadır (Brooks-Young, 2002).

Okul müdürlerinden beklenen, okulda eğitim teknolojisi ile ilgili örgütsel kararları alması, politikalar üretmesi ve eğitim teknolojisinin etkili kullanımını kolaylaştıran işleri gerçekleştirmesidir. Esasen bir eğitim kurumunda yapılacak tüm değişim ve gelişim çalışmalarının başarısı temelde o kurumdaki yönetim anlayışına bağlıdır (Wildman & Niles, 1987). Alanda yapılan çalışmalar incelendiğinde, bu çalışmanın okul müdürlerinin bilgi ve desteğinin, öğretim sürecinde teknolojiyi bir araç olarak kullanan öğretmenlerin desteklenmesinde ve cesaretlendirilmesinde, teknolojinin bütün sınıflara entegre edilmesinde anahtar role sahip olduğunu vurguladığı görülmüştür. (Turan, 2002; Kozloski, 2007; Weber, 2006; Can, 2008; Sincar, 2009; Hacıfazlıoğlu, Karadeniz ve Dalgıç, 2011.). Teknolojinin okula uyarlanmasında pedagojik konular, yetersiz profesyonel gelişim, yetersiz teknoloji liderliği gibi sorunlar önemli olmaktadır (Flanagan & Jacobsen, 2003). Bu sorunları başarılı bir şekilde çözen okul yöneticisi; öğrencilerine daha iyi bir eğitim-öğretim ortamı hazırlayabilmekte, okulda öğrenci devamsızlığını azaltmakta, öğrencilerin akademik başarılarını artırmakta ve daha etkili bir yönetim gerçekleşmektirebilmektedir. (Kearsley ve Lynch, 1994). Çelik (1999) ve Sergiovanni (1984)'ye göre, okul yöneticisi okulun vizyonunu, misyonunu ve amaçlarını belirlemeye rehberlik etmeli, bunları gerçekleştirmek için bütün okul çalışanlarını ve diğer kaynakları bu doğrultuda yönlendirmelidir. Yönetici okulda eğitim teknolojilerinin etkili bir şekilde kullanılmasını sağlamak, diğer bir deyişle teknoloji liderliği yapmak durumundadır (Kearsley, 1994; Turan, 2002.).

Problem

Çalışmanın problemi İlköğretim Okullarında Eğitim Teknolojilerinin Kullanılması EtkinliklerininYönetimidir.

Amaç

Bu araştırmanın amacı, okulda eğitim teknolojileri kullanımı yönetim etkinliklerinin gerekliliğine ilişkin olarak ilköğretim okulu yöneticilerinin ve öğretmenlerinin görüşlerini belirlemektir. Bu genel amaç çerçevesinde aşağıdaki sorulara yanıt aranmıştır.

İlköğretim okulu yöneticilerinin ve öğretmenlerinin okulda eğitim teknolojilerinin kullanımı yönetim

etkinliklerinin gerekliliğine ilişkin görüşleri nelerdir?

İlköğretim okullarında eğitim teknolojilerinin kullanılmasında yönetim etkinlikleri gerekliliğine ilişkin

yönetici ve öğretmen

görüşleri arasında anlamlı bir fark var mıdır?

İlköğretim okullarında eğitim teknolojilerinin kullanılmasında yönetim etkinlikleri gerekliliğine ilişkin

çalışma yılları bakımından yönetici görüşleri arasında anlamlı bir fark var mıdır?

İlköğretim okullarında eğitim teknolojilerinin kullanılmasında yönetim etkinlikleri gerekliliğine ilişkin

çalışma yılları bakımından öğretmen görüşleri arasında anlamlı bir fark var mıdır?

Yöntem

Araştırma tarama modelinde, betimsel bir çalışmadır. Bu çalışmada, ilköğretim okulu yönetici ve öğretmenlerinin okulda eğitim teknolojilerinin kullanılması yönetim etkinliklerinin gerekliliğine ilişkin görüşlerinin betimlenmesine çalışılmıştır. Bunun için "okulda eğitim teknolojileri kullanımı yönetim etkinlikleri" konusunda araştırma maddeleri tespit edilmiş, bu maddelerin yönetim etkinlikleri bakımından gerekliliğini tespit için yönetici ve öğretmen görüşlerine başvurulmuştur. Veriler araştırmacı tarafından geliştirilen beşli likert tipi bir veri toplama aracı ile toplanılmıştır.

Evren ve Örneklem

Araştırmanın çalışma evrenini 2009 – 2010 eğitim öğretim yılında Ankara İli Yenimahalle İlçesindeki ilköğretim okulu yöneticileri (müdür) ve öğretmenleri oluşturmuştur. Yenimahalle İlçesinde 85 ilköğretim okulu bulunmakta olup, bu okullarda 3308 öğretmen, 163 müdür yardımcısı 85 müdür olmak üzere toplam 3556 kişi görev yapmaktadır. Çalışmaya katılacak öğretmenler sayı bakımından çok olduğu için öğretmen grubu ilçe merkezindeki okullarda görev yapan öğretmenler arasından okul müdürlerinin sayısına yakın sayıda (66 öğretmen) random olarak seçilmiştir. Okul yöneticilerinin tamamına ulaşılmaya çalışılmış ancak 79 okul yöneticisinden veri toplanabilmiştir.

Verilerin Toplanması ve Analizi

Araştırma verilerinin elde edilmesi için, alan yazın incelenmiş, konusunda uzman olan öğretim elemanlarının ve alanda görev yapan konu ile ilgili öğretmen ve yöneticilerin görüşleri alınmış, ulaşılan bilgiler ışığında bir veri toplama aracı geliştirilmiştir. Veri toplama aracının kapsam ve yapı geçerliliğini sağlamak için elde edilen geri bildirimler doğrultusunda her bir soru gözden geçirilip, araştırma konusunu net olarak ifade eden cümleler haline getirilmiştir. Araştırmanın verileri geçerlik ve güvenilirliği de test edilen bu veri toplama aracı ile toplanılmıştır. Veri toplama aracı kişisel bilgileri içeren 3, çalışma konusunu içeren 12 cümle olmak üzere toplam 15 maddeden oluşmuştur. Veri toplama aracının güvenirlik katsayısı "Cronbach Alpha" 0.88 olarak tespit edilmiştir.

ilköğretim okulu yönetici ve öğretmenlerinin okulda eğitim teknolojilerinin kullanılması yönetim etkinliklerinin gerekliliğine ilişkin görüşlerinin betimlenmesi ve görüşlerin arasındaki farkların belirlenmesi amacıyla yönetici ve öğretmenlerce yanıtlanan veri toplama aracından elde edilen veriler "SPSS (Statistical Package For Social Sciences) for Windows" paket programına yüklenmiş verilerin çözümlenmesi için t-testi; frekans (f), yüzde (%), aritmetik ortalama ($\bar{x}$) kullanılmış ve varyans analizi yapılmıştır.

Araştırmada 5'li Likert tipi bir ölçek kullanılmıştır. Veri toplama aracında yer alan her cümle Kesinlikle Katılıyorum 5, Katılıyorum 4, Fikrim yok 3, Katılmıyorum 2, Kesinlikle Katılmıyorum seçeneğine de 1 puan verilerek değerlendirilmeye alınmıştır. Ölçekte yer alan aralıkların eşit olduğu düşüncesinden hareket ederek seçeneklere ait sınırlar aşağıdaki gibi belirlenmiştir.

Tablo: 1 Dereceli Ölçek

Puanlar	Değişkenler	Puan Sınırları
1	Kesinlikle Katılmıyorum	1.00-1.80
2	Katılmıyorum	1.81-2.60
3	Fikrim Yok	2.61-3.40
4	Katılıyorum	3.41-4.20
5	Kesinlikle Katılıyorum	4.21-5.00

Kişisel Bilgilere İlişkin Bulgular

ilköğretim okullarında görev yapan ve kendilerine veri toplama aracı uygulanan yönetici ve öğretmenlere ilişkin kişisel bilgi bulguları aşağıda belirtilmiştir. Araştırmaya katılanların 53'ü (%36.6) kadın, 92'si (%63.4) erkek dir. Katılımcıların %54.5'i (79) yönetici, %45.5'i (66) öğretmenlerden oluşmaktadır. Yöneticilerin 70'ini (%88.6), erkek yöneticiler, 9'unu da (%11.4) kadın yöneticiler oluşturmaktadır. Öğretmenlerin 22'sini (%33.3) erkek, 44'ünü (66.7) kadın öğretmenler oluşturmaktadır. Yöneticilerin 6'sı (%7.6), 1 – 5 yıl, 20'si (%25.3), 6 – 10 yıl, 53 'ü (%67.1), 11 yıl ve üstü çalışanlardan oluşmaktadır. Öğretmenlerin 17'si (%25.8) 1 – 5 yıl, 10'u (%15.2), 6 – 10 yıl, 39'u (%59.0), 11 yıl ve üstü, çalışanlardan oluşmaktadır .

İlköğretim Okulunda Eğitim Teknolojilerinin Kullanımı Etkinliklerinin Yönetimi Konusunda Yönetici ve Öğretmen Görüşlerine İlişkin Analizler

Tablo: 2 Yönetici ve Öğretmen Görüşlerine İlişkin Genel t-testi

Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig.
Yönetici	70	50.74	6.58	1.98	140	.002*
Öğretmen	66	54.07	5.83			

p<0.05*

İlköğretim kurumlarında eğitim teknolojilerinin kullanılması etkinliklerinin yönetimine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark tespit edilmiştir (t $_{(140)=}$ 1.98 , p<0.05). Öğretmenler eğitim teknolojilerinin kullanılması yönetim etkinliklerinin gerekliliği konusunda ($\bar{x}$ =54.07), yöneticilere gore ($\bar{x}$ =50.74) daha yüksek düzeyde görüş sahibidirler. Öğretmenlerin test edilen yönetim etkinliklerinde yöneticilere göre daha duyarlı oldukları söylenebilir.

Tablo: 3 Yönetici ve Öğretmen Görüşlerinin Maddelere Göre t-testi

Mad: 1	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig.(P)

Mad:2	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig.(P)

Mad:3	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig. (P)

Mad:4	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig.(P)

Mad:5	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig.(P)

Mad:6	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig. (P)

Mad:7			($\bar{x}$)	(Ss)		(Sd)	Sig. (P)

Mad:8	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig. (P)

Mad:9	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig. (P)

Mad:10	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig.(P)

Mad:11	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig. (P)

Mad:12	Görev	N	($\bar{x}$)	(Ss)	t	(Sd)	Sig. (P)

$p<0.05*$

"Öğrencilerin ihtiyaçlarını desteklemek için teknoloji ile zenginleştirilmiş öğretim teknolojilerini uygulamayı sağlayacak uygun öğrenme ortamları tasarlama gerekliliği" (Mad:1) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ .512 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde Öğretmenlerin görüşleri ($\bar{x}_{=}$4.59), yöneticilerin görüşlerine göre ($\bar{x}$ =4.23) daha yüksektir.

"Teknoloji kullanımında işbirliği, ittifak ve ortaklık gibi durumların yaratılmasına olanak sağlama gerekliliği" (Mad:2) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark tespit edilmemiştir. (t $_{(140)=}$1.92 , p>0.05). Söz konusu yönetim etkinliğinin gerekliliğinde hem öğretmenler ($\bar{x}$ =4.39) hem de yöneticiler ($\bar{x}$ =4.14) benzer düzeyde görüş sahibidirler.

"Öğrencilerin konuyu ne kadar öğrendiğini ölçmek için teknolojiyi değişik ölçme tekniklerine uygulayarak kullanmaları için öğretmenlerin yönlendirme gerekliliği " (Mad: 3) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ 3.23 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde Öğretmenlerin görüşleri ($\bar{x}$ =4.32), yöneticilerin görüşlerine ($\bar{x}$ =4.02) göre daha yüksektir.

"Okulun teknoloji kaynaklarını ve olanaklarını öğretimi gerçekleştirmek amacı ile kullandırma gerekliliği" (Mad:4) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark tespit edilmemiştir. (t $_{(140)=}$ .593 , p>0.05). Söz konusu yönetim etkinliğinin gerekliliğinde hem öğretmenler ($\bar{x}_{=}$4.28) hem de yöneticiler ($\bar{x}$ =4.17) benzer düzeyde görüş sahibidirler.

" Teknoloji araçlarının etkili kullanımına model olma gerekliliği" (Mad: 5) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ .224 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde öğretmenlerin görüşleri ($\bar{x}_{=}$4.32), yöneticilerin görüşlerine ($\bar{x}$ =4.02) göre daha yüksektir.

"Bilgi ve iletişim teknolojilerini de kullanarak elde ettiği değerlendirme sonuçlarını veliler, öğretmenler ve diğer eğitimcilerle paylaşma gerekliliği" (Mad: 6) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ 2.18 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde Öğretmenlerin görüşleri ($\bar{x}$ =4.64), yöneticilerin görüşleri ($\bar{x}$ =4.28) göre daha yüksektir.

" Teknolojinin entegrasyonu ve ortamı teşvik etmek için ortak vizyon geliştirme gerekliliği" (Mad: 7) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ 37.78 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde öğretmenlerin görüşleri ($\overline{x}$ $_=$ 4.85), yöneticilerin   görüşlerine ($\overline{x}$ =4.64) göre daha yüksektir.

" Teknoloji kullanımı ile ilgili iş ve işlemlerin yönetimine aktif olarak katılma gerekliliği" (Mad: 8) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ .414 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde öğretmenlerin görüşleri   ($\overline{x}$ =4.45), yöneticilerin görüşlerine ($\overline{x}$ =4.11) göre daha yüksektir.

" Araç- gereç ve teknolojinin kullanıldığı öğrenme ortamlarında sağlık ve güvenliğe ilişkin önlemler aldırma gerekliliği" (Mad 9) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark tespit edilmemiştir. (t $_{(140)=}$ 3.23 , p>0.05).). Söz konusu yönetim etkinliğinin gerekliliğinde   hem öğretmenler *($\overline{x}$ =4.48)* hem de yöneticiler ($\overline{x}$ =4.59) benzer görüş sahibidirler.

" Okulda teknoloji kullanımını yönetecek bilgi stratejileri kullanma gerekliliği" (Mad: 10) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ 7.43 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde öğretmenlerin görüşleri ($\overline{x}$ $_=$4.31), yöneticilerin görüşlerine ($\overline{x}$ =4.00) göre daha yüksektir. Bu madde yöneticilerin gerekliliğine en az önem verdikleri maddedir. Yöneticilerin bilgi stratejilerini kullanma gerekliliğine inanmalarına karşın, bu maddeye en az önem vermelerinin nedeni, bu konuda yeterli bilgiye sahip olmayışlarından kaynaklanıyor olabilir.

" Ders kazanımlarını hedefleyen teknoloji destekli deneyimlere olanak sağlama gerekliliği"(Mad: 11) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ .328 , p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde öğretmenlerin görüşleri ($\overline{x}$ $_=$4.59), yöneticilerin   görüşlerine ($\overline{x}$ =4.25) göre daha yüksektir. Bu maddeye okul müdürlerinin öğretmenlerden daha az önem göstermesi okulun olanakları ile bağlantılı düşünülebilir. Öğretmenler ders kazanımlarının gerçekleştirilmesi için teknoloji destekli deneyimlerden azami oranda fayda sağlamayı beklerken, yöneticiler bu istekleri ancak okul olanakları ile sınırlı bir şekilde gerçekleştirebilmektedirler.

" Öğrenme yeterlikleri bağlamında teknoloji kaynaklarının planlanmasını yapma gerekliliği"(Mad: 12) yönetim etkinliğine ilişkin olarak yönetici ve öğretmen görüşleri arasında anlamlı bir fark gözlenmiştir (t $_{(140)=}$ 3.26 ,p<0.05). Söz konusu yönetim etkinliğinin gerekliliğinde öğretmenlerin görüşleri ($\overline{x}$ =4.60), yöneticilerin görüşlerine ($\overline{x}$ =4.32) göre daha yüksektir. Yöneticiler teknoloji kaynaklarının planlamasını yapma gerekliliğine öğretmenler kadar önem vermemektedirler

Tablo 4:Yönetici ve öğretmen görüşlerinin aritmetik ortalamalara göre önem sırası

Mad No	Yöneticiler	Önem Sırası	Öğretmenler	Önem Sırası
1	4.23	6	4.59	6
2	4.14	8	4.39	9
3	4.02	11	4.32	10
4	4.17	7	4.28	12
5	4.06	10	4.42	8
6	4.28	4	4.64	2
7	4.64	1	4.85	1
8	4.11	9	4.45	7
9	4.48	2	4.59	4
10	4.00	12	4.31	11
11	4.25	5	4.59	5
12	4.32	3	4.60	3

Ayrıca, tablo 4 de görüldüğü üzere yöneticiler ($\overline{x}$=4.64) ve öğretmenler ($\overline{x}$=4.85) "Teknolojinin entegrasyonu ve ortamı teşvik etmek için vizyon geliştirme gerekliliği" maddesine (Mad:**7**) birlikte en yüksek değeri vermişlerdir. Yöneticilerin ve öğretmenlerin bu madde ile ilgili görüşleri arasında anlamlı bir fark da tespit edilmiştir. Öğretmenler bu maddede yöneticilere göre daha yüksek görüşe sahiptirler.

Bununla birlikte, yöneticiler ($\overline{x}$=4.00) "Okulda teknoloji kullanımını yönetecek bilgi stratejileri kullanma gerekliliği" maddesine (Mad:10) en düşük değeri verirken, öğretmenler ($\overline{x}$=4.28) "Okulun teknoloji kaynaklarını ve olanaklarını öğretimi gerçekleştirmek amacı ile kullandırma gerekliliği" maddesine (Mad:4) en düşük değeri vermişlerdir.

 Okul yöneticileri eğitim teknolojisi kullanımındaki diğer yönetim etkinlikleri yanında "teknoloji kullanımının yönetiminde bilgi stratejileri kullanımı gerekliliğine" (Mad:10) daha az değer vermişlerdir. Öğretmenlerin 4. maddeye daha az önem vermeleri ise, eğitim teknolojisi olanaklarının okulda zaten eğitim öğretim için kullanılıyor olmasından kaynaklanıyor olabilir. Öğretmenler bu etkinliği daha az değerli bir yönetim etkinliği olarak görmektedirler.

İlköğretim okullarında eğitim teknolojilerinin kullanılmasının yönetiminde çalışma sürelerine göre yönetici ve öğretmen görüşlerinin analizi

Tablo: 5 Yöneticilerin çalışma sürelerine göre betimsel istatistik tablosu

Çalışma	N	$\overline{x}$	(Ss)
1 – 5 yıl	6	48.50	4.18
6 – 10 yıl	20	50.78	7.05
11 yıl ve üstü	53	50.98	6.68
Toplam	79	50.74	6.58

Tablo: 6   Yöneticilerin çalışma sürelerine ilişkin varyans analizi (one-way anova) tablosu

	Serbestlik Derecesi				Anlamlılık Düzeyi
Gruplararası	2	33,233	16,616		
Gruplariçi	76	3309,639	44,129	,377	,668
Genel	78	3342,872			

p<0.05*

Yöneticilerin görüşleri çalışma sürelerine göre, anlamlı farklılık göstermemektedir ($F_{(2;76)}$= .377, p<0.05). Bu durum, çalışma süreleri farklı olan yöneticilerin, eğitim teknolojilerinin yönetimi konusunda benzer şekilde görüş sahibi olduklarını göstermektedir.

Tablo: 7 Öğretmenlerin çalışma sürelerine göre betimsel istatistik tablosu

Çalışma Süresi	N	$\bar{x}$	(Ss)
1 – 5 yıl	17	55.50	4.35
6 – 10 yıl	10	52.72	9.82
11 yıl ve üstü	39	53.79	5.22
Toplam	66	54.07	5.83

Tablo: 8 Öğretmenlerin çalışma sürelerine gore varyans analizi (one-way anova) tablosu

	Serbestlik Derecesi				Anlamlılık Düzeyi
Gruplararası	2	50,695	25,347		
Gruplariçi	63	2091,915	34,294	.739	.482
Genel	65	2142,609			

p<0.05*

Öğretmenlerin görüşleri çalışma sürelerine göre, anlamlı farklılık göstermemektedir (F(2;63) = .739, p>0.05). Bu durum, çalışma süreleri farklı olan öğretmenlerin , eğitim teknolojilerinin yönetimi konusunda benzer şekilde görüş sahibi olduklarını göstermektedir.

Sonuç

Araştırmada, ilköğretim okulu yöneticileri ve öğretmenlerin okulda eğitim teknolojilerinin kullanımı etkinliklerinin yönetimi konusundaki düşünceleri öğrenilmiştir. Elde edilen verilere göre genel olarak hem okul yöneticileri, hemde öğretmenlerin okulda teknoloji kullanımının yönetimi konusunda olumlu düşüncelere sahip oldukları görülmüştür. Bununla birlikte, sınıflarda gerçekleştirdikleri eğitim - öğretim etkinliklerinde eğitim teknolojilerini bizzat kullandıkları için öğretmenlerin eğitim teknolojilerinin okulda kullanımı yönetim etkinlikleri ile daha yakından ilgilendikleri söylenebilir. Bu çalışmanın problemini oluşturan okulda eğitim teknolojilerinin kullanımı kunusundaki yönetim etkinliklerinin gerekliliği hakkındaki öğretmen görüşleri okul müdürlerinin görüşlerine göre daha yüksektir.

Okul müdürleri okulda eğitim teknolojileri kullanımı konusundaki yönetim etkinliklerinin gerekliliği bakımından olumlu görüşlere sahip olmakla birlikte; Teknoloji kullanımında işbirliği, ittifak ve ortaklık gibi durumların yaratılmasına olanak sağlama- Öğrencilerin konuyu ne kadar öğrendiğini ölçmek için teknolojiyi değişik ölçme tekniklerine uygulayarak kullanmaları için öğretmenlerin yönlendirme- Okulun teknoloji kaynaklarını ve olanaklarını öğretimi gerçekleştirmek amacı ile kullandırma- Teknoloji araçlarının etkili kullanımına model olma- Teknoloji kullanımı ile ilgili iş ve işlemlerin yönetimine aktif olarak katılma- Okulda teknoloji kullanımını yönetecek bilgi stratejileri kullanma gibi yönetim etkinlikleri konusunda okul müdürlerinin biraz daha fazla sorumluluk geliştirmeleri beklenebilir. İlköğretim okulu yöneticilerinin teknoloji yönetimi konusundaki eksikliklerini, değişen çağa ve koşullara kendilerini yeterince uyarlayamamış olmalarına da bağlamak mümkündür.

Brockmeier, Sermon ve Hope (2005) tarafından yapılan araştırmada okul müdürlerinin eğitim teknolojileri konusunda bilgi sahibi olma, öğretme-öğrenme sürecinde teknolojilerin nasıl kullanılabileceğini anlama, teknoloji kullanımını destekleyen kullanıcı, işbirlikçi ve kolaylaştırıcı rollerinde sıkıntı yaşadıkları sonucuna ulaşılmıştır.

Yöneticilerin ve öğretmenlerin çalışma sürelerine göre ayrı ayrı olarak yapılan analizlerde hem yöneticilerin hemde öğretmenlerin okulda eğitim teknolojilerinin kullanılmasının yönetimine ilişkin görüşleri arasında anlamlı fark tespit edilmemiştir. Değişik çalışma sürelerine sahip olan yöneticiler ve değişik çalışma sürelerine sahip olan öğretmenler benzer görüşlere sahiptirler.

Öneriler

Araştırma konusuna dayalı olarak geliştirilen öneriler şunlardır.

Teknoloji kullanımında işbirliği, ittifak ve ortaklık gibi durumların yaratılmasına olanak sağlama,

Öğrencilerin konuyu ne kadar öğrendiğini ölçmek için teknolojiyi değişik ölçme tekniklerine uygulayarak kullanmaları için öğretmenleri yönlendirme,

Okulun teknoloji kaynaklarını ve olanaklarını öğretimi gerçekleştirmek amacı ile kullandırma,

Teknoloji araçlarının etkili kullanımına model olma,

Teknoloji kullanımı ile ilgili iş ve işlemlerin yönetimine aktif olarak katılma,

Okulda teknoloji kullanımını yönetecek bilgi stratejileri kullanma,

gibi yönetim etkinlikleri konusunda okul müdürlerine hizmet içi eğitim düzenlenebilir.

Eğitim kurumlarında eğitim teknolojilerinin yönetimi konusunda okul müdürlerinin sorumlulukları net olarak belirlenebilir.

Okulda teknoloji liderliği kriterleri oluşturulabilir.

Eğitim teknolojileri etkinliklerinin yönetimi konusunda daha ileri araştırmalar yapılabilir.

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İLKÖĞRETİM OKULLARINDA ÖĞRETMENLERİN TAKIM ALGISI

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ÖZET

İlköğretim okullarında öğretmenlerin takım algısı düzeylerini ve takım algısı düzeylerinin çeşitli değişkenlere göre inceleyen bu araştırma, 2011-2012 öğretim yılında Sakarya ili Sapanca ilçesinde bulunan 10 resmi ilköğretim okulundan elde edilen veriler yardımıyla yapılmıştır. Araştırmanın evrenini Sakarya ili Sapanca ilçesi sınırları içinde yer alan Milli Eğitim Bakanlığına bağlı ilköğretim okullarında görev yapan 242 öğretmen oluşturmaktadır. Araştırmada örneklem belirleme yoluna gidilmemiş, evrenin tümüne ulaşılmaya çalışılmıştır.

Araştırma sonucunda;. Öğretmenlerin okullarında kurulan takımlarda takım ruhu içinde çalış(a)madıkları, kadın öğretmenlerin takım algılarının erkek öğretmenlere göre daha yüksek olduğu, bulundukları okulda daha uzun süre görev yapan öğretmenlerin daha yüksek bir takım algısı olduğu tespit edilmiştir.

Anahtar kelimeler: Takım Çalışması, Takım Algısı, Öğretmen.

GİRİŞ

Okulların, önceden belirlenmiş amaçlarına ulaşması; bu amaçları kendi amaçları olarak benimseyen, bu amaçları gerçekleştirme doğrultusunda diğer çalışanlarla işbirliğini geliştiren, okulun başarısının, ancak tüm çalışanlar üzerlerine düşeni bir takım ruhu ile ve tam olarak yaptıklarında ortaya çıkabileceğini bilen çalışanlarla olasıdır (Demirtaş, 2005: 42).

Takım kelimesi literatüre girmeden önce, 1930'lu yıllardan itibaren Neo-klasik okulun üzerinde durduğu ve bugüne kadar üzerinde birçok araştırmalar yapılan organizasyonlarda gruplar, grup davranışları, grup oluşturma gibi konular takım çalışmasının başlangıcı sayılabilir (Kayalar, 2002: 271). Ancak zamanla bu iki kavramın farklı olduğu düşüncesi yaygınlaşmıştır. Bunun sebebini Çetin (1998: 1-2), takım kurmanın temelindeki düşünce bir grubun performansının, grubun yapısına ve işleyişine uygun olarak arttırılması isteği olduğu ve takımların çoğu zaman diğer gruplardan ve bireylerden daha fazla performans gösterdiğini belirterek ifade etmiştir. Yine Maddux (1999: 5-6)'ın grupların en büyük başarılarını takım denilen verimli yapılara dönüştürdüklerinde ortaya çıkardıklarını belirtmesi ile grup ve takım kavramlarının birbirinden farklı olduğu anlaşılmaktadır.

Takım, ortaklaştıkları amacı tümleşik olarak, elbirliği ile en üst etkililikte gerçekleştirmeye çalışan birbirlerine bağlı ve birlikte hareket eden iki ya da daha fazla kişiden oluşan insan grubudur (Başaran, 2004: 292; Balcı, 2005: 177; Eren, 2007:463; Dengiz, 2000: 30).

Balcı (2002: 98) ve Sümter (2003: 7) takımların en az iki üyeden oluştuğunu, üyelerin birbiriyle sürekli etkileşim içinde olduğunu, kendilerini ve birbirlerini takımın üyesi olarak algıladıklarını, takımın ortak değerlerini paylaştıklarını, birlik içinde olduklarına inandıkları ve birlikte hareket ettiklerini, aynı amacı benimsediklerini ve sürekli yeni amaçlar belirlediklerini, sinerji yarattıklarını, yaratıcı olduklarını, motivasyonun yüksek olduğunu, hızlı karar alma yeteneğine sahip olduklarını, açık bir iletişimin, karşılıklı güvenin ve bir takım kültürünün mevcut olduğunu, bir yap-boz'un parçaları gibi birbirini tahrip etmeden yerine oturan ve birleştirildiğinde bütün bir deseni meydana getiren bir yapıya sahip olması gerektiğini belirtmektedirler.

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Takımlarla Çalışmanın Önemi

1990'lı yılların başından itibaren ekonomik ve sosyal çevrenin uğradığı değişim, işletmelerin yapısında ve yönetim stratejilerinde de önemli değişikliklere yol açmıştır. Bu değişiklikler içerisinde yer alan takım çalışması uygulamaları işletmelerin temel gereksinimleri arasında yer almaya başlamıştır. Bugün başarılı olan birçok işletme söz birliği etmişçesine, rekabet üstünlüğünü sağlamak için takım çalışması uygulamalarının gerekliliği üzerinde vurgu yapmaktadır. Tüm bu gelişmeler, takımların uygulamada hızla yaygınlaşmasına ve yönetim tarafından desteklenmesi kaçınılmaz bir felsefe ve uygulama olarak ortaya çıkmasına neden olmuştur (Özler ve Koparan, 2006).

Takım çalışmasında temel nokta; bir kişinin yaptığı faaliyetlerin, verdiği kararların diğerlerini de etkileyeceğinin bilincinde olması ve toplam aklın, bireysel akıldan daha büyük olduğu gerçeğidir (Polat, 2000). "Hiçbirimiz, hepimiz kadar akıllı değiliz" cümlesi aslında takım çalışması ile birlikte ortaya çıkan vizyonun ne kadar önemli olduğunu açık bir şekilde ifade etmektedir (Blanchard, 1996: 22-23).

Bir kişi bir işi tek başına yaptığında daha fazla zaman ve emek harcadığı halde, takım içerisinde daha az zamanda çok fazla işler yapılabilmektedir. Takım çalışmaları ile bireysel iş performansı takım performansına çevrilerek sinerji oluşmaktadır (Brestrich, 2000: 111). Takım çalışmasının sihirli kelimesi sinerjidir (Karslı, 2004: 63).

Örgütlerde takımlar birçok amaçla kurulurlar. Bu amaçlar arasında; değişimi başlatma, değişime karşı direnci kırma, sorunlara çözüm bulma, çalışma ilişkilerini geliştirme, amaçlara dönük sonuçlar elde etme, örgütü yenileştirme, çalışanlar için işi daha anlamlı hale getirme, katılımcı ve paylaşımcı bir örgüt kültürü yaratma, kaliteli hizmet sunma, yeni stratejiler geliştirme vb. sayılabilir (Elma, 2004: 197).

Etkili Takımların Oluşması

Örgütün etkililiğini artırmak ve örgütsel amaçlara daha çabuk ve sağlıklı kavuşabilmek için bütünlük gösteren her iş için bir takım oluşturulmalıdır (Başaran, 2004: 195-196). Takım oluşturmanın en genel amacı; birbirleriyle dayanışma içinde olan, destekleyen ve birbirlerine güvenen bir takım oluşturulup, verilen bir işi tamamlamak, aynı zamanda da bu işi yaparken üyelerin değer farklılıklarına, davranış biçimlerine ve becerilerine saygılı olmaktır (Özkalp ve Kırel, 2001: 438).

Takımlar bir anda oluşuveren topluluklar değildirler. Bir araya gelmiş bir grup yabancının oluşturduğu kümeden birlik içinde hareket eden, iyi koordine edilmiş bir grup oluşturmak biraz zaman alır ve grup üyeleri arasında büyük miktarda etkileşim gerektirir (Eren, 2007: 467).

Takım yapılanma süreci bir işbirliğini ifade eder. Takım üyelerinin birlikte çalışma fikri önemlidir. Sinerjik bir takım olarak, biz bu takıma neler katabiliriz ve bu katkılarımızla neler yaratabiliriz düşüncesi önem kazanmaktadır. Yapılandırma süreci boyunca takım etkiliğinin değerlendirilmesi ve alınacak kararlarla gelecekteki bu etkinliğin arttırılması ve devam ettirilmesinde nelere ihtiyaç duyulduğunun belirlenmesi gibi konularda katılımcılık beklenir (Keçecioğlu, 2000: 17). Bu nedenle takım oluşum sürecinde takım olacak tüm bireylerin bazı sorulara cevap vermesi beklenmektedir.

Margerision' a (2001:19) göre yeni oluşturulan takımlarda "Biz kimiz?", "Biz şimdi neredeyiz?", "Nereye gidiyoruz?", "Oraya nasıl ulaşacağız?", "Bizden ne yapmamız bekleniyor?", "Amacımıza ulaşmak için desteği nereden alacağız?", "Ne kadar etkiliyiz?", "Sonuçta ne elde edeceğiz?" sorularının cevaplarını tüm üyelerin çok iyi bilmesi ve anlaması gerekir (Akt. Çetin, 2001: 32). Takım üyelerinin bu soruları cevaplandırmalarından sonra takım oluşum süreci başlar ve gelişir.

Örgütlerde takım çalışmasının tercih edilmesinin temel amacı; işletme stratejileri doğrultusunda yüksek performans sağlamaktır. Ancak bugüne kadar gerçekleştirilen birçok araştırma sonucunda takım çalışmasının başarıyla uygulanmasının kolay olmadığı, birçok hataların yapıldığı veya takım çalışmasıyla beraber ortaya çıkan sinerjik güçten yeterince faydalanılamadığı görülmüştür (Yedievli ve Ersen, 1997: 29-30). Her şeyden

önce takım olmanın, takım haline gelmenin bazı koşullarını yerine getirmek gerekmektedir (Ataman, 2002: 89). Bu nedenle etkili bir takım çalışması için bir takımın bazı temel özellikleri taşıması gerekmektedir. Bu özellikler; açık hedefler, üst düzeyde bir motivasyon, sağlıklı iletişimin oluşturulması, yetenekli üyeler, ortak sorumluluğun paylaşılması, paylaşılan amaç ve vizyona sahip olmak, takıma ait olma duygusu, takımsal yetkilendirme, faydalı bir çatışma alanı oluşturma, verimli toplantılar yapma, yaratıcılık ve yenilik, uygun çalışma yöntemleri, karşılıklı güven, işbirliği, etkin liderlik, takıma bağlılık, düzenli aralıklarla gözden geçirme ve değerlendirme, ödüllendirme, bireysel gelişime destek vermek ve diğer takımlarla sağlam bağlar şeklinde ifade edilebilir.

Eğitimde Takım Çalışması

İnsanları gelecek için hazırlayan eğitim kurumlarının takım çalışmasına doğru yönlendirilmesi zamanın ve çalışma şartlarının bir ihtiyacı olarak ortaya çıkmaktadır. Eğitim örgütlerinde takım çalışması verimliliği en üst düzeye çıkarabilmede gerekli ihtiyaç olarak görülmelidir. Yöneticiler kendilerinin de desteğiyle akademik ve destek personelden oluşan, çeşitli fonksiyonları yerine getirecek biçimde takım çalışmasına gidip takımlar oluşturmalıdırlar (Cafoğlu, 1996: 65-72; Çetin, 2001: 35).

Takım çalışmasının bütün personeli içine alacak şekilde başlatılması öğretim, yardımcı ve yönetici personel arasındaki duvarları ortadan kaldırıp daha iyi bir çalışma ortamının kurulmasını sağlayacaktır. Problem çözme ve karar verme sistemlerinin organizasyondaki bütün seviyelerde takım çalışması ile birlikte uygulanması eğitim kurumlarının başarısı için önemli adımları oluşturacaktır (Cafoğlu, 1996: 66).

Okul, aynı eğitim amaçlarını gerçekleştirmeyi paylaşan eğitim işgörenlerinin oluşturduğu bir örgüttür. Öğrencilerin eğitiminde, her işgörenin, başka işgörenlerin yardımını araması doğaldır. Eğitim hizmeti bir bakıma imeceyle yapılan çalışmanın ürünüdür. Çünkü öğrencilerin eğitimi bir insanın bilgi ve becerisiyle yapılamayacak kadar ağırdır (Başaran, 2008: 310). Okullar bu açıdan değerlendirildiğinde yapılan işin doğası eşgüdümü ve işbirliğini zorunlu kılmaktadır. Bu nedenle takım çalışması okullar için oldukça önemlidir (Demirtaş, 2005: 43-44).

Örgütlerde takım ve kurul sözcükleri birbirlerinin yerine kullanılabilir (Cooper, 2000'den akt. Şekerci ve Aypay, 2009: 141). İlköğretim okullarındaki zümre öğretmenler kurulu, şube öğretmenler kurulu, öğrenci davranışlarını değerlendirme kurulu okuldaki eğitim etkinliklerinin yürütülmesine dair kararların alındığı takım çalışmalarıdır.

Bu çalışmada zümre öğretmenler, şube öğretmenler, okul gelişim yönetim, okul aile birliği ve öğrenci davranışlarını değerlendirme takımları üzerinde durulacaktır.

- **Zümre Öğretmenler Takımı**

Zümre öğretmenler kurulu, 1, 2, 3, 4 ve 5 inci sınıflarda aynı sınıfı okutan sınıf öğretmenleri ve varsa branş öğretmenlerinden, 6, 7 ve 8 inci sınıflarda branş öğretmenlerinden oluşur. Dersin özelliğine göre etkinlik örnekleri ve materyaller hazırlanarak ortak bir anlayış oluşturulur (MEB, 2003).

- **Şube Öğretmenler Takımı**

Şube öğretmenler kurulu, 4, 5, 6, 7 ve 8 inci sınıflarda aynı şubede ders okutan öğretmenler ile okul rehber öğretmeninden oluşur. Kurulda; şubedeki öğrencilerin kişilik, beslenme, sağlık, sosyal ilişkilerin yanı sıra öğrencilerin başarıları ile ailenin ekonomik durumu değerlendirilerek alınacak önlemler görüşülür ve alınan genel karar, uygulanmak üzere şube öğretmenler kurulu karar defterine yazılır (MEB, 2003).

- **Okul Aile Birliği Takımı**

Okul Aile Birliği, okul ile aile arasında bütünleşmeyi gerçekleştirmek, veli ile okul arasında iletişimi ve iş birliğini sağlamak, eğitim ve öğretimi geliştirici faaliyetleri desteklemek, okulun ve maddi imkânlardan yoksun öğrencilerin eğitim ve öğretimle ilgili zorunlu ihtiyaçlarını karşılamak üzere okullar bünyesinde tüzel kişiliği haiz olmayan birliklerdir (MEB, 2012).

- **Okul Gelişimi Yönetim Takımı**

İlköğretim okullarında; paylaşımcı ve iş birliğine dayalı yönetim anlayışıyla eğitim-öğretimin niteliğini ve öğrenci başarısını artırmak, okulun fizikî ve insan kaynaklarını geliştirmek, öğrenci merkezli eğitim yapmak, eğitimde planlı ve sürekli gelişim sağlamak amacıyla "Okul Gelişim Yönetim Ekibi (Takımı)" kurulur (MEB, 2003). Okul Gelişim Yönetim Ekibi (Takımı), okul toplumunu temsilen oluşturulan ve planlı okul gelişimini yöneten ve yürüten ekiptir. Okul gelişim planı okulun etkili bir kurum hâline getirilmesi için önemli bir araçtır (MEB, 2007: 9-10).

- **Öğrenci Davranışlarını Değerlendirme Takımı**

İlköğretim okullarında öğrencilerin ilgi, istek, yetenek ve ihtiyaçlarını belirleyerek olumlu davranışlar kazanmaları ve olumsuz davranışların önlenmesi için Öğrenci Davranışlarını Değerlendirme Takımı oluşturulur (MEB, 2003).

Problem Cümlesi

Sakarya ili Sapanca ilçesinde ilköğretim okullarında görev yapan öğretmenlerin takım algısı düzeyleri nedir?

Alt Problemler

Bu araştırmada yukarıda belirtilen probleme cevap bulmak için, aşağıdaki alt problemlere cevap aranacaktır:

1.İlköğretim okullarında görev yapan öğretmenlerin zümre öğretmenler, şube öğretmenler, okul aile birliği, okul gelişim yönetim ve öğrenci davranışlarını değerlendirme takım algıları ne düzeydedir?

2. İlköğretim okullarında görev yapan öğretmenlerin takım algısı öğretmenlerin;

a) Cinsiyetlerine, b) okuldaki çalışma sürelerine göre anlamlı bir farklılık göstermekte midir?

Araştırmanın Amacı

Bu araştırmanın amacı eğitim sistemimizin temel basamağı olan ilköğretim okullarındaki öğretmenlerin takım algılarını ortaya koymak, takım algılarının öğretmenlerin kişilik ve mesleki özelliklerine göre farklılık gösterip göstermediğini belirleyerek, takım çalışmasında karşılaşılan güçlükleri saptamak, sorunlara ilişkin çözüm önerileri belirlemek ve takım çalışmasının okulların etkiliğindeki önemini vurgulamaktır.

Bu araştırma sonucunda elde edilecek bulgular ilköğretim kurumlarında görev yapan öğretmenlerin takım algısı düzeylerini ortaya koyması ve öğretmenlerin takım çalışmalarındaki eksikliklerinin, çalışmalar sırasında karşılaşılan güçlüklerin belirlenmesi ve bu doğrultuda çözüm önerilerinin belirtilerek okullarda yapılacak takım çalışmalarının etkiliğinin artırılması açısından öğretmenlerin görüşlerinin belirlenmesi önemlidir. Böylece Milli Eğitim Bakanlığı bünyesindeki okullarda ve diğer eğitim kurumlarında takım çalışmasına yönelik bir okul kültürü oluşturulması açısından öğretmenlere ve okul yönetimine yol göstereceği umulmaktadır.

Sınırlılıklar

Araştırma, Sakarya ili, Sapanca ilçesinde 2011-2012 öğretim yılında ilköğretim okullarında görev yapan öğretmenlerin görüşleri ile sınırlıdır.

Araştırma, okullarda kurulan takımlardan zümre öğretmenler, şube öğretmenler, okul aile birliği, okul gelişim yönetim ve öğrenci davranışlarını değerlendirme takımları ile sınırlıdır.

YÖNTEM

Araştırma tarama modelindedir. Araştırmanın evrenini, 2011-2012 öğretim yılında Sakarya ili Sapanca ilçesinde bulunan ilköğretim okullarında görev yapan öğretmenler oluşturmaktadır. Araştırmada örneklem belirleme yoluna gidilmemiş, evrenin tamamına ulaşılmaya çalışılmıştır. Araştırmanın verilerini toplamada kullanılan ölçek iki bölümden oluşmuştur. Birinci bölümde öğretmenler hakkındaki bazı bilgileri elde etmek amacıyla "Kişisel Bilgi Formu", ikinci bölümde öğretmenlerin takım algılarını tespit etmek amacıyla "Takım Algısı Ölçeği" veri toplama aracı olarak kullanılmıştır. Ölçek aracılığıyla elde edilen verilerin istatistiksel çözümlemesinde SPSS 15.0 paket programından yararlanılmıştır. Değerlendirmelerde anlamlılık düzeyi .05 olarak alınmıştır.

BULGULAR VE YORUM

Araştırmaya katılan ilköğretim okullarında görev yapan öğretmenlerin okullarında oluşturdukları zümre öğretmenler, şube öğretmenler, okul aile birliği, okul gelişim yönetim ve öğrenci davranışlarını değerlendirme takımlarındaki takım çalışması durumları saptanmaya çalışılmıştır. Bu yolla, öğretmenlerin bulundukları takımlarda aynı amaca yönelik bir takımın üyeleri olmaları açısından her bir takım ayrı ayrı ele alınmıştır. Bu alt probleme yanıt bulmak amacıyla, ilköğretim okulu öğretmenlerinin ölçme aracındaki sorulara verdikleri yanıtlar aritmetik ortalama ($\overline{X}$) ve standart sapma (Ss) hesaplarıyla analiz edilmiş ve sonuçlar Tablo 2'de verilmiştir.

Tablo 1. İlköğretim Okulu Öğretmenlerinin Takım Çalışmasına

İlişkin Algılarına Yönelik Aritmetik Ortalamalar ve Standart Sapmalar

Takımlar	N	X	s.s.
Zümre Öğretmenler Takımı	208	2,05	0,81
Okul Aile Birliği Takımı	208	2,00	0,86
Şube Öğretmenler Takımı	131	2,07	0,76
Okul Gelişim Yönetim Takımı	40	2,03	0,73
Öğrenci Davranışlarını değerlendirme Takımı	37	1,49	1,12

Tablo 1'de, araştırmaya katılan öğretmenlerin okullarında kurulan takımlardaki takım çalışmasına ilişkin algılarına yönelik veriler görülmektedir. Buna göre, zümre öğretmenler, şube öğretmenler, okul aile birliği ve okul gelişim yönetim takımında yer alan öğretmenler takım çalışmasını "nadiren" gerçekleştirdiklerini, öğrenci davranışlarını değerlendirme takımında ise öğretmenlerin takım çalışmasını "asla" gerçekleştirmekleri görülmektedir.

Tablo 2. İlköğretim Okulu Öğretmenlerinin Takım Çalışmasına

İlişkin Algılarına Yönelik Frekans ve Yüzdeler

	N/%	Haberi yok	Düşük	Orta	Yüksek	Toplam
Zümre Öğretmenler Takımı	N	.00	63	72	73	208
	%	.00	30.3	34.6	35.1	100
Okul Aile Birliği Takımı	N	.00	77	55	76	208
	%	.00	37	26.4	36.5	100
Şube Öğretmenler Takımı	N	.00	33	56	42	131
	%	.00	25.2	42.7	32.1	100
Okul Gelişim Yönetim Takımı	N	.00	10	19	11	40
	%	.00	25	47.5	27.5	100
Öğrenci Davranışlarını Değerlendirme Takımı	N	10	7	12	8	37
	%	27	18.9	32.4	21.6	100

Tablo 2'de, araştırmaya katılan öğretmenlerin okullarında kurulan takımlardaki takım çalışmasına ilişkin algılarının frekans ve yüzde değerleri görülmektedir. Zümre Öğretmenler takımında öğretmenlerin 63'ünün (%30.3), okul aile birliği takımında 77'sinin (%37), şube öğretmenler takımında 33'ünün (%25.2), okul gelişim yönetim takımında 10'unun (%25) ve öğrenci davranışlarını değerlendirme takımında ise 7'sinin (%18.9) takım algılarının düşük olduğu görülmektedir, bir başka ifadeyle öğretmenler bulundukları takımlarda bir takım ruhuyla hareket etmemektedirler.

Araştırma kapsamına alınan öğretmenlerin takım çalışmasına ilişkin algılarının cinsiyete göre bir farklılık gösterip göstermediğini belirlemek amacıyla t-testi yapılmış ve sonuçlar Tablo 4'te verilmiştir.

Tablo 3. Öğretmenlerin Takım Çalışmasına İlişkin Algılarının Cinsiyet Değişkenine

Göre Farklılık Gösterip Göstermediğine İlişkin t-Testi Sonuçları

Takımlar	Cinsiyet	N	X	s.s.	Ort. S.H.	F	t	sd	p
Zümre Öğretmenler Takımı	Kadın	116	2,20	0,78	0,07	,05	3,06	206	,00
	Erkek	92	1,86	0,81	0,08				
Okul Aile Birliği Takımı	Kadın	116	2,03	0,87	0,08	,22	,57	206	,56
	Erkek	92	1,96	0,85	0,09				
Şube Öğretmenler Takımı	Kadın	68	2,24	0,76	0,09	1,51	2,68	129	,00
	Erkek	63	1,89	0,72	0,09				
Okul Gelişim Yönetim Takımı	Kadın	15	2,00	0,85	0,22	1,68	-,65	38	,87
	Erkek	25	2,04	0,68	0,14				
Öğrenci Davranışlarını Değerlendirme Takımı	Kadın	18	2,06	0,94	0,22	1,03		-,18	,85
	Erkek	19	2,11	0,74	0,17				

*p<.05

Tablo 3'te görüldüğü gibi zümre ve şube öğretmenler takımında yer alan öğretmenlerin takım algılarına ilişkin görüşleri cinsiyet değişkenine göre anlamlı bir farklılık (t=3.06, t=2.68 p<.05) göstermektedir. Kadın öğretmenlerin erkek öğretmenlere göre takım algıları daha yüksektir.

Okul aile birliği, okul gelişim yönetim ve öğrenci davranışlarını değerlendirme takımlarında yer alan öğretmenlerin takım algılarına ilişkin görüşleri cinsiyet değişkenine göre anlamlı bir farklılık (t=.57, t=.87, T=.85 p>.05) göstermemektedir. Kadın ve erkek öğretmenlerin takım algılarına ilişkin görüşlerinin benzer olduğu söylenebilir.

Araştırma kapsamına alınan öğretmenlerin takım çalışmasına ilişkin algılarının öğretmenlerin mesleki kıdemlerine göre bir farklılık gösterip göstermediğini belirlemek amacıyla yapılan analiz sonuçları Tablo 5'te verilmiştir.

Tablo 4. Öğretmenlerin Takım Çalışmasına İlişkin Algılarının Bulundukları Okuldaki Görev Süresi Değişkenine Göre Varyans Analizi Sonuçları

ANOVA						LSD			
Varyansın KAynağı		Kareler Tp.	sd	Kareler Ort.	F	(I) O.Ç.S.	(J) O.Ç.S.	Ort.Farkı (I-J)	p
Okul Aile Birliği Takımı	Gr. Arası	8,45	2	4,22		1-5 Yıl	6-10 Yıl	,07	,60
							11 Yıl ve+	-,49	,00
	Grup İçi	144,54	205	,70	5,99	6-10 Yıl	1-5 Yıl	-,07	,60
							11 Yıl ve+	-,56	,00
	Toplam	152,99	207			11 Yıl ve+	1-5 Yıl	,49	,00
							6-10 Yıl	,56	,00

*p<.05

Öğretmenlerin bulundukları okuldaki görev süreleri bakımından yalnızca takım okul aile birliği takımındaki katılımcıların takım algıları arasında anlamlı fark bulunmuştur (F=5.99, p<.05). Farklılığın hangi çalışma sürelerinde çalışan öğretmenlerin görüşleri arasında olduğunu belirlemek amacıyla yapılan LSD testi sonuçlarına göre görev süresi arttıkça takım algılarının arttığı söylenebilir..

SONUÇ VE TARTIŞMA

İlköğretim okullarında zümre öğretmenler, şube öğretmenler, okul aile birliği ve okul gelişim yönetim takımlarında "nadiren" takım çalışmasının gerçekleştiği bulunmuştur. Öğrenci davranışlarını değerlendirme takımında ise takım çalışmasının "asla" gerçekleşmediği tespit edilmiştir.

İlköğretim okullarında öğretmenlerin takım algılarının düşük olduğu bulunmuştur, bir başka ifadeyle öğretmenler okullarında kurulan takımlarda takım ruhu içinde çalışmamaktadırlar.

Araştırma bulgularındaki ortalamalara göre zümre öğretmenler ve şube öğretmenler takımında kadın öğretmenlerin takım algılarının erkek öğretmenlere göre daha yüksek olduğu bulunmuştur. Okul aile birliği, okul gelişim yönetim ve öğrenci davranışlarını değerlendirme takımlarında öğretmenlerin takım algılarının cinsiyetlerine göre bir farklılık göstermediği bulunmuştur.

İlköğretim okullarında öğretmenlerin okullarında kurulan takımlarda takım çalışması uygulamasını algılama biçimlerine mesleki kıdemlerinin etki etmediği bulunmuştur.

İlköğretim okullarında öğretmenlerin okullarında kurulan takımlardan zümre öğretmenler, şube öğretmenler, okul gelişim yönetim ve öğrenci davranışlarını değerlendirme takım çalışması uygulamasını algılama biçimlerine bulundukları okulda çalışma süresinin etki etmediği bulunmuştur, dolayısıyla araştırma kapsamındaki okullarda uzun süre görev yapmış veya yapmamış öğretmenlerin bu takımlardaki çalışmalar hakkındaki görüşlerinin ortak olduğu tespit edilmiştir. Ancak okul aile birliği takımında öğretmenlerin bulundukları okulda çalışma sürelerinin onların takım algılarına etki ettiği bulunmuştur. Bulundukları okulda daha fazla görev yapan öğretmenlerden daha yüksek bir takım algısı olduğu tespit edilmiştir. Bu durum okulda daha kısa süre çalışan öğretmenlerin okul aile birliği çalışmalarında çevre ile iletişimlerini kurmada zamana ihtiyacı olmaları gerektiğinden

kaynaklanabilir. Ayrıca bu durum, bir yandan uzun süre çalışan öğretmenlerde oluşan bağlılık duygusunun oluşması ile ilişkilendirilebilirken diğer yandan bağlılığın çalışanları o okulda daha uzun süre çalışmaya yönlendirdiği şeklinde değerlendirilebilir.

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IMAGES OF FUTURE TECHNOLOGY GENERATED BY PRIMARY SCHOOL STUDENTS THROUGH THEIR PAINTINGS

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Abstract

This study aims to investigate the elementary school students' perceptions of future technology through their pictorial representations. The study carried out with fifth-grade elementary school students was applied to a class of 18 students. The 5th graders of Çağış Primary School in Balıkesir constituted the research context. The participant children were given pastel painting sets and asked to paint pictures related to future technology. Before this, they were given information about life in the future or using technology. Images collected from children participating in the study were analyzed using content analysis method. According to the analyses, it was determined that the children focused on more than one future technology topic in their paintings. A great majority of the students used "transportation" and important portion of students used "nature" as future technology themes in their paintings. The rest of the students used "Instruments-Devices" as future technology themes in their pictures.

Keywords: Future technology, pictorial representation, images, art education;

Introduction

We are witnessing a century, where information and communication are developing rapidly and technologic products are constantly being renewed. In the 21st century, life is becoming more convenient with the impact of intensely developing technologic products; however, the qualifications we require in order to access this convenience are increasing. The basic function of mass communication is to provide solutions for reality based problems while entertaining, to educate, and to assist certain values settling in society. The dazzling developments in IT Technology constantly demonstrate changes for the sustaining of pursuits of humans such as establishing communication, addressing daily needs, correspondence, and forms of work. In the society of today, while young children are becoming acquainted with the computer and using technology effectively, the previous generation is making efforts and taking lessons to overcome this task and a large majority of them can refer to the new generation, which is very acquainted with technology, as being detached from and irrelevant to their roots.

Many social benefits, which technology helps in arising, are balanced day by day with social problems arising from their use. These are problems ranging from the individual being under pressure, the multi-dimensional destruction of nature to the consumption of the world's limited sources. It is undeniable that technology is an integral part of our social world and has become a fundamental element of our daily activities. The need for any type of machine in performing almost all types of works in the social domain is one of the apparent characteristics of modern life. We use machines for travelling, communicating, producing goods, rendering services, and even entertaining each other. It can be said that technology, which facilitates our lives,

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makes the world smaller, and thus, creates more free time and makes us free and at the same time makes us easily traceable (Turan & Esenoğlu, 2006: 72-74).

In the society of today, children become acquainted with technology, particularly computers, at very early ages. The children and youth of today, who intensely use the computer and internet for assignments and extracurricular activities and entertainment both at home and school, are among the actors that take part the most in the portion requiring communication and interaction of technology in general and computers and internet specifically.When observed in this respect, children are the most prominent factors that use technology in a well manner and shall take it further (Canbek & Sağıroğlu, 2007: 33).

Children of the new generation are born and grow together with computers, the internet, mobile phones, cameras, and other products of the digital world. These children, which are referred to as "digital natives" by Prensky (2001), perceive the world in a different manner, think multi-dimensionally, make decisions faster, and transform technological products to the center of their lives. Computer games, e-mails, the internet, mobile phones, and mobile phone messages have become an integral part of the lives of these students. Studying the perspective of these digital natives, who are each a strong user and consumer of technology of today, is of significance in terms of directing this interest of theirs in a correct manner. In this context, the conducted study was formed in line with paintings of students concerning technology of the future. As a technique pictorial representation, in which they can express schemas envisaged in the minds of students, their emotions and thoughts better, was consulted.

Art and art education is of undeniable significance. The child, who is illiterate and cannot completely express him/herself, reflects him/herself and his/her inner world through his/her first doodles. This unconscious shapes and scribbles are replaced with conscious shapes with art education (Şişginoğlu, 2007). Humans are born with the competence of making sense of and interpreting the world, in which they live in. When this competence is supported under suitable conditions and environments, each individual interprets and expresses the world and itself in various manners. Just like each individual living in society, children too have the need to express themselves. In teaching settings, one of the most effective means for students expressing themselves is pictorial representation (Acer & İlhan, 2011). In addition to pictures being criteria useful for introducing the child to us in psycho-pedagogic terms, it is also of great significance in that it is an instrument of expression useful for reflecting the child's intelligence, personality, intermediate surrounding characteristics, and inner world (Yavuzer, 2007: 12). With the pictures they have sketched, students are able to express their emotions and thoughts through lines, forms, and colors and are able to demonstrate their thoughts on the future in a more comfortable manner.

When the literature is examined, it can be observed that studies addressing children's paintings demonstrate diversity. Image of scientists (Türkmen, 2008), image of mathematicians (Picker & Berry, 2000), perception of the concept of health (Rijey & Van Rooy, 2007), environmental issues (Sadık, Çakan & Artut, 2011), perception of technology (Erişti & Kurt, 2011), perceptions of the internet (Esgi & Çevik, 2010), perception of popular culture (Erişti, 2010) and perception of the European Union (Belet & Türkkan, 2007) are among subjects discussed in studies conducted with primary school students.

The overall objective of this study is to examine the perception of future technology of students in the fifth year of primary school through paintings they have painted. Based on this overall objective, answers to the questions of "What are the opinions of primary school students on the concept of technology?" and "How do primary school students reflect their perception of future technology in their paintings?" have been sought in this study.

Method

This study is a qualitative study examining the form of future technology perception of children in the 11-12 year old age group through paintings they have painted. The universe of the study consists of 18 students studying in Class A of the 5th Grade at the primary school in the Çağış Village in the province of Balıkesir during the 2011-2012 academic year. Data was collected in the spring semester of the 2011-2012 academic year. Primarily, brain storming was carried out under the guidance of the researchers with the students concerning the use of future technology. Open ended questions were directed at the students and then they were requested to

express their emotions and thoughts on future technology through paintings. The students painted their paintings with pastel paint on paper handed out by the researchers for one period. Each student wrote their name, surname, and a brief description of their painting on the back of the paining paper. Whilst the students were painting, the researchers and class teacher remained in the classroom.

The overall objective of this study is to examine the perception of future technology of students in the fifth year of primary school through paintings they have painted. Based on this overall objective, in the study the answers to the following questions have been sought:

1. What are the opinions of primary school students on the concept of technology?
2. How do primary school students reflect their perception of future technology in their paintings?

Analysis and Interpretation of Data

Data obtained from the pictorial expression of students and their discussed opinions have been analyzed and interpreted through descriptive analysis. In the analysis stage of the data, paintings painted by the students and their answers to open ended questions have been analyzed by researchers. As a result of these analyses, the themes appearing in the expressions of students based on the concept of technology have been gathered under the three titles of "benefits, characteristics, and definition of technology." Afterwards, these main themes have been separated into sub-themes. These are 1. Benefits of Technology; a) Making life easier, b) Usefulness, c) Problem solving, 2. Characteristics of technology; a) Entertaining, b) Pleasing, c) Sustainable; 3. Definition of technology; a) Invention, b)Power, c)Instrument.

The themes of opinions developed by students with regards to future technology are present in the following figure in the form of main themes and sub-themes.

1. Change of Nature; a) Magic Seeds, b) Growing Food, c) Ever-lasting Drinks, d) Clean Environment, e) Polluted World; 2. Future Architecture; a) Rising Homes, b) Homes with Geometric Shapes, 3. Transportation; a) Flying cars, b) Flying People, c) Flying Homes, d) Walking homes, e) Space Vehicles; 4. Instruments-devices; a) Walking ball, b) Magic Pen, c) Living Television, d) Change Controller, e) Robots, f) Cloning Machine.

Table 1. Opinions of Students on the Concept of Technology (N=18)

Themes	Sub Themes	Opinion No	Frequency
Benefits of Technology	Making life easier	17,16,15,14,13,10,8,7,4, 3,2,1,6,18	14
	Usefulness	15	1
	Problem Solving	7	1
Characteristics of Technology	Entertaining	15	1
	Pleasing	10,8,18	3
	Sustainability	8	1
Definition of Technology	Invention	14,13,11	3
	Power	12	1
	Instrument	9,8,5,4,2,1	6

As it can be observed in Table 1, answers to the question of "In your opinion, what is technology?" directed to the participants, is in three different categories. Accordingly, there are a total of 16 opinions expressing the benefits of technology. A total of 5 opinions on the characteristics of technology and 10 opinions emphasizing its definition have been discussed. Among all participants, 14 expressed the concept of technology as "making life easier", 6 participants expressed technology as an "instrument." Below there are samples of student opinions on technology.

Opinion 7: In my opinion, technology produces solutions making life easier and finds solutions to some causes.
Opinion 8: In my opinion, technology is an instrument required to make our lives easier. Technology is a very nice thing and is something that never finishes and increases as the years pass.
Opinion 12: Technology means power to me.
Opinion 13: Inventions in the future are called technology.

Table 2. The Perception of Future Technology in the Paintings of Students (N=18)

Themes	Sub Themes	Painting No	Frequency
Change of Nature	Magic Seeds	1	1
	Growing Food	5,18	2
	Ever-lasting Drinks	7,18	2
	Clean Environment	13,16	2

	Polluted World	9	1
Future Architecture	Rising Homes	3,8	2
	Homes with Geometric Shapes	13,17,11,5	3
Transportation	Flying cars	6,10,	2
	Space Vehicles	11,12	2
	People	18,10,6	3
	Walking homes	10,16,17	3
	Flying Homes	8,10	2
Instruments-Devices	Walking ball	13	1
	Magic Pen	14	1
	Living Television	15	1
	Robots	10,8	2
	Change Controller	4	1
	Cloning Machine	2	1

As it can be observed in Table 2, the paintings painted as a response to the question of "In your opinion, how should future technology be?" directed to the students have been grouped in 4 categories. These themes have been discussed under the titles of the change of nature, future architecture, transportation, and instruments-devices. In 8 of the student paintings there are pictorial expressions of changes in the future resulting from the change of nature, and in 5 of them the architectural change of the future was dealt with. In 12 paintings on transportation of the future there are different figures and the total of pictorial expressions with technological instruments of the future have been determined as 7.

Finding and Interpretation

Change of Nature

Fig.1. (a) painting no 18; (b) painting no 5

Painting No 18:
It is a painting expressing that roles in life changed in the future. In the painting it can be seen that humans travel by flying and they have wings as parts of their bodies. With regards to this painting, the student has used the following expression:
"In my opinion, in future technology, humans fly in the sky. I imagined it like this. Flowers and fruits are larger and we eat them and they never finish. I would really like to live in such a world."

Painting No 5:
In the painting in the sub theme titled growing fruits there are samples of bean and tomato figures in relation to the change of nature in the future. At the same time, the "tomato house" figure in this painting also reflects the creative ideas of the individual regarding future architecture. The student has used the following expressions with regards to this painting:
"In my painting there is a tree of beans, house of tomatoes, and a glove made from a broom.
Tree of beans: The beans on it are edible and medicine can be made from them.
House of Tomato: It has windows in the form of waves.
Gloves made from a broom: when sweeping, it will be like as if you had a hand."

Future Architecture
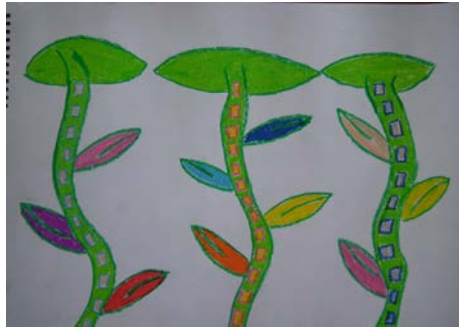
Fig. 2. (a) painting no 13; (b) painting no 3

Painting No 13:
These homes, which were depicted by the student with triangles and various geometric shapes under the future architecture style, were expressed to be "smart homes" by the students. Another striking figure in this painting is a transportation vehicle called the "walking ball", which is believed to be a part of transportation in the future. The student has expressed his/her opinions regarding the painting in the following manner:
"As time and technology advances, humans build their homes in different forms. These homes must definitely address all our needs. They should be smart. They should be able to do whatever we wish. People shall stand on something like a wheel so they do not have to walk. The wheel shall take them around. The shapes of trees are different and people have wanted to make the environment more beautiful. They want to live in a different and more fun place."

Painting No 3:
In this painting, the architecture of the future has been depicted based on "nature." Homes at heights enabling humans to reach the sky have been imagined. The student has expressed his/her opinions regarding the painting in the following manner:
"In this painting there are homes made of beans. These homes reach out to the sky. The tallest one has a leaf garden, rectangular windows, and small leaf stairs. The houses are entered by climbing these stairs. Let's use green paint more. Because I like the color green. I made the leaves colorful, because I imagined it to be like that."

Transportation

Fig. 3. (a) painting no 10; (b) painting no 17

Painting No 10:

In this painting with dominant airplane, car, house, and human figures, the theme of "transportation" has been determined as the main theme. It can be seen that in a majority of student paintings, there is the theme of "transportation". This demonstrates that students perceive the concept of future technology as flying objects. The student has expressed his/her opinions regarding the painting in the following manner:

"For me, in the future there are walking homes, tall trees, homes on trees, and colorful trees. There is a child, who has put on wings and is flying around. I painted a flying car and robot dog. Those things, which I have painted, are entertaining and comforting everyone and making them happy. In brief, it makes our lives easier"

Painting No 17:

As in painting 10, in painting 17, it can be observed that under the main theme of "Transportation", the sub theme of "walking homes" have been depicted. In this painting, the student personifies the home and has indicated this with a happy facial expression. The birds in the painting are reinforcing this. At the same time, this walking home has been discussed as the concept of "nature" and has been depicted as presenting its products to humans and is glad to do this. The student has expressed his/her opinions regarding the painting in the following manner:

"In this painting, by using geometric shapes for the year 2200 I have painted a house with a triangular top, that produces fruits, has flowers and birds, and those butterflies carry humans."

Instrument - Devices

Fig. 4. (a) painting no 2; (b) painting no 4

Painting No 2:

In the painting numbered 2 above, in the middle column of the painting paper, which the student has divided into three, the student has depicted a cloning machine and in the columns to the sides, the student has depicted that it is possible to be at different places at the same time after the cloning procedure. Thus, by stating that technology could make human life easier in the future, the student has attempted to explain that there shall not be a case of 'timelessness'. The student has expressed his/her opinions regarding the painting in the following manner:

"In the year 2100 there is cloning. Someone has cloned himself and these clones are going everywhere. That man is resting at home. In other words, this cloning machine handles all our work. In the 1st painting, the clone is going to work and in the 3rd painting it is going out dining with the girlfriend of its owner."

Painting No 4:

In this painting, a "controller" designed for the future is striking. With this controller, humans in the future are able to return to their past state whenever they desire and return back to their previous state. At the same time, a house that has been depicted with geometric shapes has been formed by considering a human face. Again, this can be an example of homes being personified.

The student has expressed his/her opinions regarding the painting in the following manner:

"I painted this painting because people are playing games and they want to show themselves sometimes as giants and sometimes as dwarfs. But in the year 2100, they are able to make themselves giants or dwarfs with a single controller. And they are able to go to one of their past states. If they wish, they are able to pass from their babyhood to their childhood. In the year 2100 the sun shall come alive and clouds shall have geometric shapes. The stump and leaves of trees are in the shape of triangles. There is a home and the bottom floor of this house is normal and its top floor is in the form of a human."

Conclusion and Suggestions

Students expressed their views on the concept of technology as the benefits of technology, the qualities of technology, and its definition in their written expressions; however, they associated the concept of technology with concepts such as computers, phones, projectors, radios, cell phones, and internet in their verbal expressions prior to their written expressions.

During the interviews conducted with the students before the painting session, in addition to the concepts they reflected in their drawings in the brainstorming activity regarding the technology of the future they also expressed themselves in the following creative activities: Robots working instead of humans so humans do not get tired, a device used for storing the information in the memory without ever having to attend school, houses in the shape of a body of water to avoid water shortage in the future, roller coasters like in amusement parks and special vehicles fitted for them. GPRS in the shape of spectacles, folding pocket-sized houses and computers, a teleportation device, changing the color of the paper to the requested color at one touch with an electronic pencil during painting, a device that creates an abundance of food and water in an arid region when it is in contact with the soil, appearing bars of chocolate when the word chocolate is written on paper with an electronic pen. Above all, greater emphasis given by the students is a machine they designed depending on the concept of "time." The reasons for requiring such a device in the future are stated as follows: 1. Immortality of humans 2. Return to childhood period whenever they wish 3. Repair mistakes 4.Having the power to see the future whenever they wish 5. Changing the current conditions (for example: To experience the summer time instead of winter time).

Despite the wide-variety of students' verbal expressions in the research, due to the limited time and the space of the drawing paper, they have been able to reflect their imaginations on the papers to a small extent. In students' expressions of future technology the reflection of visual media and internet used for games and learning purposes as well as their level of preparedness on their drawing papers is inevitable. Considering that this research is performed in a village primary education school, the traces of versatile and creative thinking of new generation students in their views on technology are observed. In addition, in the examples regarding future technology the element that draws attention deals with the positive functions of technology as a means of obtaining things that are requested as well as providing entertainment and amenities. Students have never mentioned the abuse of technology in the future or its adverse effects.

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IMPROVEMENT IN EDUCATION OF PEOPLE WITH VISUAL IMPAIRMENT

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Abstract

Educational process of individuals with visual impairment differs significantly from education of the intact students due to differences in perception. In the course of teaching, a number of internal as well as external factors influencing the quality of the educational process have to be taken into account and that is why the education can be improved in many ways and in many fields. In this paper, we attempt at approaching the possibility of making educational process more effective by using a new type of 3D maps for students with visual impairment.

Keywords:

Education; students with visual impairment; 3D maps; quality of education.

Main text

Defining the issue of development of people with visual impairment:

Schools years are regarded as a period of preparation for the future. Special attention is paid to acquisition of skills, development of abilities and adoption of knowledge. Development of an individual with visual impairment is, during this period, heavily influenced by teachers and parents with emphasis on skills and performance. Satisfactory results confirm the quality of the individual and thus confirm positive qualities of parents, acceptable development of the individual and reduction of negative impact of the impairment. In relation to general development, self-evaluation and self-confidence are also deemed as strengthening (Finková, Ludíková Růžičková, 2007).

People with visual impairment whose intellect is not affected are able to devise a certain strategy in approaching reality which can help them cope with the handicap. They are, however, not capable of handling particular difficult situations that they are not familiar with.

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In the course of personal development of a student with visual impairment, fundamental psychical needs play a momentous role, especially in their developmental transportation. This includes a need of stimulation and learning, physical activity, safety, positive identity and self-realization and the need for an open future (Finková, Ludíková, Růžičková, 2007).

Personality is created in the entire period of a man´s development and is affected by external as well as internal factors. Subsequently, personality is also conditioned by biological factors – genetic makeup of the individual, and, to a certain extent, physical appearance of the individual. Another aspect of the highest importance in personality formation is the so-called social factor – how a man develops in contact with other people (at first, family, gradually also other people). What also counts is what an individual hands over to another person, intentionally or unintentionally.

Health disorder has undoubtedly a strong impact on formation of one's personality. It depends on a number of circumstances, e.g. whether the person is handicapped since birth or early infancy or whether the disorder occurred during life. (Votava, 2005)

Visual impairment is a type of sensory defect, which means that the volume of impulses from the environment towards the person is reduced due to the sensory defect and that can also affect the activities of the person with visual impairment and his/her living through experience. (Vágnerová, 1995).

The very task of a person's sight, to reflect the surrounding world, is enormously significant. A person is formed as an "optical being". Visual sensations and perceptions provide a wide range of finely differentiated data from various spheres. The eye is able to distinguish approximately eight categories of signs: colour, shape, size, movement, standstill, distance, direction, area, which thus allows for an adequate reflection of real three-dimensional relations. Sight offers us the most genuine perception of an object. It is then quite obvious that damage to one´s eyesight, whether complete or partial, can cause serious and often irreplaceable losses in the field of sensory perception. Consequences of visual impairment on development and psychical manifestation of people with various intensities of visual disorders have qualitative as well as quantitative character.

Quantitative changes occur, above all, in the field of sensory cognition; visual sensations and perceptions drop out to a certain extent or completely, which results in a limited amount of images, limited formation of mental images, etc.

Qualitative oddities of people with visual impairment are demonstrated in almost every area of psychical activities: changes in the system of interaction of analyzers, types of perceptions, development of specific oddities in the process of forming pictures and notions, disruption of reciprocal sensory and conceptual relation in thinking activities, changes in emotional sphere and in features of one's personality (Litvak, 1979).

Visual impairment influences an individual in all directions, let alone education. The issue of educating students with visual impairment is outlined by Ludíková (1989, p. 20) who defines a notion typhlo-pedagogy, which characterizes the field as follows: "Typhlo-pedagogy, or theory of teaching students with visual impairment, is one of the disciplines of typhlopedia and examines general laws of teaching process or students with visual impairment, deals with the substance of teaching these students, related objectives, contents, specialities of the teaching process, teaching principles, methods, organizational forms and means, which can be applied in teaching students with heavy visual impairment". In this type of teaching process, it is also necessary to include knowledge and findings from other branches, e.g. medical science (ophthalmology, neurology, psychology), teaching science (pedagogy), technical sciences (optics, IT, including software provisions, acoustics, etc.), which contribute, in an effective way, to incorporating an individual into the educational process (Finková, Růžičková, Stejskalová, 2011).

Within the Czech Republic, educating students with visual impairment is anchored through legislation in educational documents not only from the point of view of organization but also from the point of view of implementing "supportive measures", which play a significant role in the process of education and development and directly affect the quality of education of students with visual impairment. Special aids for teaching visually

impaired students aiming, among others, at increasing and enhancing effectiveness of education can be also considered among these supportive measures.

This paper endeavours to indicate to the option of applying special tools - 3D maps, which have been created and tested through co-operation with students with visual impairment. Applicability of these maps is evident, above all, in lessons of geography and spatial orientation but also in other subjects, due to the possibilities of implementing intra-disciplinary relations. As an example, engaging these maps is welcomed in lessons of civics.

Geography is a rather difficult subject for students with visual impairment, especially then for students with a total loss of eyesight. It follows knowledge from the first years of the primary school and develops findings from various scientific fields, e.g. agricultural, industrial, origin of the Earth, planetary system, geographical hypsography, individual spheres, population, political arrangement, etc. Students can also work with a text book or teachers who quite frequently prepare individual materials for particular students, such as work sheets or embossed visualizations. There can be at disposal an embossed globe, various types of embossed maps (usually in thermo vacuum print), including legend in the Braille font, issued individually or as a book of maps. Information is, more often than not, conveyed orally and students can make notes in a standard way. In order to achieve individual work with the map, it is, at first, necessary to introduce the map to the students one-by-one so that, gradually, all students are able to use the map on their own.

Foundations for creation of the maps:

3D maps resulted from a needs analysis of people with visual impairment, which claimed that there is a shortage of suitable didactic materials for teaching geography, in the first place, and further teaching of spatial orientation and independent movement of people with visual impairment. At present, teachers of visually impaired students in the Czech Republic have actually only two options of "showing" perception of geo-area. Compressed foils and plastic embossed maps (thermo vacuum foils, thermo active foaming substances) are applied; or teachers even produce such maps themselves by, usually, layering individual surfaces on top of each other. Another example of innovative approach can be, e.g. adjusting plastic embossed maps by means of marking linear elements or labelling maps with tags in Braille font inscriptions. These tools are, understandably, highly demanding on production and difficult availability further complicates teaching in the given area.

In our research and the following creation, we focussed on maps, which are especially unusual for the material applied. Our maps are made of a material on the basis of plaster and their production allows for forming an even higher embossment compared with standard maps. On top of that, these maps are designed in bright colours so that they can be used by all students with various severity of their visual impairment. At the same time and as a matter of fact, creation of these modern 3D maps respected all general principles of producing tactile maps.

The process was divided into three basic phases:

Creating a pattern book of surfaces,

Creating three basic types of maps,

Creating a multi-media map.
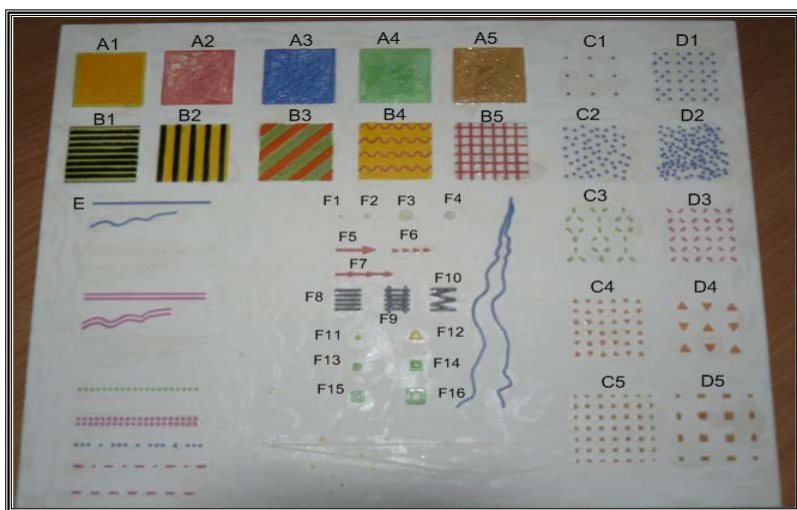
Pct. 1 (authors´ archive)
Pattern book of a key of signs for tactile map for 3D print.
Marks A1 up to F16 are only rough extimates for better orientation in noted-down results and for demostration. Unmarked parts of the pattern book and test results were described word-by-word.

The pattern book was tested by both students with lost vision and purblind students. Testing was conducted in primary and secondary schools for students with visual impairment. People with lost vision tested the surface of the samples, whereas purblind students found most important the colour contrast. Some samples and colours were evaluated as perfect, others were ruled out. Surfaces and colour shades evaluated as prime-quality were later applied in creating concrete maps. Our surface pattern book was tested by altogether 40 students of primary and secondary schools.

Test results – pattern book of surfaces and colours:

The following facts arose from testing the key of signs:
- Necessity to intensify the colours selected; ideal colour combination was chosen as orange and green, the most striking was labelled pink,
- Necessity to not use these lines together within one map: dot-and-dash line, broken dotted line and dashed line; they were often misinterpreted,
- Necessity to not use, at the same time, structures under the label D1, C2 and D3; C4 and C5 and also C4 and D3,
- Arrows can be only used in a format F5, in a format F7 only as a line (not clear where the arrows points),
- Signs F11 and F13 are unrecognizable, differences between F12 and F14 are easier to perceive,
- Suitable are simple and double linear signs and simple dot-and-dash lines (without labelling at the picture); on the contrary, dotted lines, lines with hatching and patterned lines are not suitable,
- As for dotted signs, simple geometrical shapes are suitable (circle, square, triangle), especially F1 up to F4, and also F12 up to F14.

In relation to the above-stated test results assessing the sample book of sign legends, satisfactory surfaces and colour combinations were further applied in devising all archetypes of tactile maps of a modern design created by means of 3D-print technologies, Finková in (Voženílek a kol, 2010).

Pct. 2 (authors´ archive) tactile maps

– European countries and hypsography of Europe.

Pct. 3 (authors´ archive) Thematic tactile map.

- Unemployment in the Czech Republic.

Pct. 4 Map of the area in front of the Olomouc train station (authors' archive).
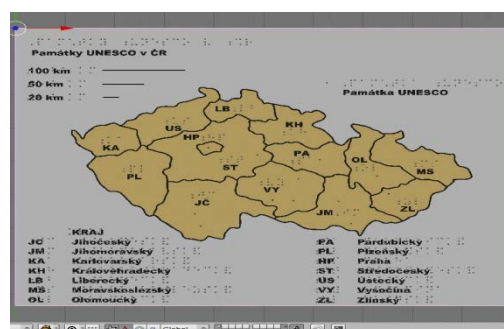
Pct.5 (authors' archive) Multi-media map – PC model

Research outcomes:

Our maps were evaluated from the point of view of various parameters, our main focus, was, however, on convenient arrangement of legends and distinctness of hypsography differences. Further on, we examined individual significant parameters in particular maps. Further below we present selected results of testing the map "Hypsography in Europe", which we regard as highly important because they allowed us to specify even more parameters in other maps, e.g. map of unemployment in the Czech Republic (Pct. No. 3) or multi-media map (Pct. No. 5).

Test results of a tactile map – Hypsography in Europe:

At first, we focused our testing on the map of hypsography in Europe, whereas the map of European countries was an auxiliary map, within the pilot testing, due to its simpler spatial orientation. Spatial orientation on the map of European countries was only tested in the following phase of the research.
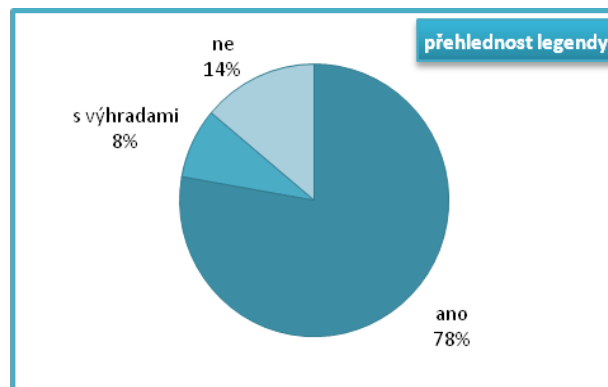
Pct. 6 Convenient arrangement of the legend of the map of hypsography in Europe.

The legend was by 78 % respondents evaluated as well arranged, 14 % students regarded it as poorly arranged and 8 % students voiced only certain objections.

Pct. 7 Ability to recognize altitude degrees according to the legend.

Altogether 75 % respondents were able to distinguish latitude degrees according to the legend (left upper corner of the map). Further, 8 % respondents found it difficult and 17 % students were not able to distinguish them at all. Complications occurred when knowledge obtained from the map were to be transformed into real work with a map. In one case even, a student stated that differences in individual altitude degrees were not sufficient.
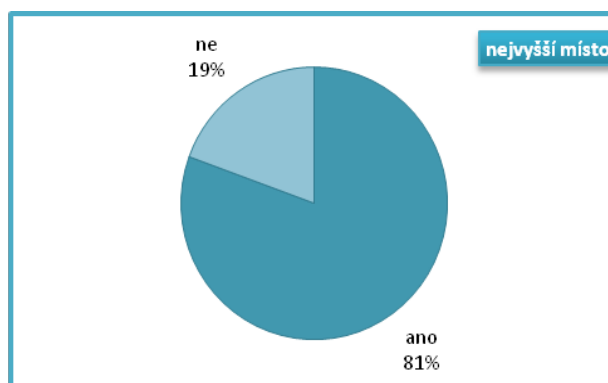
Pct. 8 Finding the highest point on the map.

Majority of respondents, i.e. 81 %, managed to find the highest point on the map without difficulties; sometimes a longer period of time was required. The remaining 19 % respondents were not able to find the highest point on the map at all.
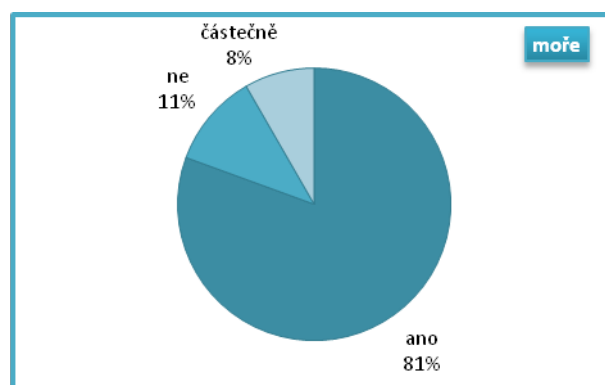
Pct. 9 Recognition of sea areas.

Out of the total number of respondents, 81% were able to recognize the sea, 8 % partially (only some seas) and the remaining 11 % were not able to identify the sea at all. The problem lies, most probably, in the fact that the sea was not marked in any special contrasting way compared with other altitude degrees. The sea was, later on and subsequent the test results, completed with hatching for clearer distinguishing.
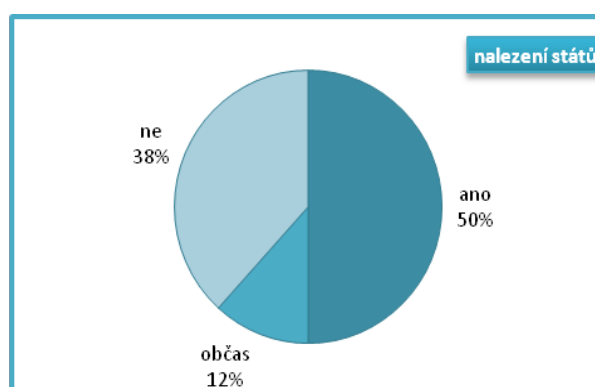
Pct. 10 Finding individual countries.

Only 50 % of the respondents were able to find European countries in the map of hypsography in Europe without using the accompanying map (the map of European counties). Some students (altogether 12 %) found their approximate position, 38 % respondents, however, were not capable of finding the countries at all. The problems occurred especially due to the fact that some respondents did not know where to look for the countries; they did not even know their approximate position in Europe. That is why our team produced an additional map with borders of individual European countries and both maps were presented to the students at the same time, to allow better orientation.
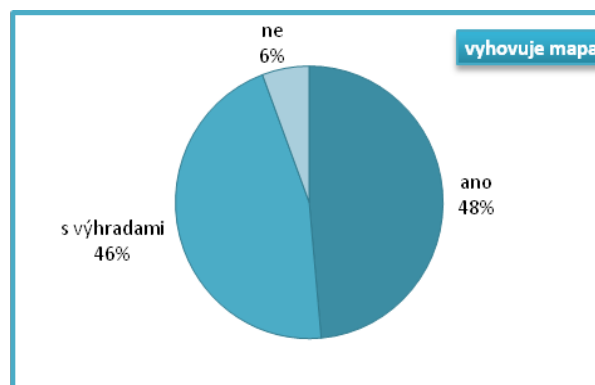
Pct. 11 Overall satisfaction with the map.

In the final and global evaluation of the map, 48 % of the respondents stated that the map suits their needs, 46 % expressed certain objections and 6 % did not find it suitable at all. Following the map testing, it was mentioned that respondents had not been used to working with such type of maps before. Usually, educational institutions work with maps produced of thermo foils. Working with a map produced by means of a new technology is significantly different. If this map was used regularly, success of work would be higher and subsequently, satisfaction of respondents would also increase.

Conclusion:

The issue of educational quality of students with visual impairment is unquestionably multi-dimensional. Many aspects have to be taken into account. Within our research, we aimed at applying new types of 3D maps as a suitable teaching tool for students with visual impairment. Creating, testing and consequent adjustments of these revolutionary maps brought about a number of intriguing results, which can be easily applied in real teaching. Schools and students that took part in our testing showed their sincere interest in acquiring and using these maps. For the future, we consider the option of expanding these types of maps into individual schools all over the Czech Republic.

List of literature applied:

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INFLUENCE OF SOCIO-DEMOGRAPHIC CHARACTERISTICS TO ATTRACTIVENESS AND SUCCESS OF INITIAL VOCATIONAL EDUCATION AND TRAINING IN LATVIA

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Abstract

The ongoing project "Detailed Methodological Approach to understanding the VET educational system in 7 European countries (7EU-VET)" tries to improve understanding of what particular factors influence on VET system attractiveness and success. The project tries to answer to questions what's new in human perception of VET systems and how they see the future job opportunities, career development and mobility; how effective and successful are advising and informing systems? For these reasons the project implemented empirical study among VET schools' pupil which results are intended for decision makers, experts and VET managers. Results derived from research made in Latvian institutions of initial VET are presented.

Keywords: vocational education and training, Livelong Learning Programme, survey, socio-demographic characteristics

SHORT DESCRIPTION OF THE PROJECT

Developing the attractiveness of vocational education and the quality of vocational education and training (VET) system is one of the goals of Lisbon strategy. The ongoing project "Detailed Methodological Approach to understanding the VET educational system in 7 European countries (7EU-VET)", implemented with the support of the Lifelong Learning Programme (Transversal KA-1) of the European Union, tries to improve understanding of what particular factors influence on VET system attractiveness and success.

The 7EU-VET project builds upon common European strategies, frameworks and tools that have been developed and supports them with the research action among seven European countries – Slovenia, Austria, Germany, Greece, Latvia, Lithuania and UK (7EU-VET, 2010a). The project addresses the following scientific and research objectives (7EU-VET, 2010b): a) are educational and training systems flexible enough to correspondingly respond to different and changing needs; b) how efficient and successful are the systems of advising and informing; c) what are the perceptions of young people of VET systems and how they see their future possibilities for career building and mobility? One of the instruments envisaged to find an answer to mentioned above questions is wide survey in each participating country among initial VET (IVET) schools' pupils (7EU-VET, 2010c). Research results are intended for decision makers, experts, VET managers and secondary school pupil who plan to enroll into VET. Presented paper contains results derived from research made in Latvian institutions of initial VET. Preliminary results of survey in Latvia presented in (Lavendels, 2012) elaborated further in this paper.

SAMPLING AND QUESTIONNAIRE

To be statistically valuable sample list for Latvia contains all IVET schools existing at the moment. The target group of survey is 17-18 years old pupil.

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Selection of classes participating in the survey was made on the base of school size. If there were more that 2 classes with pupils' age 17/18 in school that is smaller than 600 pupils, then 2 classes were selected occasionally. If there were just 2 or 1 such class then all of them participated in survey. If there were more that 4 classes with pupils age 17/18 in school over 600 pupils then 4 classes were selected. If there are just 4 or less such classes then all of them participated in survey. However if there were in selected classes pupil with other age they also were invited to take part in the survey.

The questionnaire consists of core part, which is the same for all participating countries and nationally-dependent part reflecting particularities of national educational systems. In the questionnaire there were closed, partial open and open-ended questions. Majority of them were closed-type and require from participant only selection of the most appropriate answer from proposed. Essential number of questions was content dependant (specializing) and these questions were asked to answer only in the case of particular selection on previous question(s).

RESPONSE RATE AND SOME SOCIO-BIOGRAPHIC CHARACTERISTICS

Survey was made in May-June 2011 when 82 IVET schools were invited to participate in the survey from which 179 classes have to participate according to sampling described in section 2.

Really in survey participated 72 schools (88% of invited), 169 classes (94% of supposed), 3038 pupils (80% of supposed). In participating classes 3775 pupils are registered, 3105 of them (82%) were presented during survey. 67 pupils from presented (2%) decline to fill questionnaire, so 3038 filled questionnaires (80% of sampled population) were collected and handled. Distributions of ages of participants were as follows: 16 years old - 7%, 17 years – 30%, 18 years - 37%, 19 years and more – 26%. After filtering of 17-18 years old 1888 questionnaires were considered.

Pupils enrolled to approximately 200 VET programs were presented in the survey, from them 54% boys and respectively 46% girls that approximately corresponds to ratio of population enrolled to IVET in Latvia at all (60% of boys and 40% of girls). Majority of respondents (83%) are enrolled into programmes combining both vocational and secondary education giving ability for further education in high schools or universities, from them 49% represents industry-oriented programmes while 51% - service-oriented. Regarding place of living – 37% of IVET student live in big cities or their suburbs, 31% in towns or small villages while 32% - in country villages or farms.

SOME OBSERVATIONS

The following issues are considered: a) transition to VET; b) level of satisfaction of programme and school; c) characteristics of study behavior and acquired knowledge; d) future career aspirations and self-assessment; e) acquired skills and abilities. These issues are considered taking in mind such characteristics of pupil as gender, programme enrolled, pupils' and their parents' country of origin and pupils' place of living. Analyze was made in intention to find what are the strongest and what are the weakest factors influencing on decision making, present attitude, future plans etc. Majority of questions analyzed propose to rank given expression using a scale from 1="Not at all" to 5="Very".

Transition to VET

The research objective was to find which factors are most important for enrolment into current VET. More than half of surveyed pupils in Latvia stated that it was quite or very important for them that the programme offered good job prospects (53%), essential number of pupil (39%) considers that occupation(s) related to selected programme appeals to them, more than each third selected their programme because it was the most appropriate within a reasonable distance from their home (36%) whereas almost each third thinks that reputation

of selected programme is attractive (32%). A smaller proportion of pupils indicated the importance of the following aspects: friends who have chosen to undertake the same programme (22%), parents suggested enrolling in this programme (20%) and previous examination grades which prevented the pupils being able to enroll on more preferable programme (11%). The weakest factor influencing pupils' decision on programme selection is former teachers' encouragement to enroll on this programme (just 7%).

The examination of certain socio-demographic characteristics shows that parents' suggestion is more important for girls than for boys (23% vs. 18%) as well as reputation of programme (34% vs. 29%).

Friends' advices have more influence to pupils born in other than Latvia EU countries (66%) rather than for born in non-EU countries (42%) whereas just 21% of born in Latvia have mentioned this factor as quite or very important for selection of enrolled programme.

Influencing of parents to pupils' decisions is the most strong in case when both parents were born in other than Latvia EU country (29% of pupil has mentioned that parents opinion was quite or very important in selection of enrolled programme) whereas the weakest dependence on parents is when both of parents were born in Latvia (18%). The same is related to influencing of friends advices – for 38% of pupils who's both parents were born in other than Latvia EU country friends' advices are quite or very important comparing to 19% of pupils who's both parents were born in Latvia.

It is predictable that distance from home to school is more important to pupils from towns or small cities (40%) than for pupils from big cities or their suburbs (32%).

In addition to important aspects we were interested in the information sources pupils use when deciding on a certain programme.

The most important information sources for pupils when choosing their programme were parents and family members (29%), online information and other public media, e.g. newspapers (27%), followed by informative days, fairs and open days at schools (26%) whereas aptitude test offered by an educational establishment (14%), previous internship or work placement (13%) and teachers (12%) were less important in Latvia. The least important information source when choosing the current programme was the job centre. Here, only a bit more than 8% of the pupils states that this was quite or very important for them when choosing the programme.

Review of information sources influencing on decision for current programme strengthen consideration that parents have more impact on girls than on boys (33% vs. 26%). Moreover for female pupils are more important than for male such sources like informative days, fairs, open days in school as well as online information and other public media, e.g. newspapers (about 33% vs. 22%). Regarding last set of information sources is necessary to point also that they were more important of pupils enrolled in programmes related to service than for pupils enrolled for programme related to industry (30% vs. about 22%). Despite of the fact that job centers are the less important source of information in general (just about 8% of respondents considered them as quite or very important) for pupils born in other than Latvia EC countries it was second by importance source of information – 39% considered it as quite of very important.

The pupils were also asked whether they considered any alternative programme when they were selecting their current programme: 37% of the pupils have considered one alternative programme, 21% considered two other alternative programmes and 8,5% considered three or more alternative programmes whereas 33% did not consider any alternative programme at all when they were deciding for the current one. Pupils born in Latvia less often stated that they didn't considered any alternative programme (33%) than pupils born in other EU country (39%) while more than a half of pupils born in non-EU countries (53%) have no alternatives considering programme to enroll. Also pupils from country villages or farms more often didn't consider any alternatives than pupils from any other place of living (38% vs. about 31%).

Level of satisfaction of programme and school

The research objective was to find which factors the most influence to satisfaction of present programme and school. The majority of pupils indicated that the programme provides useful practical experience for entering the workforce (61%) and prepares them well for further education and training (57%). It is quite unexpected that more than half of the pupils (56%) believe that their programme prepares them for a job that is important for society.

Exactly half of pupils ensures that their programme offers them a broad perspective for a professional career, a bit less (48%) that the programme is recognized within society as having a good reputation, while 42% consider that the programme prepares them for starting their own business or becoming self-employed. The least accepted (39%) is that the programme ensures employment in the job market.

Female pupils' evaluations of enrolled programme are sufficiently higher than male pupils' (differences from 5 to 9 percents) in almost all proposed for consideration aspects except of employment in the job market where their visions coincide. Pupils from service sector appreciate their programme more than from industry sector absolutely by all aspects (differences from 7 till 9 percents).

Pupils were also asked how satisfied they are with their school facilities, teachers, computer equipment and with their programme in general. More than 60% of all pupils in Latvia are all in all satisfied with the programme. The satisfaction with the programme is higher for female pupils (67% vs. 57%) and for pupils with service-oriented programmes rather than for industry-oriented (65% vs. 58%).

Nearly 40% states that most of the attended classes are interesting; meanwhile female pupils agree with it in a greater extend than male (44% vs. 37%).

More than half of the pupils agree with the statement that most of their teachers are usually well prepared when teaching their subjects (58%). Female pupils agree to a greater extent to this statement than male (62% vs. 55%) as well as pupils living in country villages or farms greater than pupils from towns or small cities and big cities or their suburbs (62% vs. 59% and 53% respectively).

Half of the pupils agree that most of their teachers are usually interested in helping them to learn; meanwhile female pupils feel it stronger than male (55% vs. 46%). Even more differences depend on country of pupil's origin. The whole 72% of pupils born in non-EU countries agree with the statement that most of their teachers are usually interested in helping them to learn, whereas so think just half of pupils born in Latvia (50%) and only 13% of pupils born in other than Latvia EU countries. Also the same figures are for perception that schools offer enough learning and training material (73% of non-EU vs. 50% of Latvia-born vs. 22% of other EU country born). To the perception of this aspect influences also place of pupil's living. Pupils from countryside are more satisfied with learning and training materials (53%) than pupils from big cities and their suburbs (45%).

It is necessary to stress also that pupils from countryside agree to a greater extent to the statement that most of their teachers are usually interested in helping them to learn (53%) comparing with big cities' and their suburbs' pupils (47%).

To the perception that schools offer enough learning and training material in addition to pupils' country of origin influence also countries of parents' origin. Pupils from families where both parents were born in other than Latvia EU country agree to a much greater extent to this statement than pupils from families where both parents were born in non-EU countries (69% vs. 39%). However with the statement that schools' facilities are well maintained in a lesser extend agree children of Latvia-born parents (42%) whereas in a higher extend again agree children of non-EU countries' parents (73%). There is also difference in such perception between pupils from country villages and farms (48% are satisfied with schools' facilities maintenance) comparing to 42% of such consideration by pupils from the rest of a country. Agreement with this statement for female pupils is higher than for male (47% vs. 41%). Female pupils also agree on a higher extend that computers at schools are up to date (49% vs. 40%); however regarding the statement that "The number of computers available at school is

adequate for the needs of pupils" both female and male pupils were solid (43% of both female and male pupils agree with it).

As the main aim of the project is to understand factors influencing on pupils' decision regarding educational path it is quite important evaluate availability at school of information on careers and training. Overall about 45% of respondents agree that such information is easily accessible at schools.

Characteristics of study behavior and acquired knowledge

The research objective was to find which factors the most reflect to progress of pupils learning and skills. Nearly two thirds (64%) of the pupils in Latvia agree that they are interested in practical subjects. Almost two thirds (58%) stated that it is important for them to fully understand what they have to do/learn. More than a half (52%) agrees that they want to make a good impression on potential employers by achieving good grades. For the most important goals there are not big differences between girls and boys considerations with the exception of understanding what to do/learn - this goal is slightly more important for female than for male pupils (65% vs. 53%). More than each third pupil (38%) strives for the highest possible marks and for female pupils it is more important than for male (43% vs. 33%). Very close figures to that is also for desire to make a good impression on their teachers by achieving good grades (36%) without big difference between female and male pupils. Almost one third (32%) confesses that want to keep up with their fellow pupils when female pupils do it more often than male (35% vs. 30%).

Despite female pupils enjoy learning more than male (31% vs. 21%) the overall rate of pupils who like to learn is very low (just one of four). Even worse is the situation with general subject. Also despite female pupils are a bit more interested in general subjects (e.g. maths, foreign language) than male (25% vs. 20%) this factor is the least important for VET students – actually a bit more than one of five pupils (22%) expresses some interest in general subject.

In an additional question the pupils were asked how they rate the proportion of practical training within their current programme. In Latvia most of the pupils rate the proportion of practical training as good (59%) or average (27%), when good rates came more from female than male pupils (64% vs. 55%), whereas amount of practical training was estimate as average otherwise – 29% of male and only 24% of female pupils. Meanwhile just 6% percent state the amount as fair and only 3% rate the proportion of practical training as poor without big differences in female and male opinions. Just 6% of pupils evaluate the amount of practical training as excellent with total coincide of male and female considerations.

Evaluation of the appropriateness of the practical training highly depends on the country of pupils' origin: majority (60%) of pupils born in Latvia consider the amount of practical training as good and each forth (26%) as average whereas more than a half (56%) of pupils born in other EU country rate it just as average and each forth (26%) as fair while only small 4% consider it as good. The percentage of pupils born in non-EU countries that rated the amount of practical training as average or good are close (30% and 38% respectively) whereas percentage of pupils rated such amount as excellent is much more for pupils from non-EU countries (19%) rather than born in Latvia (6%) or other EU country (9%).

We were also interested in the activities of pupils outside the programme. Do they hold down a paid job which is not part of the programme? More than a half of the pupils (58%) hold another job during the last year outside their programme. However just each fifth of them declares that he/she works regularly, while another four answer that they worked for payment, but only during the holidays. While 66% of the male pupils hold down a paid job fewer female pupils worked for payment outside the programme (48%). It concerns both to regular work (14% male vs. 9% female) and working only during the holidays (52% male vs. 39% female pupils). Non-working pupils are more between service-related (47%) than on industry-related programmes (32%). Meanwhile non-working pupils of parents born in other than Latvia EU countries are much less (23%) than in any other cases (from 42% till 48%). However majority of children whose parents born in other than Latvia EU countries have just occasional work during holidays (69%) while children of Latvia-born parents

more often have regular work (till 17%) comparing to abroad-born parents' children (just 5% in the case when both parents were born in non-EU country).

At the same time 40% of working pupils do not see any similarity of what they are doing outside the programme to those pupils undertake during their programme, almost 41% sees few of similarity while only 19% of working pupils consider that most of the task in outside work are similar to those their undertake during their programme. It is interesting that partially similarity is more often for industry-related programmes (47% vs. 36% in service sector) while more often working pupils in service sector are occupied with absolutely different tasks than in their programme (45% vs. 31% in industry sector).

Future career aspirations and self-assessment

Another goal of the research study was to measure the pupils' perceptions about their life goals and their future possibilities for employment, career building, and mobility. In Latvia, the most important aspect with regard to personal and professional life goals are "having a job that makes one happy" and "making and maintaining relationships with others (e.g. family and friends)" – about 70% each. A bit lesser important with almost equal scores are gaining job security (67%), having a good relationship with colleagues (67%) and receiving a high income (66%).

Absolutely all considered aspects are more important for women than for man. For instance, obtaining solid occupational proficiencies (63% vs. 56%), having a job that makes one happy (74% vs. 66%) and having a good relationship with colleagues (69% vs. 64%). Also absolutely all considered aspects are more important for service-sector programme's pupils rather than for industry-sector's. For instance, last two described aspects – "having a job that makes one happy" (73% vs. 65%) and "having a good relationship with colleagues" (71% vs. 63%). The same is related also to making and maintaining relationships with others (e.g. family and friends) – it is quite or very important to 73% of pupils from service-related programmes comparing to 67% from industry-related.

Country of pupil's origin influences essentially pupils attitude to having a good relationship with colleagues – just one of three pupils born in other than Latvia EU country decides that it is quite or very important, while so consider two of three pupils born in Latvia and even 81% of pupils born in non-EU country. Almost the same proportion are in consideration of advancing to a high level of status in society – 41% of pupils born in other than Latvia EU country, 59% of Latvia-born and even 94% of non-EU country-born consider that it is quite or very important.

Desire of "undertaking interesting tasks in the workplace" slightly depends on place of pupil's living – for inhabitancies of big cities or their suburbs it is more important (63%) than for pupils from towns or small cities (58%) and pupils from country villages or farms (56%).

When pupils were asked about the sector in which they would like to work in, the answer option "service sector (e.g. nursing, policing, hairdressing)" was quoted the most with 44% following with 36% voting for trade (e.g. banking, financing, business). Other considered sectors are far away from two leaders.

For male pupils the sector of trade is the most quoted (33%), however female pupils' willingness to work there is even stronger – 40%. For male pupils after trade (33%) and service (30%) third the most popular sector is industry (e.g. producing industry, steel, motor, oil). While 26% of the male pupils quoted that they would like to work in this sector only 4% of the female pupils stated that they strive towards working in the industry sector - this sector is the least popular between female pupils. Almost the same attitude is for agriculture, forestry and fishery – 18% of male pupils desire to work there (forth by popularity between male) whereas just 5% of female pupils have the same opinion (second from the end by popularity for female). For female pupils after service (60%) and trade (40%) third the most popular sector is public administration (e.g. local government, education) with 12%; however here isn't sufficient difference with male choice (14%). Opposite than attitudes for industry

are perception of non-governmental organizations (e.g. charities, not-for-profit organizations) – with 10% this sector is fourth by popularity for female and with just 5% the least by popularity between male pupils.

With regard to the service sector, pupils who are born in Latvia more often chose this sector (45%) rather than born in a non-EU country (32%), while just 14% of pupils born in other than Latvia EU country select this sector as preferable. Pupils from big cities or their suburbs more often than pupils from towns or small cities and even more often than pupils from country villages or farms strive towards trade (42% vs. 36% vs. 29% respectively). The same is concerning the sector of public administration (15%-13%-9%) whereas for agriculture, forestry and fishery the situation is opposite – just 7% of big cities inhabitancies are thinking to be involved in this sector, while 10% of pupils from towns or small cities and whole 20% of pupils from country villages or farms are going to be occupied there.

We also asked the pupils whether they consider continuing schooling or participating in further education after they have finished their current vocational programme. In Latvia, most pupils have a positive attitude towards further education - only 10% state that they do not consider continuing schooling or participating in further education. In total, 39% of the pupils strive towards continuing their education while 33% are still not sure. Though, amounts of doubtful are almost equal between boys and girls, female pupils are much more intended to continue education (46%) rather than male pupils (33%). Also pupils from service sector are more aiming for further education than from industry sector (43% vs. 30%). Desire to continue education more often express pupils from big cities or their suburbs (48%) than pupils from towns or small cities (38%) and pupils from country villages or farms (30%).

We also were interested what qualification pupils would choose if they continue learning. Another programme related to what pupils are doing currently was the option that was quoted the most by the pupils who want to continue their education (30%). It was followed by a higher level of vocational programme (29%) and another programme not related to what pupils are doing currently (20%) while academic programmes at universities or universities of applied science are the least planned (10%).

The preferences for the different pathways differ between male and female pupils. While male pupils more often consider another programme related to what they are doing currently (33% vs. 27%) female pupils are the most interested in higher level of vocational programme (that not sufficiently differs from male opinion - 31% vs. 28 %) and in another programme not related to what they are doing currently (23% vs. 17%). Pupils from industry sector more often than from service sectors desire to perfect themselves in already chosen area (33% vs. 24%) whereas pupils born in other than Latvia EU country or non-EU country more often (56% and 41% respectively) than pupils born in Latvia (just 12%) prefer more specialized programme.

The pupils were also supposed to report their opinion about what further education will enable to them. With 74% the statement "to enhance my career options" received the highest agreement in Latvia. It is followed by "to gain a good qualification/education" (71%), "to earn a high income later in life" (69%) and "to become an expert in my field" (68%). With the statement that further education enables them to fulfill their parent's expectations agree more male pupils than female (43% vs.32%), however for the rest of considered factors female pupils agree with more extend than male, e.g. "to gain good qualification/education" (75% vs. 67%), "to enhance career options" (78% vs. 70%), "to experience pupil's exchange programme" (44% vs. 35%). However the most essential difference is regarding professional interest – 58% of female pupils consider that further education enables them to follow their professional interest while just 44% of male have the same opinion.

Except of fulfilling of parent's expectations where industry sector students agree more than service (43% vs.37%) whole the rest of considered aspects of further education are more appreciated by service sector students. For instance, "becomes an expert in my field" (71% vs.65%), "gain a good qualification/ education" (72% vs. 65%), "experience a pupil exchange programme" (44% vs. 36%) and "enhance my career options" (78% vs. 68%). The highest difference in service and industry sectors students' opinions is regarding ability of further education to follow pupil's professional interest. Here 56% of service sector's students consider it as further education enabler wile the same opinion has just 44% of industry sector's students. A higher proportion of pupils who were born in Latvia agree with the statement that further education enables them to gain a good

qualification/education (71%) compared to pupils who were born in another EU country (68%) and even more compared to pupils who were born in a non-EU country (just 25%). Almost the same proportion is regarding opinion that further education enables to enhance pupil's career options (75% vs. 46% vs. 35%). While fulfilling of parent's expectations is more important to pupils with parents both born in other than Latvia EU country, pupils with parents both born in Latvia much lesser agree to this statement (52% vs. 36%). All aspects of further education are slightly more important for inhabitancies of big cities or their suburbs than for pupils living in towns, small cities, country villages or farms. Especially it concerns to following pupil's professional interests (57% vs. 48%) and ability to postpone starting of full-time work (49% vs. about 40%).

Pupils in the vocational education system may also benefit from the personal development prospects abroad. We asked pupils whether they have ever participated in an international exchange programme.

The majority of pupils in Latvia (84%) have never participated in an exchange programme for pupils – 79% of female and whole 89% of male pupils. Only 16% of the pupils stated that they have taken part in an exchange programme either in their vocational (8%) or general (8%) school. For vocational schools there is not big difference between girls and boys, however females being general schools' pupils more often participated in such endeavors than male (11% vs. 5%).

When asking those pupils who are not interested to participate in international exchange programme about the reasons, aspects which were quoted the most are that they would not benefit from this experience (19%), that they are not familiar with exchange programmes (21%) and most often that they don't want to leave home (22%). Despite of the fact that just 9% of pupils consider that organizing of international exchange is too laborious, it is interesting that male pupils are thinking such more often than female (11% vs.5%) as well as industry sector students more often than service sector (11% vs. 5%).

Acquired skills and abilities

In addition to their acquired knowledge pupils were asked about their acquired skills and abilities. Therefore pupils were asked to assess their current level of several soft skills relevant for the work sphere.

Being able to work as a team member received the highest rating. Here 62% of the pupils in Latvia assessed themselves as being skilled in this ability. Next places with almost the same rates took the ability to approach and engage with others with confidence (e.g. networking) and the ability to quickly familiarize oneself with new occupational tasks (58% and 57 % respectively). The aspect pupils assessed themselves least skilled is the ability to perform well under pressure (40%). The gender and the sector in which the pupils are undertaking their programme also have an influence on the skills' assessment. Female pupils assessed themselves higher by all of proposed soft skills than male, e.g. "manage occupational tasks independently" (51% vs. 46%), "approach and engage with others with confidence" (61% vs. 55%) while the highest difference is in assessment of ability to work as a team member (66% of female vs. 58% of male pupils consider that they obtain this skill). Pupils from service sector estimate themselves higher than from industry sector also by all of proposed to consideration soft skills. Foremost it concerns to ability of networking (63% vs. 53%), working as a team member (67% vs. 59%) and quick familiarization with new tasks related to job occupations (61% vs. 53%).

Ability to manage occupational tasks independently more often stated pupils born in Latvia (49%) than born in non-EU country (26%) while pupils born in other that Latvia EU country estimated it even lesser (22%). The same tendency is for ability to work as a team member – 62% of pupils born in Latvia feel themselves as skilled enough for this while the same opinion have only 45% of pupils born in non-EU-country and just 28% of born in other that Latvia EU country. It is interesting that self-assessment of ability to manage occupational tasks independently depends on the country of parents' origin – just 21% of pupils whose both parents were born in non-EU country feel themselves able to do this comparing to about 51% of pupils in any other cases. As smaller is the size of municipality were pupils are living as lesser is pupils' self-assessment, e.g. 62% of pupils from big cities or their suburbs stated that they are able to approach and engage with others with confidence, while only 57% of pupils from towns or small cities agree with it and the same opinion have just 53% of pupils from

country villages or farms. Almost the same distribution is regarding ability quickly familiarize with new tasks related to job occupations (61%-56%-53%) and ability to communicate ideas und suggestions to others clearly (55%-52%-48%).

In addition to the self-assessment the pupils were also asked to what extend their current programme strengthens these abilities. About 41% of the pupils stated that their programme is quite or very able to prepare them to develop these skills and abilities (24% quite, 17% very). More than half of pupils (57%) stated that their programme prepares them fairly or slightly and only 1.4% think that their current education does not help them advance in these skills and abilities. It is difference of programme's assessment by boys and girls. Male pupils more often assess that current programme fairly develops desired soft skills than female (46% vs. 40%) and in turn female pupils more often consider that the programme does it quite or very good (47% vs. 37%). Service-oriented students more often than industry-oriented consider that their current programme develops necessary soft skills very well (21% vs.16%).

Pupils who were born in Latvia more often stated that the programme prepares them fairly or quite good (67%) than did pupils who were born in other EU country (45%). In contrast the percentage of pupils born in Latvia that have stated that their programme prepares them slightly is much lesser than for pupils that were born in other EU country (14% vs. 46%). Percentage of pupils who consider that their current programmes do not develop their soft skills at all is much higher between born in non-EU countries (15%) comparing to born in other than Latvia EU countries (9%) and born in Latvia (just 1%).

In addition to soft skills also language skills are relevant for the work sphere. Therefore we asked all of the pupils in which of the selected world languages (English, French, Spanish and German) they have acquired at least basic knowledge. About 87% of the pupils stated that they have acquired at least basic knowledge in English. Nearly 20% have some basic knowledge in German while French and Spanish are not widely used in Latvia (just less than 5% and 4% respectively have mentioned that they acquired basic knowledge in these languages). Male pupils stated less often that they acquired at least a basic knowledge in German than female pupils (15% vs. 27%) as well as industry-related students comparing to service-related (15% vs. 26%) while for other languages there are not neither gender-related nor sector-related differences. Pupils that were born in Latvia more often stated that they acquired at least a basic knowledge in English (88%) than pupils born in other EU country (70%) or in non-EU country (49%). For Spanish and French we find a reversed picture. More often pupils that were born in a non-EU country stated that they have certain competencies in these languages (51% and 30% respectively) than pupils that were born in Latvia (just 4% for each language). Pupils from big cities or their suburbs are more familiar with German than pupils from towns, small cities, country villages or farms (27% vs. about 17%).

Conclusions

The results show that pupils' path of transition to VET, level of satisfactions of programme and school, characteristics of study behavior, acquired knowledge, future career aspirations, self-assessment, acquired skills and abilities obviously depend on pupils' gender, programme enrolled, pupils' and their parents' country of origin and pupils' place of living. However to complete the picture is necessary evaluate also influence of such factors as pupils' school achievement and grades, level of parents' education and families' socio-economic conditions.

results' description are developed by Caroline Dahmen and Cornelia Neuert (Darmstadt Technical University, Institute of Sociology).

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INFORMATION, KNOWLEDGE, AND WISDOM: TRANSFORMING EDUCATION

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Abstract

In the twenty-first century, we are experiencing a paradigm shift in learning environments because of an underlying change in epistemology. Never in the history of the planet has information been more readily available. With the click of a key we can find answers to just about any question. When the questions are factual, based on common knowledge, we can be relatively confident about the answers.

Keywords: Information, Knowledge, wisdom, transforming education

Main Text

I am going to use an example from U.S. history—one that I believe has global implications. Let's imagine the day that President Abraham Lincoln was shot. By the way, you can find that date, in case you have forgotten it, in about five seconds on Google. The date is April 15, 1865. At the moment of Lincoln's death, who became the seventeenth president of the United States? Andrew Johnson. Was he impeached? Yes. What does "impeached" mean? That he was indicted by the U.S. House of Representatives and put on trial by the U. S. Senate. Was he convicted and removed from office? No. He was tried by the Senate in the spring of 1868 and acquitted by one vote.

Even though the impeachment of the United States' seventeenth president may be relatively unfamiliar information for world-wide audiences, the facts are indisputable and readily available through a thirty-second search on Google. In the digital age, **information** is at our finger-tips.

While information is easy to obtain, knowledge and wisdom are not. I would define **knowledge** as the ability to assess and then integrate information into a meaningful whole. **Wisdom** is the capacity to apply knowledge effectively to new situations. Knowledge about the U.S. seventeenth president would include an understanding of the challenges when he took office on the day of Abraham Lincoln's assassination at the end of a bloody Civil War. What was Johnson doing to overcome wartime bitterness and hatred and reconcile the North and the South? What were the positions of the Republicans and Democrats on civil rights for the emancipated slaves? What were the reasons for Johnson's impeachment? What motivated the majority of House members to impeach Johnson and the majority of Senate members to acquit him? Knowledge would, in short, assess factual accounts, think critically about information, accurately reconstruct a long-ago historical environment, make sound judgments about what happened and what did not, and finally integrate what is known into meaning and understanding. Wisdom goes even further. How do these long-ago circumstances in the United States apply to the aftermath of civil wars in other nations in other times? How does the aftermath of the American Civil War apply to the Truth and Reconciliation Commission in South Africa? How might we define political courage in highly partisan situations? Should questions involving slavery, freedom, and human dignity be evaluated within

a context of history and culture or within a framework of universality? Wisdom would apply concepts from one set of circumstances to very different contexts, define the underlying issues, consider ethical and moral implications, make judgments, and engage in problem-solving.

Access to information on the internet is growing rapidly. Moreover, information organized into coherent courses, is now readily available. Harvard, the Massachusetts Institute of Technology (MIT), Stanford, the University of Michigan, the University of Pennsylvania, and Princeton are already offering free on-line courses taught by their best professors. Yale and Carnegie Mellon will soon join the group. If star professors from elite universities are right now, as we speak, transmitting information via the internet free of charge, it is essential that college classrooms around the world go beyond the dissemination of information and focus on the goals of creating knowledge and helping students to attain wisdom.

Here is how NY Times columnist David Brooks explains the situation in an opinion piece, "The Campus Tsunami," (May 3, 2012):

The most important and paradoxical fact shaping the future of online learning is this: A brain is not a computer. We are not blank hard drives waiting to be filled with data. People learn from people they love and remember the things that arouse emotion. If you think about how learning actually happens, you can discern many different processes. There is absorbing information. There is reflecting upon information as you reread it and think about it. There is scrambling information as you test it in discussion or try to mesh it with contradictory information. Finally there is synthesis, as you try to organize what you have learned into an argument or a paper.

David Brooks concedes the role of communicating information to the internet. He then challenges colleges and universities to redesign instruction to focus on learning--what we are calling the creation of knowledge and the attainment of wisdom:

In an online world, colleges have to think hard about how they are going to take communication, which comes over the Web, and turn it into learning, which is a complex social and emotional process.

How do we create the complex learning environments that will transform the communication of information into knowledge and wisdom?

Here are my suggestions:

Construct meaningful connections between the Web and the classroom

The design of courses and academic programs should be determined by the nature of the subject matter, the needs of the student population, and the instructional goals.

For example, at Governors State University, our Bachelor of Science in Nursing (BSN) is delivered entirely on line. Prerequisite to the BSN is a rigorous, hands-on, hospital-based registered-nurse program (RN), offered by our partner community colleges. Students come to the BSN after deep experience in the emotional circumstances of working with mentors and patients in real settings. Their first two years of instruction have provided opportunities to integrate and apply the information they learned. The come to the online BSN, with strong, recent practice in integration and application. The on-line BSN provides a wider informational context for further connections. In addition, the flexibility of the online delivery of BSN courses helps the registered nurses connect learning with a highly variable and labor-intensive work situation. Our online program is student-centered—making it possible for working nurses to continue their education free of the tyranny of the clock, the calendar, and the car.

In contrast, the program GSU is planning for first-year undergraduate students will heavily emphasize human interactions, guiding students from the acquisition of information to the construction of knowledge, and maybe even to the beginnings of wisdom. Students will be organized into thematic cohorts, with each student taking at least three classes with the same group of students. Creating these intellectual families will encourage stimulating interactions and friendships. Classroom work will be highly participatory.

But even those classes that depend mainly on face-to-face interaction will make use of online tools. Learning a new language can be substantially assisted by Web courses, but students should also have opportunities to communicate in the new language in person with others, preferably with native speakers.

In addition, the Web can connect students, not only in foreign language, but in the full variety of disciplines to classrooms across the globe. Such interactions will work best when facilitated by an enlightened teacher.

Many instructors are "flipping" their courses, with lecture material available on the web, leaving classroom time for discussion and other interactions.

Replace the sage on the stage with the guide on the side

Close to a century ago, the American philosopher John Dewey (1859-1952) argued for the effectiveness of learning by doing. Yet, throughout the twentieth century, education continued to emphasize the sage on the stage. In fact, what we are doing now—this keynote address-- is an example of the sage on the stage. It's indisputable that learning can take place in a setting like this one. At least I hope so. But even assisted by PowerPoint technology, this keynote involves a relatively passive audience and an active lecturer. By the way, I hope that we can have a much more interactive question/answer/discussion period. But even then, we will for the most part be exchanging information. In truth, I would wager that the most intensive learning—integration, application, constructing knowledge, and acquiring wisdom--will take place in informal, engaged conversations in lounges, restaurants, and bars. The participation of the keynote speakers in the full conference and our availability for follow-up conversation will enable the sage on the stage to function as a guide on the side.

As the guide on the side, encourage writing across the curriculum

When students write, they learn. In her classic 1977 article, "Writing as a Mode of Learning," Janet Emig argues that writing is more than a way of demonstrating what has been learned. Writing itself is a mode of learning, promoting integration and application, the construction of knowledge and wisdom. My own work, as one of the founders of the movement called writing across the curriculum, has demonstrated again and again the power of infusing writing into all courses.

In U. S. universities, the first-year composition course can serve as a foundation for writing across the university curriculum—and throughout life. In the decades that I have been teaching and publishing within this movement, I have witnessed a radical shift in U.S. higher education from unreasonable expectations for students to learn to write either before they come to college, or failing that, to learn to write effectively, once and for all, in one course—freshman composition. In 2012, U.S. university professors have a more nuanced understanding of the complexities of writing and understand that it takes a campus to teach a writer. Many see that reasonable goals for the first-year course include experiences that other faculty members can build on, as they integrate writing appropriately in their courses:

Here are suggested learning goals for a first-year composition course:
o Understanding and selecting writing processes—generating, drafting, revising—recursive, variable, complex
o Understanding the variability of contexts—a field guide description of a snake is different from a poem about a snake (situation, audience, purpose, and disciplinary context)
o Understanding the writing situation: purpose, audience, context, roadblocks to communication
o Practicing peer review—how to read and comment intelligently about classmates' writing
o Learning how to make judgments about research materials, in books and on line
o Learning how to use technology in the writing process
o Practicing effective communication, visually and verbally
o Using resources: on-line sites, dictionary, thesaurus, handbooks, and writing guides.
o Finding ways to make excellence reference-able.

What can faculty in other disciplines do to reinforce writing through writing intensive courses?

Integrate writing into learning process
o Write at beginning of class
o Write in response to questions
o Write summary at end of class

- o Assign e-mail commentary and questions about the course
- o Assign major writing projects in draft stages
- o Use peer review
- o Vow that you will never again be the first human being on the planet to read another person's writing.
- o Help students learn to read their own writing.
- o Assign an acknowledgments page
- o Stop essay exams five minutes early to allow time for students to edit and proofread

Infuse civic learning, ethical reasoning, visual literacy, problem-solving, critical thinking, and numeracy across the curriculum

When we function as guides on the side, we see that it makes more sense to integrate learning goals rather than to create discrete courses for everything that we want to achieve. We can more effectively motivate students to make connections if we structure connectivity into our courses. We do not need a separate course in civics, for example, to teach citizenship. We can instead integrate civic learning into every course we teach. In biology, we can pose questions about public policy, climate change, for example. In physical therapy, students can study statutes that pertain to the disabled. The same holds true for ethics, visual literacy, problem-solving, critical thinking, and numeracy. Integrating these perspectives into courses works better than separate courses. Compartmentalized thinking is not effective. To use an agricultural metaphor from the Illinois heartland, silos are our enemy. As the British novelist E. M. Forster says, "Only connect."

Employ high impact educational practices

In a monograph entitled, *High-Impact Educational Practices*, published by the Association of American Colleges and Universities (AAC&U), in 2008, Professor George Kuh reports on widely tested teaching and learning practices that I recommend for our complex learning environments. Research shows that these practices, quantified in the National Survey of Student Engagement (NSSE), benefit all students, with even greater impact on underserved students. Here is a list of these high-impact practices:
- o First-year seminars and experiences
- o Common intellectual experiences
- o Learning communities
- o Writing intensive courses
- o Collaborative Assignments and Projects
- o Undergraduate Research
- o Diversity/Global Learning
- o Service Learning, Community-Based Learning
- o Internships
- o Capstone Courses and Projects

While earlier in this presentation I have discussed some of these high-impact practices, for example, writing intensive courses as part of writing across the curriculum, it is useful to look at these proven best practices as a whole. Research shows that students learning will improve if they are involved in some of these practices. They do not have to be engaged in all.

So as we educate teachers for complex learning environments, we must recognize the epistemological revolution that has already occurred. Information is instantly available. Today, we can find out the factual answer to any question in seconds. Let's return briefly to American history and Abraham Lincoln. Only 150 years ago it took two years for the news of the Emancipation Proclamation, issued by President Lincoln on January 1, 1863, to reach Galveston, Texas, where the last slave was freed on June 19, 1865.

Today, without any trouble at all, we can locate information about the end of slavery in America and about the holiday that celebrates it—Juneteenth. But knowledge and wisdom about any topic—for example, slavery and freedom or celebrations and commemorations— are increasingly difficult to achieve, even as knowledge and wisdom become ever more important to society. Teaching

must change fundamentally from the delivery of information to the development of critical thinking. We must transform our classroom practices accordingly. As teachers, we must move away from the limelight of expertise to the more challenging role of guiding students to think, assess, integrate, and apply.

As John Dewey says, "If we teach today's students as we taught yesterday's, we rob them of tomorrow."

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İNGILIZCE ÖĞRETMENLIĞI BÖLÜMÜ ÖĞRENCILERININ ÇEVRIM İÇI ÖĞRENME SISTEMLERI KABUL DÜZEYLERI İLE BILGISAYAR YETERLILIK ALGILARI ARASINDAKI İLIŞKI

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Özet

Günümüzde uzaktan eğitim, birçok alanda olduğu gibi öğretmen eğitiminde de yaygın bir şekilde kullanılmaya başlamıştır. Ancak, uzaktan eğitimin, öğrencilerin bilgisayar dersi yeterlilik algısı üzerindeki etkisinin ne olduğu ile ilgili çok fazla araştırma yapılamamaktadır.

Bir yandan da uzaktan eğitim sistemi teknolojilerinin gelişmesiyle birlikte öğrencilerin uzaktan eğitim uygulamalarında çevrim içi öğrenme sistemleri kabul düzeyi ve öğrencilerin bilgisayar yeterlilik algıları arasındaki ilişki önem kazanmaktadır. Daha etkili bir uzaktan eğitimin gerçekleştirilebilmesi için bu tip araştırmaların alana katkı sağlayacağı düşünülmektedir.

Araştırmada üç farklı veri toplama aracı kullanılmıştır. Birisi kişisel bilgi formu, ikincisi araştırmacılar tarafından ders içeriğine göre geliştirilen yeterlilik algısı anketi ve diğeri ise Ilgaz (2008) tarafından geliştirilen 'Çevrim İçi Öğrenme Sistemleri Kabul Ölçeği'dir.

Araştırmaya Yabancı Diller Eğitimi İngilizce Öğretmenliği Bölümü 1. Sınıf öğrencileri katılmıştır. Öğrencilerin yeterlilik algıları ve çevrim içi öğrenme sistemleri kabul düzeyleri çeşitli değişkenlere göre tespit edilmiş, daha sonra da yeterlilik algıları ile çevrim içi öğrenme sistemleri kabul düzeyleri arasındaki ilişki saptanmaya çalışılmıştır. Veriler SPSS programında analiz edilmiştir. Araştırma sonuçları doğrultusunda önerilerde bulunulmuştur.

Anahtar kelimeler: yeterlilik algısı, çevrim içi öğrenme sistemleri kabul düzeyi, uzaktan eğitim.

The Relationship Between English Teaching Department Students' Self Efficacy and Technology Acceptance Levels

Absract

Distance learning has being widely used in teacher education as it is used in other fields. However, not many studies have been conducted about the impact of distance education on the perception of self-efficacy.

With the development of the systems in distance education, the relationship between technology acceptance level of the students in distance education applications and the learners' self-efficacy perceptions has gained importance. It is thought that conducting this kind of studies can make contributions to the field in order to provide more efficient distance learning education.

Three types of data collection tool were used for this study. One of them is personal information form, the other one is self efficacy perception survey which was developed by the researchers and the third one is "Technology Acceptance Level Survey" developed by Ilgaz (2008).

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Freshmen students studying at foreign languages teaching department participated in the research. Firstly, students' self efficacy and technology acceptance levels were determined according to some variables. Then, the relationship between efficacy perceptions and technology acceptance levels was tried to be stated. The data was analyzed by using SPSS program. Suggestions were made according to data results.

Key Words: Perception of self-efficacy, technology acceptance level of online learning systems, distance education.

GİRİŞ

Uzaktan eğitim sistemlerin en yaygın kullanım alanlarının başında üniversiteler gelmektedir. Uzaktan Eğitim, geleneksel öğrenme-öğretme yöntemlerindeki sınırlılıklar nedeniyle sınıf içi etkinliklerin yürütülme olanağı bulunmadığı durumlarda eğitim çalışmalarını planlayanlar ve uygulayanlar ile öğrenenler arasında iletişim ve etkileşimin özel olarak hazırlanmış öğretim üniteleri ve çeşitli ortamlar yoluyla belli bir merkezden sağlandığı bir öğretim yöntemidir. Uzaktan eğitim için internet, bilgi aktarma, arama ve geliştirme aracı olarak kullanılmaktadır.

Uzaktan eğitim ile birbirinden uzak öğretmen ve öğrenci, iletişim kurabilmekte ve öğrenme sürecini devam ettirmektedirler. Web sayfaları sesli ve görüntülü araçlarına, etkileşimli araçlara (sohbet, video konferans vb.), haberleşme araçlarına (elektronik mektup, liste ve haber grupları) ve diğer web sayfalarına bağ içerebildiğinden, eğitim materyali hazırlanırken herhangi bir kısıtlama olmadan tüm bu servisler günümüzde kullanılmıştır (Akt. İlhan, 2010).

Uzaktan eğitim sistemlerinde verilen eğitimin eksiksiz gerçekleştirilebilmesi, uzaktan eğitimin önündeki problemlerin aşılabilmesi için önemli bir adım olacaktır.

Yeterlilik Algısı

Bireylerin inanışları, onların tutumlarının oluşmasında önemli rol oynadığı için davranışlarıyla da yakından ilişkilidirler (Bandura, 1986). Ancak, Pajares (1997) inançların doğrudan gözlenemeyeceğini, inançlar hakkında, insanların söylediklerinden, niyetlerinden ve yaptıklarından yola çıkarak bir yargıya varılabileceğini belirtmiştir.

Bireylerin sahip oldukları yeterliklerini amaçları doğrultusunda ne kadar başarılı bir biçimde kullanabileceklerine ilişkin yargıları, Bandura (1977) tarafından "Öz-Yeterlik İnancı" (Self-Efficacy Beliefs) olarak kavramlaştırılmıştır. Öz-yeterlik inancı, "bireylerin belli bir performansı göstermek için gerekli olan etkinlikleri ve eylemleri organize edip, bunları başarılı bir biçimde gerçekleştirebilme kapasitelerine ilişkin inancı" olarak tanımlanmaktadır. Öz-yeterlik inançları üç temel boyutta birbirlerinden farklılaşmaktadır. Bu boyutlar, düzey (magnitude), genelleme (generality) ve dayanıklılık (strength) olarak kavramlaştırılmıştır (Akt. Çapri & Çelikkaleli, 2008).

Bandura (1997)'ya göre öz-yeterlik inancı yüksek olan insanlar yeni karşılaştıkları ve mücadele etmek durumunda oldukları yaşantılardan kaçmazlar ve eylemlerini başarılı bir şekilde tamamlamak için oldukça kararlı davranmaktadırlar. Düşük öz-yeterlik inançlarına sahip bireyler de belli görevleri yerine getirme aşamasında güçlü öz-yeterlik inancına sahip olan bireylere göre daha çok gerginlik, stres ve hoşnutsuzluk duyguları yaşamaktadırlar.

Teknoloji Kabul Modeli

Öğrencilerin tutumları ve teknoloji kullanımları uzaktan eğitime yönelik memnuniyetlerini etkileyeceği için Teknoloji Kabul Modeli çerçevesinde öğrenci memnuniyetini inceleyen araştırmalar gerçekleştirilmiştir.

Araştırmalar algılanan yarar ve algılanan kullanım kolaylığının öğrencilerin internette yer alan kaynakları kullanmalarını arttıran bileşenler olduklarını göstermektedir. Böylece uzaktan eğitim deneyimine yönelik artan öğrenci memnuniyetinin sınıf aktivitelerine katılımı arttırarak uzaktan eğitim ortamlarının daha fazla kullanımını sağlayacağı düşünülmektedir (Lee, Cheung, & Chen, 2005; Mitchell, Chen, & Macredie, 2005 Akt. Ilgaz, 2008).

Bireylerin bilgi teknolojilerini kabul etmelerini ya da reddetmelerini neler etkilemektedir sorusunu araştıran araştırmacılar sistem kullanımını etkileyen birçok faktör arasında algılanan kullanım kolaylığı ve algılanan yararın en önemlileri olduklarını belirlemişlerdir. Modelde yer alan bileşenlere ilişkin tanımlar aşağıdaki gibidir:

Algılanan yarar (Perceived usefulness), bireyin bir sistemi kullandığında onun iş performansını arttırmasına yönelik inancının derecesi olarak tanımlanmaktadır. Bir sistem algılanan yarar açısından ne kadar yüksekse kullanıcıda da pozitif bir kullanma-performans ilişkisi inancı oluşur.

Algılanan kullanım kolaylığı (Perceived ease of use); bireyin bir sistemi kullanırken sarf ettiği çabanın azlığına olan inancının derecesidir. Bir uygulamanın kullanıcılar tarafından kabul edilmesinde kullanımının kolay olması oldukça önemli bir etkendir (Davis, 1989).

Bu modeldeki en önemli değişkenler algılanan yarar ve algılanan kullanım kolaylığıdır. TKM'de teknolojiye yönelik inançlar o teknolojinin kullanımının kolay ve yararlı olduğu yönündeyse bu durumun kullanıcıların tutumunu etkileyeceği ve dolayısıyla o teknolojinin kullanımını benimseyecekleri şeklinde yer almaktadır (Arbaugh, 2001).

YÖNTEM

Bu çalışmada, Yabancı Diller Eğitimi İngilizce Öğretmenliği bölümü öğrencilerinin yeterlilik algıları ile çevrim içi öğrenme sistemleri kabul düzeyi arasındaki ilişki incelenmiştir. Öğrencilerin çevrim içi öğrenme sistemleri kabul düzeyi ile yeterlilik algıları arasında ilişki olup olmadığını ortaya çıkarmak amacıyla katılımcıların demografik özellikleri, çevrim içi öğrenme sistemleri kabul düzeyi ve yeterlilik algıları ilgili verilerin toplanması için envanterler uygulanmıştır.

Araştırmanın Modeli

Araştırmada mevcut durumu tespit etmek amaçlandığı için, tarama modeli bir araştırmadır. Tarama modelleri, var olan bir durumu var olduğu şekliyle betimlemeyi amaçlayan araştırma yaklaşımlarıdır. Araştırmaya konu olan olay, birey ya da nesne, kendi koşulları içinde ve olduğu gibi tanımlanmaya çalışılır (Karasar, 2004).

Çalışma Grubu

Araştırmanın çalışma grubunu; 2011-2012 öğretim yılı güz yarıyılında Yıldız Teknik Üniversitesi Eğitim Fakültesi'nin Yabancı Diller Eğitimi Anabilim Dalı, İngilizce Öğretmenliği Bölümünde 1. sınıfta okuyan 51 öğrenci oluşturmuştur. Bilgisayar I dersini uzaktan eğitimle alan öğrencilerin tamamı çalışma kapsamında tutulmuştur.

Veri Toplama Aracı

Bu araştırmada, öğrencilerin cinsiyet, mezun olduğu lise türü, evde bilgisayar ve internet bağlantısına sahip olup olmama gibi değişkenleri belirlemek amacıyla araştırmacılar tarafından oluşturulan demografik bilgi formu dışında 2 tane veri toplama aracından faydalanılmıştır.

Birisi, öğrencilerin ders ile ilgili yeterlilik algılarını ortaya çıkarmak amacıyla dersin hedefleri temel alınarak araştırmacılar tarafından geliştirilen yeterlilik algısı anketidir.

Diğeri ise öğrencilerin çevrim içi öğrenme sistemleri kabul düzeyini belirlemek üzere Ilgaz (2008) tarafından geliştirilen "Çevrim İçi Öğrenme Sistemleri Kabul Ölçeği"dir. Ölçek Algılanan Kullanım Kolaylığı ve Algılanan Fayda olmak üzere iki alt boyuttan oluşmaktadır. Ölçeğin Cronbach α katsayısı 0.89'dur. Faktör puanları bazında güvenirlik katsayıları algılanan kullanım kolaylığı için 0.90, algılanan yarar için ise 0.93 olarak bulunmuştur.

Verilerin Puanlanması

Yeterlilik algısı anketi öğrencilerin yapabilecekleri yeterlilikleri ile ilgili olarak "Evet", "Kısmen" ve "Hayır" olarak derecelendirilmiştir. "Hayır" seçeneği 1 puan, "Kısmen" seçeneği 2 puan ve "Evet" seçeneği 3 puan üzerinden değerlendirilmiştir. Bu durumda puanın veya ortalamanın yüksek olması öğrencinin kendini daha yetkin hissettiği anlamına gelmektedir.

Çevrim İçi Öğrenme Sistemleri Kabul Ölçeği 7'li likert lipinde hazırlanmıştır. Maddelerin puan ortalaması 1 ile 7 arasında bir değer alabilmektedir. Ortalamanın yüksek olması katılımcının Çevrim İçi Öğrenme Sistemleri Kabul düzeyinin yüksek olduğunu ifade etmektedir.

BULGULAR ve YORUMLAR

Çalışma grubuna ait cinsiyet, mezun olunan lise türü, evde bilgisayarı ve internet bağlantısı olup olmadığı gibi demografik bilgiler aşağıdaki Tablo 1'de sayı ve yüzde olarak belirtilmiştir.

Tablo 1: Demografik Bilgiler

	Cinsiyet		Mezun olunan lise türü			Bilgisayarı olanlar		İnternet bağlantısı olanlar	
	Kız	Erkek	Düz lise	Meslek lisesi	Fen-Anadolu Lisesi	Evet	Hayır	Evet	Hayır
Yüzde	%76,5	%23,5	%15,7	%2	%82,3	%84,3	%15,7	%72,5	%27,5
Sayı	39	12	8	1	42	43	8	37	14
Toplam	51		51			51		51	

Çalışma grubunda 51 öğrenci yer almıştır. Tablo 1'e göre çalışma grubunun çoğunluğu kız öğrencilerden oluşturmaktadır. Aynı şekilde öğrencilerin çoğunluğu Fen-Anadolu Lisesi mezunudur. Meslek lisesi mezunu 1 tane öğrenci olduğu için lise türüne göre yapılan karşılaştırmada standart sapmayı etkilememesi için karşılaştırmaya dâhil edilmemiştir. Öğrencilerin %82,3'lük gibi büyük bir kısmının evde bilgisayarı ve %72,5'lik kısmının internet bağlantısı mevcuttur.

Tablo 2. Yeterlilik Algısı Öntest ve Sontest Puan Ortalamaları

Yeterlilik Algısı	Word Programı	Powerpoint Programı	Excel Programı	Genel Ortalama
Öntest	2,48	2,36	1,57	2,18
Sontest	2,76	2,77	2,12	2,58

Araştırmaya katılan öğrencilerin her bir içerik ve genel yeterlilik algı puan ortalamaları Tablo 2'de yer almaktadır. Yeterlilik algısı ile ilgili olarak alınabilecek en düşük puan ortalaması 1 ve en yüksek puan ortalaması 3'tür. Word programı kullanım becerileri ile ilgili öğrencilerin sahip oldukları yeterlilik algısı öntest ve sontest ortalama farkları 0,28 puan artmıştır. Powerpoint programı kullanım becerileri ile ilgili öğrencilerin sahip oldukları yeterlilik algısı öntest ve sontest ortalama farkları 0,41 puan artmıştır. Excel programı kullanım becerileri ile ilgili öğrencilerin sahip oldukları yeterlilik algısı öntest ve sontest ortalama farkları 0,55 puan artmıştır. Genel ortalamada ise 0,40 puanlık bir artış görünmektedir.

Tablo 3. Cinsiyete Göre Yeterlilik Algısının Karşılaştırılması

Cinsiyet	N	Ortalama	Std. Sapma	p
Kız	39	2,20	0,42	,153
Erkek	12	2,16	0,25	

Tabloya 3'e göre kız öğrencilerin yeterlilik algıları ile erkek öğrencilerin yeterlilik algıları arasında anlamlı bir fark bulunmamaktadır.

Tablo 4. Mezun Olunan Lise Türüne Göre Yeterlilik Algısının Karşılaştırılması

Lise Türü	N	Ortalama	Std. Sapma	p
Düz lise	8	2,07	0,46	,410
Fen-Anadolu Lisesi	42	2,22	0,37	

Mezun olunan lise türü ile yeterlilik algıları arasında yapılan karşılaştırmada meslek lisesi mezunu 1 tane öğrenci olduğu için istatistiksel karşılaştırmaya dâhil edilmemiştir. p değerine bakıldığında öğrencilerin mezun oldukları lise türü ile yeterlilik algıları arasında 0,15'lik bir ortalama farkından dolayı istatistiksel olarak anlamlı bir fark çıkmamıştır.

Tablo 5. Çevrim İçi Öğrenme Sistemleri Kabul Düzeyi Öntest ve Sontest Puan Ortalamaları

ÇİÖSKD	Ortalama
Öntest	4,22
Sontest	4,64

Çalışma grubunun çevrim içi öğrenme sistemleri kabul düzeyi öntest ortalaması 4,21'dir. Çevrim İçi Öğrenme Sistemleri Kabul Ölçeği'nden alınabilecek puan ortalaması 1 ile 7 arasında bir değer aldığı için, bu rakama bakarak grubun genel olarak teknoloji kabul düzeyinin ortalamanın biraz üzerinde olduğu söylenebilir. Sontestde de 0,42'lik bir puan ortalaması artışı gözlenmiştir.

Tablo 2 ve Tablo 5'ten görülebileceği gibi uzaktan eğitime tabi tutulan öğrencilerin dönem başında ve dönem sonunda sahip oldukları yeterlilik algıları arasında 0,40 ve çevrim içi öğrenme sistemleri kabul düzeyleri arasında 0,42'lik bir puan artışı olmuştur. Benzer derecede görülen bu artışın sebebi dersin uzaktan eğitimle verilmesiyle birlikte öğrencinin sistemi artık daha iyi kullanmaya başlamasından ve benimsemesinden kaynaklı olabilir.

SONUÇ ve ÖNERİLER

Bu araştırmada, uzaktan eğitimle bir dersi olan üniversite öğrencilerinin çevrimiçi öğrenme sistemleri kabul düzeyleri ile yeterlilik algıları arasındaki ilişki incelenmiştir.

Elde edilen veriye göre yeterlilik algısı öntest ve sontestin genel ortalama farkı sontest lehine 0,40 olarak bulunmuştur. Bu sonuca göre dersi uzaktan eğitim ile alan öğrencilerin bilgisayar kullanımı konusunda ifade ettikleri yeterlilik algılarında artış gözlenmektedir. Bu artış öğrencilerin çevrimiçi öğrenme sistemleri kabul düzeylerinin etkisinde gerçekleşmiş olabilir.

Çevrimiçi öğrenme sistemleri kabul düzeyleri öntest ve sontestin ortalamaları arasındaki fark incelendiğinde sontestte 0,42 puanlık bir artış olmuştur. Bu artışın nedeni dersin uzaktan eğitim ile alınması ve öğrencilerin ders yolu ile bu sistemi daha yakından tanımış ve kullanmış olmalarından kaynaklanabilir.

Sonuçlar ayrıca çeşitli değişkenler açısından incelenmiştir. Cinsiyete göre yapılan karşılaştırmada kız öğrencilerin yeterlilik algı puan ortalamaları biraz yüksek çıkmış olsa da istatistiksel olarak anlamlı bir fark bulunmamıştır. Aynı şekilde mezun olunan lise türüne göre incelendiğinde Fen/Anadolu Lisesi mezunlarının yeterlilik algı puan ortalamaları düz lise mezunlarına göre daha yüksek bulunsa da anlamlı bir fark çıkmamıştır.

Öğrencilerin yeterlilik algıları ve çevrim içi öğrenme sistemleri kabul düzeylerini artırabilecek şekilde düzenlenmiş dersler uzaktan eğitim ile verilebilir. Öğrencilerin yeterlilik algıları ile akademik başarıları arasındaki ilişkiyi araştıran çalışmalar yapılabilir.

Bu araştırma İngilizce Öğretmenliği bölümü öğrencileri ile sınırlıdır. Benzer çalışmalarda başka bölümlerde okuyan üniversite öğrencilerinin yeterlilik algıları ve çevrim içi öğrenme sistemleri kabul düzeyleri araştırılabilir.

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INNOVATING THE COMPULSORY STUDY SUBJECT OF PAEDIATRICS AND THE CREATION OF MULTIMEDIA TEXT FOR PRACTICAL TRAINING

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Abstract

Paper is presenting project of innovation in teaching subject of Paeditarics at Palacky University in Olomouc. The project aims at modernizing and increasing quality, efficiency and development of student education. Innovating Paediatrics, as a subject, involves the creation and institution of the up-till-now missing multimedia learning support aimed at extending and changing the contents of practical training with direct involvement of infant patients in the teaching process. At the same time, the project also provides the possibility of effective self-study on the part of students using web interface and hypertext links to recent publications in renowned journals.

Keywords: paeditarics; innovation; multimedia text

Introduction

At the Faculty of Medicine and the Faculty of Health Sciences at Palacky University in Olomouc, a new project is being implemented where main objective is to innovate and revamp the subject of paediatrics with the intention of enhancing quality and modernizing and developing respective university teaching in order to extend students´ knowledge and skills. In line with the new trends in viewing medicine as an evidence-based medical subject and with new, ever-growing, findings in paediatrics, it was required to modify and customize the contents of lessons both at theoretical and practical levels, with focus on interlinking the theoretical knowledge, clinical skills and decision-making skills of students. Modernization changes were carried out, allowing students to use, in the course of their preparation, a wide range of modern information technologies, both with a teacher in a classroom and within one´s own individual studies at home.

At present, more emphasis is being given to the practical aspects of student teaching (bedside training during practical exercises), the ability to make their own decisions, practice the acquired skills and to incorporate multimedia learning support (within practical as well as theoretical teaching - teaching becomes more interlinked). Therefore, a new multimedia learning support was created (multimedia textbooks, web interface), which is based on individual case studies addressing specific paediatric patients and resulting in better decision-making skills of the students and the future graduates. This study support consists of hyperlinks to recent publications in renowned national and foreign magazines and web-based interface with the possibility of self-

study. Within the innovative teaching, students elaborate on case studies of individual patients within their workshops where they have the opportunity of consulting on possible solutions and alternatives with practising professionals. Processing of the given case according to this study support will become part of the state examination for students of general medicine and part of the examination in paediatrics for students of dentistry and physiotherapy.

It was essential to implement this project due to the rapid and unprecedented developments in medicine, as it is necessary to adapt and modernize the teaching of medical students in order to combine new theoretical findings with the acquired clinical skills, an aspect so badly needed for preparing the future generation of physicians. Students are increasingly overwhelmed with new theoretical knowledge, but modern study support for practical training and testing of students of paediatrics, as one of the core subjects of medical training, has been missing up till now. The creation of this multi-media support has brought new opportunities to students in the following sense:

- targeted and interlinked tuition of seminars to be prepared
- transfer of knowledge and skills in diagnosis and treatment
- widening the scope of clinical work in practical exercises during bedside training
- self-education
- applying the acquired knowledge and skills
- testing in the course of preparation for the state exam.

Another reason for the need of multimedia study support in the field of paediatrics was the fact that in the current study literature, introducing students to specific cases (patients) and their diagnostic and therapeutic solutions is totally missing. When compared with EU and other countries, our students lack continuity in practice, especially in independent solutions of individual cases. The aim of this project is to help offset this deficit.

2. Students

This project can be utilized by all students of the study programmes of General Medicineand Dentistry of the Faculty of Medicine, and by students of the bachelor's degree programme with specialization in health care (field of physiotherapy) and the master's degree programme with specialization in health care (field of physiotherapy) at the Faculty of Health Sciences UP in Olomouc. Paediatrics belongs among the compulsory subjects and is part of the fifth year of the study programmes for general medicine and dentistry, and second year of the physiotherapy studies. Students who take part in this subject have already fulfilled all compulsory theoretical subjects and are preparing for their practical professional performance. The subject of paediatrics is, in the general medicine study programme, accomplished with a final state examination; in other courses with a compulsory examination.

The total number of annual students in all programmes is at least 250, out of which 150 students study the general medicine study programme, 70 students fall under the dentistry programme and 30 students attend the physiotherapy fields. In the course of a study term, students are divided into blocks, each being a four-week block and the maximum number of students in one block is twenty five, which allows for a rather personalized approach to the teaching and enables achieving higher efficiency in education. Another application of the project, modified to the English language, is working with foreign students that study at the UP general medicine programme. It is necessary to emphasize that the newly created multimedia support has a website that can be, pursuant to posting a request to the administrator, used by virtually everyone, including the students of other medical departments all over the Czech Republic.

3. Preparation of the training materials

For the purposes of ensuring correct implementation of this project phase, the gathering of data and visual documentation were crucial as the necessary platforms for further high-quality processing of these materials. Data collection for the preparation of teaching materials was conducted through thorough examination of the available literature (textbooks, recent articles in professional journals, internet resources, including server

updates, etc.). Highly valuable information was also gathered from meetings with experts from other workplaces in the Czech Republic and through participation in professional conferences. The major part of data collection consisted of field work. At the meetings of the implementation team and at consultations with leading professionals in paediatrics, suitable patients were selected for case studies from various disciplines. Data was assembled in the form of extracts from medical records, patients´ cards, and photographing and filming patients, always with the consent of each patient and/or their legal representatives. In the course of creating base materials for case reports, a data base from the radiology clinic was used to obtain visual documentation. The values of laboratory results were acquired thanks to the hospital information system.

During this project phase, a new computer programme was developed, which has been fully operational since the end of November 2010. The programme is editable and the administrator can insert texts of case studies created by co-authors. The created editorial programme serves the purpose of simulating work with a patient, from acquiring information on admission up to the final treatment. When working with the programme, students gradually open individual windows with description of a patient, enter their own evaluation of the urgency of the patient´s case, through description and analysis of the considered differential diagnosis select indicated treatments (laboratory, visual and other - specialized-for each field). Students evaluate the findings, including picture and video documentation, as well as opting on the final diagnosis, justifying the selected therapy. All case studies are extended by a professional theoretical section and students have the opportunity to extend their knowledge through the internet literary references, which are part of each case.

The programme has its own internet domain-www.pedkaz.cz and is password protected. Every fifth grade student of general medicine at the Medical Faculty of Palacky University in Olomouc and assistants of the Department of Paediatrics have their access names and passwords. The site is also a reference to the principal investigator and it is possible to ask for access permission, which will be then sent to the applicant.

4. Creation of multimedia learning support

Another part of the project is creating multimedia learning support as such. This is realized by processing the documents obtained during the development of materials for case studies. The support is created by means of a computer programme, whereas the text has to be divided into several parts depending on its structure. Study support is also divided into several sections. The first part is anamnestic, in which a student obtains the basic information on a patient (history taking): current condition, personal history, social, family, pharmacological, allergy, epidemiological and gynaecological history, see Fig 1. After reading this information, a student should be capable of forming an idea of the source of patient´s problems and subsequently, he/she should be able to prepare the possible differential diagnosis of the case and to decide about potential hospitalization of the patient and thus determine the urgency of his/her condition.
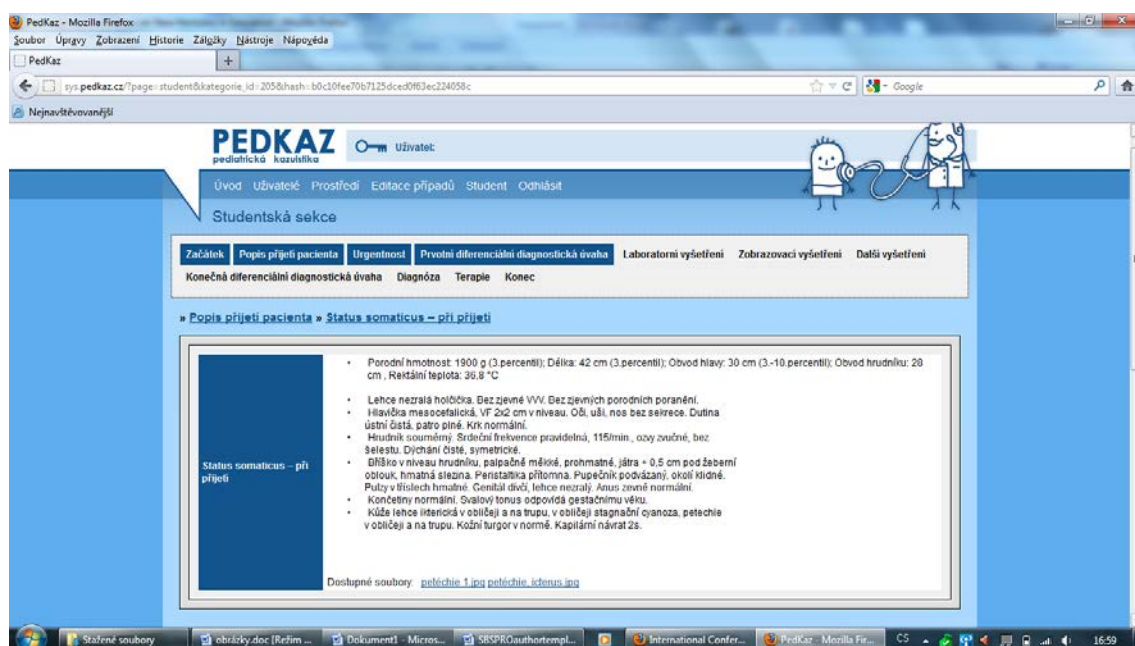
Fig. 1. Current condition of the patient with accessible files- photos

Another part is the diagnostic and therapeutic stage when a student indicates the respective examinations and evaluates the results. He/she chooses from a wide range of laboratory, radiological and specialized examinations divided into many subgroups, see Fig.2,3.
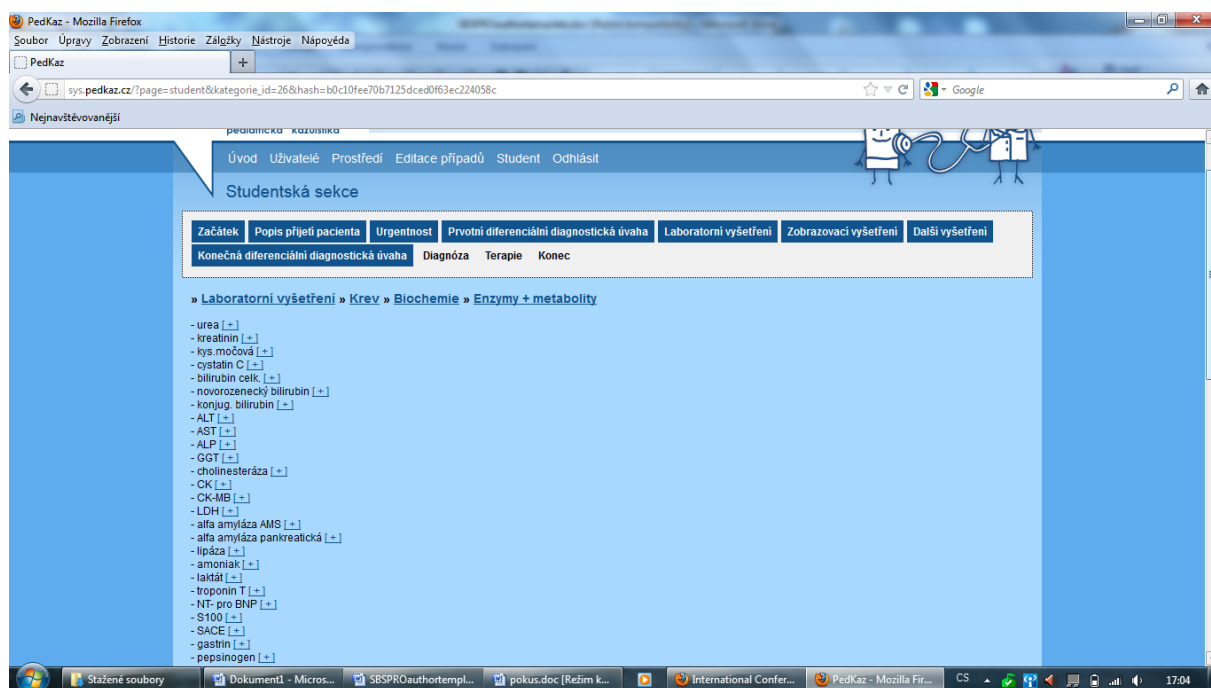
Fig. 2, Range of laboratory examinations- biochemical tests

Fig. 3, Radiological examination - x.ray of the patient

The aim is to teach students how indicate examinations in close-to-real-life situations and make their own decisions. On the basis of the obtained information, the student then selects from 5 -10 diagnostic options and justifies the correctness of his/her decision, see Fig.4.
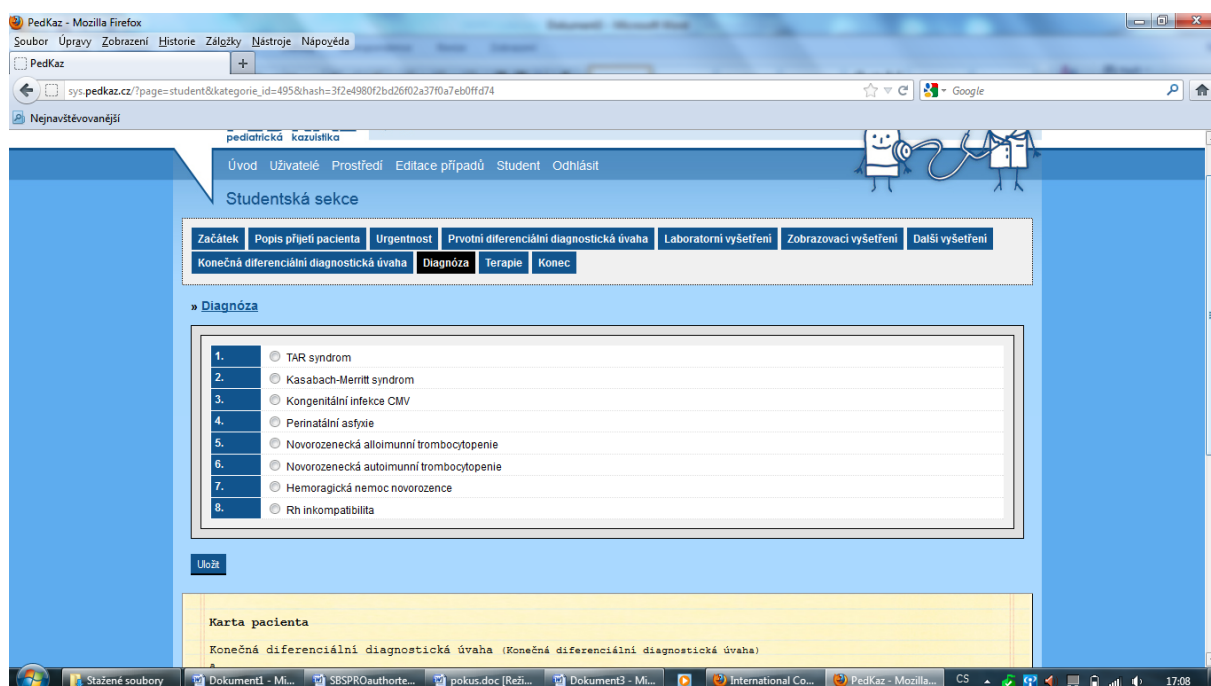
Fig.4 Range of diagnostic options

In the therapeutic part, the student again chooses from 5 -10 options of therapeutic approaches to the patient, based on the assumed diagnosis.After concluding the testing phase, evaluation of the student´s performance in the case study is displayed with a commentary on the mistakes and the correct answers, including notification of what should have been examined. Finally, the theoretical part is displayed with a theoretical summary of the diagnosis and the literary references, see Fig.5.
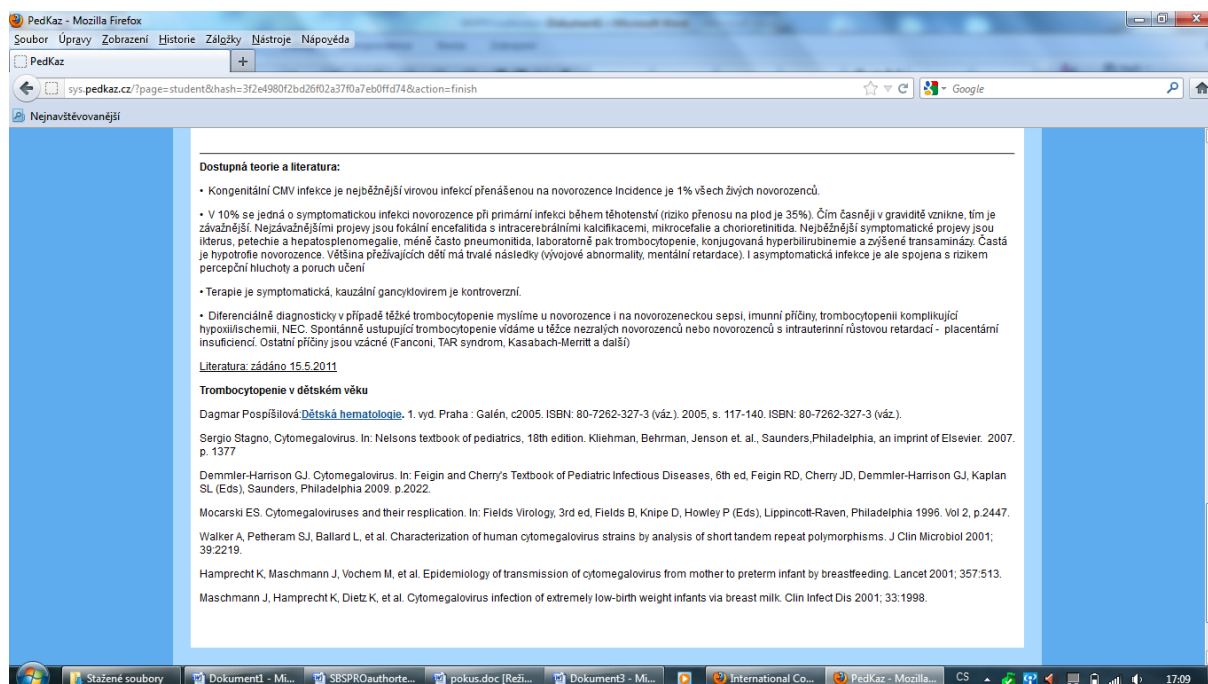
Fig.5. Theoretical part - theoretical summary of the diagnosis and the literary references

Case studies are analysed prior to entering the programme with the target group, since it is necessary to know the feedback from the programme users and at this stage, possible shortcomings or issues may be eliminated.

Until today, 66 case studies have been created, 6 on each field- cardiology, intensive medicine, allergology, surgery, neonatology, nephrology, endocrinology, gastroenterology, pneumology, rheumatology and haematology.

The Website with a new computer programme is fully functional. It is possible to enter any number of case studies to the computer application; three modes of starting-up have been configured. a) Teacher: the programme runs in trial mode and the results and the correct answers will be displayed to the examiner only after entering the personal username and password. b) Student: this mode serves as a self-study tool for students. Students, wherever connected to the Internet, can test themselves on a case study and correct answers are displayed immediately after saving the entered data. The programme is, however, set in such a way that the sequence of optional responses is mixed in repeated testing in order to prevent abuse by students training for the exam. c) The last option is the administrator: case studies can be inserted into the programme. The computer programme not only allows testing of the student but is also able to evaluate, according to a pre-

set submission by authors, errors in scoring and notifies the tested student of the failures or deficiencies, including the justifications and explanations. Case studies are, even at this stage, consulted with eminent experts in the field of paediatrics. The theoretical part also plays an important role where students learn more about the disorder and may further extend their knowledge.

The programme is set in such manner that the tested student works in the same way as if he/she would examine a real patient and thus he/she improves practical medical performance and develops one´s own skills. Visual documentation is also highly important as it, thanks to real radiological pictures and patients´ photos, simulates real work with a patient.

5.   Implementation   of   innovative   teaching

The final part of the project deals with the implementation of innovative teaching itself. It aims at working with students. A computer programme is applied during the practical student training at the department, both in the test mode as well as in interactive teaching using the student mode where the given health conditions and approaches to a patient are simulated on the basis of case studies. This is performed in the presence of an assistant who discusses the given health conditions with the students and is also familiar with the newly acquired information from domestic and foreign sources on this topic in the theoretical part of the programme. This type of tuition has been already conducted in eight study groups of the students of General Medicine, two groups of future physiotherapists and two groups of students of dentistry. The programme has also been presented to foreign students during their excursions. Each teaching block is opened with a seminar in which the students are introduced to the computer programme and to working with multimedia text. Thanks to the evaluation of the teaching, it was found that most students use the programme also during their home preparation and find such method of teaching preferred and beneficial.

Conclusion:

The aim of the project is to enhance the existing system of preparation of students resulting in greater awareness, flexibility and more independent decision-making that are essential for increasing their erudition and qualification. Hand in hand with the students´ increased competitiveness on the job market, this project also ensures better care for paediatric patients. Innovating the study subject of Paediatrics implies the creation of multimedia learning support (interactive, audio-visual, etc.,) that has been lacking to date, serving to change and extend the contents of practical training with direct involvement of an infant patient into the educational process. Our multimedia support enables to make self-study much more effective by means of web interface and hypertext links to recent publications in renowned journals.

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INSTRUCTIONAL, TECHNOLOGICAL AND PSYCHOLOGICAL APPROACHES OF USING IWBS: A FRAMEWORK

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Abstract

The purpose of the study is to define basic dimensions with a framework for using Interactive Whiteboards (IWB). There are some approaches, including instructional-pedagogical, psychological and technological approaches in addition to contextual factors. A thousand thirteen students (1013) from elementary and secondary schools and sixtyfive (65) teachers from different schools were selected to take questionnaire for defining their preferences, attitudes and learning variables for using IWBs. Descriptive statistical analysis was used to investigate whether or not there are differences between students' and teachers' views. Some emerging preferences were indicated to explain the effects of IWBs related to instructional, technological and psychological foundations as well as contextual variables. All results and conclusions were also presented and discussed to develop a framework at the end of study.

Keywords:Interactive whiteboard (IWB); approaches for using IWB; a framework; teaching and learning.

Introduction

Computer-Based Instruction (CBI) has been used extensively to teach students with different learning characteristics since its emergence in the 1970s (Alessi & Trollip, 1991; Gagne', Wager, & Rojas 1981; İpek, 2001; Mechling, Gast & Krupa, 2007; Jonassen, 1989). At this time, new projects have been completed for educational computing. In addition to these activities, new instructional applications have been used in learning and teaching with new instructional technologies and computers. One of them is interactive whiteboard (IWB) that teaches and presents information by integrating other technologies such as computer, board and projector used together in learning environments. Now, interactive whiteboards (IWBs) are used in many schools as replacements for traditional whiteboards. They provide ways to show students anything which can be presented on a computer's desktop (instructional software, web sites, blogs, audio-visual materials and others).

In the last decade, research focused on the effects of IWBs has been increased to explain several dimensions in the instructional processes. The research topics are different with instructional variables which include using IWBs in geology (Ateş, 2010), integrating IWBs in classrooms (Bennett & Lockyer, 2008; Lewin, Somekh & Steadman, 2009), learning collaborative activity (Mercer, Warwick, Kersher & Staarman, 2010), and effecting attitudes and contributions (Digregorio & Sobel-Lojeski, 2010; Ekici, 2008; Kaya & Aydın, 2011; Mathews-Aydınlı & Elaziz, 2010; These studies deal with following topics such as using IWBs in basic courses, cooperative learning, perception, teachers' opinions, marketing and technological characteristics in general. They

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are not good enough to define or clarify specific teaching and learning variables from different perspectives totally to establish foundations of using IWBs which is indicated as a framework.

Recently, IWBs have been used and qualified by different educational systems of states all around the world. Although IWBs were first produced in 1990s as a new learning tool, they are disseminating slowly depending on cost effectiveness, unknown educationally usefulness in schools, industry and markets so far. There are still lack of research for considering IWB effects in the different sectors and areas based on different view of approaches (Baran, 2010; Bennett & Lockyer, 2008). These approaches/studies are very limited to explain IWBs usefulness in psychological, instructional and technological perspectives. Thus, in order to develop contextual factors for applications and implementation, "a return on investment " (ROI) calculation needs to include these parts as well. The main view, in general, is directly related to technological characteristics and financial bases. There are not many studies that focus on perceptional-psychological and instructional effects on the users and learners. The effective use of IWBs requires a new ways of strategies to gain objectives in classes and organizations with instructional variables. Thus, we need new research to clarify and support the effective use of IWBs to meet instructional, financial and technological purposes as well as teachers' and students' perceptions, awareness and preferences as psychological aspects. Because using IWBs in learning environments can work as a whole in relation to human-technology interaction in teaching and learning process, which are based on technological, psychological and pedagogical/instructional dimensions for users and educators as well as contextual facts or variables. There is a need for more research to combine and explain those variables concerning using IWBs except for a return on investment (ROI).

Using IWBs provides benefits with increasing achievements, changing attitudes about technology, gaining new instructional procedures, keeping information to use later, learning lessons, changing students' behaviors, adapting and developing instructional materials and integrating technologies effectively in the classrooms (Ateş, 2010; Kaya & Aydın, 2011; Digregorio & Sobel-Lojeski, 2010; Shi, Xie, Xu, Shi, Chen, Mao, & Liu, 2003). As a result, these studies have indicated a number of benefits associated with use of this presentation technology, instructional uses, and psychological aspects, including increased motivation, visual effects, interaction and participation in the different courses (Digregorio & Sobel-Lojeski, 2010; Glover, Miller, Averis & Door, 2007; Hall & Higgins, 2005; Higgins, Beauchamp & Miller, 2007; Lewin, Somekh & Steadman, 2008; Sherton & Pagett, 2007; Wall, Higgins & Smith, 2005; Wood & Ashfield, 2008). The studies have been strongly focused on contextual factors in education, including school culture, teacher training, time and teacher confidence, and technical support. In addition, the effects of IWBs regarding instructional variables, including perception, motivation attention, learning and level of interaction, achievement, and pedagogy have been discussed and examined as well. Future research should focus on pedagogical, perceptional considerations and human characteristics as well as technological design approaches for IWBs (see in figure 1).
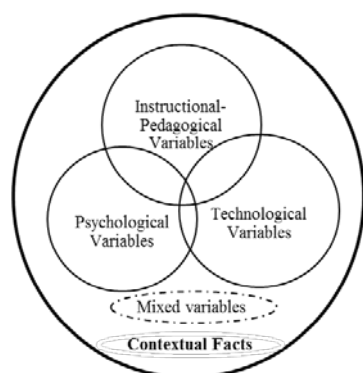
Figure 1. The relationships between variables in a framework for using IWBs

Bennett & Lockyer (2008) indicate percentage of IWB lesson time per subject area, including English, math, science, social studies and multiple subject and other. IWB lesson time according to subject area and participants in primary school classrooms is found less than 40 % of total lesson time, And using IWB lesson time decreases from English subject area to multiple subjects such as less than % 40 in English, 35% in maths, % 10 in science, % 2 social studies, and % 8 multiple subjects and other consequently. As indicated by previous studies, IWBs were used to support developed teaching styles rather than to transform teaching. There was no evidence that teachers changed their overall pedagogical approaches in response having an IWB. The IWBs were integrated into the teaching strategies that teachers taught already. Basically IWBs put in order teaching ways well with what teachers have (Bennett & Lockyer, 2008; Jewitt, Moss, & Cardini, 2007). As a result, there is no clear framework to define approaches or variables from different dimensions. IWB users need to understand these approaches for using IWBs effectively and creating instructional materials in schools and markets for the future performances.

Research Design

Research Design

The purpose of the study is to define basic dimensions and approaches with a framework for using Interactive Whiteboards (IWBs) based on literature review and research which is being conducted by researchers. For this reason, all conducted research so far was reviewed with their variables focused on research which was in a IWB framework design, and finally, related variables in using IWBs to define dimensions with this tool were defined. As a result, a framework model including instructional/pedagogical, technological and psychological variables in addition to contextual variables was presented in a figure 2 and 3 for using and designing IWBs in learning and teaching environments effectively.

Methods

Participants

The research used a descriptive statistics and analysis approach to explore the basic context, and foundations of IWBs and preferences of the participants as students and teachers. Participants of the research consist of sixty five (65) teachers who teach at the different levels of elementary and secondary schools with a thousand thirteen (1013) students who are attending those schools.

Gathering Data

The research used a descriptive statistics and analysis approach to explore the basic context, and foundations of IWBs and preferences of the participants as students and teachers. Participants of the research consist of sixty five (65) teachers who teach at the different levels of elementary and secondary schools with a thousand thirteen (1013) students who are attending those schools.

3.2.1. Teacher survey

A questionnaire was administrated to sixty five (65) teachers at the different levels of classrooms and schools at the end of fall semester 2011. The questionnaire consisted of two parts including general information items for teachers and their experiences in using IWBs and 38 statements with Likert-scale response and ranking general attitudes and preferences of teachers' related the IWB. Part one in teacher survey includes the following subjects with fourteen (14) items in details such as time of experiences, types of teaching school, using the IWB, computer literacy, using characteristics of IWB. Part two includes attitudes related to achievement, effectiveness of teaching, motivation, class participation, relationships between learning theories and using IWBs, students' preferences based on teacher opinions, integrating technologies with IWB, contribution on interaction between teacher and student, different purposes of using IWB, using in different courses, individual attitudes for using IWB in schools and classrooms, and also preferences related the IWB, teachers' feelings while using IWB.

3.2.2. Student Survey

A questionnaire was administrated to a thousand thirteen (1013) students at the different levels of classrooms and schools at the end of the fall semester 2011. The questionnaire consisted of two parts including eight-8 general information items for students' opinions using IWB and 24 statements with Likert-scale response and ranking preferences of students' reflections related the IWB. Part one in student survey deals with background knowledge about the students, including age, gender, type of schools, using time period and effects of IWB. Part two in student survey includes understanding subjects with IWB, attitudes related to learning strategies with IWB and its contributions for learning process as learning skills.

Analyzing of Data

After having responds, we reviewed both all results in literature and our research results and then use SPSS version 15 to analysis answers for each item both students and teachers. For this purpose, objectives as indicated were reviewed to explain preferences for each item. As a result, the survey items except for beginning parts are followed by a five–point Likert scale, with the alternatives labeled from 'Strongly disagree (1), to 'Strongly Agree' (5), to avoid halo effect, several questions were phrased negatively. Analyzing data intended to explain main problem and sub research problems as follows. Thus, data analysis was basically completed to clarify those questions in the paper. As a result, we made decisions about framework variables based on item responds and students' and teachers' comments in surveys and literature.

Results

A framework for using IWB was developed based on literature and responds from students and teachers to provide benefits for future experimental studies. So, the framework, not exactly a model, was considered to use or develop high level instructional design and technology materials in distance education and designing interactive e-learning (see in figure 1). Based on questionnaires, students' and teachers' responds were clarified as variables with different approaches for using IWBs and learning. Some of the varibles in a framework were given in related tables.

Students' attitudes and preferences toward the use of IWBs

The student population between 15 and 19 ages is 51% and between 6 and 14 ages is 49%. And The population consists of girls (47%) and boys (53%). Their educational level consists of elementary school students and grades 1-8 (43 %) and high school students with grades 9-12 (57%). For using IWBs before, 69% of students responded as answer yes, and 29% of students' responded no. 50% of students used IWBs more than three years and 73% of students used IWBs more than eleven hours in a week. Using for IWBs was preferred in courses as visuals (12%), numerical (41%), verbal (17%), foreign language (7%) and all of them (23%). Several

items in the student questionnaire aimed to investigate the participants' preferences toward the use of IWBs in terms of perceived affect on learning. Variables selected such as instructional/pedagogical variables were shown as sample dimensions below (see table 1).

Table 1. Students' attitudes and preferences about the use of IWBs (Instructional-Pedagogical)

		SD	D	NI	A	SA	Mean	STD
Q1- Easy to understand	F	70	57	166	456	491	4.01	1.11
	%	5.6	4.7	13.1	36.0	40.5		
Q2- Writing and drawing are well	F	40	54	92	368	459	4.14	1.05
	%	3.9	5.3	9.1	36.3	45.3		
Q14-Learning is fast and easy with	F	71	68	203	330	341	3.79	1.81
	%	7.0	6.7	20.0	32.6	33.7		
Q18-Decreased interaction with teacher	F	408	246	190	87	82	2.20	1.27
	%	40.3	24.3	18.8	8.6	8.1		
Q22-I never forget for a long time	F	96	104	276	282	255	3.49	1.23
	%	9.5	10.3	27.2	27.8	25.2		

Notes: F =frequency, SD = strong disagree, D = disagree, NI = no idea, A = agree, SA = strongly agree; STD = standard deviation

In addition, psychological variables and dimensions were presented as psychological variables which are found important for using IWBs and learning (see in table 2). And also, technological variables for using IWBs were selected from students' perspectives and shown in table 3.

Table 2. Students' attitudes and preferences about the use of IWBs (Psychological)

		SD	D	NI	A	SA	Mean	STD
Q6- Learning interesting and exciting	F	56	57	128	747	425	4.01	1.13
	%	5.5	5.6	12.6	34.3	42.0		
Q10-Keep my attention in class	F	66	94	208	311	334	3.74	1.19
	%	6.5	9.3	20.5	30.7	33.0		
Q11- More interesting and motivated	F	84	88	202	313	326	3.70	1.23
	%	8.3	8.7	19.9	30.9	32.2		
Q21-Teacher encourage us to use IWB	F	135	100	267	272	239	3.38	1.30
	%	13.3	9.9	26.4	26.9	23.6		
Q24-I like going to the front of the class	F	129	92	150	228	414	3.70	1.41

	%	12.7	9.1	14.8	22.5	40.9

Notes: F= frequency, SD = strong disagree, D = disagree, NI = no idea, A = agree, SA = strongly agree; STD = standard deviation

4.2 Teachers' attitudes and preferences toward the use of IWBs

First part of survey deals general information of teachers' with knowledge background of IWB and how often and which purposes they are using it in the different courses. Teachers who are more than 3 years and less than 12 years experience prefer using IWBs in their schools (57 %). Teachers (69%) use IWBs more than 11 hours in a week and have training for using IWBs. And teachers (56 %) also used IWB before in their class. Teachers use IWBs in their classes as verbal (26%), numerical (30%), visual (10%), foreign language (18%), and all of them (16%) respectivelyTeachers' attitudes and approaches were shown in table 4, 5 and 6 as instructional/pedagogical, psychological and technological variables and dimensions while using IWBs respectively. These variables were combined with literature variables based on the approaches and finally, all dimensions were presented to create a framework for future designer, users and educators (see in figure 2). All users should be aware of those variables and their effects while using IWBs and creating instructional materials for this tool in the schools.

Table 3. Students' attitudes and preferences about the use of IWBs (Technological)

		SD	D	NI	A	SA	Mean	STD
Q7- It seems difficult for me to use IWB	F	553	229	29	78	71	1.90	1.25
	%	54.6	22.6	8.1	7.7	7.0		
Q8- Encourage using internet/computers	F	167	133	200	215	298	3.34	1.43
	%	16.5	13.1	19.7	21.2	29.4		
Q-9-Teachers never use IWBs	F	637	192	66	66	52	1.72	1.16
	%	62.9	19.0	6.5	6.5	5.1		
Q20-Teaching with their own materials	F	59	77	133	349	395	3.93	1.16
	%	5.8	7.6	13.1	34.5	39.0		
Q23-I learn from other resources	F	82	66	165	326	374	3.83	1.2	2
	%	8.1	6.5	16.3	32.2	36.9		

Notes: F=f requency, SD = strong disagree, D = disagree, NI = no idea, A = agree, SA = strongly agree; STD = standard deviation

Table 4. Teachers' attitudes and preferences about the use of IWBs (Instructional/Pedagogical)

		SD	D	NI	A	SA	Mean	STD
Q5-increase interaction and participation	F	1	4	13	36	11	3.80	0.85

		SD	D	NI	A	SA	Mean	STD
	%	1.5	6.2	20.0	55.4	16.9		
Q11-Learning models support using IWBs	F	1	9	13	29	13	3.68	1.00
	%	1.4	12.3	17.8	39.7	17.8		
Q17-Increasing interaction with students	F	1	5	8	41	10	3.83	0.84
	%	1.5	7.7	12.3	63.1	15.4		
Q33-IWBs in class affect achievement	F	2	4	10	29	20	3.94	0.99
	%	3.1	6.2	15.4	44.6	30.8		

Notes: F=frequency, SD = strong disagree, D = disagree, NI = no idea, A = agree, SA = strongly agree; STD = standard deviation

Table 5. Teachers' attitudes and preferences about the use of IWBs (Psychological)

		SD	D	NI	A	SA	Mean	STD
Q2-Teaching process enjoyable and exciting	F	0	0	6	40	19	4.20	0.59
	%	0	0	9.2	61.5	29.2		
Q4- Keep attention longer in the class	F	1	5	11	34	14	3.85	0.90
	%	1.5	7.7	16.9	52.3	21.5		
Q6-Students are more motivated	F	0	4	8	39	14	3.97	077
	%	0.0	6.2	12.3	60.0	21.5		
Q22-Easier for me to review subject	F	2	3	5	32	23	4.14	0.87
	%	3.0	4.6	7.7	49.3	35.4		

Notes: F=f requency, SD = strong disagree, D = disagree, NI = no idea, A = agree, SA = strongly agree; STD = standard deviation

Table 6. Teachers' attitudes and preferences about the use of IWBs (Technological)

		SD	D	NI	A	SA	Mean	STD
Q12-Materials given by ministry-enough	F	8	20	22	12	3	2.72	1.05
	%	12.3	30.8	33.8	18.5	4.6		
Q14-Supports face to face/distance learn	F	1	3	18	34	9	3.77	0.75
	%	1.5	4.6	27.7	52.3	13.9		
Q28-Provides distance learning in web	F	3	7	15	33	7	3.52	0.98
	%	4.6	10.8	23.1	50.8	10.8		
Q35-Readability design is good for IWBs	F	4	7	7	41	6	3.57	1.00
	%	6.1	10.7	10.7	63.1	9.2		
Q37-Needs different literacy for IWB	F	2	9	15	30	9	3.54	1.01

		%	3.1	13.8	23.1	46.2	13.8		
Q38-IWB programming is good enough		F	4	5	13	41	2	3.49	0.92
		%	6.2	7.7	13.2	63.1	3.1		

Notes: F frequency, SD = strong disagree, D = disagree, NI = no idea, A = agree, SA = strongly agree; STD = standard deviation

As a result, with a framework and a classification table, dimensions including pedagogical/instructional, technological and psychological variables selected were shown in figure 2 in addition to interactive designs and other contextual variables. These variables can be used with different approaches as indicated in figure 1 and 2. There is an interaction as mixed variables which can be found in other approaches as well. Based on research on IWBs, some of the variables are considered and discussed for using IWBs in different environments. But there was no clear definition for creating a framework and clarification of basic dimensions in learning with IWBs as well as combining learning and designing materials for IWBs.

All findings and conclusions were also presented and discussed to develop a framework such a model at the end of study. Based on all considerations and discussions in literature and current research, a framework model was created and suggested for conducting the future research and developing high quality instructional materials for IWBs and instructional designers and teachers as given in figure 3.

Discussions and future research

This study investigated students' and teachers' attitudes toward the use of a framework of IWBs. Although there was no framework developed or model to use of IWBs, all variables in the studies were defined to classify basic steps for using IWBs in the classrooms as dimensions. Possible variables were selected from studies and the research surveys to indicate how to use and create materials for using IWBs. In general, findings are in agreement with previous research (Bennet & Lockyer, 2008; Glover, et. al 2007; Mathews-Aydınlı & Elaziz, 2010). IWBs variables were selected and shown in related tables, So, these results related to use of IWBs provide important data with variables for creating a framework. Selected statistical data is also given for future research to provide variables with designing effective materials for schools and users as well. Although IWBs are claimed to have impact on learning, this has not yet been confirmed. The effectiveness of the framework should also be examined. Future experimental studies should be conducted to explain more variables and their relationships in the approaches as well as contextual factors. Administrators, instructional designers, developers and students have strong roles to use effectively IWBs in our classrooms and investments in schools as well.

Contextual Facts
School culture
Teacher training and professional development
Time to practice, Maintenance program
Teacher practice and Preparation time, Teacher confidence
Prepare materials, Technical support and problems
Regular access to technology
Proper room arrangement and visibility, Level of interaction
Consistency of equipment and Standardization on equipment
Total cost of IWB implementation (a return on investment-ROI)
↓

Instructional-Pedagogical variables	Psychological Variables	Technological Variables

Achievement
Recall
Immediate feedback
Sequencing
Lesson planning
Performance
Planning for
  cognitive development,
  clear visual representation of
  concepts
Learning
Knowledge
Comprehension
Feedback
Instructional procedures
Type of learning
Visual effects
Pedagogy needs a new
approach
Reinforce teacher centered
instruction
Training (technical and
pedagogical)
Collaborative environment
Subject-specific learning
Measurement
Evaluation
Gender
remember
Learner characteristics
	Learning
	Perception-Novelty
	Motivation -Interest
	Attention
	Learning skills
	Learning styles
	Cognitive styles
	Cognitive learning
	Cognitive domain
	  Knowledge, comprehension
	Affective domain
	  Emotions, self-concept,
	self-esteem
	  and social interaction
	Aware of teacher's
	confidence
	Ability of using IWBs
	Attitudes
	Gender differences
	Student's attitudes
	Teacher's attitudes
	Awareness
	Remember
	Learner characteristics
	
	Mixed variables
	Learning
	Knowledge
	Interaction levels
	Motivation, Perception
	Attitudes, Preferences
	Visual learning strategies
	
	Learner characteristics
		Technology
		Computers
		Video
		Web design
		Animations
		Audio,
		Graphics
		Animations and text
		Screen design and density
		Integrating of technology
		Visuals
		Interactive
		Interactivity requires a new
		approach
		  to pedagogy
		Matching the digital culture
		Novelty factor
		Good quality IWB software
		Information-communication
		technologies (ICT)
		Quality check list-evaluation
		Computer literacy & others
		Keeping information
		Digital resources
		Programming
		Typography
		Readability
		Shapes
		Colours
		Fonts

Figure 2. Variables in a framework model for using IWBs
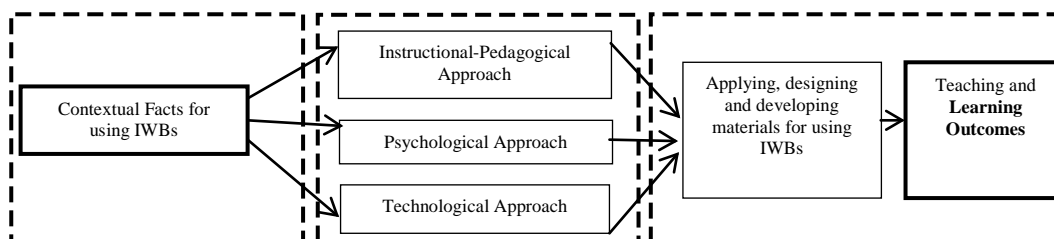
Figure 3. A framework model for using IWBs and learning

Conclusion

The study conveys ideas and approaches for using IWBs in the future applications. And it also presents basic dimensions for creating and designing high quality materials for IWBs and all board of education around the World as well as in Turkey. Programmers, instructional designers and teachers will be able to understand easily the importance of those variables and characteristics of approaches for using new learning technologies and developing high quality materials with IWBs. The study may indicate new research topics in experimental design to work on variables given on the framework for the future studies. As a pioneer of defining new dimensions and approaches on IWBs, the idea brings new concepts and working styles for designing, developing and applying instructional materials in classrooms and environments for future IWBs and people who expert in this field. As a result, students, teachers and presenters in business should focus on these approaches and variables while using IWBs and developing their materials in the future as users and developers.

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INTERARTS STUDIES IN THE ENGLISH / LITERATURE CLASSROOM

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Abstract

This talk aims at discussing the use of music, film and culture in an English (or Literature) class at college. We propose an analysis of the feature film "Once" (2006), directed by John Carney, from an intermedial perspective. The narrative is a beautifully woven patchwork of accounts, music, poetry, silence, creativity and partnership. The main characters, an Irish street musician and a young Eastern European girl, start a relationship heavily based on music. Both sing and play musical instruments. The songs they write tell the moving tale of their lives and their search for identity. Both the immigrant and the 'local' feel misplaced in Dublin, a city that comprises a great multicultural diversity. The places where they live and the language they use reflect their social background; the lyrics they write show their hope or frustration; the light in the scenes stands for their emotional state. "Once" is a kaleidoscope: it is lyrics, music, colour, images, words and silence. Everything is integrated thus ensuring that language, literature and culture are not studied in isolation. We have noticed that the use of music and film in the classroom greatly motivates the students. They seem to be eager to analyse the cultural – as well as the linguistic – aspects involved, which makes their learning (and our teaching experience) more rewarding. Therefore, we believe that the challenge of using different media in the classroom is essential: the classes become livelier and the students do participate enthusiastically.

Keywords: Music; Cinema; Culture; Language Learning; Language Teaching.

In Art, man reveals himself and not his objects.

(Rabindranath Tagore)

Introduction

Teaching English to adults at the Faculty of Arts (School of Languages / Letras) is a challenge. The classes are heterogeneous and full of students who come to college after a long working day. Most of the time, they are not motivated since they do not have knowledge enough in the target language. These are some of the aspects that have to be taken into consideration by the professors.

We have noticed over the years and after some reflection that there are some ways to instigate the students to awake their interest in their own learning process. The playful aspect is essential, but it has to be associated with

contents that enhance a broader understanding of their own world and their reality. This reflection can be done either through comparison or contrast. Whenever cultural aspects are concerned, observing and reflecting about the other lead us to a wider perspective on ourselves.

We think the use of music, films and culture in the English classes greatly contributes to the students' solid education, regarding both linguistic and cultural aspects. This paper aims at discussing the use of these resources in the classroom. Our analysis is based on the feature film "Once" (2006), written and directed by John Carney.

2. Once: a palimpsest

We have chosen this film for many reasons: it lends itself to a linguistic, cultural, musical, cinematic and poetic analysis. Set in Ireland, it approaches current subjects such as immigration and the search for identity. The lyrics, written by Glen Hansard and Markéta Irglová, who also play in the film as protagonists, reveal great dramatic poetry. Melody and lyrics complement each other and delight the audience. Involved in the story, the students greedily try to follow the narrative and grasp its nuances, complexities, its voices and silences.

Shot with not much money (only $150,000), the film portrays urban Dublin, its squares, parks, streets, pubs. Shot in only 17 days, the narrative is intense; it reveals Carney's great artistic talent, as well as Hansard's and Markéta's. The protagonists are an Irishman who sings on the streets and a young immigrant from Eastern Europe. One night, while selling "Big Issue" magazine – a magazine for the homeless –, the young girl meets the Irishman singing on Grafton Street, in downtown Dublin. In a subtle way, the film introduces the discussion about one of the central themes related to immigration: What are the professional activities that the immigrants are prepared to do? Are they skilled workers or not? Has the opening to immigration changed their profile? Are the people who arrive in the country now more – or less – prepared than before?

The Irishman and the young girl sing and play instruments. They start a relationship that is strongly based on music. Even though they are undergoing some emotional turbulence in their lives – since both live different situations and try to settle down, conquer their place and consolidate their identities –, they cannot help getting closer and closer. The story of their lives and the tender attraction that they have for each other is told through the songs they write. The songs make the narrative come alive and they become the nucleus of the film. They reveal the characters' emotions and tell the stories of their ups and downs. The main theme of the songs is a broken heart. The young man, who had been betrayed by his girlfriend who now lives in London, does not seem to have recovered from this blow. In a hilarious scene, while playing his guitar and singing, he tells his new friend that he wishes his ex-lover to die. Music is an element of extreme relevance; it catalyzes emotions, actions and interactions between the characters and it reveals the great desire to communicate that permeates all kinds of artistic expression.

Being an atypical musical, "Once" tends to certain realism when its characters work hard to write their songs. They do not come up with the lyrics and choreography readymade for a big spectacle. Maybe that is the reason why "Once" has an unusual charm. Simplicity is its secret. And it reveals itself in the poetic scene in which the girl plays the piano at the music shop. She does not have a piano at home because, according to her, the instrument is "too expensive in Ireland". The Irishman, admiring her musical skills, hums one of his own compositions and the girl plays it on the piano. They sing "Falling slowly", whose lyrics reveal their fond attachment. Curiously, this is the song that won the Oscar for best original song (2008).

Both the immigrant and the native live displaced in Dublin, a city that comprises a huge cultural variety. None of them is named: they are only "the guy" and "the girl". Some students are bothered by the fact that the protagonists have no name; they believe that not much time was dedicated into building up the characters. At this

moment, it is important to highlight that the fact that the characters have no name is an essential point of the film. This simple resource implies the universalization of the characters. At the same time that the guy and the girl live their story, their trajectory stands for the relationship between two people who meet for a reason, experience a huge and transcendental connection, but whose expectations are frustrated and they follow their ways, leaving behind the possibility to love and to surrender to it.

In Scott´s view (2007), a New York Times writer, "Once" is far from being a conventional love story. "It is, instead, the story of a creative partnership that develops by chance and that involves a deeper, riskier bond than mere sex ever could." Anyway, we can say that searching for the record of the human condition the film presents a "collection of situations which are common to all human beings and are, therefore, universal" (Brito, 2007, p.11 - our translation). Barry Divola (2007) highlights a curiosity: Markéta Irglová, the actress who plays the immigrant who comes and changes the guy´s life, figured out that real life and cinema fantasy can, sometimes, coincide: knowing Hansard for seven years, and despite the fact that he was 37 years old and she was 19, they fell in love and now they live and work together in Dublin.

Along with the songs, sounds and colors, John Carney uses flashback. He reproduces on the screen the subjective dimensions that the protagonist embodies, and skillfully introduces intervals of silence that intensify the narrative. For instance, when the protagonist remembers his ex-girlfriend, he sees himself in a garden full of daisies or remembers jumping on an elastic bed, which refers to happiness and innocence that have gone away. Carney´s language becomes richer, metaphorical; his object-glass turns into a poetic narration line that is almost intimate. The instant understanding of his visual metaphors is as important as the understanding of the words and songs that are in the film.

According to Robert Stam, the cinema, because of the heterogeneity of its materials, becomes complex and subtle. Its audiovisual nature allows

an infinitely richer *combinatoire* of syntactic and semantic possibilities. The cinema has extremely varied resources, even if some of those resources are rarely used […]. Film forms an ideal site for the orchestration of multiple genres, narrational systems, and forms of writing. Most striking is the high density of information available to the cinema. If the cliché phrase suggests that 'an image is worth a thousand words' how much more worthy are the typical film's hundreds of shots (each formed by hundreds if not thousands of images) as they interact simultaneously with phonetic sound, noises, written materials, and music? (Stam, 2000, p.12)

Using the endless cinematic possibilities highlighted by Robert Stam, John Carney prioritizes private emotion and not public moral. Tony Trace (2007), while praising the director's work, states:

Carney's romance extends beyond emotions to include a vision of modern Ireland inspired by a rose-tinted view of the past. Dublin is a place where no one has much money but everyone gets by and shares what they have. The 'locals' and the immigrants are basically the same, living classless, communal lives with open doors and shared resources.

Carney´s lenses show the unexceptional and the trivial in everyday life, which are not always visible in the speed of the urban chaos. His cinematographic language is emotional, clean and synthetic. Using humor, lyricism and an agile text, Carney reveals a contemporary Dublin that is also simultaneously displaced in time. The use of a tape recorder by the protagonists, for instance, seems to refer to a time displacement, to a certain

inadequacy of the characters as well as to their socioeconomic background. Nowadays, who would think of recording a tape?

The ties that bound the protagonists become tighter. Robert Stam (2006, p. 17) believes that

The cinema, considering its characteristic role of telling stories about humankind, has perfectly adapted to the narration of the stories of nations and empires, through projections. National self-reliance, generally seen as the precondition of nationality, i.e., the widespread belief that different men share common sources, conditions, locations and desires, was widely associated to the cinematographic fictions. [our translation]

Sharing, therefore, is the keyword. In Carney´s film, the scene in which the guy visits the girl can be read at different levels of comprehension. She lives in Mountjoy Square, a region that is inhabited by immigrants. He enters her apartment and observes. Simple furniture, precarious structure, meager lighting. The low light of the scene does not hide – on the contrary, it reveals. And it reveals the social and emotional condition of the family that hosts him. With little financial resource and a huge desire to share and learn from the other, the doors of her house are open to everybody who wants to be part of that community of foreigners who have just arrived in Dublin.

Despite the child's joy and excitement, the grandmother sleeps in the couch. Her role as a protective mother who keeps the roots and tradition that she brought from home is subtly shown. The guy is invited for dinner and he accepts immediately. The girl´s mother, who is an immigrant, refuses to use the little English that she knows. In her native language, she lets her daughter know that she thinks the guy is handsome. She prepares dinner, but she does not join them. She does watch television beside the boys from the building either. They already get into the house without asking for permission to do so. All of them are immigrants who watch the soap opera called Fair City in an attempt to learn the language from the country that hosts them. One of them, making fun of it, reproduces a speech from the soap opera: "Are you not pregnant?"

Concerning language, we can observe that the young protagonist does not speak standard English. Entering the music shop, she says that she goes there daily to play "one hour for day". The usage of "for day" instead of "a day" is a strong sociolinguistic clue. However, not speaking the language properly does not generate a distance between the girl and the boy. They get very close to each other and become good friends. Music, the universal language, brings them together and tightens their relationship.

In other moments, the slightly blurred image gives us the impression of affirming the characters' emotional instability, their doubts, uncertainties, questions. There is an intriguing scene where both (the guy and the girl) take a walk around Dublin and, from the top of a hill, they can see the sea. The sky is cloudy; the sea reflects its grayish tone. The characters look equally cloudy. The young girl confesses that she is married, and talks about her difficult relationship with her husband. The guy asks her how to say "Do you love him" in Czech and she answers, "Noor-esh-ho?". Then, he asks her, "Noor-esh-ho?", for he wants to know if the girl still has feelings for her husband. She hesitates and answers, "Noor-ho-tebbe". Without grasping the meaning of her words, the guy insists because he wants to know what she has just said. Nevertheles, she changes the subject and never reveals the meaning of the expression that meant "I love you".

John Carney´s movie has an indirect way of saying things. By means of camera movement, lighting, setting, meaningful looks and silence, many unsaid things seem to reveal to the audience. We agree with Antonio Tabucchi when he says, "I like movies about reality, but movies with symbology and metaphor. Art has an oblique way of saying things, looking for obscure areas, wreck areas. [...] Reality is important, but the filter of art is much more important" (Brito, 2007, p. 49). We can easily notice that "Once" has some of these obscure areas, which allow us to dive deeply into them. Its metaphors – visual or musical – filter reality with sophistication and elegance.

At the end of the movie we have a contradictory feeling. The love relationship between the protagonists does not take place, – which can be somewhat frustrating to the audience –, but the tenderness and affection that their

look shows indicate the transcendence of their feelings. We realize that the feeling that connects them is special and will last longer than if they had allowed their desire to blossom "only once".

3. Conclusion

Cinema and music have the magical power to awaken our imagination; their metaphors instigate reflection. Therefore, we believe that their use in the classroom must be encouraged. Even though art, for its aesthetic value, is an activity of non-utilitarian nature, we believe that it must be used in the classroom to promote more dynamic meetings and lead to deeper discussions.

In the cinema, the montage technique has improved and it has consequently "influenced other kinds of art. [...]. The usage of the portable camera and the proliferation of cameras multiplied the look properties and, in Art, they taught how to explore beauty segments which were eventually left unobserved in daily life" (Brito, 2007, p. 11). Similarly, the use of different resources in the classroom multiplies the possibilities of look and leads the student to the exploration of different areas of knowledge in a holistic way. Because of its artistic refinement as a mixture of cinema, music, poetry, culture and language all intrinsically interwoven, "Once" promotes a deep reflection on its themes and becomes a great tool to be used in the English / Literature classroom.

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INVESTIGATING THE RELATIONSHIP BETWEEN MUSICAL TRAINING AND MATHEMATICAL THINKING IN CHILDREN

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Abstract

This study examines the potential for music education to enhance children's mathematical thinking. Specification of potential cognitive correlates between musical and mathematical components is sought and underpins the design (3 variables x 2 conditions each = 6 groups). Nearly 200 children aged 7-8 years experienced weekly music lessons (duration = 9 months). Lessons emphasized melody, rhythm or form; in half of the classes, the teacher made the musical-mathematical parallels explicit.

Apart from the specific musical-mathematical foci, the lesson content was kept as constant as possible within primary school settings. Pre-tests and post-tests in musical, creative, spatial and mathematical thinking were administered. Statistical analyses will examine improvement over time while considering differences among three musical components and two conditions for each.

This research addresses concerns that governments' quests for higher standards in mathematics may result in impoverished curricula with limited access to the arts. If it is shown that musical training appears to benefit logical thinking, as hypothesized, it may add to a growing body of research suggesting that policy-makers and educationalists reconsider curriculum balance.

Keywords: music; music education; mathematics; mathematical thinking; mathematics education; cognitive correlates; spatial reasoning; spatial-temporal reasoning; Mozart Effect; Makam Effect; Ellington Effect

Introduction

The relationship between music and mathematics has been considered for millennia. Enquiries have emerged in cognitive science and educational research literature in particular over the past four decades. Why should such seemingly different domains be linked? What aspects of both are connected? Can musical training improve mathematical ability? The aim of this study is to add to the body of literature that attempts to answer these questions. In essence, this study seeks improvements in the qualities and skills that can support children's development in mathematics as concomitants of an extended course of musical training focused principally on singing.

Motivation for this study was inspired by research co-conducted by the author at the Center for Arts Education Research at Columbia University. Research at five schools for over six years revealed consistently larger improvements in standardized test scores, particularly in mathematics, by children who had studied violin at a young age in comparison to control groups in the same grade level both within the same school and beyond (Abeles & Sanders, 2006).

Linking Musical Exposure to Spatial Sense

The modern discourse regarding the primary research question here perhaps began when Rauscher and colleagues (Rauscher, Shaw, Levine, Ky & Wright, 1994) conducted an experiment with university students in which ~1/3rd of the matched groups listened to Mozart's Sonata K. 448 in D Major for 10 minutes and then took spatial reasoning tests using the Stanford-Binet Intelligence Scale. Another group listened to relaxation instructions and the other, nothing. Those who had listened to Mozart (N=36) scored 8-9 IQ points higher than the other groups; the effect lasted 15 minutes. Thus was born the phrase, "The Mozart Effect," which implies that listening to Mozart leads to higher intelligence. The findings suggest a causal relationship, specifically in spatial-temporal reasoning, not necessarily general intelligence. Yet this study should be noted with temperance due to a tendency for the findings to be exaggerated. This has occurred, sparking a commercial frenzy with claims that Mozart's music will create "Baby Einsteins." Numerous replications of the study were later conducted. In 1999, Chabris analyzed 15 of such studies and concluded that the findings were not statistically significant. However, Rauscher criticized his report, noting that certain studies should not have been included in Chabris' analysis since they had tested for general intelligence, not specifically spatial.

Hetland (2000a) conducted two meta-analyses of 36 experiments with 2,469 subjects and compared tasks that qualified as spatial-temporal (31 of 36) to other types of spatial measures (5 of 36). Contrast analysis shows that the average effect of the experiments using spatial-temporal measures alone is $r = .20$. Experiments employing only nonspatial-temporal measures produced an average effect of $r = .04$, and experiments that employed a combination of spatial-temporal and nonspatial-temporal measures showed an intermediate effect size ($r = .15$). Hetland's analyses substantiate the idea that the consequence of listening to complex music is specific to spatial-temporal thinking, more than to general spatial thinking and even more than to general intelligence.

This specificity argues against the hypothesis that arousal and mood were the causes of the enhanced spatial reasoning abilities demonstrated (Hussain, Thompson & Schellenberg, 2002). Also helping to rule out the arousal and mood hypothesis were studies that used other forms of music such as electronic dance music, which did not have the same effect. Though the dance music had an impact on levels of arousal and mood, spatial-temporal skills were significantly lower for subjects who listened to this versus the classical music. The highly organized and sequentially evolving nature of Mozart's music may explain part of this effect. Repetition of logical patterns exists within the course of multiple melodic and harmonic modulations and unexpected rhythmic and textural shifts within the overall symmetrical design. Whereas, the patterns within the popular dance music would normally be much simpler and more statically repetitive. Additionally, when subjects were asked to focus on Mozart's music, their spatial reasoning scores were higher, again suggesting that specific elements within the music itself perhaps affected the outcome.

Listening to other forms of music such as jazz or non-western music such as Indonesian gamelan music, Turkish makam or Indian raga could presumably have similar outcomes to classical music of this nature if the particular pieces are similarly complex. Interlocking rhythms and/or melodies of Indonesian, Indian, Arabic, Latin or African music are frequently comprised of multiple layers that can be highly intricate. It would be interesting to see the cognitive effects after using one or more of these types of music while including multi-

layered melodic and harmonic elements of these cultures as well. Perhaps it could then be just as appropriate to refer to this phenomenon as the Ellington Effect[37] or the Makam Effect[38].

Shortly thereafter, Rauscher and colleagues responded to challenges to go beyond listening by conducting studies that looked at the effects of training, particularly with preschool children. One study yielding statistically significant increases in spatial reasoning ability in students after months of training involved keyboard lessons and computer lessons (Rauscher, Shaw, Levine, Wright, Dennis, & Newcomb, 1997). Other responses to Rauscher and colleagues' research include replications (Vaughn, 2000), clarifications (Rauscher, Shaw, & Ky, 1995), enquiries investigating why the effect occurs (Rideout & Laubach, 1996) and attempts to generalize to other cognitive abilities (Wilson & Brown, 1997).

In an effort to thoroughly examine all of these studies, Hetland conducted meta-analyses of 19 experiments involving musical training in a variety of instruments with children ranging in age from 3-12 that met certain criteria, such as having at least one control. She implemented three meta-analyses based on outcome measurements. In line with evidence from the listening studies, categorizations were based on which spatial reasoning tests were employed in the studies. The first, which included 15 (N = 704) studies that utilized spatial-temporal tests, yielded a large average effect size by meta-analysis standards (r = .37, d = .79). The second meta-analysis included five (N = 694) studies employing nonspatial-temporal measures yielded a small average effect size of r = .08, d = .16. The third included nine studies (N = 655) that employed a variety of spatial tests (including spatial-temporal). The average effect was moderate but still relatively strong (r = .26, d = .55), indicating that spatial reasoning skills in general are enhanced via musical training but not as significantly as spatial-temporal skills are (r = .37, d = .79).

Spatial Sense and Musical Processing

As discussed, numerous studies have shown a connection between music and spatial-temporal reasoning (Rauscher, et al, 1994; Graziano, Peterson, & Shaw, 1999). Since music is sound moving in time, it seems logical that training in this domain could facilitate temporal reasoning, yet why does spatial reasoning also seem to improve with exposure to and particularly with training in music? A recent study by Spelke (2008) offers promising clues to help answer this question.

In her previous and extensive research on mathematical cognition and development, Spelke found that mathematical ability is not confined to one system in the brain. She had also been intrigued by the longstanding idea that there is a special tie between music and mathematics. Thus, when challenged to see how the arts relate to the organization of cognitive systems, she and members of her lab began a correlative study among three school age groups to see if those with music training had an associated advantage in any area of mathematical aptitude. The three studies conducted looked at levels of training from low intensity to high. Of three core mathematical abilities, the children who received moderate or intensive music training performed significantly higher on geometrical and spatial tasks. There was also an associated advantage for the music group in using number lines and maps, which utilize spatial skills as well, even when controlling for elements such as reading IQ and motivation.

In order to discover the source of these correlations, Spelke conducted an infant experiment, patterned after one that her colleagues (Carey & Srinivasan, 2008) conducted. This looked at note durations and visual objects (worms) of different lengths to see if there is an inherent perceptual relationship between musical time and visual

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[37] This particular usage of the term, "Ellington Effect" has been generated by the author for this article as both a counter and a compliment to the term, "Mozart Effect" to emphasize that music need not be of a particular style in order to cause a certain cognitive effect. It is believed by the author that the precondition is in the complexity and cohesiveness of the music, not the cultural origins. This term has been used in the past by Billy Strayhorn, a cohort of Ellington's, who once called Ellington's ability to create a unique sound via his compositions and arrangements for specific band members the "Ellington Effect" (Tucker, 1993).

[38] Makam (from the Arabic word مقام), in Turkish classical music, is a system of melody types, which contains a complex set of rules for composing and performance. These rules, however, are open for individual interpretation by the composer and performer (Beken & Signell, 2006).

space. They had presented infants with short and long note durations accompanied by corresponding short and long worms. The infants readily learned to connect the relationship. To test whether or not this was arbitrary, they presented another group of babies with the same sets of tones and worms, yet they were reverse-paired. Those infants did not learn the connection, suggesting a cognitive relationship between auditory duration and visual length that could reveal a foundational link between the perception of sound and the representation of space.

Spelke's experiment looked at pitch contour in relation to space, in this case height. Rising or descending sequences of tones were matched with corresponding heights of objects, and then reverse pairs were shown to a different group of babies. Again, the infants learned the relationship with the congruent pairs but did not learn to match the incongruent pairs, showing a connection between melodic contours and positions in space. This study suggests that an inherent relationship exists between musical and spatial processing; both may serve as a foundation for an emergence of the positive relationship between music and mathematics.

Spatial skills & numerical skills: Comparisons with musical thinking

In order to probe further into the reasons for the link between the two domains in discussion, it may be helpful to look at how children's mathematical thinking develops. Children continually attempt to organize their world by finding patterns and creating structures (Gopnik, 2004). Mathematics is an activity of organization, of problem-solving. Organizing subject matter within reality must be accomplished according to mathematical patterns in order to find solutions (Freudenthal, 1991). Music-making also requires the organization of material, and like a mathematician, the musician seeks patterns, creates structures and solves problems (Pogonowski, 1987; du Sautoy, 2007).

In agreement with van Nes and de Lange (2007), one could define a pattern as a numerical or spatial regularity and the relationship between the elements of a pattern as its structure. These researchers give examples of spatial structures that young children would normally be familiar with such as the dot configurations on dice, beads on a necklace and block constructions. If sound is considered in terms of space and patterns, a musical piece is a spatial structure made up of patterns of sound. Additionally, its standard notation is in fact a spatial structure with patterns of curves, dots and lines.

Van Nes and de Lange (p. 217) suggest that the intertwinement of different components of early spatial sense may contribute to the development of children's number sense, the discernment of quantities and relationships between numbers. In parallel, since every sound in music is spatial in some form, whether it is rhythmic, melodic, harmonic or tonal, it can be attached to a number. All of these musical components are in a specific, measurable relationship to the others within its own category as well as between categories. An understanding of these spatial-temporal and numerical elements within a piece may at least contribute to an implicit understanding of the structure of a musical composition as well as the patterns within this structure. Therefore, these spatial-numerical connections within music may help explain the potential link between musical and mathematical understandings.

Once children can imagine a spatial or temporal structure, whether visually or aurally, of a certain number of objects or sounds that are to be maneuvered, the emerging number sense, which includes knowledge of quantities as well as counting, should be largely clarified and strengthened.

Certain musical pieces are particularly effective for encouraging spatial-temporal reasoning as well as counting and accurate quantity discernment. The song America, for instance (Bernstein & Sondheim, 1957) is in a mixed meter, with alternating 6/8 and 3/4 time signatures or rhythm patterns. It provides a good opportunity to teach and learn grouping and counting skills and to alert students to the role that rhythm can play in structure as well as in more intangible ways, such as emotional response. See Figure 1 below.

Figure 1.   Below the standard method of notation shown at the top are two ways to count the song "America." Though the underlying tempo and pulse remain constant, the accents (in bold) fall on different beats as reflected by the time signature of 6/8 3/4 and are thus grouped and counted accordingly. The top row of numbers is a standard way to count in line with the underlying eighth note (or quaver) pulses within this alternating time signature. The first measure (or bar) could also be counted as two large beats, each containing three small beats within (compound duple meter, or compound time). If considered in that way, one could count, "**1** ee uh, **2** ee uh, **1** &, **2** &, **3** &." The bottom row shows an alternate way to count which points out the accents and subsequent grouping structure that is accessible to those who are not familiar with standard notation. The top method of counting is appropriate primarily for those who are learning more complex rhythm notations. This musical example is effective for teaching pattern recognition as well as the skills of counting and keeping a steady beat while accentuating certain ones. The challenge of working with the alternating patterns here also provides an opportunity to develop executive cognitive functions such as sustained attention and cognitive flexibility.

1	2	3	**4**	5	6	**1**	&	**2**	&	**3**	&
1	2	3	**1**	2	3	**1**	2	**1**	2	**1**	2

Mathematical abilities such as ordering, comparing, generalizing and classifying are supported by an ability to grasp spatial structure (Waters, 2004; NCTM, 2010). More formal, complex operations such as addition, subtraction, multiplication and use of algebraic variables, also benefit from a solid foundation in spatial reasoning (Kieran, 2004; van Nes & de Lange, 2007). Recent research has shown that children with serious mathematical difficulties tend to use minimal levels of structure if at all (Mulligan, Mitchelmore & Prescott, 2005). Thus, it seems clear that improving spatial reasoning is important for mathematical development.

Music Education in the Schools

Music may indeed provide a method for assisting growth in the area of spatial-temporal reasoning and numerical ability as discussed. This suggests possibilities for a comprehensive education that includes an inter-disciplinary approach for the enhancement of spatial learning skills. It would not be appropriate to simply substitute music training for spatial awareness guidance in the classroom, but it appears to be potentially helpful as an educational supplement for improving children's mathematical understandings. A growing body of evidence, including Hetland's meta-analyses (2000b), confirms the assumption that students improve more in both near and far transfer domains through individual lessons and when learning standard notation. Yet revelations of improvement under all conditions are strong enough to encourage the inclusion of music education in schools regardless of the level of privacy or musical reading skill taught. This consideration motivates the research described below. Final results are still to be analyzed.

Design and Methods

Overall Design

In order to test if musical training would improve mathematical thinking and further, to test if differing pedagogical emphases on specific musical elements would enhance specific mathematical correlates, an original between-groups, pretest-treatment-posttest 3x2 multivariate design was created (see Figure 2 below). Additionally, the author wanted to see if there would be a different learning outcome if mathematical links were made explicit in the lessons. Consequently, there are two independent variables: *musical training* (with three levels that reflect emphases – rhythm, pitch or structure/form) and *mathematical content explicitness* (with two levels – explicit or implicit). There are four dependent variables as measured by standardized tests: 1) *musical ability*, 2) *mathematical skills* for Year 3, as well as two cognitive constructs considered to influence analytical mathematical thinking, which are 3) *spatial-temporal reasoning* and 4) *creativity*. The chart on the following page illustrates the research design.

Figure 2. Below is the research design in terms of groups and the pretest-treatment-posttest process.

Group 1 Measurement ☐ (Pretest)	Intervention ☐ (Rhythm - Explicit)	Group 1 Measurement (Posttest)
Group 2 Measurement ☐	Intervention ☐ (Rhythm - Implicit)	Group 2 Measurement
Group 3 Measurement ☐	Intervention ☐ (Pitch Relationships - Explicit)	Group 3 Measurement
Group 4 Measurement ☐	Intervention ☐ (Pitch Relationships - Implicit)	Group 4 Measurement
Group 5 Measurement ☐	Intervention ☐ (Structure/Form - Explicit)	Group 5 Measurement

Group 6 Measurement ☐	Intervention ☐ (Structure/Form - Implict)	Group 6 Measurement

Participants

Participants, ages 7-8 (Year 3) of low-mid socioeconomic levels, were chosen from five similar state-funded schools. Out of these five schools, six groups have been identified for this experiment. Two of the schools had two classes of ~30 each and two of the smaller schools were combined into one group Therefore, each group comprised a self-contained class except for one, which comprised the two smallest classes (Group N = 25-35).

Activities within groups

The same teacher taught and conducted activities for all groups for consistency, quality and internal validity. Activities were compatible with the English National Curriculum for music in the schools (2010). Lessons were videotaped periodically, with parental permission, as well as the children's consent, for additional validity, monitoring and reference purposes.

All children received weekly 40-minute group singing lessons with additional musical activities included; the activities varied slightly depending upon the specific group. The lessons consisted of vocal technique fundamentals, discussion of ideas (plus composing for structure group), learning/singing songs, playing percussion instruments (pitched or unpitched depending upon group) and some movement, thus building up to a repertoire of eleven pieces over the ~nine months of study. All activities mentioned here were not necessarily done in one lesson.

The basic curriculum was presented to the school and parents before the start of the program. All material was appropriate for this age group and featured music from around the world – the first piece was a greeting song, which included "hello" or "good day" in eight languages. The other ten songs were all from different countries (although the structure group composed one piece, thus technically having two from England). The repertoire was selected in order to broaden the children's musical (and thus cognitive), cultural and linguistic perspectives. This author also wanted to illustrate that any cognitive development beyond normal growth would not have been due to exposure to "western art" music in particular.

Nine of the eleven songs were the same for all groups in order to keep all factors as equal as possible. Yet, the arrangements, instrumental elements and/or class discussions of the pieces varied depending upon the musical emphasis for the group. The final two pieces for each group were of the same level of challenge as the corresponding non-identical songs of the other groups and were either arranged or discussed according to the musical emphasis of the group or were inherently relevant to the musical emphasis. For example, the melody groups learned a Swiss yodeling song, while the rhythm groups learned a Scottish jig-like song. Both are folk tunes of a similar level of difficulty, the first challenges melodic awareness with sudden leaps in pitch while the second challenges rhythmic awareness particularly when including corresponding clapping and knee bending in time to the beat.

The words and music of all songs were frequently illuminated on the classroom whiteboard while the pupils learned the pieces; two weeks before the concert, they were given the lyrics to take home for additional motivation and re-enforcement. At this point, many of the children had memorized most of the lyrics. At the concert, the students sang all eleven pieces from memory (or at least it appeared so for most), which was noted by two of the head teachers after their performances. Another head teacher noted the authenticity of different cultural representations, notably the African and Japanese pieces.

It is possible that memorization of lyrics may have aided in the children's cognitive development to the degree that certain mathematical questions on the posttests requiring memory may have improved. Thus, though beneficial to the children, the language component could be a confounding factor in this experiment. On the other hand, evidence showing this potential benefit could support the use of singing in school curricula. In addition to memorizing lyrics and learning words and/or phrases of other languages, the students also memorized the specific melodic and rhythmic patterns of the music itself as well as overall structural components. Therefore, it could be argued that whether or not lyrics are involved, memory development can be an additional benefit of musical training and another reason why the link in question exists since most mathematical computations utilize some degree of memory, often both long-term and working. One might assume that both the memorization of lyrics and the music itself may have improved the students' memory capacity and usability, and even though it would be difficult to identify to what degree each had an influence, particular mathematical questions that may have benefitted most from memory development will be noted in the analysis.

The songs selected were simple enough for children yet challenging enough to encourage growth as well as the state of "flow" (Csikszentmihalyi, 1988). Flow has been described as the mental state that arises when fully immersed in an activity. Custodero, 1998, describes this phenomenon as occurring while the balance of enjoyment and challenge is optimum.

Data collection and analysis

SAT tests had been administered at the end of the school year before the experiment (at the end of Key Stage 1) and again at the end of that school year; these will be included in the final analyses. Paired sample t-tests will be used when comparing pretests and posttests within each group and two-way independent analysis of variance (ANOVA) when comparing the groups to each other and exploring their interrelationships. Two-way independent ANOVA will be used because two independent variables are being measured and each of the different participants will be contributing one score to the data (different participants took part in all conditions). However, though the six groups have been matched as closely as possible within the natural schooling system, in order to control for initial differences between groups and to minimize confounds, analysis of covariance (ANCOVA) may be used.

Implications and Conclusion

Implications

This research addresses current objectives for children's scholastic success in mathematics, which often extends to science, while at the same time considering the development of the whole child in order to foster these goals. If it can be shown that musical training enhances logical thinking, policy-makers may consider retaining or even increasing music education in schools as suggested before. What if students' spatial-temporal, pattern-recognition and problem-solving abilities are indeed improved via music lessons, which in turn support

mathematical thinking? By seeking creative ways to help children learn and develop, we would be serving children's needs, academic and beyond, responsibly and potentially more successfully.

Conclusion

Both music and mathematics are a part of our individual and collective evolution. We begin to make sense of this world even in the womb via our mother's voice and respond particularly to her singing, regardless of culture (Nakata & Trehub, 2004). We also build neural networks that process the "statistical structure of experienced events" from birth (Goswami & Bryant, 2007). Hypotheses linking the two domains have existed for thousands of years (Burkert, 1972) and are reappearing now in the wake of new opportunities for studying the brain (Schlaug, 2001; Schlaug, Norton, Overy & Winner, 2004; Fujioka, Ross, Kakigi, Pantev, & Trainor, 2006; Posner, Rothbart, Sheese & Kieras, 2008).

This research seeks to build upon existing literature and gain concrete evidence through sound methodology in order to elucidate possible causality between musical training and mathematical thinking. More research is needed, but perhaps there is enough evidence in the meantime to strengthen the discourse regarding expansive ways to enhance the educational lives of children.

Acknowledgements

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IS THE INTERNET USE AN EFFECTIVE METHOD TO COPE WITH ELDERLY LONELINESS AND DECREASE LONELINESS SYMPTOM?

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Abstract

The purpose of this research is to study whether the use of internet could be an effective method for elderly people to cope with the loneliness. In the screening study based on the relationship model, a total of 569 elderly individuals were included. The obtained results showed that higher levels of loneliness in elderly people living alone, more than the elderly using the internet, such as more use of social networks, higher education level concluded that the increase in internet usage and decreased loneliness. In general it could be stated that use of internet has an important place among methods used in dealing with loneliness of mature and adult individuals.

Keywords: Elderly, loneliness, coping, use of the internet.

Introduction

The factors affecting life quality of old age are generally seen to be related with health. Being healthy may be defined as the complete well-being of individuals physically, mentally and emotionally (Danna & Griffin, 1999). The fact that old individuals perceive life quality positively or negatively depends partially on their subjective interpretations and partially on the real events they experience (Xavier, Ferraz, Marc, Escosteguy, & Moriguchi, 2003). One of the most important structures which affect the life quality of old people is loneliness. Loneliness is the situation in which the individual feels not understood and lonely (Geçtan, 1999); an unpleasant mood experienced as a result of the difference between the current social relations and desired social relations (Pepleu and Perlman, 1981); a situation in which there are the social relations needed by the individual or different social relations, however which relations do not include intimacy, sincerity and emotiveness (Weiss, 1973). According to Young (1982), loneliness is the lack of satisfying social relations or psychological stress accompanying this lack. Loneliness is affected by subjective lives of old individuals related with incomplete, secret and social needs (Peplau & Perlman, 1982).

There are two types of loneliness experienced by the old people: social and emotional loneliness (DiTommaso & Spinner, 1997). Especially old people experience emotional loneliness more intensively (Solomon & Greenberg, 2000) and emotional loneliness is a strong predictor which affects life quality when compared with social loneliness (Salimi, 2011) Social loneliness is mostly related with aging, health problems, living in the country, low communication with friends, reducing of incomes and restriction in movements while emotional loneliness is mostly related with familial status, getting divorced or never marrying, restricted visits of children and living alone (Drennan et al, 2008).

There are many factors which affect the appearance of loneliness in old people. In the studies, low social communication, factors which result from physical and demographical conditions and which affect the

individual psychologically (Hawkley & Cacioppo, 2007), living alone, having low social communication, experiencing intensive sadness, not being visited by especially friends and siblings (Adams et al, 2004; Dugan & Kivett, 1994), loss of spouse (Yell & Lo, 2004), being divorced (De Jong-Gierveld, 1987), aging, low education level (Pinquart & Sorensen, 2001; Ernst & Cacioppo, 1999; Hazer & Boylu, 2010), being physically disabled, using drugs permanently and not having any hobbies (Arslantaş & Ergin, 2011), being deprived of social support (Drageset, Kirkevold & Espehaug, 2011), physical inactivity, various illnesses, loss of a relative, physical and mental weaknesses and reducing of incomes (Fokkema & Knipscheer, 2007), living away from sons and daughters and neighbors (Chalise, Saito, Takahashi & Kai, 2007), low self-respect, not being content with the living space and being completely dependent on others in daily activities (Hacihasanoglu, Yıldırım & Karakurt, 2012) increase loneliness in old people.

Loneliness feeling in old people brings about some psychological problems. These are high level of anxiety (Fees, Martin & Poon,1999), low self-esteem (Van Baarsen (2002), low self-respect (McWhirter, 1990), low self-sufficiency (Fry & Debats, 2002), tiredness, lack of purpose, depression, insignificancy thoughts (Luo, Hawkley, Waite , & Cacioppo, 2012), self-pity and social dissonance (Joiner, Thomas, Peter, Seeley & John,2002; Baker & Bugay,2011), sleep and anxiety disorder (Heinrich & Gullone, 2006), hopelessness, thought and attempt of suicide (Schinka, Dulmen, Bossarte & Swahn, 2012; Chang, Sanna, Hirsch & Jeglic, 2010), thought of death, withdrawing from social interaction (Ayalon & Shiovitz, 2011), social harmony difficulty (Duru, 2008).

Many methods can be used in old people to deal with feeling of loneliness. One of these methods is using computer and internet. Using computer and internet is an efficient way to increase potential of friendship and social interaction and decreasing negative feelings related with loneliness. Obtaining reliable information from internet via e-mail or other channels, participating in various friendship groups contribute to making the lives of old people more efficient (Kiel, 2005). When the researches are analyzed, it is seen that the individuals who access social network facebook page most are the ones who are the loneliest (Ryan & Xenos, 2011), old individuals experiencing loneliness problem use internet and e-mail more than the ones who do not, they get more emotional support via this method, their loneliness decreases and their life satisfaction increases through their online friendships (Martin & Schumacher, 2003), there is a negative relation between internet use and loneliness, as level of internet use increases, loneliness level decreases (Bond, Burr, Wolf, & Feldt, 2010; Carpenter & Buday, 2007) in a study on internet use, life quality and loneliness, the loneliness level of the ones who use internet decreases when compared to the ones do not and their life qualities decreases (Blazun, Saranto & Rissanen, 2012).

In a research by Turkey Geriatrics and Technologies Foundation (TUYEV) , it was found that 14% of the old people in Turkey use computer and internet, 49% of them use internet for e-mail, 44% for research, 37% to follow the news (**www.tuyev.org/haber/index.05.01.2011**); it was concluded that 87,9% of college graduates and 87,2% of faculty or higher education graduates use internet (TUİK, Turkish Households Science Technologies Use Survey, 2008). Although these rates are low, using internet as a method to deal with loneliness may be proper.

Purpose

General purpose of this paper is to determine whether internet use is efficient or not in dealing with old-age loneliness problem. To this end, answers were sought for the following questions.

Sub-Cases

Following sub-cases will be used in order to achieve the general purpose defined above.

Does loneliness level differ according to using or not using computer in old people?

Do computer use and loneliness level differ according to education level in old people?

Do computer use and loneliness level differ according to age?

Method

Participants

563 people in total, 369 of who applied to different services in Sakarya State Hospital between 10.01.2012 and 25.03.2012 and 194 of who stay in Nursing Home in provinces of Kayseri and Sakarya were taken as sample in the study which is based on relational scanning model.

Table 1. Data on the sample of the research

Internet	Gender		Total
	Male	Female	
User	185	88	273
Non-User	165	125	290
			563

Used Scale

The UCLA Loneliness Scale Short Form (ULS-8): It was developed by Russell, Peplau and Ferguson and was re-ordered in 1980 (Russell, Peplau & Cutrano, 1980). Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), criterion-related validity and internal consistency were tested. Exploratory Factor Analysis (EFA) yielded one factor accounting for 36.69% of the total variance. Confirmatory factor analysis was performed in order to verify the previously identified one factor structure of the scale obtained by the initial EFA in a sample of Turkish university students. CFA revealed that the one factor structure of the scale had a reasonably satisfactory goodness of fit. The relationship between perceived social support, social emotional loneliness and depression were examined for criterion-related validity of the scale. The ULS-8 had a positive correlation with social-emotional loneliness and depression and a significantly negative correlation with perceived social support. The correlation between ULS-8 and the UCLA Loneliness Scale was .88 (p<.001). The internal consistency of the scale was good with a Cronbach's Alpha of .72. It is a scale made of 8 items of which 6 are direct and the other 2 are reverse coded. In each item of the scale, a circumstance that states a sense or a thought about the social relation is presented and the individuals are asked to state how often they meet this circumstance, on a four point Likert scale. Higher score are accepted as a sign of loneliness that is met very occasionally. In Turkey, the validity and reliability study of the UCLA Loneliness Scale was completed by Doğan, Çötok ve Tekin (2011).

Analysis of Data

Descriptive statistics and correlation analysis with the purpose of to determine the relation between the variables were applied to the data obtained in the research and t test was made in paired comparisons. Statistical analysis was carried out using SPSS 10 program.

Findings

Hypothesis 1 - Does loneliness level differ according to using or not using computer in old people?

Table 2. Mean scores, standard deviation, t test and significance level of loneliness levels according to using or not using computer in old people

	Internet	N	Mean	St.dv.	t	P
	Use	273	17,11	2,21		
Loneliness					-9,36	.001
	Don't Use	290	20,39	4,41		

In Table 2, data on mean score, standard deviation, t test and significance level of loneliness levels of individuals who use and do not use internet in old people are given. As a result of the significance test (t-test) of the difference between two mean scores, the difference was found significant. Accordingly, the loneliness levels of old people who do not use internet are higher than those who do.

Hypothesis 2-Do computer use and loneliness level differ according to education level in old people?

Table 3. Mean scores, standard deviation, t test and significance levels of loneliness levels according to education level and internet use in old people

Education Level		Internet	N	X	St.dv.	t	P
		Use	96	19,20	2.20	-3,12	.001
	Loneliness						
Primary		Don't Use	169	23,18	4.54		
		Use	103	16,45	2,37	6.56	.000
Secondary	Loneliness						
		Don't Use	83	20,18	4,23		
		Use	74	13,24	2,20	-4.47	.001
High School or Higher	Loneliness						
		Don't Use	38	16,54	3,91		

In Table 3, data on internet use and loneliness levels according to education level are given. When the results are examined, it is concluded that as the education level increases, internet use also does and loneliness level decreases; the loneliness levels of those who do use internet are significantly lower than those who don't according to education levels.

Hypothesis 3-Do computer use and loneliness level differ according to age?

Table 4. Mean scores, standard deviation, t test and significance levels of loneliness levels according to age level and internet use in old people

Age	Internet		N	X	St.dv.	t	P
		Use	201	16.79	1.91		.001
	Loneliness					5.25	
55-60		Don't Use	89	19.20	4.20		
		Use	111	17.22	2.23	3.49	
61-65	Loneliness						.001
		Don't Use	75	20.24	5.06		
		Use	28	19.84	3.26		
66+	Loneliness					1.76	.085
		Don't Use	59	21.93	3.73		

In Table 4, data on internet use and loneliness levels according to age level are given. In the table, it is concluded that loneliness generally increases with age, internet use is the highest between ages of 55 and 65, the loneliness levels of the internet users of the individuals of 55-60 and 61-55 are significantly lower than those who don't according to the result of t test analysis and the difference between the individuals who use and do not use internet is not significant at the age of 66 and over.

Conclusions and Discussion

According to the findings obtained in the research, it was concluded that old people using internet have lower loneliness levels than those who don't; as the education level increases, internet use also does and loneliness level decreases; loneliness level increases with age and the group who uses internet most is the age range of 55-65.

According to the result of the research, old people using internet generally have lower loneliness levels than those who don't. This result proves that internet use is an efficient method to deal with loneliness in old people. In the related researches it was found that there is a negative relation between internet use and loneliness, as internet use increases, loneliness level decreases Bond, Burr, Wolf, & Feldt, 2010; Carpenter & Buday, 2007); obtaining reliable information from internet via e-mail or other channels and participating in various friendship groups contribute to making the lives of old people more efficient (Kiel, 2005), old individuals experiencing loneliness problem use internet and e-mail more than the ones who don't, they get more emotional support via this method, their loneliness decreases and their life satisfaction increases through their online friendships (Martin & Schumacher, 2003), in an experimental study on internet use, life quality and loneliness, the loneliness level of the experiment group who uses internet decreases when compared to the experiment group

who does not and their life qualities increase (Blazun, Saranto & Rissanen, 2012). Related literature supports the obtained result.

In the research, it is seen that as the education level increases, internet use also does and loneliness level decreases in old people. Using computer and internet requires a certain level of education. Having a high education level increases the desire to learn and communicate with other people. This situation helps the individual to be more active and deal with loneliness problem. When the researches are examined, it is seen that desire to learn increases computer and internet use and therefore negative emotions related with loneliness decrease as a result of the increase in friendship potential and social interaction (Kıel, 2005), as the education level increases, loneliness decreases (Pinquart & Sorensen, 2001; Ernst & Cacioppo, 1999; Hazer & Boylu, 2010).

According to the result of the research, loneliness increases with age and the one who use computer and internet most are the individuals at the age of 55-65. Separating from friends, children or neighbors, economic problems, various illnesses, living depending on other people, physical inabilities and lack of many things increase with the aging. This condition naturally brings about the loneliness problem in the old people. Researches prove that aging is the biggest factor in the occurrence of loneliness (Pinquart & Sorensen, 2001; Ernst & Cacioppo, 1999; Hazer & Boylu, 2010).

As a result, when the results and literature information are examined, they prove that internet use is an efficient method to deal with loneliness in old people. Based on these results, providing trainings and necessary opportunities for computer and internet use would be beneficial in increasing the skills of old people to deal with loneliness.

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KAYNAKÇA YAZIM STANDARTLARI VE KULLANILABILECEK YAZILIMLAR

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Özet

Bilimsel çalışmalarda kaynakça hazırlama, alıntı yapma, biçimsel özellikler vb. işlemler için birçok standart geliştirilmiştir. Bu standartlara uygun bir doküman hazırlamak bilimsel çalışmalar için bir zorunluluktur. Fakat bu standartlara uygun bir doküman hazırlamak çoğu zaman yorucu bir çalışma gerektirmektedir. İşte bu noktada bilgisayar yazılımları devreye girmekte ve bu tür çalışmalarda iş yükünü azaltmaktadırlar.

Bu çalışmada ilk olarak geliştirilen yazım standartları hakkında genel bir bilgi verilmektedir. Daha sonra bu alanda kullanılabilecek yazılımların neler olduğu, benzerlikleri ve farklılıklarına değinilmektedir. Son olarak bu yazılımlar içerisinden ücretsiz olarak sunulan Zotero isimli yazılımın kullanıma dair bilgi verilmektedir.

Anahtar Kelimeler: Yazım Kuralları, Kaynakça, Bibliyografya, Referans Yazılımları, Zotero

Giriş

Aşağıda Şekil 1'de gösterildiği gibi bilimsel araştırmalarda belli bir süreç izlenir. Bu sürecin ilk adımı konumuz hakkında daha önce yazılmış eserleri araştırmaktır. Literatür taraması olarak adlandırdığımız bu aşamayı internet üzerinden akademik veritabanlarında veya arama motorlarında gerçekleştirebileceğimiz gibi kütüphanelerden de yararlanabiliriz. Bu önemli aşamada çalışmamızın özgün olup olmadığını belirleyebilir ve çalışmamızın alanı hakkında detaylı birçok bilgiye ulaşabiliriz.
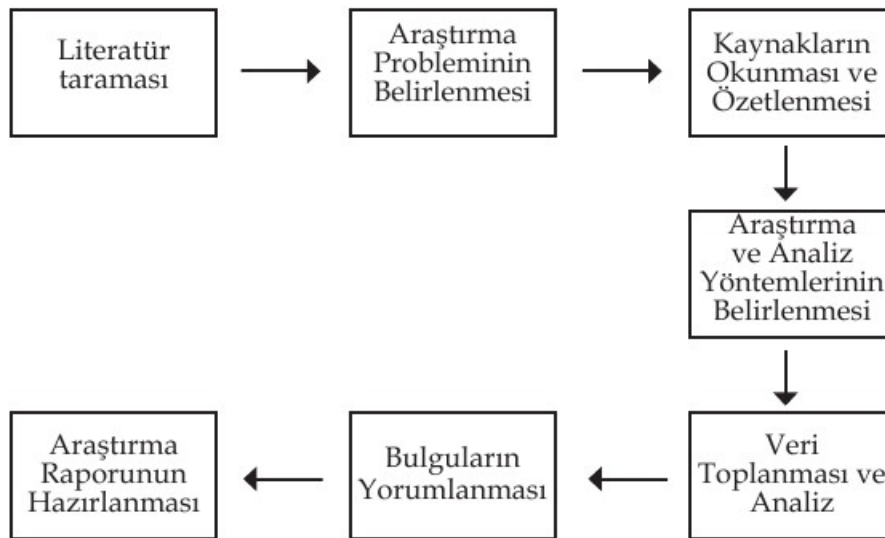
Şekil 1. Bilimsel Araştırma Süreci (Bailey, 1987)

Literatür taraması sonucu ulaştığımız kaynaklardan alıntı yapmışsak bu kaynakları bilimsel araştırma sürecinin son aşamasında (araştırma raporunun hazırlanması) belirtmemiz gerekir. Bunu yapmadığımız takdirde intihal (plagiarism) yapmış oluruz. Bu bir tür hırsızlıktır. Etik olarak hoş bir davranış değildir. Ayrıca dersten kalmak, üniversiteden atılmak ve meslekten ihraç gibi birçok olumsuz duruma yol açabilir.

Aşağıda listelenen durumlarda ise alıntılarda referans göstermeye gerek yoktur: (Şencan 2002, s. 586)

Herkesçe bilinen, herkesçe tekrarlanan terimler.

Üzerinde çok konuşulmuş ve yazılmış bulgular.

Sözlük, ansiklopedi, el kitabı bilgilerindeki anonim yazılar.

Orijinalliği olmayan gözlem ve fikirler.

Telif hakkı koruması bitmiş eserler.

Kamuoyuna açık, genel bilgiler.

Atasözleri, deyişler.

Araştırma raporunu hazırlarken belirli yazım kurallarına uymamız gerekir. Dünya çapında yaygın olarak kullanılan yazım kuralları olmakla birlikte kullanacağımız yazım kuralı araştırmamızı yayınlayacağımız kurum tarafından belirtilir. Bu nedenle çalışmalarımızı birden fazla dergide yayınlayacaksak biçimsel olarak tekrar elden geçirmemiz gerekebilir. Çünkü bu kurallar kurumdan kuruma değişebilir.

Günümüzde birçok esere elektronik ortamda ulaşabilmekteyiz. Bu eserlerin bir kısmı herkesin kullanımına açıkken bir kısmı genelde abonelik sistemi ile çalışan belirli bir ücret karşılığı yayınlara ulaşma imkanı tanıyan elektronik veritabanlarından oluşmaktadır. Örneğin ERIC (Educational Resource Information Center) veritabanı ile eğitim alanına yönelik birçok yayına ulaşabilmekteyiz. Ulaştığımız eserleri bilgisayarımıza kaydetme ve alıntı yapma noktasında yardımcı olacak birçok yazılım geliştirilmiştir. Bu yazılımların çoğunluğu ücretli olmakla beraber ücretsiz yazılımlarda bulunmaktadır.

Bu makalede ilk olarak yaygın yazım kuralları hakkında bilgi verilecek, kullanılabilecek yazılımlar tanıtılacak ve ücretsiz olarak sunulan Zotero yazılımının kullanımı hakkında bilgi verilecektir.

1.Yaygın Kullanılan Yazım Standartları

1.1. APA

APA, American Psychological Association (Amerikan Psikoloji Birliği) kelimelerinin bas harflerinin kısaltmasıdır. APA, Amerika Birleşik Devletlerinde psikoloji çalışmalarını temsil eden bilimsel ve profesyonel bir dernektir.

APA formatı APA tarafından belirlenmiş bir makale ve bilimsel yayın yazı formatıdır. Bu format bilimsel çalışmaların raporlaştırılmasında ya da yayınlanmasında ortak bir biçim kullanılmasını sağlar. Böylelikle inceleme ve değerlendirmede bir kolaylık getirmektedir. Temel olarak dergilerde yayınlanacak makalelerin biçimsel ve içeriksel yapısını belirtmek için geliştirilmiştir. İlk olarak 1929 yılında birinci sürümü basılan APA yazım kılavuzu 2010 yılında 6. sürümü yayınlanmıştır. APA yazılım kılavuzu resmi web sitesi olan http://www.apastyle.org/ adresinden APA yazım kuralları hakkında detaylı bilgiye ulaşabilirsiniz.

1.2. MLA

MLA, Modern Language Association (Modern Dil Derneği) kelimelerinin bas harflerinin kısaltmasıdır. 1883 yılında kurulan dernek günümüzde 100 den fazla ülkede yaklaşık 30 000 üyeye sahiptir. Dernek hakkında detaylı bilgi için derneğin resmi web sitesi olan http://www.mla.org/ adresini ziyaret edebilirsiniz.

MLA tarafından geliştirilen yazım kuralları edebiyat, sanat ve dil alanlarında yoğun bir şekilde kullanılmaktadır. MLA yazım kuralları hakkında detaylı bilgiye ulaşmak için Purdue üniversitesi tarafından hazırlanmış web sitesini http://owl.english.purdue.edu/owl/resource/747/01/ ziyaret edebilirsiniz.

1.3. CMS

CMS, Chicago Manual of Style kelimelerinin bas harflerinin kısaltmasıdır. İlk olarak 1906 yılında University of Chicago Press tarafından yayınlanmış yaklaşık 200 sayfalık bir kılavuzdu. Kılavuzun en son sürümü olan 16. sürümü 2010 yılında yayınlanmıştır.

Son yıllara kadar bilimsel çalışmalarda yoğun bir şekilde kullanılmış olan CMS günümüzde bu etkinliğini git gide yitirmektedir. Bununla birlikte gazete ve dergilerde hâlâ önemli oranda CMS yazım kuralları dikkate alınmaktadır. CMS hakkında detaylı bilgiye ulaşmak için resmi web sitesini http://www.chicagomanualofstyle.org ziyaret edebilirsiniz. CMS yazım kuralları hakkında detaylı bilgiye ulaşmak için Purdue üniversitesi tarafından hazırlanmış web http://owl.english.purdue.edu/owl/resource/717/01/ ziyaret edebilirsiniz

Yukarıda değinilen APA, MLA ve CMS yazım standartları arasında genel bir karşılaştırma için http://owl.english.purdue.edu//media/pdf/20110928111055_949.pdf sayfasını ziyaret edebilirsiniz.

Yukarıda bahsedilen yazım standartlarına ek olarak birçok yazım standardı bulunmaktadır. Genelde birçok kurum yaygın yazım standartlarını temel alarak kendi yazım standartlarını geliştirmişlerdir. Bütün bu yazım standartlarını bilmeniz elbette mümkün değildir. Hazırladığınız bir bilimsel araştırma raporunu farklı yazım kurallarına uygun olarak elden geçirmeniz gerekebilir. İşte bu nokta bilgisayar yazılımları sizin en büyük yardımcınız olacaktır. Şimdi bu alanda size yardımcı olabilecek yazılımlara bir göz gezdirelim.

2.Kullanılabilecek Yazılımlar

Günümüzde literatür taramasında ve araştırma raporunun hazırlanması işlemlerine yardımcı olabilecek bir çok yazılım bulunmaktadır. Bu tür yazılımlar genel olarak referans yönetim yazılımları (Reference Management Software) veya bibliyografya yazılımları olarak adlandırılmaktadırlar. Bu tür yazılımlar sayesinde internet üzerinde ulaştığımız kaynakları kolaylıkla kaydedebilir, sınıflandırabilir, alıntı yapabilir, koruyabilir, otomatik kaynakça oluşturabilir, dosyalarımızı yedekleyebilir ve hatta bunları paylaşabiliriz.

Hangi yazılımı kullanacağınıza karar vermek için belli sorulara cevap vermemiz gerekir. Kullanacağımız yazılım ücretlimi olacak ücretsiz mi? Kullandığımız işletim sisteminde (Windows, Macos, Linux vb.) çalışabilecek mi? Kullanacağımız yazım standartlarını (APA, MLA, CMS vb.) destekliyor mu? Kullandığımız elektronik veritabanlarından bilgi aktarabiliyor muyuz? Vb. soruları cevapladıktan sonra size en uygun yazılımı bulabilirsiniz.

İnternet üzerinden yayın yapan özgür ansiklopedi Wikipedia sitesinin Comparison of reference management software (Referans yönetim yazılımlarının karşılaştırılması) başlıklı sayfasında, bu alanda yer alan yazılımlar detaylı olarak karşılaştırılmıştır. Bu sayfada yer alan bilgiler ve yönlendirmeler sayesinde birçok sorunuzun yanıtını bulabilirsiniz. http://en.wikipedia.org/wiki/Comparison_of_reference_management_software adresini tıklayarak belirtilen sayfayı görüntüleyebilirsiniz. Örneğin bu alanda tüm işletim sistemlerini destekleyen bir yazılım kullanmak istiyorsak bu sayfada yer alan ve aşağıda Şekil 2'dede gösterilen tablo aracılığı ile bu yazılımların hangileri olduğunu görebiliriz. Belirtilen tabloya bakarak Zotero isimli programın yaygın kullanılan tüm işletim sistemlerinde kullanabileceğimizi rahatlıkla söyleyebiliriz.

Ek olarak internet üzerinden bu tür yazılımların web sitelerini ziyaret ederek veya bu tür yazılımları inceleyen sitelere göz atarak belirlediğiniz soruları cevaplandırabilirsiniz. Örneğin bu alanda yoğun bir şekilde kullanılan EndNote, RefWorks, Zotero ve Mendeley yazılımlarının http://libguides.mit.edu/content.php?pid=55486&sid=427307 adresinden ayrıntılı bir karşılaştırmasını bulabilirsiniz.

Birçok üniversite bu alanda ücretli olarak sunulan yazılımları veya web servislerini satın almakta, eğitim kadrosuna ve öğrencilerine ücretsiz olarak sunmaktadırlar. Üniversiteler anlaşma yaptığı elektronik veritabanlarına uyumlu yazılımları tercih ederek kullanıcıların bu kaynaklardan rahatlıkla faydalanmasını sağlamaktadırlar.

Örneğin Marmara Üniversitesi web tabanlı bir yazılım olan EndNote ile lisans anlaşması yapmıştır. Bu antlaşma çerçevesinde öğrencileri bu yazılımdan ücretsiz olarak faydalanabilmektedirler. Üniversite öğrencileri http://bilisim.marmara.edu.tr/icerik/endnote.php web sayfasını kullanarak yazılım hakkında detaylı bilgiye ulaşabilmektedirler. Sizlerde bu tarz bir yazılım kullanmadan önce kurumuzun böyle bir yazılım antlaşması olup olmadığını araştırınız.

Software	Windows	Mac OS X	Linux	BSD	Unix
Aigaion	Yes	Yes	Yes	Yes	Yes
Bebop	Yes	Yes	Yes	Yes	Yes
BibDesk	No	Yes	No	No	No
Biblioscape	Yes	No	No	No	No
BibSonomy	N/A	N/A	N/A	N/A	N/A
Bibus	Yes	Experimental	Yes	Yes	Yes
Bookends	No	Yes	No	No	No
Citavi	Yes	No	No	No	No
CiteULike	N/A	N/A	N/A	N/A	N/A
Connotea	Yes	Yes	Yes	Yes	Yes
Docear	Yes	Yes	Yes	Yes	Yes
EndNote	Yes	Yes	No	No	No
JabRef	Yes	Yes	Yes	Yes	Yes
Jumper 2.0	Yes	Yes	Yes	Yes	Yes
KBibTeX	Experimental	Experimental	Yes	Yes	Yes
Mendeley	Yes	Yes	Yes	No	No
Papers	Yes [4]	Yes	No	No	No
Pybliographer	Partial[5]	Partial[5]	Yes	Yes	Yes
Qiqqa	Yes	No	No	No	No
refbase	Yes	Yes	Yes	Yes	Yes
RefDB	Yes	Yes	Yes	Yes	Yes
Reference Manager	Yes[6]	No	No	No	No
Referencer	No	No	Yes	No	No
RefWorks[7]	Yes	Yes	N/A	N/A	N/A
Scholar's Aid	Yes	No	No	No	No
Sente	No	Yes	No	No	No
Wikindx	Yes	Yes	Yes	Yes	Yes
WizFolio	Yes	Yes	Yes	Yes	Yes
Zotero	Yes	Yes	Yes	Yes	Yes

Şekil 2. Desteklenen İşletim Sistemleri

3.Zotero

Zotero literatür taramasında ve araştırma raporunun hazırlanması işlemlerinde yardımcı olabilecek ücretsiz, açık kaynak kodlu ve yaygın kullanılan tüm işletim sistemlerinde çalışan bir referans yönetim yazılımıdır. Bu yazılım sayesinde internet üzerinde ulaştığımız kaynakları kaydedebilir, gruplandırabilir, kullandığımız diğer cihazlar arasında eşleştirebilir, kolaylıkla alıntı yapabilir, kaynakça oluşturabiliriz. Hatta kendi yazım kuralımızı geliştirebilir ve bu yazılım içerisinde kullanabiliriz.

Zotero yazılımını internet tarayıcınız (Firefox, Chrome ve Safari) ile bir arada rahatlıkla kullanabilirsiniz. Örneğin Zotero yazılımı Mozilla Firefox web tarayıcısına bir eklenti olarak kurulabilmektedir. Şekil 3'de görüleceği üzere Mozilla Firefox eklentiler (Add-Ons) sayfasından arama kutucuğuna Zotero yazdığımızda ilk sırada Zotero programının kurulumu için gerekli eklentiye ulaşabilmekteyiz.

Zotero yazılımını kelime işlemci yazılımları ile birlikte kullanabilirsiniz. Zotero Microsoft Word ve Open Office ve Libre Office yazılımları ile arada kullanabilmektedir.

Zotero yazılımı hakkında daha detaylı bilgiye resmi web sitesi olan http://www.zotero.org adresinden ulaşabilirsiniz.
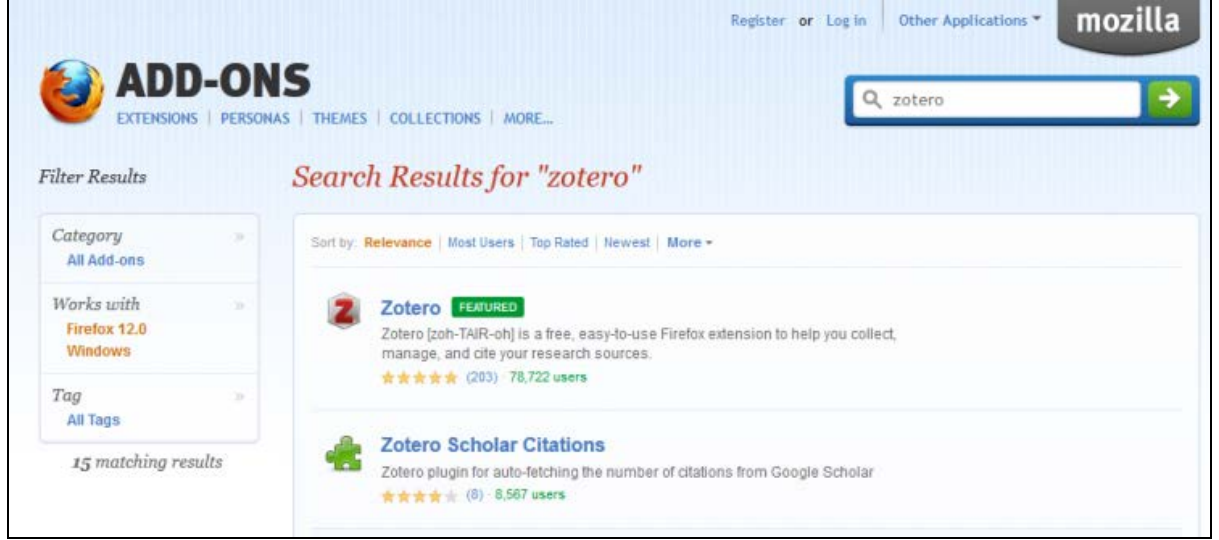
Şekil 3. Mozilla Firefox Eklentiler Sayfası

3.1. Nerden Temin Ederim

Zotero yazılımının en son sürümü olan Zotero 3.0.7 http://www.zotero.org adresinden download sayfasına tıklayarak ulaşabilirsiniz. Bu sayfada Zotero yazılımının tek başına çalışan (Standalone) Windows, Linux ve Mac OS X sürümlerini indirebileceğiniz gibi Mozilla Firefox tarayıcısına eklentisini de indirebilirsiniz. Yine bu sayfadan Microsoft Word ve Open Office ve Libre Office yazılım paketleri ile bir arada kullanabilmeniz için gerekli dosyalara erişebilirsiniz.

Zotero yazılımının boyutları kullanacağınız sürüme göre değişmektedir. Örneğin Windows sürümü 17.3 MB , Mac OS X sürümü 32.4 MB ve Firefox eklenti sürümü ise yaklaşık 3.6 MB boyutundadır.

Zotero yazılımını birçok dili desteklemektedir. Örneğin Zotero yazılımını Türkçe olarak kullanmak isterseniz gerekli olan dil dosyasını https://www.transifex.net/projects/p/zotero/ adresinden temin edebilirsiniz.

3.2. Nasıl Kurarım

Bu makalede Mozilla Firefox yazılımına nasıl kurulacağı ve çalıştırılacağı üzerinde durulacaktır.

Zotero indirme (download) sayfasından Mozilla Firefox eklentisi bağlantısına tıkladığımızda Mozilla Firefox yazılımı Şekil 4'de görüleceği bizi uyaracaktır. Bu ekrandan *İzin Ver* butonuna tıkladığımızda Zotero eklentisi bilgisayarımıza indirilecektir. Daha sonra Şekil 5'de gösterilen *Yazılım kurulumu* başlıklı bir pencere ekrana gelecektir. Bu pencereden *Şimdi kur* butonuna tıklayarak Zotero yazılımının Mozilla Firefox tarayıcısına yükleyebiliriz. Kurulum tamamlandıktan sonra Mozilla Firefox tarayıcısını yeniden başlattıktan sonra Zotero

yazılımını kullanabilirsiniz. Zotero yazılımı Mozilla Firefox tarayıcısı çalıştığı andan itibaren çalışmaya başlayacaktır. Ayrıca çalıştırmanıza gerek yoktur.
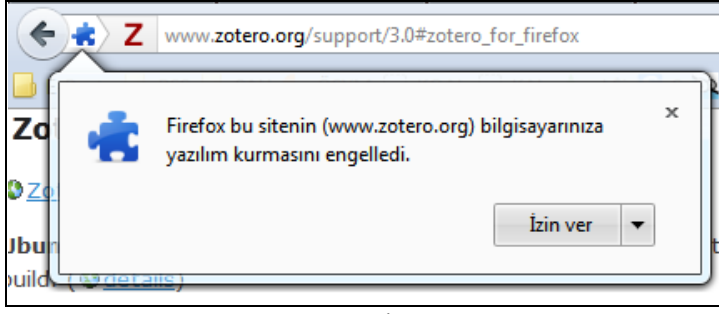
Şekil 4. Mozilla Firefox Eklenti Kurulumu İzin Ekranı
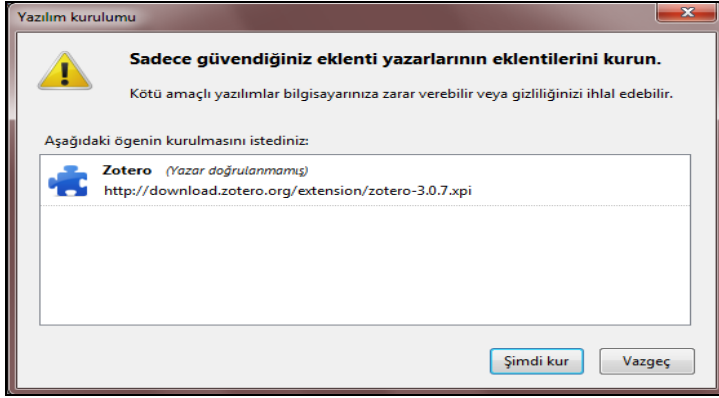
Şekil 5. Mozilla Firefox Yazılım Kurulumu Penceresi

3.3. Nasıl Kullanabilirim

Mozilla Firefox tarayıcısına Zotero yazılımını kurduktan sonra Şekil 6'da kırmızı oklarla belirtilen alanlarda görüleceği üzere tarayıcı ekranın en altında Zotero *eklenti çubuğu* ve adres yazım alanın sağında ise ufak bir sayfa simgesi yer alacaktır. Eklenti çubuğunun en sağında yer alan Zotero simgesine tıkladığımızda Zotero programının ara yüzü ekrana gelmektedir. Adres yazım alanın sağında bulunan simge ise görüntülenen sayfada yer alan dosyaları Zotero ya kaydetmenize imkân tanımaktadır. Bu simge üzerine geldiğimizde Zotero'ya kaydet mesajı görüntülenir.

Şekil 6. Zotero Eklentisi Kurulduktan Sonra Mozilla Firefox Ekranı

Zotero yazılımını rahat kullanabilmeniz için ara yüzü (GUI) hakkında bilgi edinmeniz gerekir. Şimdi Zotero yazılımının ara yüzü tanıyalım. Ara yüzü ekrana getirmek için Zotero eklenti çubuğunun en sağında yer alan Zotero simgesine tıklayalım. Şekil 7'de kırmızı çerçeve ile gösterilen alan Zotero programının ara yüzüdür. Ara yüzün üç sütundan oluştuğunu ve bu sütunların üzerinde ise bir araç çubuğunun yer aldığını görmekteyiz.
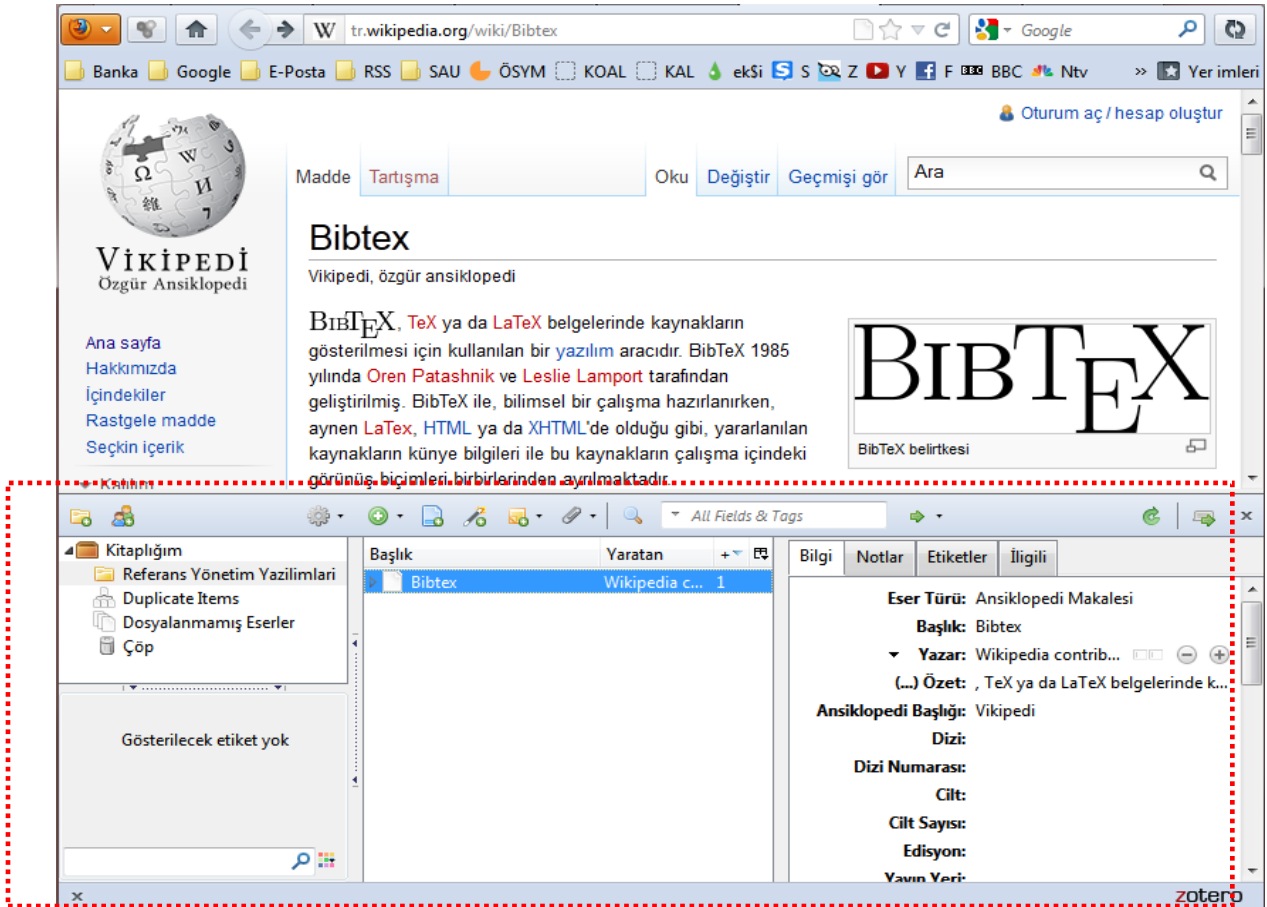
Şekil 7. Zotero Programı Ara Yüzü (GUI)

İlk olarak Şekil 8'de gösterilen Zotero ara yüzünün en üstünde yer alan simgeleri ele alalım.
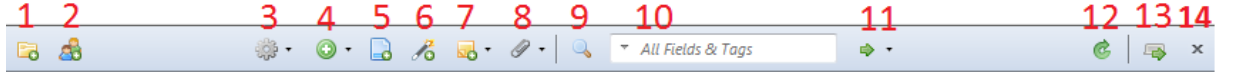
Şekil 8. Zotero Programı Ara Yüzü Araç Çubuğu

1 Nolu Simge (Yeni Derme) : Zotero programında çalışmalarımızı klasörlere ayırarak gruplandırabiliriz. Bu farklı alanlarda yaptığımız çalışmaları daha rahat yönetmemize imkân tanır. 1 nolu simge Yeni Derme olarak adlandırılmıştır. Bu simgeye tıkladığımızda bizden oluşturacağımız yeni derme için bir isim vermemizi isteyecektir. Dermeleri klasör olarak düşünebiliriz. Bu klasör içerisine çalışmamıza ait belgeleri kaydedebiliriz.

Örneğin *"BlackBox"* isimli bilgisayarımda Zotero aracılığı ile kaydettiğim dosyalar C:\Users\BlackBox\AppData\Roaming\Mozilla\Firefox\Profiles\chrch0pi.default\ klasörü içerisinde yer alan \zotero\storage\ alt klasörlerinde saklanmaktadır. Kayıt yolunu isterseniz değiştirebilirsiniz.

2 Nolu Simge (Yeni Grup) : Bir grubun üyesi olarak çalışma yürütüyorsanız grup oluşturabilir ve grup üyeleri arası veri alış verişi yapabilirsiniz. Bu simgeyi kullanabilmeniz için http://www.zotero.org web sitesinden bir hesap oluşturmanız gerekir. http://www.zotero.org sitesi üzerinden ücretsiz olarak hesap oluşturabileceğiniz gibi paralı hesap satın alabilirsiniz. Ücretsiz hesapları kullanımı için 100 MB alan tahsis edilmiştir. Ek alana ihtiyaç duyduğunuzda ücret ödemeniz gerekmektedir. Örneğin yıllık 1 GB alan için 20 $ ücret talep edilmektedir. Detaylı bilgi için http://www.zotero.org/support/storage sitesini göz gezdirebilirsiniz.

3 Nolu Simge (Olaylar) : Şekil 9-a'da görüldüğü gibi olaylar simgesini tıkladığımızda aşağı doğru bir menü açılmaktadır. Bu menü aracılığı birçok işlem yapılabilmektedir. Örneğin kitaplığımızda yer alan eserleri Bibtex formatında dışarı aktarmak istiyorsak Şekil 9-b 'de gösterildiği gibi Kitaplığı Dışarı Aktar… seçeneğini tıklayabiliriz.

Yine programımızla ilgili detaylı birçok ayarı değiştirmek istiyorsak Tercihler seçeneğini tıklayabiliriz. Örneğin dosyalarımızın kaydedildiği klasörün yolunu değiştirmek istiyorsak Tercihler seçeneğini tıkladıktan sonra karşımıza gelen pencereden veri dizini konumu başlığı altında ilgili yolu değiştirebiliriz.
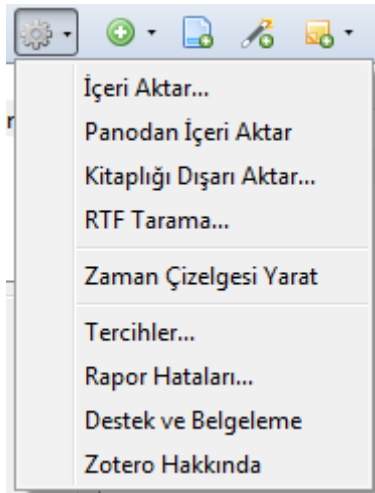
Şekil 9 (a) Olaylar Simgesi Menüsü   (b) Kitaplığı Dışarı Aktar Penceresi
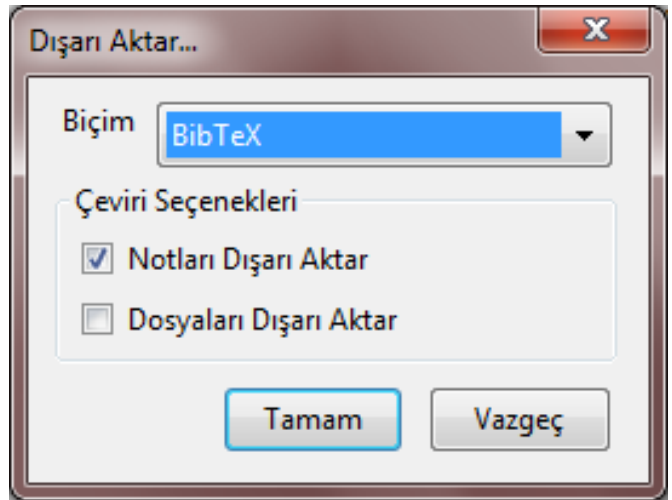
4 Nolu Simge (Yeni Eser) : Yeni Eser simgesini tıklayarak elle eser bilgileri ekleyebiliriz.

5 Nolu Simge (Geçerli Sayfadan Yeni Bir Eser Yarat) : O an ekranda görüntülenen sayfadan yeni bir eser oluşturur. Bazı web sitelerinde künye bilgileri tam olarak elde edilemeyebilir.

6 Nolu Simge (Belirteci İle Eser Ekle) : DOI, ISSN ya da ISBN numaraları ile belgelere ve künye bilgilerine ulaşma imkânı tanır. Örneğin http://dx.doi.org/ sitesini kullanarak DOI de kayıtlı bir belgeye ulaşmak yerine bu simgeyi kullanmak daha pratiktir.

7 Nolu Simge (Yeni Not) : Eserlerimiz hakkında veya çalışmamız hakkında not almak için bu simgeyi kullanabiliriz.

8 Nolu Simge (New Child Attachment) : Eserlerimiz için ekler kaydetme imkanı sunar. Örneğin eserimiz ile ilgili bir web sayfanı bu simgeyi kullanarak kaydedebilir ve eserimiz ile ilişkilendirebiliriz.

9 Nolu Simge (Gelişmiş Arama) : Kitaplığımızda yer alan eserlerimiz içerisinden detaylı arama yapmak için bu simgeyi kullanabiliriz.

10 Nolu Simge : Eserlerimiz içerisinden hızlı arama yapmak için bu alanı kullanabiliriz.

11 Nolu Simge (Yerini Belirle) : Eserimizin kaydedildiği klasöre, eserimizin görüntüsüne ve eserimizin bulunduğu web sitesine erişmek için bu simgeyi kullanabiliriz

12 Nolu Simge (Zotero Sunucu İle Eşle) : Bu simgeyi kullanabilmeniz için http://www.zotero.org web sitesinden bir hesabımızın olması gerekir. Bu simge kütüphanemizi Zotero sunucusu ile eşitler. Eserlerimizin bir kopyası Zotero sunucunda tutulur. Bu sayede kütüphanemizde yer alan eserlere internet bağlantısı olan herhangi bir yerden erişebiliriz.

13 Nolu Simge (Sekme Modunu Değiştir) : Bu simgeyi tıkladığımızda Zotero tam ekran görüntüsüne geçiş yapar. Tam ekran görüntüsünde iken tekrar tıkladığımızda normal görünüme geçiş yapacaktır.

14 Nolu Simge : Bu simgeyi tıkladığımızda Zotero ara yüzü gizlenecektir.

Zotero programının ara yüzünde yer alan sütunlar içerisinden sol sütun kitaplığımızda yer alan klasörleri görmemizi, klasörler üzerinde ekleme, çıkarma ve düzenleme yapma imkanı sağlamaktadır.

Zotero programının ara yüzünde yer alan sütunlar içerisinden orta sütun ise kayıtlı eserleri isim, yazar ve basım yılına göre sıralandığı ve çeşitli işlemler yapabildiğiniz alandır. Sol sütunda tıkladığımız klasör içerisinde yer alan eserler bu sütunda listelenecektir.

Zotero ara yüzünde yer alan sütunlar içerisinden sağ sütun ise orta sütunda seçilen eserin ayrıntılı künye bilgilerinin (eserin türü, başlığı, yazarı vb.) görüntülendiği bir alandır. Bu alanlar üzerinde değişiklik yapma imkânı da sunmaktadır.

4. Sonuç

Bu çalışmada yazım standartları ve referans yönetim yazılımları hakkında genel bir bilgi verilmiştir. Referans yönetim yazılımları içerisinde yaygın olarak kullanılan zotero programı tanıtılmıştır. Elbette bu makale eğitici bir doküman değildir. Dolayısıyla yazılım detaylı olarak ele alınmamıştır. Ama en azından okuyucuya genel bir fikir sunulmaya çalışılmıştır. Doküman içerisinde yer alan web adresleri ziyaret edildiği takdirde ayrıntılı birçok bilgiye ulaşılabilmektedir.

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LANGUAGE LEARNING APPROACHES: A REVIEW OF RESEARCH ON EXPLICIT AND IMPLICIT LEARNING IN VOCABULARY ACQUISITION

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Abstract

The crucial role of lexis in both first and second language acquisition has long been acknowledged by researchers. As Singleton (1999) aptly put it – "the major challenge of learning and using a language, whether as L1 or L2, lies not in the area of broad syntactic principles but in the 'nitty-gritty' of the lexicon". With regards to the general discussions in L2 acquisition research, one glaring issue has always been whether explicit attention to vocabulary is absolutely necessary in vocabulary learning (Hunt and Beglar, 2005; Laufer, 2005; Hulstijn, 2001; Huckin and Coady, 1999). Various studies have come up with opposing conclusions and the consensus appears to be a compromise between the incidental and the intentional, summarised fittingly by Nation (2005) in his assertion that every course should involve some deliberate attention to vocabulary. The present paper will focus on surveying and comparing the various strands of research dedicated to intentional and incidental vocabulary learning, as well as delve deeper into relevant vocabulary acquisition issues. It is hoped that the observations in this paper will constitute a body of essential empirical evidence together with theoretical insights into the vital areas of vocabulary research.

Keywords: lexis/vocabulary; L2/second language acquisition; explicit/implicit vocabulary learning

1. Introduction

1.1. The Importance of Vocabulary in Language Competence

In the old days of language acquisition, vocabulary teaching and learning were given little importance (Alemi and Tayebi, 2011). However, the scenario today is drastically different as very few language instructors – if any – would even consider overlooking the lexical dimension in their regular teaching.

In fact, language learners themselves regard vocabulary knowledge to be of primary importance and often feel that many of their difficulties in both receptive and productive language use result from inadequate vocabulary (Nation, 1990).

The crucial role that vocabulary plays in language competence has been repeatedly acknowledged, particularly so since the 1990s. Laufer (1998) stated that the most striking difference between foreign learners and native speakers is in the quantity of words each group possesses. In the same vein, Lewis (2000) argued that the single most important task facing language learners is acquiring a sufficiently large vocabulary.

The relevance of the lexical facet in language learning has resulted in a substantial amount of theoretical and empirical studies in the area. In other words, as much as vocabulary is no longer neglected in the classroom, the same goes for its status in the realm of research.

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1.2. The Explicit/Implicit Distinction

In knowledge acquisition, the distinction between explicit and implicit learning operate within definitions originating from psychology, definitions which generally highlight the presence or absence of conscious processes.

According to Ellis' (1994) terminology, implicit learning is typically defined as acquisition of knowledge by a process which takes place naturally, simply and without conscious operation, while explicit learning is said to be characterised by more conscious operation where the individual makes and tests hypotheses in a search for structure.

In the field of vocabulary acquisition, incidental learning is largely defined as the learning of vocabulary as a by-product of any activity not explicitly geared towards vocabulary learning (Rieder, 2003). In contrast, intentional vocabulary learning is defined as any activity geared at committing lexical information to memory (Hulstijn, 2001).

1.3. Past and Present – Vocabulary's Position in Language Acquisition

From the 1850s, and for approximately a century, it was via the Grammar-Translation Method that language was taught in most schools (Lowe, 2003). Vocabulary certainly did not garner as much emphasis as grammar did under the authority of the said method. In fact, as Kelly (1969) pointed out, direct instruction on vocabulary was presented only when a word exemplified a grammatical rule.

The popularity of Structuralism and behavioural psychology contributed to the Audio Lingual Method which appeared in the 1940s and lasted till the 1970s. Strong emphasis was given to the acquisition of oral skills as well as accurate form and structure, thus considerably relegating the significance of vocabulary to that of merely an accessory of other language skills (Twaddell, 1973; Fries, 1945).

After the 1970s came the Communicative Language Teaching concept and the Natural Approach, both of which were responsible for elevating and enhancing the status of the lexicon. Since then, language instructors and applied linguists have stressed on the importance of vocabulary in language teaching and learning (Carter and McCarthy, 1989; Laufer, 1986).

According to Maiguashca (1993), the lexical dimension in language teaching and learning has undergone a remarkable shift from "poor relation" to "guest of honour". This is perhaps best exemplified through Meara's (1995) observation that research on the acquisition of vocabulary has mushroomed enormously over the last 20 years to the extent that it is now almost impossible to keep up with the output, even if you hardly read anything else.

While the teaching and learning of vocabulary was unpopular in the old days, it is today at best a controversial issue. Although the current and general consensus remains that the lexical dimension is highly significant and indispensable in language learning, the teaching of vocabulary, for instance, still allows for questions like what kind of vocabulary to teach and how to teach it.

Furthermore, with regards to discussions in L2 acquisition research, one glaring issue has always been whether explicit attention to vocabulary is absolutely necessary in vocabulary learning (Hunt and Beglar, 2005; Laufer, 2005; Hulstijn, 2001; Huckin and Coady, 1999).

The present paper attempts to explore and observe the more recent studies in the area of vocabulary research. The studies that the authors have chosen for the purpose of this paper all concern the following – L2 attainment, mainstream vocabulary teaching and learning strategies, explicit/implicit vocabulary acquisition issues, and student performance.

2. Studies

2.1. First Study

One question that is frequently at the forefront of vocabulary learning is how effective extensive reading really is. According to McCarthy and Wigglesworth (2001), extensive reading will probably be the main opportunity for many learners to encounter a wide range of new words. Meanwhile, Huckin and Coady (1999) emphasised that many studies seem to indicate that except for the first few thousand common words, vocabulary learning largely transpires through extensive reading with the learner guessing at the meaning of unfamiliar words.

But Laufer (2005) suggested that extensive reading on its own may only result in relatively small gains and that reading combined with word-focused tasks is likely to be a more powerful means of vocabulary expansion. Numerous studies – particularly those on L2 learners – have also found that the use of extensive reading alone has resulted in low rates of vocabulary acquisition, demonstrating the inadequacy of this approach for L2 learners (Rosszell, 2007; Waring and Takaki, 2003; Zahar, Cobb and Spada, 2001; Horst, Cobb and Meara, 1998).

Although the present scenario seems to be in favour of a compromise between explicit and implicit lexical learning, there are still key issues that need to be delved into; the complexities of inferring word meanings, the effects of different instructional techniques, and long-term retention.

Hugh Roderick Rosszell's (2007) contribution deals with the matter of vocabulary teaching and learning through extensive reading. More precisely, he described a two-condition extensive reading programme conducted for 40 EFL students of a Japanese university which led him to conclude that an approach which couples extensive reading with intensive vocabulary study represents an option that is both more viable and effective for L2 learners.

In highlighting the questionable bias against using decontextualised study to help students with vocabulary expansion and the complexities of learning words implicitly through guessing and inferring, the study pointed out that incidental learning is best followed up with intentional learning.

This is represented by Rosszell's findings which showed a statistically significant and sustained advantage in favour of the students who experienced extensive reading complemented with intensive vocabulary study (ER+ group), as opposed to those who were not exposed to intensive vocabulary study (ER group). The participants were tested on meaning, use and recall, with the ER+ group outperforming the ER group in all three measures.

While drawing pedagogical implications (i.e., the inclusion of intensive vocabulary study can indeed boost vocabulary learning to higher levels), Rosszell also draws attention to the need for more longitudinal ER-based studies in future research.

2.2. Second Study

Over the years, the number of research dedicated to extensive reading has been steadily increasing and the same can be said for studies which highlight the use of specific reading texts/genres, as opposed to the use of multiple reading materials.

Naser Rashidi and Amir Ganbari Adivi (2010) investigated the correlation between vocabulary learning and the reading of specific short stories. One particularly interesting observation was also made by the authors regarding learner's purpose and vocabulary gain.

The research involved 40 Iranian EFL learners divided into two groups. The students in the experimental group were assigned to read five short stories for the purpose of comprehension while those in the control group were explicitly taught the target words. Both groups were homogeneous in terms of their proficiency in the English language.

The results garnered were in favour of the experimental group, revealing significant incidental vocabulary gains in comparison to the outcome of explicit instruction. It is observed that the findings appear to be inconsistent with past research (Laufer, 2005; Laufer and Yano, 2001; Cho and Krashen, 1994; Knight, 1994) in which more credit was accorded to explicit vocabulary instruction.

Rashidi and Adivi remarked that one essential factor, absent in most studies on L2 incidental vocabulary learning, was the specification of the purpose for reading. According to them, one reason why the students in the experimental group performed better might be due to the fact that a purpose was already defined for them: they had to read for the purpose of comprehension. The students must have therefore paid closer attention to the contextual clues in order to guess the meaning of the unfamiliar words they encountered in the given texts.

This might persuade one to contend that the learning process was consequently not entirely incidental, seeing that some degree of intentional attention was involved. Regarding this, the authors maintained that while the purpose of reading the texts was made known to the students of the experimental group, none of the participants were aware of the objective of the study or more importantly, that a follow-up vocabulary test would be administered.

In their summation, the authors called attention to Ellis' (2008) argument that both implicit and explicit learning are part and parcel of vocabulary acquisition. Unfortunately, the role given to incidental vocabulary learning is often a peripheral one, existing only in the presence of explicit instruction. Rashidi and Adivi asserted that specifying a purpose for reading can facilitate incidental vocabulary acquisition, and that the results of their study confirms the effectiveness of learning vocabulary via implicit means.

2.3. Third Study

Dana (2006) looked at the Grammar-Translation Method and its influence on a group of ten adult students' vocabulary acquisition. The Grammar-Translation Method of foreign language teaching, one of the most traditional methods, dated back to the late nineteenth and early twentieth centuries and was originally used to teach "dead" languages (and literatures) such as Latin and Greek (Thuleen, 1996).

The method is very much based on the written word and is focused primarily on learning the grammar rules and their application in translating texts from one language into another, with the teaching mainly made in the students' first language. Vocabulary, for the most part, is learned through direct translation from the native language and memorisation, using a bilingual word list. In terms of language skills, reading and writing are given preference over speaking and listening (Dana, 2006). Therefore, accurate use of language items is essential in this approach.

The samples in Dana's study, students of pre-intermediate level, were subjected to three 45-minute lessons followed by a vocabulary test. The theme of the lessons was food and on grammar, the researcher focused on regular and irregular verbs. The students were tested on their productive vocabulary knowledge as well as their ability to recall and place acquired vocabulary into context. An attempt was made to strike a balance between validity, reliability and practicality.

In the experiment, the students first took turns to read the text aloud which they later translated using a bilingual vocabulary list. It was then joined to the text. Then, they were drilled item by item, based on the

vocabulary and phrase pattern list. After that, the teacher would read aloud some of the words and the students would then translate them aloud in class. The lesson would then continue with the students' attention drawn to the grammar part where they would be drilled further on the irregular verbs. Students would then work in pairs, testing each other's memory. Finally, they would be asked to go back to the text, find and underline the new irregular verbs and then answered the questions asked in the text.

Dana (2006), in her study, came up with several conclusions. Firstly, she found that although the Grammar-Translation Method helped students at this level to analyse a particular language area, the range of vocabulary knowledge covered was too narrow although the students' knowledge of target vocabulary was excellent. Also, students faced problems integrating the words within context-conscious learning of rules. They were able to produce a base form of any word from the list but they tended to encounter difficulties when it came to putting the items into the correct form within a context, unless they were provided with fitting sentence structures. Students tended to regard language as an anthology of words that are independent and isolated – to be linked together to form a sentence. Dana (2006) also found that the students tended to disregard the content but were overly concerned with linguistic details. They were able to recall words in familiar sentence patterns but not so if those familiar words were to be presented in unfamiliar contexts.

Hence, Dana (2006) concluded that the Grammar-Translation Method does not lead to language acquisition and her findings supported the opinions of Thuleen (1996), Harmer (1993) and Krashen (1987) that the Grammar-Translation Method does not lead to effective vocabulary acquisition and that it should be tempered with other approaches to further promote acquisition. Thuleen (1996) went as far to say that the method may prove to be harmful to students' motivation and interest unless the students respond well to rules, structure and correction. Additionally, Harmer (1993) highlighted the difficulties of translation which requires an efficient speaker of both languages to translate well and stated that teachers should not be overly reliant on the method. Krashen (1987), who analysed the linguistic output of students from grammar translation classes, commented that it cannot lead to acquisition.

Thus, the conclusion one may arrive at is that language acquisition does not come from sheer conscious learning of rules. In this case, one may argue that deprived of a sound knowledge of the grammatical basis of the language, students may just end up possessing a string of communicative phrases that are sufficient for basic communication but which will be deemed sorely lacking when it comes to performing more refined or sophisticated linguistic tasks.

2.4. Fourth Study

Webb (2009) investigated the effects of receptive and productive learning of word pairs on vocabulary knowledge on a group of Japanese native speakers. Learning word pairs involves memorising foreign vocabulary items together with their synonyms or translations and is very much a conventional method of vocabulary learning. As described by Webb (2009), receptive learning of word pairs means first knowing a decontextualised L2 vocabulary article and then attempting to recall its L1 meaning. On the other hand, productive learning of word pairs refers to first knowing a decontextualised L1 article and then attempting to recall its L2 form.

The subjects of the study were 62 first year undergraduates attending EFL classes at a university in Japan and all of them had studied English for at least six years. Based on their scores in Paul Nation's Vocabulary Levels Test, they were deemed to possess receptive and productive knowledge of approximately 1700 of the 2000 most frequent words (Schmitt, Schmitt and Clapham, 2001; Laufer and Nation, 1999). The subjects were divided into two groups, with one group studying ten words pairs receptively and the other group studying the word pairs productively. The study was carried out within one 90-minute class period. The subjects were given six minutes to learn the ten target word pairs and were closely monitored by their teachers to ensure that the desired learning tasks were being correctly administered. Once the treatment was over, they were subjected to a vocabulary test whereby the five aspects of vocabulary knowledge – orthography, association, syntax, grammatical functions, and meaning and form – were each measured.

The results of Webb's (2009) study showed that the quantity as well as the type of vocabulary knowledge gained is considerably by the direction learning took place. Productive learning resulted in superior gains in productive knowledge of meaning, syntax and grammatical functions, and in productive as well as receptive knowledge of orthography. On the other hand, receptive learning garnered significantly larger gains in receptive knowledge of meaning. Webb's research findings lend support to previous studies on the comparison of receptive and productive learning of word pairs carried out by Mondria and Wiersma (2004), Waring (1997), Griffin and Harley (1996) and Mondria and Stoddard (1929). Given the superiority of productive learning over receptive learning, it may seem that it is the more effective method although receptive learning of word pairs is perhaps the more commonly used method.

On the whole, the findings of Webb's extensive study have shown that both productive and receptive tasks are very effective, as well as time-efficient methods of acquiring vocabulary knowledge. This gives rise to suggestions that it may be wise for researchers to use both receptive and productive tests since one task contributed to greater gains in one area while the other task achieved greater gains in another area. If only one method is used, either a productive or a receptive task, the acquisition of vocabulary may be compromised in one way or another. Vocabulary acquisition researchers such as Schmitt (2008, 2000), Hunt and Beglar (2005), Nation (2001, 1990, 1980), Prince (1996), Siebert (1930) and Thorndike (1908) had consistently found learning word pairs to be an effective method of acquiring vocabulary knowledge. In fact, Nation (2008, 2001, 1982, 1980) stated that vocabulary learning programmes should include learning word pairs because it can be a fast and efficient method of acquiring L2 vocabulary. However, decontextualised tasks have been criticised for focusing exclusively on linking L1 meaning with L2 form, and for neglecting learning from context. This has led some researchers such as Oxford and Crookall (1990), Krashen (1989) and Crow (1986) to suggest that intentional learning tasks should be discouraged and to focus more on learning from context. Webb's extensive study on the effectiveness of receptive and productive learning of word pairs has yielded valid results and coupled with the findings previous studies, it leaves little doubt on the benefits of both tasks to learners who seek to boost their vocabulary knowledge in a short period of time. Moreover, being relatively fast and efficient learning methods, it makes sense to combine them with other explicit and incidental tasks in a quest for an effective vocabulary learning programme.

3. Conclusion

We trust that the compilation of studies in this paper constitutes a body of important empirical evidence together with theoretical insights into the areas of vocabulary acquisition, teaching and assessment. As Eysenck (1982, p. 203) put it: "memory performance is determined far more by the nature of the processing activities engaged in by the learner than it is by the intention to learn per se".

Learning, whether incidental or intentional, is mainly a matter of selective attention and elaborated processing. The absence or presence of a learning intention does not play a decisive role as vocabulary acquisition is first and foremost determined by the nature and frequency of the processing of new words.

Incidental vocabulary learning is not necessarily more effective than intentional learning, nor is intentional vocabulary learning necessarily more effective than incidental learning (Brown, Waring and Donkaewbua, 2008; Laufer, 2005; Read, 2004; Nation, 2001). Hence, both the explicit and the implicit should be incorporated into the teaching and learning of vocabulary.

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LEADERSHIP SUCCESSION FOR TOMORROW'S SCHOOLS

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Abstract

The purpose of the study was to elicit perspectives from teachers and educational leaders concerning leadership succession and the motivations/readiness of professionals to assume leadership roles in schools. The study involved electronic surveys and focus group involving teachers, in-school administrators, superintendents, directors and board chairs. In total, 838 educators participated. Implications of the perceptions of these educators for succession strategy are explored, and an argument made for a systematic plan for leadership succession in schools.

Keywords: school leadership; succession; teachers; principals; administrators

1. Introduction

Leadership is critical to school and system effectiveness and, more specifically, student success. There is a growing body of research pointing to the integral relationship between school leadership and student achievement. Marzano (2003) cited a variety of studies pointing to strong relationships between leadership and mission and goal clarity, overall school climate, the attitudes and classroom practices of teachers, the organization of curriculum and instruction, and students' opportunity to learn. (p. 172).

More specifically, in a study drawing upon several bodies of knowledge, Waters, Marzano & McNulty (2003) conducted a quantitative analysis of 30 years of research (over 5000 studies), an exhaustive review of theoretical literature on leadership, and a bringing together of professional wisdom on school leadership. Those researchers demonstrated a substantial relationship between leadership and student achievement. Leithwood and others (2004), following an in-depth and extensive analysis of the effects of leadership on student learning, concluded that leadership is second only to classroom instruction among all school related factors influencing what student learn in school (accounting for about a quarter of the total effects). More recently, Beteille et al. (2009) found that school leaders' personnel management practices play a central role in school improvement. There can be no more powerful argument than the above for the devotion of time and resources to leadership sustainability and to thoughtful and proactive planning for leadership succession.

2. Challenges of School Leadership

PriceWaterhouseCoopers, in an extensive study on school leadership conducted for the U.K. Department of Education (2007), reported a clear sense among school leaders that their role has become more challenging and that the complexity and range of tasks they are required to perform has increased greatly in recent years (p. V). This report documented evidence suggesting that many school leaders are struggling to meet all the demands currently being placed on them (p. V1). The report noted that, despite a widespread recognition across the sector that an essential role of school leaders is to promote and develop the quality teaching and learning in the school, many school leaders expressed their frustration that the current environment does not allow them to be as involved in this area as much as they would like.

The PriceWaterhouseCoopers' report noted that some of the barriers to distributing leadership included the persistence of the 'hero-head' perception amongst heads themselves and their staff, coupled with parent and community expectations of an ever-present, ever-available head. (p. 1x)

The international literature on educational leadership suggests that the *ubiquity of change, complexity of the role, level of remuneration, status of the profession, legal constraints, and impact on family life* (writer's emphasis) are now seen as negative features of the principalship (Caldwell, 2002). The impact of such developments upon the available leadership pool in school systems was identified by Phillips, Raham & Renihan (2003) in their review of international state of the field.

2.1 The Growing Succession problem

In a review of the responsibilities and issues in the school principalship across jurisdictions in Canada and internationally, Phillips, Raham & Renihan (2003) noted the impending shortages for the position across jurisdictions, due to large numbers of retirements and fewer applicants for the job. They reported, "the disparity between the rapidly expanding demands and the shrinking pool of qualified and willing candidates is almost universally sounding alarms for policymakers and practitioners." (p.12).

Fink and Brayman (2006), in a Canadian study, attributed the shortage of qualified principals to the dual issues of the emphasis upon standards/standardization on one hand, and the aging baby boom generation on the other. These researchers argued that the most critical issue is not one of succession, but the limited autonomy that principals can exercise on behalf of their schools and communities.

Read (2012), in an Ontario study on preparedness for the vice principal's role, joined the variety of researchers who identified leadership succession as a critical issue in school systems, attributing its emergence as a concern to retirements, the shortage of teachers entering administration, and administrators leaving the position, due to dissatisfaction or disillusionment with the job.

Read (2012) cited rapid and deep changes that have been the forces for concomitant changes in what schools do, how they are operated and governed, and how teachers and school leaders meet their professional responsibilities.

The above issues also present serious challenges throughout the corporate world and among social services and governmental organizations. There is a growing body of literature that examines these issues and proposes alternative strategies for addressing them. Much of this literature is informative and readily applicable to succession issues experienced within the education system.

2.2 Rationale for Succession Planning

Perhaps the strongest argument for focused and concerted attention to leadership succession lies in its integral role in the *sustainability* of relevant and effective leadership throughout the organization in the longer term. In light of this point, it is hardly surprising that writers such as Hargreaves & Fink (2003, 2006) placed such heavy emphasis upon the nature of succession and the dynamics of succession planning in their discussions of leadership sustainability.

Rothwell (2005) argued that the continued survival and viability of the organization depends on *having the right people in the right places at the right time to do the right things.* He noted that when succession planning is ignored, job incumbents tend to identify and groom successors who are like themselves in

appearance, background and values, thereby fostering a type of 'bureaucratic kinship system.' According to Cohn et al. (2005) organizations that fail to prioritize succession planning end up experiencing a steady attrition in talent or retaining people with outdated skills.

The resolution of these issues lies, in part, with school leadership incumbents. According to Hargreaves & Fink (2006), "one of the best ways to secure successful succession is to spread and stretch leadership across people now, not just in the future, to distribute and develop leadership so that successors will emerge more readily and take over more easily. Distributed leadership develops capacity in others, so they can become as gifted as those who lead them and can build on their achievements." (p. 93).

Horne (2009) provided a pragmatic and useful rationale for succession management by highlighting its role in assisting organizations to answer five critical questions:

Do we have enough qualified people to fill key positions now and in the next 3-5 years?

Will we have a sufficient pool of qualified candidates ready to fill key positions in the next 5-10 years?

Do we have diversity and inclusiveness in our leadership positions?

Will we have continuity of leadership for key executive positions?

How will we retain high-potential employees? (p.1).

Horne added that *succession planning* is not *replacement planning:* that jobs and organizations change too quickly to identify potential successors based on today's criteria.

2.3 Succession Strategies

Numerous researchers have examined the impact of succession upon the cultural contexts of the workplace. Schein's (2010) work on organizational culture is valuable in this regard, and it serves as a reminder that succession is change and, as such, has implications-many of them subtle, deep and complex- for the processes, relationships and strategies associated with *the implementation* of succession plans. For this reason, the types of questions suggested in the Maryland succession planning guide (2006) present a valuable focus for contemplation.

The work of Conger and Fulmer (2003) found, from an examination of the succession practices of companies, that those who were successful in developing deep and enduring bench -strength devoted energy to the integration of two practices: *succession planning* and *leadership development* (a focus on development and leadership in action) in order to create a sustainable process for managing the talent roster across their organizations. On a similar note, Salopek (2007) emphasized the need for succession planning to go further down in organizations in order to mine employee skills both deeper and across the organization. Salopek suggested four common properties of useful and effective succession management programs: they are *dynamic* (are frequently reviewed and monitored); they are *transparent;* they are *comprehensive a*nd integrated with other talent management initiatives; and they are *aligned with corporate strategy and objectives.*

The leadership succession plan adopted by the state of Maryland (2006) is based upon a series of questions pertaining to five succession-related practices, namely: *identification, development, Promotion, movement, and retention.* In Canada, The Treasury Board of Canada (2002) developed a comprehensive guide to serve as a resource for organizations considering their own transition and succession strategies. The goal is leadership sustainability: to identify pools of leadership talent- not 'heirs to specific positions.' Mentorship as a succession strategy has received significant attention in leadership research, and there is a growing recognition

as to its potential in educational organizations. Daresh & Playko (1993) pointed to research which suggests that school leadership is enhanced when clear, focused efforts are made to help novice school leaders through their first professional duties. Crow & Matthews (1998) advocated long-term, conscientious approaches to mentorship as important means of accomplishing this, and added that support and mentoring be a career-long experience.

Read (2012) sounded a warning that teachers tend to learn about the nature and issues of the in-school administrators' roles through *incidental* observations and interactions, that might not accurately reflect the true nature of the role. She added that the leadership succession phenomenon requires *careful recruitment, support and retention of persons who are well prepared and qualified for the challenges they will face as administrators.* Read noted that, while both *incidental* and *deliberate* learning are important to the novice administrator, structured (deliberate) programs are more important for such role-specific situations as dealing with the police and social services.

3.   Purpose, Research Design and Methods

The purpose of the study was to elicit perspectives from educational leaders at the school and the system levels of the provincial k-12 system, with a view to examining the issues surrounding leadership succession and the motivations/availability of well-qualified professionals to assume leadership roles. Most significantly, the goals were: to help the major partners in education to consider the types of infrastructure and support that can most effectively address school and system leadership needs in the coming years, to identify guiding principles for succession planning for schools, and to offer recommendations for future practice and policy development.

The design of this study involved three complementary activities: a) a *survey* of teachers, In-school administrators, (principals and vice-principals), superintendents of education, directors of education and board chairs; b) several *focus groups* (72 participants) of teachers, principals, superintendents and board chairs; and, c) an *interpretive panel* consisting of representatives from a variety of professional groups. The research activities undertaken in each of these areas are described in the sections that follow.

3.1 Surveys and Focus Groups

Surveys were designed to elicit ratings and commentaries on succession-related issues from each group, and included perceptions relating to the appeal of, and levels of interest in, school leadership positions, required skills and attributes, and perceptions as to succession processes and practices in schools and school systems. Part 1 of the instrument sought demographic data on position, gender, age and experience for each participant group. Questions in Part 2 gathered ratings of the importance of factors related to the appeal of in-school leadership on a 5-point Likert scale. In Part 3, participants were asked to rate the importance of requisite skills and knowledge required for school leadership, and Part 4 elicited perceptions regarding succession processes in schools. Verbatim comments on these issues were also requested. Chronbach's Alpha scores indicated overall reliabilities of .838, for teachers (n=160); .846 for school administrators (n=507); and .776 for superintendents (n=60).

Seven focus groups representing in-school administrators, teachers, superintendents, board chairs and Ministry professionals were selected for involvement in discussions about succession held in different areas of the province following the collection of survey data. These discussions were designed to provide elaboration and depth to the themes identified in the surveys. In the presentation of data throughout this report, mean scores from

5 point Likert scales were utilized for the *quantitative* survey data. The tables representing thematic analysis of *qualitative* data utilized percentages that represented the proportion of the total number of comments per item related to each theme.

3.2 The Participants

Responses to the survey and participation in focus groups are summarized in Table 1

Table 1: Survey Returns and Focus Group Participation

Participant Group	Survey Respondents	Focus Group Participants	Total
Teachers	169	27	196
In-School Administrators	507	6	513
Superintendents	60	5	65
Directors	16	20	36
Board Chairs	14	5	19
Ministry Personnel	-	9	9
Total	**766**	**72**	**838**

As illustrated in Table 1, completed electronic surveys were received from 766 respondents (169 teachers, 507 in-school administrators, 60 superintendents, 16 directors and 14 board chairs). In addition, focus group information was shared in 7 focus groups by 72 professionals (27 teachers, 6 principals, 5 superintendents, 20 directors, 5 board chairs and 9 Ministry personnel).

The gender breakdown of the respondent groups, while fairly reflective of that of the broader population, did contrast somewhat with the provincial figures. Among our respondents, females represented the larger proportion (60%) of the teacher group, while accounting for just over 40% of the In-school administrator and superintendent respondents.The in-school administrators were quite evenly distributed among the age 31-40 (30%), 41-50 (31%), and over 50 (36%) categories. Eighty eight percent of the superintendent respondents were in the 41-50 (40%) and over 50 (48%) categories.

Over 60% of the responding 169 teachers reported over 11 years total teaching experience. Teachers were strongly represented in the older categories, with 43% of them reporting a total teaching experience of 16

years or more. Fifteen percent of the teacher group were in the 1-5 years experience category. More than 60% of the in-school administrator respondents had less than 10 years of administrative experience. Sixty six percent of the in-school administrators group identified themselves as principals, while 34% reported holding a vice/assistantship position.

When these data were examined according to type of school, vice principals represented a larger proportion among respondents from high schools (43%) than from elementary and k-12 schools (35%). In terms of gender, 37% of the female school administrators, as opposed to 32% of male administrators, identified themselves as vice-principals. Elementary schools were most strongly represented among teacher and administrator groups. High schools constituted the workplace for 24% of the teachers and 17% of the administrators.

4. Findings

Data are reported according to the level of teacher aspiration to leadership positions, the skills and knowledge they require, perceptions as to how teacher skills and interest can be enhanced.

4.1 Teacher aspiration to in-school leadership positions

Teachers were asked two questions: a). Would you consider a position as a formal teacher leader (learning leader/catalyst teacher) in the next 5 years, the next 10 years, later than that, or never? b). Would you consider a position as principal or vice-principal of a school in the next 5 years, the next 10 years, later than that, or never?

It appeared from the survey data that teachers are more amenable to assuming some sort of school-level leadership than they have ever been. Over half (56%) of the teacher respondents indicated that they would consider a teacher leadership position in the next five years. In fact, 76% indicated that they would consider a teacher leader position some time in their career. When it came to their aspirations to formal leadership positions as principal or vice-principal, however, they were less interested (43% of them responded that they would never pursue such a post) though 54% of them indicated that they would consider such positions at some time. From the thematic analysis of the many comments offered on this issue, three qualities of the work stood out as rewards for people in these leadership positions (n=507): The opportunity to influence positive change was the single most frequently mentioned reward of the role, and was the focus of 17% of the verbatim comments made. The second and third rewards (Working and building relationships with new people, and seeing students and parents progress) accounted for 14% of the comments. Taken together, these three themes represented 45% of comments offered on this question. We asked teachers (n=169) and in-school administrators (n=507) what they believed to be the level of importance of selected reasons why in-school administration might be considered a desirable position. The opportunity to help children, the opportunity to influence change and make a difference, and the opportunity to positively influence school effectiveness emerged as the three most appealing qualities of the job for both teachers and administrators.

We also inquired about those factors that serve to discourage individuals from coming forward for in-school leadership positions. For teachers, the top four deterrents to in-school administration were, in order of

frequency of mention: lack of support from central administration during change; perceived increases in the demands and workload placed upon principals; lack of time; and lack of agreement with current directions and philosophies. Principals identified the prevalence of a hegemonic culture that perpetuates the notions that they are only successful if they are 'crazy busy' and that busy people are the best example to follow. This reaction to the expectations that accompany their work was made in combination with their expressed concern that they have families and other dimensions of their lives that should not be compromised by their professional responsibilities. This tension was prevalent throughout the study. In the teachers' focus groups, opinions about the desirability of leadership as an aspiration drew varied comments, and such factors as stage of career and family priorities were natural accompaniments to those opinions. Though some teachers were adamant in their conviction that they will never don the in-school administrator's mantle, many of them were still wrangling with the decision-making process involved.

4.2 Requisite Skills and Knowledge

The survey elicited perceptions of teachers and in-school administrators and directors as to the skills and knowledge required by school administrators. Data related to this area are summarized in Table 2. As the data illustrate, the perceptions of teachers, in-school administrators and directors reflected a high concurrence on most items across the three groups.

It is worth noting that the top five items related to human relations qualities: the ability to communicate and relate on an interpersonal level.

Table 2: Requisite Skills and Knowledge for Principals

Skills/Knowledge Item	Mean Rating 5-point scale		
	Director	Admin	Teacher
Communicating effectively with staff	4.9	4.8	4.8
Engaging parents/community	4.8	4.7	4.7
A caring Disposition	4.5	4.7	4.6
Connecting with children and youth	4.7	4.7	4.5
Providing a sense of school vision	4.8	4.6	4.4
Involving others in leadership	4.7	4.5	4.4
Leadership for staff development	4.7	4.4	4.4
Knowledge of instructional strategies	4.5	4.4	4.3

Instructional supervision skills	4.6	4.3	4.2
Planning/organizing the school's regular activities	4.5	4.3	4.2
Ability to provide leadership for cultural diversity	4.6	4.2	4.2
Knowing classroom assessment trends	4.5	4.3	4.1
Knowledge of child development	4.2	4.1	4.1
Legal knowledge of the principal's role	3.9	4.0	4.2
Knowledge of budgeting	3.8	3.7	3.9

Perhaps our groups of participants saw these qualities as foundational for critical *skills* in such areas as instructional leadership, supervision and conflict management that were identified as important. Respondents provided a wealth of explanation and elaboration on these priorities by way of verbatim comments contributed in the surveys and in focus groups.

We also asked leadership incumbents to reflect upon where they initially felt *deficient* in their roles. The major areas of perceived deficiency were, in order of frequency of mention: *Instructional leadership and staff development, budgeting; school law; and conflict resolution.* These four factors accounted for 67% of all the responses to this question. The volume of commentary among school administrators on the *instructional leadership as an area of deficit* warrants further comment. When this function (or set of functions) is considered in combination with related aspects of the role, such as knowledge of instructional strategies, and leadership for school and classroom assessment, it assumes even greater significance as an area requiring serious attention in school and system leadership professional planning, graduate programs and the roles of support agencies.

The most clear and pervasive message that echoed consistently throughout the perceptions described in this section was that *communication and basic human relations skills* comprise a critical prerequisite for successful in-school leadership. These, together with the establishment of effective and positive relationships with staff, parents, community and children emerged as central *human relations priorities.* However, certain *knowledge areas* emerged as priorities for consideration. In this respect, attention to *instructional leadership skills, budgeting, law and conflict resolution* were priorities in professional development and readiness plans among practicing and prospective administrators.

Though the practice has often been that the above qualities and skills are learned 'on the job,' there was a strong sense among respondents that we can do better. Mechanisms for their development require attention on the part of aspirants themselves (which tends to be a hit and miss affair) but also on the part of senior leaders in school systems and others with a professional interest in preparing professionals for school leadership.

4.3 Enhancing Leadership Skills and Interest: Building the Infrastructure

We asked teachers, in-school administrators, superintendents and directors for their perceptions as to how teacher interest in school leadership can be enhanced. Thematic analyses of their perceptions revealed numerous strategies. **For teachers,** the top four strategies for enhancing teacher interest were*: promoting support for the role at the division level, increasing rewards associated with in-school leadership, initiating more leadership development and graduate study opportunities, and more respect for the time demands of the job.* These four strategies accounted for 46% of all teacher comments made on this question.

Among in-school administrators, *the availability of relevant leadership preparation programs* was clearly the top priority. Other priorities included *improved benefits, building shared leadership opportunities and developing leadership academies.* The administrators, in their focus groups, discussed their responsibilities in preparing the next cycle of leaders, noting that one of the most effective ways to encourage people to consider leadership is to model the positive aspects of the job. The point was made that an important part of school and system leaders' work is to develop the talent base through two concomitant activities: *first, recognizing potential leaders within the context of their work, and second, providing support to their leadership development.* Administrators made a call for experiential opportunities and hands-on activities for interested teachers at the school level, opportunities for *acting* positions, and opportunities for observing and working with, school leaders.

Across all groups, there was a strong realization that the enhancement of professional readiness for in-school leadership will occur, not merely through random, isolated activities, but through well-planned programs that incorporate thoughtful incorporation of initiatives that are *experiential, informational, skill oriented, mentorship-based, and strategically designed* in keeping with the vision and directions of schools and their broader systems.

5. Concluding Comments

The lack of availability of well-qualified applicants for the principalship/headship emerged in this study as the most critical succession and leadership sustainability issue. The introduction of *teacher leadership initiatives* within schools has the potential to provide impetus and valuable focus to initiatives designed to enhance the learning and professional environment of schools. It also seems to be having the impact of increasing the level of interest in school administration among school professionals, and this represents a logically sound argument for formalizing teacher leadership in schools. This is likely a major explanation as to why the argument for distributed leadership has found favour in major school leadership succession studies, such as that conducted by PriceWaterhouseCoopers in the United Kingdom (2007). I*ssues relating to in-school administrator workload, a lack of time to meet the expectations of the vice-principals' and principals' roles, and a perceived lack of support provided by senior leadership, particularly in times of significant change, emerged from the data as key deterrents to teacher interest in these roles.* These are issues that have consistently been raised in previous studies of school leadership succession. Questions related to the extent to which these issues are amenable to strategic action in succession plans are worthy of consideration.

In light of the above points, it is hardly surprising that the *role image* of in-school administration emerged from this study as an important foundational succession strategy. The appealing aspects of leadership roles, and the rewards and joys of the job (such as *the opportunity to help children, the opportunity to influence change and make a difference, and the opportunity to positively influence school effectiveness*) is valuable knowledge to convey to those pondering the possibilities of these roles. On a related point, we were surprised at the lack of knowledge, among school professionals, as to the nature of the work of in-school leaders. We would agree with the warning sounded by Read (2012) that teachers tend to learn about the nature of the in-school administrator's role through *incidental observations* and interactions that might not accurately reflect the true nature of the role.

In this study, there was a greater emphasis upon work-life balance and the importance of family as critical aspects of career decisions than was the case in prior studies of in-school leadership. This has emerged as a central factor in teacher aspirations to in-school administration and, indeed, aspirations to leadership positions throughout the hierarchy.

Valuable insights into preparation and in-service needs were provided by the information shared by teachers and school administrators regarding their leadership deficiencies, needed skills and perceived strengths. This presents an opportunity for professional development centres and support agencies to gauge the continuing relevance of current delivery strategies and the substantive content of their offerings. The call for decentralized, community-based graduate programs, with attention to local/professional leadership contexts in their content and modes of delivery was strong in this study.

The above points, and others emerging from this study, represent topics for much-needed conversations across the education sector. The time is right for sector-wide discussion of matters (such as leadership succession and sustainability) that demand broader consideration. The growing research evidence pointing to the integral role of school leadership in student learning (Beteille, e al., 2009; Leithwood et al., 2004; Waters et al., 2003) constitutes in itself an eloquent argument for the elevation of leadership succession to sector-wide attention.

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LEARNERS' PERCEPTIONS OF SUSTAINED SILENT READING PRACTICES IN TERTIARY CLASSROOMS

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Abstract

The classroom use of independent reading primarily grew out of concerns for students' reading achievements. Various studies have indicated that engagement in Sustained Silent Reading (SSR) improves not only students' reading skills but also their attitude towards reading itself, an activity that many rarely associate with pleasure. SSR is a programme based on the belief that self-selection, among other factors, motivates learners to read with interest and works towards helping them feel that reading is an oasis rather than a burden. In turn, this produced other benefits; beyond improving students' attitude towards reading, silent reading programmes have also helped learners in terms of spelling, writing and vocabulary gains, as well as in developing their reading speed and reading comprehension skills (Birmingham, 2006; Gardiner, 2001; Weller and Weller, 1999; Arthur, 1995; Dwyer and West, 1994; Krashen, 1993). Although evidently advantageous to language learners, effective implementation of an SSR programme still depends largely on the discernments of those who stand to benefit the most from it. The results of this research specifically captures the perceptions of Universiti Sains Malaysia undergraduates with regards to SSR, and it is hoped that the information gained from these responses will assist in providing direction for educators who are interested in incorporating SSR into their respective literacy programmes.

Keywords: independent reading; Sustained Silent Reading (SSR); attitude towards reading; reading achievement; language skills; student perceptions

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1. Introduction

1.1. Reading for Pleasure

Before the dawn of the silver screen, televisions and computers, reading was a primary leisure activity. People would read for hours on end and many would "travel" the voyages of their books' characters. It is nothing less than tragic that people have forgotten the passion to read and that today's young have disregarded the significance of reading. Some even find reading a chore when it is in fact an indulgence that enhances knowledge and creates understanding.

Educators and researchers frequently advocate reading for pleasure in classrooms. Research strongly supports it as a primary tool for improving reading speed, reading comprehension, writing, spelling, grammar, and passive as well as active vocabularies among students (Birmingham, 2006; Gardiner, 2001; Weller and Weller, 1999; Arthur, 1995; Dwyer and West, 1994; Krashen, 1993; Foertsch, 1992; Anderson, Wilson and Fielding, 1988; Nagy, Herman and Anderson, 1985).

Storey (1993) and Modleski (1982) highlighted that reading for pleasure provides a terrain on which to dream, with fantasies that both reflect and counter the very real problems and tensions in people's lives. This, at the very least, generates a magnetic appeal that encourages people to read, and eventually make a habit out of it.

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Offering pleasure reading to English language learners work towards helping them feel that reading is an oasis, rather than a burden. With regards to students in a literacy programme, practitioner-researcher Donna Earl (1997) reported that providing learners the opportunity to read high-interest, easy-to-read materials is one factor in enabling learners to learn to love reading. In essence, when a student enjoys reading, it generates his or her motivation to continue reading, thus creating an avenue for effective learning to take place. For instance, Cho and Krashen (1994) found that women studying English for Speakers of Other Languages who read romance novels – the Sweet Valley series – felt that these readings actually increased their interest in reading and also consequently enhanced their vocabularies.

1.2. Interest and Motivation in Language Learning

Over the years, interest and motivation have been central areas of research within the context of language learning, especially second language acquisition. Most findings concur that these elements play a crucial role with regards to a learner's achievement.

According to Gardner (2000), a highly interested and motivated individual will want to learn the language, enjoy learning the language and strive to learn the language. In the context of a language classroom, the learning condition generally includes elements such as learning materials and activities. The learner's attitudes towards these core elements will influence his or her interest, motivation and orientation. Positive attitudes towards these elements will likely produce greater enjoyment in the study of the language, desire to learn the language, and effort expended in learning the language (Liuoliene and Metiuniene, 2006).

In other words, if an English language student forms positive attitudes towards the learning materials and activities that are used in his or her language classroom, he or she will most probably experience more enjoyment in learning English, have more desire to learn English, and put in more effort in learning English.
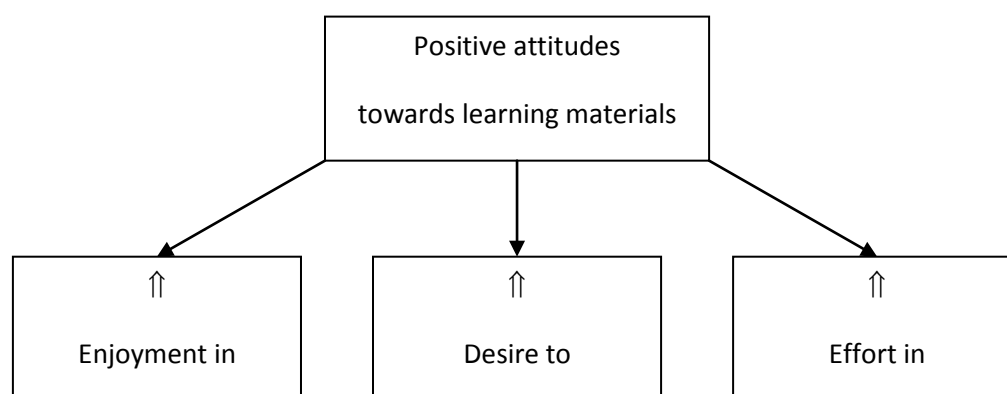
Fig. 1. Outcome of Learners' Attitudes towards Learning Conditions

Hussin, Maarof and D'Cruz (2000) commented that a persistent problem faced by many English language instructors is the attempt to sustain genuine interest and motivation in the learning of the language (see also O'Flahavan et al., 1992). A vast amount of research supports the idea that motivation plays a major role in learning (McCombs, 1989; Deci and Ryan, 1985; Dweck and Elliot, 1983), with motivation frequently making the difference between learning that is temporary and superficial, and learning that is permanent and internalised (Oldfather, 1993).

Sustained Silent Reading (SSR) in the language classroom involves, in essence, students reading self-selected materials silently for a designated period of time. This approach has gone by many different names, including DEAR (Drop Everything and Read), DIRT (Daily Independent Reading Time), FVR (Free Voluntary Reading) and Extensive Reading (ER). Although there are variations in terms of format and implementation, the basic principles of time and ownership are the same (Nagy, Campenni and Shaw, 2000).

The classroom use of SSR is based on the idea that self-selection, among other dynamics, motivates students to read with interest, resulting in sustained reading which will in turn aid in the improvement of language skills. In addition to gains in motivation and attitude (often termed as 'affect'), studies which utilise such reading programmes have demonstrated that they also result in better overall language proficiency (Day, Bamford and Lee, 2002).

1.3. Ownership, Time and Silence

The main goal of silent reading programmes has always been to increase students' enjoyment of reading, and allowing students to exert ownership and select their own preferred reading materials will enhance their motivation to read (Chow and Chou, 2000). In other words, readers are more likely to pay closer attention, persist in their reading for longer periods of time, learn more, and enjoy their involvement to a greater degree when they read materials that interest them (Yoon, 2002).

Hsui (2000) pointed out the following:

"Research on reading in which students read extensively, have ownership over the materials they choose to read and are allowed to read in a relaxed, non-judgmental environment within the classroom has mostly shown that these activities contribute to the development of independent reading and language learning." (p. 1)

Absolute self-selection, however, can prove to be problematic when students choose unsuitable materials; for example, selecting texts of levels which are inappropriate for improving language competence (e.g., gaining fluency and vocabulary development). The key element here, therefore, lies in the role of the teacher as the guiding factor. According to Mulling (1995), for the very reason that absolute self-selection results in the selection of inappropriate texts for language learning and development, students should ideally select their reading materials subject to the teacher's approval – in tandem with Susser and Robb's (1990) position that in a reading programme, one of the teacher's roles rests in guiding the students towards appropriate books which aid in the development of language skills.

Time and silence are also of essence in motivating students to read, and to continue reading. Susser and Robb (1990) noted that the practice of setting aside time in class for silent reading is alive and well, and that most language instructors continue to advocate the practice. When students are allowed time to read silently at their own pace, it develops positive attitudes towards reading, and fosters in them a lifelong habit of reading for both information and pleasure. Researchers have consistently maintained the importance of giving students time to read at their own speed and pace (Ivey and Fisher, 2005; Day and Bamford, 1998), as well as the necessity of having a quiet and comfortable environment conducive to uninterrupted reading (Ganz, 2012; Pilgreen, 2000).

1.4. Research Problem and Objective

In 2005, a study conducted by Malaysia's Economic Planning Unit revealed nearly 60,000 Malaysian graduates to be unemployed because of their poor command of English and lack of good communication skills (New Straits Times, 10 November 2005; Reuters, 3 November 2005).

In the Malaysian education system, English was the main medium of instruction until the Education Enactment Bill was passed in 1971. The Malay language, Bahasa Malaysia, was then introduced as the medium of instruction. By 1981, the change was completed and all subjects were taught in Bahasa Malaysia with the English language retained and taught as one of the subjects in the curriculum.

A steady decline in the standard of English among learners in the country soon followed and voices of dissatisfaction have since been consistently heard among the public via various media and educational forums (The Star, 11 September 2008).

According to a Bloomberg News report (6 December 2006), a lack of proficiency in the English language is not only causing unemployment among Malaysian graduates, but also hindering them from making the most of their degrees. Universities are now producing graduates who do not make the grade in the workforce. In a country with 237,000 job vacancies, about 45,000 graduates are unemployed mainly because of poor English, according to the Malaysian government. In addition, more than half of 3,800 recruiters and managers surveyed by an online recruitment company, Jobstreet, cited poor English as the reason for rejecting graduates.

There exists an urgent need to address this; for intervention methods to be explored and applied in efforts to help Malaysian learners achieve a higher level of proficiency in the English language. The primary aim of this research was to find out if Malaysian undergraduates find SSR interesting, if they are motivated by the approach, and if they would like to have it incorporated into their English language course structure. As mentioned, while SSR is advantageous to language learners, effective implementation and integration of such a programme still depends largely on the discernments of those who stand to benefit the most from it.

2. Methodology

2.1. Sample and Instrument

It is to be noted that this present study was conducted with a reduced sample size, due to its purpose and function as an initial evaluation. A total of 123 participants were involved, all of them first year Malaysian undergraduates undergoing a remedial English language course (LMT 100 – Preparatory English) at Universiti Sains Malaysia. The participants, randomly selected, underwent an intervention period for half an academic semester whereby they experienced SSR once a week for seven weeks, with each session lasting 20 minutes (the duration recommended by SSR researchers and practitioners).

Prior to the commencement of the intervention period, the teachers in charge of the participants were comprehensively briefed on the aims as well as the rationale of the research. Several aspects pertaining to ownership/self-selection, time and silence (as described in *1.3.*) were duly emphasised to ensure not only proper execution, but also effective implementation of the programme.

A two-part survey questionnaire was designed for this study. In the first section, the participants were asked for demographic details while the second portion comprised statements specifically designed to capture the participants' perceptions regarding the SSR programme. The items in the second portion were measured via the use of a five-point Likert scale. All of the participants were required to fill in the questionnaire in class upon completion of the SSR programme.

2.2. Research Questions

This study was guided by the following research questions:

R1   Does SSR help to increase students' enjoyment of reading?

R2   Does SSR help to increase students' motivation to read?

R3   Does SSR help to increase students' reading abilities?

R4   What are the students' attitudes towards SSR?

3. Findings

3.1. SSR and Reading Enjoyment [Survey questions 1-5, 17]

An overwhelming majority of the participants responded that they would like to experience more SSR sessions in class. 76% either agreed or strongly agreed that they liked silent reading, the calm setting of an SSR session and the fact that they were allowed to select their own reading materials. 18% of the participants formed the neutral group while the remaining 6% indicated that they did not enjoy SSR. Refer to Table 1.

Table 1. Does SSR help to increase students' enjoyment of reading?

YES	NEUTRAL	NO

| 76% | 18% | 6% |

3.2. SSR and Motivation to Read [Survey questions 18-20]

Having undergone SSR, most of the participants – 85% in total – either agreed or strongly agreed that they were motivated to read more, that they were more inclined towards recreational reading in the future, and that more students should be given the opportunity to experience SSR. The remaining 15% remained neutral for all three instances. Refer to Table 2.

Table 2. Does SSR help to increase students' motivation to read?

YES	NEUTRAL	NO
85%	15%	–

3.3. SSR and Reading Abilities [Survey questions 7-11]

84% of the participants indicated that with SSR they found they had more time to figure out and recognise more words. They also found that SSR has enabled them to read better and comprehend better what they read, and that they needed less help with their reading. 13% of the participants remained neutral while 3% indicated disagreement and strong disagreement with regards to SSR improving their reading abilities. Refer to Table 3.

Table 3. Does SSR help to increase students' reading abilities?

YES	NEUTRAL	NO
84%	13%	3%

3.4. Attitudes towards SSR [Survey questions 12-16]

Generally, the responses recorded indicated positive attitudes towards SSR. Almost 80% of the participants stated that when reading in an SSR setting they felt more comfortable, confident and relaxed. They also did not find reading to be a difficult task, and did not experience any feelings of stress or pressure. Around 20% of the participants, however, remained neutral. Refer to Table 4.

Table 4. What are the students' attitudes towards SSR?

YES	NEUTRAL	NO
79.5%	20.5%	–

4. Conclusion

Based on the analysis of data collected, the researchers found that the students enjoyed SSR and that those engaged in the programme did not merely experience increased motivation to continue reading, but also experienced confidence and ease in reading on top of improvements in their reading abilities. This supports the findings of previous research (e.g., Bowermaster, 1996; Pilgreen and Krashen, 1993; Pyle, 1990; Dionisio, 1989; Oberlin and Shurgarman, 1989; Farrel, 1982).

However, despite a sizeable number of advocates who affirm that SSR works, there are studies, such as those carried out by Dwyer and Reed (1989) and Herbert (1987), which suggest otherwise. A survey by Herbert (1987) drew responses that were largely negative towards SSR, in that students did not like it and did not feel that it improved their reading skills.

This present study has produced encouraging findings which indicate that our undergraduates in general enjoy SSR and show positive effects from it. The use of SSR in the language classroom appears to generate in them the interest to read and more importantly, the motivation to continue reading, one of the chief aims of SSR.

Therefore, the researchers feel justified in putting forth the recommendation that SSR be incorporated into the course structure of LMT 100. As aptly put by one of the students who took part in the study – "I think more of SSR is necessary. A lot more."

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Appendix A

UNIVERSITI SAINS MALAYSIA

PUSAT PENGAJIAN BAHASA, LITERASI DAN TERJEMAHAN

_____

SCHOOL OF LANGUAGES, LITERACIES AND TRANSLATION

Survey Questionnaire on Sustained Silent Reading

Indicate the following by ticking (✔) the appropriate box / filling in the blanks provided

Gender

□ Male   □ Female

Race

□ Malay   □ Chinese   □ Indian   □ Others (specify): _____

MUET score

□ Band 1   □ Band 2   □ Band 3

School (in USM): _____

Age: _____

Indicate the following by ticking (✔) the appropriate box

Is this the first time you have experienced Sustained Silent Reading?

□ Yes   □ No

Would you like to have more Sustained Silent Reading sessions in class?

□ Yes   □ No   □ Neutral

State your agreement by ticking (✔) the appropriate box (Questions 3 – 20)

1–Strongly Disagree (SD)

2–Disagree (D)

3–Neutral (N)

4–Agree (A)

5–Strongly Agree (SA)

		1–SD	*2–D*	*3–N*	*4–A*	*5–SA*
3.	I like Sustained Silent Reading					
4.	I like the calm setting of a Sustained Silent Reading session					
5.	I like it that I get to choose my own reading materials					

When I do Sustained Silent Reading:

		1–SD	*2–D*	*3–N*	*4–A*	*5–SA*
6.	I can concentrate / focus better					
7.	I find that I have more time to figure out words					
8.	I find that I recognise more words					

9.	I understand better what I am reading					
10.	I need less help than I used to					
11.	I feel that I can read better					
12.	I feel more comfortable because no one is listening to my reading					
13.	I feel more confident because no one is listening to my reading					
14.	I generally feel more relaxed					
15.	I do not feel that reading is difficult					
16.	I do not feel pressured / stressed out					
17.	I find that reading is enjoyable					
18.	I feel motivated to read more					
19.	I am convinced that I will definitely read more in the future					
20.	I believe that more students should be given the chance to experience this (Sustained Silent Reading)					

LE SENTIMENT D'EFFICACITÉ PERSONNELLE EN TANT QUE FORMATEURS D'ADULTES CHEZ DES CONSEILLERS PÉDAGOGIQUES

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Résumé

Le travail des conseillers pédagogiques est complexe et peu documenté. Leurs principales fonctions relèvent de l'accompagnement et de la formation des enseignants des écoles et des collèges; pourtant, malgré qu'ils se soient démarqués par leur compétence élevée en matière d'enseignement aux jeunes, très peu d'entre eux possédaient de l'expérience en formation des adultes avant leur entrée en poste. Des recherches ont démontré que les conseillers pédagogiques rencontrent des défis d'importance dans leur pratique, notamment en ce qui concerne leur relation aux enseignants qu'ils ont pour mandat d'accompagner et de former. Notre recherche s'est intéressée à comprendre et à décrire les représentations que des conseillers pédagogiques se font de leur efficacité personnelle en tant que formateurs d'adultes. Onze conseillers pédagogiques ont accepté de témoigner de leur expérience à cet effet lors d'entrevues semi-dirigées. Cet article exposera les résultats issus de l'analyse des données recueillies.

Sentiment d'efficacité personnelle; conseillers pédagogiques; formateurs d'adultes; représentations.

Introduction

Le Canada compte un palier de gouvernement fédéral responsable des dossiers d'intérêts nationaux, mais également un palier de gouvernement provincial pour chacune de ses provinces ou territoires, duquel relève, entre autres, le domaine de l'éducation. C'est donc dire qu'en fonction de ses dix provinces et trois territoires, le Canada regroupe 13 ministères ou départements de l'Éducation opérant indépendamment les uns des autres. D'un océan à l'autre, l'éducation élémentaire s'étend du préscolaire jusqu'à la 6e ou à la 7e année et le secondaire se poursuit jusqu'à la 11e ou à la 12e année (selon les provinces ou les territoires); le lycée n'existe pas et les étudiants intègrent directement le collège ou l'université après le secondaire. Les écoles élémentaires et secondaires sont regroupées par régions géographiques à l'intérieur de chaque province ou territoire et sont soumises à l'autorité des conseils scolaires (ou commissions scolaires, pour le Québec). Le niveau collégial (dispensant des programmes professionnels et préuniversitaires) et le niveau universitaire constituent des paliers d'éducation postsecondaire gouvernés directement par le ministère de l'Éducation de la province où ils sont situés.

Les conseillers pédagogiques (CP) qui oeuvrent dans les conseils scolaires et les collèges canadiens, comme leurs confrères de certains pays européens, ont pour fonction d'offrir un accompagnement pédagogique et de la formation continue aux enseignants (Alin, 2008; Chalies, Flavier et Bertone, 2007; Draelants, 2007; Gagnon, 2010; Houle et Pratte, 2003; Lessard, 2008). Outre leurs fonctions d'accompagnateurs et de formateurs d'adultes en milieu de travail, les CP ont la responsabilité de développer les programmes de formation qu'ils dispensent aux enseignants. Ils peuvent également être invités à assurer la coordination de communautés d'apprentissage professionnel auprès de groupes spécifiques d'enseignants, à agir comme consultants en matière de stratégies d'enseignement et de ressources didactiques de même qu'à assurer la transmission des orientations, des politiques et des pratiques préconisées par le ministère de l'Éducation ou par la structure administrative qui les emploie. Les CP se présentent tels des leaders pédagogiques, porteurs de nombreux dossiers qu'ils opérationnalisent à travers diverses tâches; ce sont des agents de changement assurant le lien entre les décideurs du milieu de l'éducation et ses praticiens (Lessard, 2008; Orianne et Draelants, 2010). Ils sont généralement

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issus du corps enseignant, duquel ils se sont distingués par leur expertise et leurs compétences professionnelles dans une matière ou un domaine précis (Draelants, 2007).

Le travail du CP comporte de nombreux défis dont les principaux se rapportent à la formation et à l'accompagnement des enseignants, de même qu'aux relations qu'ils tissent avec ces derniers. L'absence de dispositif formel de formation pour les CP (Gagnon, 2010; St-Pierre, 2005) particulièrement en ce qui concerne la formation des adultes (Lessard, 2008), la nécessité d'établir les frontières de leur fonction et de préciser leur identité professionnelle (St-Pierre, 2005), le besoin d'être considérés crédibles et dignes de confiance par les enseignants plus expérimentés, pour les jeunes CP, et de surmonter la résistance au changement exprimée par des enseignants manifestant une attitude défensive (Draelants, 2007) constituent les enjeux majeurs auxquels font face ces professionnels.

Le sentiment d'efficacité personnelle

Le concept d'autoefficacité, appelé également sentiment d'efficacité personnelle (SEP), constitue l'une des contributions majeures d'Albert Bandura à la théorie sociale cognitive. Le SEP concerne les jugements et les croyances qu'entretient la personne à propos de ses compétences et de son rendement dans un domaine précis (Bandura, 1977). Il détermine le choix des actions de celle-ci et influence son attitude avant, pendant et après sa performance. Autrement dit, plus la personne croit en sa capacité d'accomplir une action ou une tâche avec succès, plus ses possibilités de réussite sont augmentées puisqu'elle aura tendance à choisir les comportements les plus appropriés, à pratiquer l'autorégulation et à persister jusqu'à la fin. Le processus inverse, selon Bandura, peut également se produire : c'est-à-dire qu'une faible croyance dans sa capacité à réaliser une action ou une tâche risque de conduire l'individu à adopter des comportements moins efficaces et à manifester un engagement plus faible, à abandonner plus rapidement devant les obstacles et, au bout du compte, à obtenir un rendement médiocre (Lecompte, 2004).

Le conseil pédagogique est méconnu du grand public et l'est parfois même au sein de l'organisation scolaire qui l'emploie. Les CP ont pourtant des responsabilités importantes en ce qui concerne le développement professionnel des enseignants et, de ce fait, ils ont un impact non négligeable sur la qualité des enseignements dispensés dans les écoles et les collèges. La question de leur compétence, mais également celle de leurs représentations de celle-ci, méritent d'être prises en compte par la recherche autant que par le milieu de l'éducation. En effet, une personne qui a un sentiment élevé d'efficacité personnelle manifestera une motivation au travail plus forte (Ryan et Deci, 2005) résultant en un engagement plus marqué envers sa profession (Duchesne, Savoie-Zajc, et St-Germain, 2006). Dès lors, notre recherche s'est proposé de répondre à la question suivante : *Quelles représentations des conseillers pédagogiques se font-ils de leur sentiment d'efficacité personnelle en tant que formateurs d'adultes?*

Méthodologie

Au cours de l'automne 2011, onze conseillers pédagogiques à l'emploi d'un conseil scolaire francophone de l'Ontario, soit huit femmes et trois hommes, ont accepté de participer à la recherche. Au moment de la collecte de données, ces derniers étaient âgés de 34 à 56 ans (m = 43) et ils avaient cumulé de 6 à 30 années d'expérience totale (m = 16) dans le domaine de l'éducation, dont 1 à 9 années (m = 4,6) en tant que CP. Tous possédaient un

minimum de deux diplômes universitaires dont le baccalauréat en éducation, obligatoire pour tous les enseignants canadiens. En outre, cinq d'entre eux détenaient une maîtrise en éducation, ou étaient en cours de formation.

La collecte de données s'est effectuée lors d'une entrevue semi-dirigée d'une durée approximative de 90 minutes. Les entretiens de recherche ont porté essentiellement sur les représentations du sentiment d'efficacité personnelle des CP en tant que formateurs d'adultes. Certaines des questions qui leur ont été posées les ont incités à témoigner des expériences vécues, par exemple : *Pouvez-vous donner l'exemple d'une situation au cours de laquelle vous vous êtes senti particulièrement efficace? À quoi - quel facteur, quelle source - attribuez-vous votre sentiment d'efficacité dans cette situation?* D'autres questions favorisaient l'analyse de leur expérience et visaient à connaître leurs points de vue sur ce sujet, par exemple : *Avez-vous observé des différences du point de vue relationnel, contextuel ou pédagogique entre vos expériences antérieures d'enseignement aux jeunes et votre expérience actuelle d'enseignement aux adultes?* Les données ont été analysées à partir de la méthode inductive issue de la théorisation ancrée telle que décrite par Strauss et Corbin (1990).

Résultats

Tous les participants à l'étude ont été conviés à évaluer leur niveau de SEP à partir de l'adaptation du questionnaire de Schwarzer et Jerusalem (1995) comportant dix questions. Les scores obtenus ont ainsi révélé que six des CP rencontrés avaient un SEP élevé (m = 90%), deux avaient un SEP moyen (m = 81%) alors que les trois autres avaient un SEP plutôt faible (m = 68%). Lorsque l'on compare ces résultats au nombre d'années d'expérience en tant que CP des participants, on remarque que tous ceux qui ont présenté un SEP élevé comptaient un nombre égal ou supérieur à la moyenne de 4,6 années d'expérience. Pour leur part, quatre des cinq participants présentant un SEP moyen ou plutôt faible avaient cumulé moins d'années d'expérience que cette moyenne. Une seule participante, ayant cinq années d'expérience en tant que CP, a présenté un SEP plutôt faible; lors de l'entrevue, celle-ci a expliqué qu'elle avait tendance à être sévère envers elle-même et que si, par exemple, c'était sa collègue de travail qui avait procédé à son évaluation, elle lui aurait sans doute attribué un score plus élevé. Il est en outre intéressant de constater que lorsqu'on leur a demandé s'ils se sentaient plus efficaces dans leur tâche actuelle de formateurs d'adultes que dans leurs fonctions antérieures d'enseignants auprès des jeunes, cinq des six participants présentant un score élevé de SEP ont affirmé se sentir *autant* ou *plus* efficaces en tant que formateurs d'adultes alors que quatre des cinq CP présentant un score moyen ou plutôt faible ont révélé se sentir *moins* efficace dans ce contexte.

Ce premier niveau d'analyse nous permet de constater le lien étroit qui existe entre le nombre d'années d'expérience dans la profession de CP et le sentiment d'efficacité personnelle. Nos résultats indiquent qu'au-delà de la *qualité* des expériences professionnelles vécues, la *quantité* de celles-ci influence elle aussi le niveau de SEP. Cependant, comme en a témoigné l'une des participantes, il peut aussi arriver que malgré un nombre important d'expériences positives, l'interprétation personnelle qui en résulte demeure défavorable aux yeux de la personne, ce qui tend à confirmer la position de Bandura a l'effet que le SEP ne concerne pas l'efficacité *réelle* manifestée par cette dernière, mais celle qu'elle *croit* posséder.

Se sentir efficace en tant que formateurs d'adultes

Les CP que nous avons rencontrés ont été invités à s'exprimer sur les situations associées à leurs fonctions qui généraient pour eux un sentiment d'efficacité. Justine a déclaré se sentir efficace lorsqu'elle arrive à résoudre les problèmes qu'elle rencontre, alors que Lisa a estimé que d'être une personne structurée dans son travail lui

permettait de se sentir efficace. Gabrielle et Antoine, pour leur part, voient leur SEP rehaussé lorsqu'ils ont l'impression d'être utiles, d'avoir apporté une réponse aux besoins qui leur ont été exprimés.

Dans leur rôle de formateurs d'adultes auprès des enseignants, les CP avec lesquels nous nous sommes entretenus ont fourni d'autres exemples d'expériences ayant contribué à développer leur SEP. Zoé relate ici le cas d'une intervention dont les répercussions se sont manifestées au-delà de l'effet escompté :

Dans un atelier que j'anime et où je laisse le droit de parole aux gens de façon à ce qu'ils s'aident entre eux; être capable de devenir le médiateur et de relancer cette notion de partage, et que ça roule de façon à ce qu'il y ait de l'entraide et d'atteindre mon objectif non seulement pour moi, pour ce que je présente, mais pour ce que les gens ont investi, puis de revoir [éventuellement] *ces gens-là, de voir qu'ils sont encore accrochés à ça et qu'il s'est créé un réseautage, ça c'est fantastique et je me sens vraiment efficace.*

Marion apprécie la confiance que lui témoignent les enseignants qu'elle accompagne lorsqu'ils lui font part de leurs insécurités face à leur travail et elle en tire une forme de valorisation personnelle :

[…] j'aime le fait que je peux être à l'écoute de ces gens-là et possiblement avoir un impact positif parce que s'ils me font part d'une inquiétude et que je suis capable ensuite d'en discuter avec eux et qu'on puisse s'ajuster après, j'ai comme l'impression que je les aide à mieux travailler […]

Des CP ont parlé de l'importance d'établir des relations fructueuses avec les enseignants qu'ils forment et qu'ils accompagnent dans le but de maintenir leur SEP. Ils sont conscients que leur position d'anciens enseignants devenus conseillers pédagogiques les place dans un rapport professionnel délicat, mais pouvant également susciter un sentiment de sécurité réciproque, comme l'exprime Lisa : *Les enseignants que je reçois en formation sont des collègues. Il y en a avec qui j'ai travaillé dans des écoles donc, avec ces personnes-là, il y a un lien d'amitié.* Gabrielle, quant à elle, prône un certain respect : *[…] tu ne peux pas prendre les enseignants comme des gens qui sont incompétents. Ils ont de l'expertise, ils ont de l'expérience et il faut vraiment les traiter comme des experts.* En outre, elle voit dans cette relation une occasion de vivre des rapports de confiance, d'égalité et de réciprocité.

Les défis que posent les apprenants adultes

Les participants ont admis avoir appris, au cours de leur mandat de CP, a percevoir les différences entre la formation des jeunes et celle destinée aux adultes, à ajuster leurs pratiques éducatives et, conséquemment, à développer leur SEP en tant que formateurs d'adultes. Hugo mentionne certaines adaptations auxquelles il a dû procéder, telle que de rentabiliser au maximum le temps destiné aux formations. Des participantes ont donné, pour leur part, des exemples éloquents de situations lors desquelles le comportement de l'apprenant adulte s'apparente à celui d'un adolescent et pour lesquelles le CP doit adopter une intervention appropriée :

[…] les adultes avec qui je travaille, c'est des anciens collègues; […] je ne peux pas leur dire «ben regarde…». Comme aujourd'hui, on avait une participante qui n'arrêtait pas de parler en même temps que nous, des fois, on fait...on marche un peu puis on s'en va en arrière [de la salle], *puis on se place à côté de la personne, mais je ne me verrais vraiment pas dire à une enseignante «c'est assez là, arrêtez de parler».* (Lisa)

La gestion de classe est très différente parce qu'[avec les jeunes], *je n'aurais senti aucun malaise à dire à un élève de ranger son dessin; mais quand un prof vient* [en formation] *puis qu'il sort sa correction, il faut que je lui dise, mais je ne peux pas lui dire avec la même assurance. Ça c'est très embêtant.* (Marion)

D'autres participants ont également évoqué le stress qu'ils ont ressenti, lors de leur entrée en fonction, à l'idée de préparer des formations pour une population adulte possédant un bagage de connaissances et d'expériences professionnelles bien établi. Les CP se sont montrés sensibles au regard et au jugement que les apprenants adultes posent sur leurs compétences de formateurs ou d'accompagnateurs. Jade et Marion estiment

important de ne pas être perçues comme menaçantes par les enseignants qu'elles accompagnent, aussi accordent-elles une grande importance à l'accueil, à l'ouverture et à l'accessibilité qu'elles leur témoignent.

Maxime, d'abord employé au sein d'un autre conseil scolaire, a reçu pour sa part un accueil plutôt tiède de la part des enseignants de la structure où il exerce actuellement en tant que CP :

Moi, je peux dire que quand je suis arrivé, franchement, c'était comme un cheveu sur la soupe, qu'ils disaient. C'est vrai. La plupart des conseillers ont travaillé ici pendant 5-10 ans, donc ils connaissent quand même le milieu. Alors, moi, je viens d'arriver, je suis tout à fait nouveau. […] *Donc, quelque part, vous voyez, il y a une certaine distance qu'on a vis-à-vis de vous.*

Cette attitude de résistance de la part des enseignants envers les CP a également été observée par d'autres participants avec lesquels nous nous sommes entretenus. Sophie relate une expérience éloquente :

Quand on est allé présenter [le nouveau programme pédagogique]*, on était pour s'acheter des boucliers et entrer dans la formation avec des boucliers! Les gens nous attendaient 'avec une brique et un fanal'* […]*!*

Les CP ont tous vécu, à un moment ou à un autre de leur pratique professionnelle, des expériences plus ou moins difficiles auprès d'enseignants résistants ou fermés à leurs interventions. L'attitude négative de certains apprenants adultes constitue pour eux l'un des défis les plus préoccupants, comme l'illustrent ces témoignages :

Certaines personnes auront aussi la perception qu'ils connaissent tout et qu'ils n'ont pas vraiment besoin de [la formation]. *Y'a des personnes comme ça. Et ça se voit dans l'engagement de la personne dans les rencontres; quand tu vois quelqu'un qui s'absente souvent ou qui n'est pas patient...* (Antoine)

Tu sens qu'ils ont une idée derrière la tête, c'est comme des petits pièges qu'ils te tendent pour te tester. […] *vous savez, personnellement, quand je vais dans une conférence ou une formation, ça peut être très théorique, je peux trouver que non, c'est pas véritablement ça que j'attendais, mais malgré cela, il y a quand même quelque chose qui peut être très profitable pour moi. Donc, je pense qu'il y a ce manque de flexibilité et cette intransigeance, des fois, de la part de certains enseignants, une attitude très négative d'ailleurs.* [Maxime]

Même s'ils rencontrent parfois des obstacles issus des relations qu'ils établissent avec certains enseignants, les CP ont cependant souligné que ce sont les tâches directement associées à la formation et à l'accompagnement de ces derniers qu'ils préfèrent, bien avant leurs responsabilités administratives ou le travail qu'ils effectuent à partir de leur bureau. Être sur le terrain, c'est-à-dire intervenir directement auprès des enseignants dans le but de contribuer au développement des compétences de ces derniers, constitue la source de SEP la plus importante pour les participants à l'étude.

Conclusion

Le sentiment d'efficacité personnelle d'un individu est directement lié à la compétence effective de celui-ci puisque, comme le souligne Bandura, la croyance qu'entretient la personne face à son rendement l'incitera à faire des choix et à poser des actions qui influenceront directement l'efficience de ce rendement. Le SEP constitue, dès lors, une composante d'importance qui doit être prise en compte par les organisations préoccupées par la qualité des services qu'elles dispensent.

Les conseillers pédagogiques qui ont contribué à notre étude ont offert des témoignages éloquents sur les défis rencontrés dans leur travail auprès des enseignants qu'ils ont pour fonction de former et d'accompagner. L'attitude de ces derniers à leur égard influence fortement leurs actions de même que leurs conceptions de leur

travail et, éventuellement, leur jugement à propos de leur efficacité. Ce constat nous amène à questionner la formation reçue par les CP dans le domaine de la formation aux adultes et l'accompagnement professionnel dont ils bénéficient à cet égard. Les travaux à propos du sentiment d'efficacité personnelle de même que les résultats de la présente recherche suggèrent que plus le SEP des CP sera élevé, plus grande sera leur efficacité réelle dans leurs fonctions. Dès lors, une attention particulière à cet aspect de la vie professionnelle des CP devrait être portée par les structures scolaires qui les emploient aussi bien que par la recherche qui, à l'heure actuelle, est peu développée dans ce domaine.

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Lise Öğrencilerinin İnternet Ortamında Sosyal Paylaşım Sitelerini Kullanım Amaçları ve Sosyal Paylaşım Unsurları

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ÖZET

Sosyal paylaşım siteleri, bireylerin sanal ortamda bir araya gelerek bilgi paylaşımlarını amaçlamaktadır. Sosyal paylaşım sitelerini popüler yapan en önemli nedenler; bireylerin iletişim kuramadıkları eski arkadaşlarını bu platformda bulabilmeleri, çeşitli nedenlerden dolayı yüz yüze iken ifade edilemeyen bazı duygu, düşünce ve fikirlerin sanal ortamda daha cesurca ifade edilmesi ve fiziksel olarak aynı ortamda olunmasa bile birden fazla kişinin duygularını bu platformlarda herkese açık olarak paylaşabilmesidir. Sosyal paylaşım sitelerinin oldukça yaygınlaşması ile beraber, bireyler zamanlarının önemli kısmını bu sitelerde geçirmektedirler. Sosyal paylaşım ağlarının lise öğrencileri ve diğer bireyler arasında bu derece yaygın kullanımı sonucu ortak yeni bir bilişim kültürünün ortaya çıkmasını sağlamıştır. Fotoğraf yükleme, müzik yükleme, resim ve müzik paylaşma ve bunlara yorum yapma, kelimelerin kısaltılarak yazılması, bazı özel kelimelerin bir kaç kelimeden oluşması gereken soruları karşılaması bu kültüre örnek teşkil etmektedir. Bu çalışma ile lise öğrencilerinin sosyal paylaşım sitelerini ne amaçla kullandıkları ve bunun bir kültür olarak ortaya çıkış süreci araştırılmaktadır.

Anahtar Kelimeler: sosyal paylaşım, internet, paylaşılan unsur, web, kültür

The Usage Purpose of Social Network Sites of High School Students and Social Network Elements

Abstract

Sites of social networking aim are to share information by gathering people in virtual environment. The most important reasons of making these social networks are old friends that a person can't contact, because of many reasons, expressing the emotions, idea and thoughts in virtual environment bravely, which can't express face to face and even though they are not in the same physical environment, more than one person share their emotions with everyone at the platform. Together with the widespread use of social networks, people spend their important time in those sites. The use of social Networks among high school students and other people so much, emerged a new informative culture. Uploading pictures, music, sharing picture and music and comments on them, writing the words in short, the forming of some special words from a couple of words and their fulfilling the questions are some examples. With this study, the reasons of using social networking sites for what purpose and emerging this as a culture has been searched.

Key Words: social share, internet, shared element, web, culture

Giriş

Sanal ortam; gerçek ortam ile simgesel alan arasında kalan bir ortamdır (Kırcelli, 2011). Her ne kadar sanal ortam bizlere büyük avantajlar sağlayarak hayatımızda önemli bir yer tutsa da, gerçek fiziksel ortamdan vazgeçilememiştir, vazgeçilemeyecek gibi de görünmektedir. Nitekim insanlar sanal ortamları gerçek fiziksel ortamlar için bir araç, bir geçiş olarak kullanmaktalar veya gerçek fiziksel ortamda gerçekleşen olayları sanal ortamlar ile kolaylaştırmaya çalışmaktadırlar. Sosyal paylaşım, kişiler arası olsun gruplar arası olsun 21.yüzyılın en önemli iletişim araçlarından biridir. Sosyal paylaşım siteleri, sanal ortamda bir araya gelmeye çalışan milyonlarca insanı buluşturur. İnsanların bir araya gelmesi için okulda, işyerinde, evde, tatilde olmasının hiçbir önemi yoktur. Bu platform aracılığı ile bilgi ve deneyimler, günlük yaşantıları, arkadaşlıkları geliştirme, yemek yapma, sportif konular, ürünlerin pazarlanması, mesleki gelişim gibi bir çok konuda paylaşımda bulunulabilir. Konular, hayal dünyamızın elverdiği ölçüde çeşitli ve zengindir (whatissocialnetworking.com, 2012). Sosyal paylaşım siteleri aracılığı ile sisteme kayıtlı olan herkes birbirlerinin profillerini izin verilen ölçüde görebilir, arkadaşlık teklif edebilir, mesaj gönderebilir, yazılı, görsel ve sesli yayınlara yorum yaparak yayınları gören herkesin bu mesajları görmesi sağlanabilir. Ayrıca bu siteler aracılığı ile gruplar kurulabilir, insanlar bu gruplara üye olabilir, grup yöneticileri üyeler ile iletişim kurarak onları örgütleyebilir, yönlendirebilir. Sosyal paylaşım sitelerinin, özellikle uzun zamandır birbirleri ile irtibat kuramayan bireyleri tekrar iletişime geçirmesi, eğitim – öğretim v.b. gibi olumlu amaçlar için kullanılabilmesi, gruplar aracılığı ile daha seri ve etkili bir şekilde iletişim sağlaması bir avantaj olarak görülebilir. Fakat belki de site üyelerinin dahi farkında olmadıkları güvenlik tedbirsizlikleri, kullanıcı bilgilerinin ifşa edilmesi, üyelerin yayımlarının başkaları tarafından kopyalanıp, montajlanıp, farklı amaçlar için kullanılabilmesi de bu sitelerin dezavantajlarını göstermektedir. Yaygın olarak kullanılan Facebook, Twitter, Myspace, LinkedIn gibi sosyal paylaşım sitelerini kullanım amaçları, toplumlara göre değişiklik gösterebilmektedir. Bunun nedeni toplumun kültürü ile ilgilidir. Nitekim sosyal paylaşım siteleri, kullanıcıları arasında ortak bir iletişim kültürünün oluşmasını sağlamaktadır. Bu sitelerin kullanımı özellikle son yıllarda müthiş derecede artış göstermiştir. Bu siteleri kullanıcılar için yeni toplumsal alanlar, iletişim kanalları ve çevreleri oluşturmuştur. (Şener, 2009). Günümüz itibari ile sosyal paylaşım siteleri arasında 31,526,380 kişilik kullanıcı sayısı ile facebook ilk sırada yer alırken, Türkiye kayıtlı facebook kullanıcı sayısı bakımından bakıldığında dünyada 6.sırada yer almaktadır (checkfacebook.com, 2012). Teknolojideki hızlı gelişme, internet teknolojilerinin yaygınlaşmasına ve dolayısıyla yeni iletişim tekniklerinin oluşmasına neden olmaktadır. Sosyal paylaşım ağları bunun bir göstergesidir (Kalaman, 2011). Sosyal paylaşım sitelerinde kişisel bilgilerin ve belgelerin başkaları tarafından paylaşılarak özel hayatın ihlal edilmesi suçu işlenebilmektedir. Gizlilik ayarlarının yapılmaması veya eksik yapılmasından dolayı kişisel bilgiler ve profile eklenen resim, video, metin ifadeleri başkaları tarafından ele geçirilebilmekte ve bu belgeler pornografik sitelerde kötü amaçlı kişiler tarafından reklam unsuru olarak kullanılabilmekte ve mağdurlar durumu mahkemelere taşımaktadırlar (Kalaman, 2011). Zaten dünyadaki tüm sosyal paylaşım sitesi üyelerinin bilgileri ilgili sitelerin sunucularında saklanmaktadır. Yani tüm kullanıcıların gizlediklerini sandıkları tüm bilgi ve belgeleri site yöneticileri tarafından bilinmektedir. Bu bilgilerin istihbaratlara servis edilmediğinin de garantisini kimse veremez. Twitter başta olmak üzere sosyal paylaşım sitelerini politikacıların, siyasetçilerin, iş ve sanat dünyasının temsilcilerinin de yaygın bir şekilde kullandıklarını görmekteyiz. Sanal ortamın avantajlarından faydalanmak isteyen ünlü isimler, bu yolla daha geniş kitlelere hitap etme imkânı bulabilmektedirler. Sosyal paylaşım sitelerinin eğitim amaçlı kullanılabileceği de kullanım amaçlarına örnek olabilir. Göktaş ve Kalafat (2011), öğrencilerin %88 inin Facebook'un öğrenmelerine katkısı olduğunu düşündüklerini tespit etmişlerdir. Fakat ortaöğretim öğrencilerinin çoğunun bu siteye eğlence amaçlı girdiği ve mümkün olan her fırsatta öğrencilerin bu siteye girerek arkadaşlarının gönderilerini kontrol etme, yorum yapma ve gönderide bulunma eğiliminde oldukları tespit edilmiştir (Belin, 2011). Gülüm (2009) tarafından yapılan araştırmaya göre; ankete katılanların % 27.2' sinin Facebook arkadaş listesinde 100-200, % 20.2'sinin 50-100, % 19.8'nin 300-500, % 19.4'ünün 200-300, % 13.3'ünün ise 500'den fazla arkadaşı bulunmaktadır. Yani, kullanıcıların yarıdan fazlasının (% 52.5) arkadaş sayısı, 200'den fazla ve Facebook dünya ortalamasının da üzerindedir. Ortalama arkadaş sayısının yüksek olması, Türk toplumunun sosyal ilişkilere ve arkadaşlığa önem vermesinin bir sonucu olabilir.

Materyal Ve Metot

Sosyal paylaşım sitelerinin kullanım düzeylerinin, kullanım amaçlarının ve bu sitelerde yer alan unsurların belirlenmesi için görüşme formu hazırlanarak nitel veriler elde edilmiştir. Görüşme formunda ilk olarak öğrencilerin kişisel bilgilerine ait sorular yer almaktadır. Daha sonra en çok kullandığı sosyal paylaşım sitesi sorulup, sonraki sorular en çok kullandığı sosyal paylaşım sitesi temele alınarak ne amaçla kullandığına yönelik sorular sorulmuştur. Çalışma Adıyaman Anadolu Lisesinde öğrenim gören toplam 177 öğrenci üzerinde yapılmış olup ortaöğretimde öğrenim gören öğrencilerin sosyal paylaşım sitelerini kullanım düzeylerinin ve sosyal paylaşım sitelerini ne amaçla kullandıklarının belirlenmesi amacıyla yapılmıştır. Sorulan sorulara ilişkin verilen yanıtlar arasından aynı olanlar veya farklı şekillerde ifade edilen aynı cevaplar gruplandırılarak sorulara verilen cevap türleri belirlenmiştir. Her bir tür cevabın frekansı tespit edilip yüzdelik dilimleri hesaplanmıştır.

Bulgular

Tablo-1: Kişisel Bilgilere İlişkin Cevapların Dağılımı

Örneklemin Yaşa Göre Dağılımı		
Yaş	Frekans	%
14	8	4,5
15	33	18,6
16	75	42,3
17	54	30,5
18	7	3,9

Örneklemin Cinsiyete Göre Dağılımı		
Cinsiyet	Frekans	%
Erkek	96	54,2
Kız	81	45,8

Örneklemin Gelir Durumuna Göre Dağılımı		
Gelir	Frekans	%
500 TL ve daha az	15	%8,5
501 – 1000	51	28,8
1001 - 1500	18	10,1
1501 – 2000	54	30,3
2000 üzeri	39	22

Öğrencinin Sosyal Yapısına Göre Dağılımı		
Sosyal Yapı	Frekans	%
İçe Kapanık	10	5,6
Kendi Halinde	57	32,2
Girişken	99	55,9
Aşırı Sosyal	11	6,2

Araştırmaya katılan öğrencilerin kişisel bilgilerine ilişkin sorulara verilen yanıtlara göre öğrenciler, 14 – 18 yaş aralığında olup çoğunluğun 16 ve 17 yaş grubu öğrencilerden oluştuğu, cinsiyet bakımından öğrenciler % 54,2 oranında erkeklerden, %45,8 oranında kızlardan oluşmaktadır. Gelir durumuna göre en fazla 1501-2000 tl aralığında gelire sahip öğrenciler yer almaktadır. Öğrencilerin kendilerini sosyal bakımdan değerlendirmelerine yönelik soruya verilen cevaba göre, %55,9 oranında girişken öğrenciler çoğunluktadır.

Tablo-2: Sosyal Paylaşım Sitelerinin Kullanımına İlişkin Cevapların Dağılımı

En Sık Kullanılan Sosyal Paylaşım Sitesi		
Site Adı	Frekans	%
Facebook	154	87
Kullanmıyor	23	13
Katılımcıların Ne Zamandır Sosyal Paylaşım Sitesi Kullandıkları		
Süre	Frekans	%
1 yıldan az	31	20,1
1-2 yıl arası	54	35,1
2-3 yıl arası	42	27,3
3-4 yıl arası	15	9,7
4 yıldan daha uzun	12	7,8
Sosyal Paylaşım Sitesini Genel Kullanım Amacı		
Amaç	Frekans	%
Gönderilere Yorum Yap.	33	21,4
Video İzleme	14	9,1

	Frekans	%
Resimlere Bakma	19	12,3
Eski Arkadaşları Bulma	28	18,2
Paylaşımda Bulunma	26	16,9
Oyun Oynama	17	11
İletişim	12	7,8
Diğer	5	3,2

Sosyal Paylaşım Sitelerinde En Çok Paylaşılan Unsur

Unsur	Frekans	%
Resim	44	28,6
Müzik	27	17,5
Video	43	27,9
Önemli Haber	19	12,3
Anlık Düşünceler	17	11
Diğer	4	2,6

Sosyal Paylaşım Sitesine Bağlanma Süresi

	0 - 1 saat		1 - 2 saat		2 - 4 saat		4 - 6 saat		6 saat üzeri	
	N	%	N	%	N	%	N	%	N	%
Her gün	36	23,4	22	14,3	8	5,2	4	2,6	6	3,9
Her hafta	12	7,8	34	22,1	5	3,2	7	4,5	2	1,3
Her ay	3	1,9	4	2,6	1	0,6	-	-	-	-
1 aydan uzun	5	3,2	3	1,9	1	0,6	-	-	1	0,6

Sonuçlara göre katılımcılar sosyal paylaşım sitesi olarak sadece "Facebook" kullanmaktadırlar. Facebook kullanıcılarının çoğunluğu 1-2 yıldır siteye üye olduklarını beyan etmişlerdir. Yani genel olarak facebook üyeliği lise yıllarında başlamaktadır. Sosyal paylaşım sitesini kullanım amaçları bakımından gönderilere yorum yapma, paylaşımda bulunma ve eski arkadaşları bulma amaçlı kullanımların yoğun olduğu görülmektedir. En çok paylaşılan unsur olarak resim yayımlamadır. Bunu video, müzik ve haber yayımlama izlemektedir. Süre bakımından katılımcıların çoğunluğu günde 0-1 saat arası facebook a girmektedirler. Bu süreyi haftalık 1-2 saat arası kullanım izlemektedir.

Tablo-3: Sosyal Paylaşım Sitelerinin Değerlendirilmesi ve Bağlanılan Mekân

Sosyal Paylaşım Sitelerinin Okul Derslerine Katkısı

Katkı Var mı?	Frekans	%
Evet	9	5,1
Hayır	168	94,9

Sosyal Paylaşım Sitelerinin Özel Hayatı İhlali

İhlal Var mı?	Frekans	%
Evet	63	35,6
Hayır	99	55,9
Üyenin Kontrolünde	15	8,5

Sosyal Paylaşım Sitelerine Çoğunlukla Nereden Bağlandıkları

Mekân	Frekans	%
Evden	87	56,5
Okuldan	12	7,8
İnternet Kafeden	45	29,2
Diğer	10	6,5

Katılımcıların %94,9' u sosyal paylaşım sitelerinin okul derslerine herhangi bir katkısının olmadığını, %55,9' u sosyal paylaşım sitelerinin özel hayatı ihlal ettiğini düşünmektedirler. %56,5' i de sosyal paylaşım sitelerine evlerinden bağlanmaktadırlar.

Tartışma Ve Sonuç

Katılımcıların sadece facebook kullanıyor olmaları genel olarak facebook un kullanıcı kitlesinin yaygın olmasından, facebook kullanımının diğer sosyal paylaşım araçlarına göre pratik ve kullanımı kolay olmasından kaynaklandığı düşünülmektedir. 23 katılımcının herhangi bir sosyal paylaşım sitesi kullanmamasının nedenleri de internet erişimlerinin olmaması, özel hayatın gizliliğinin ihlali, bilgisayar ve internet kullanımı bilgisinden yoksun olma, sosyal paylaşıma ilgi duymama olabilir. Öğrenciler genel olarak 1 ile 3 yıllık bir sosyal paylaşım sitesi deneyimlerine sahiptir. Bu sonuç bireylerin ilk facebook ile tanışmasının ilköğretimin sonu veya ortaöğretimin ilk yılları çağlarına denk gelmektedir. Facebook kullanımının son yıllarda oldukça fazla artış göstermesi de bu sonuçta etkilidir. Gönderilere yorum yapma, yazılı, görsel, müzik bilgilerinin paylaşılması amaçlarıyla sosyal paylaşım sitelerinin kullanımı ortaöğretim öğrencileri arasında en yaygın kullanım amaçlarındandır. Yapılan yorumların, yayıncının ve yorumcunun tüm arkadaşları tarafından görülüyor olması yorumcuda herkese hitap ediyor hissi uyandırmaktadır. Yorumcu bunu dikkate alarak yorum yapar ve sanki kalabalık bir ortamda "herkes birbiri ile konuşuyor" kolaylığı sağlanır. Hangi saatte ve hangi mekânda olunursa olunsun bunun yorum yapma veya ileti yayımlamak için hiçbir önemi yoktur. Sosyal paylaşım sitelerinin kullanımının zaman ve mekândan bağımsız olması bu sitelerin kullanımının yaygın olmasında en büyük nedenler arasındadır. Kullanıcı, hoşlandığı yazı, resim, müzik, video gibi iletileri arkadaşları ile paylaşarak veya o anki düşüncelerini kendi profilinde yazarak adeta kendini ifade etmekte, kendi kişiliğini yansıtan bilgileri arkadaşlarına duyurarak kendisini gerçekleştirmektedir. Araştırma sonuçlarına göre katılımcılar en fazla resim, ardından video ve müzik iletileri paylaşmaktadırlar. Resim video gibi multimedya unsurları daha fazla duyuya hitap ettiğinden mesaj verilmek istenen kişide daha etkili ve kalıcı izler bırakmaktadır. Bu tür multimedya unsurları metinsel yorumlarla desteklenerek iletinin etkililiği artırılmaktadır. Kullanıcıların o anki düşüncelerini metin ile ifade etmeleri yoluyla kullanım oranı % 11' dir. Rakamın düşük olması, kullanıcıların kendilerini daha çok resim, video gibi multimedya unsurları ile ifade etmeyi tercih ettiklerinin göstergesidir. Ortaöğretim öğrencileri arasında çoğunluk, sosyal paylaşım sitelerine günde 1-2 saat arası süre ayırmaktadır. Bu süreyi haftada 1-2 saat izlemektedir. Sonuçlar bağımlılık derecesinde değildir fakat azımsanacak kadar az da değildir. Öğrenciler eğitimciler tarafından bilinçlendirilmeli, ilgili sitelerin kullanımı bilimsel yöne kanalize edilmeye çalışılmalıdır. Öğretmenler de sosyal paylaşım sitelerinde yer alarak öğrenciler ile arkadaşlık kurabilir, onlara eğitimsel iletiler paylaşabilir. Sınıf içi faaliyetlere web ortamında da devam edilebilir. Böylece bir tür uzaktan eğitim faaliyeti gerçekleştirilerek öğrenciler sosyal paylaşım sitelerinin ve internetin olumsuz etkilerinden korunmuş olacaktır. Ayrıca ebeveynler ve öğretmenler öğrencilere, onlar için yararlı olabileceğini düşündükleri sayfa veya grupları önererek yardımcı olabilirler. Fakat katılımcıların "sosyal paylaşım sitelerinin okul derslerine katkısı var mı?" sorusuna %94,9 oranında "Hayır" cevabını vermesi ebeveynlerin ve öğretmenlerin bu konuda öğrencilere yeterince yardımcı olamadıklarını göstermektedir. Öğrencilerin %55,9 oranında sosyal paylaşım sitelerinin özel hayatı ihlal etmediğini düşünmeleri, bilgilerin kimler tarafından nerelerde saklandığını bilmediklerinden veya resim gibi kişisel bilgi ve belgelerin üçüncü şahıslar tarafından kopyalanarak kötü maksatlı kullanıldığının farkında olmadığından kaynaklanabilir. %56,5 oranında katılımcılar sosyal paylaşım sitelerine evlerinden, %29,2 oranında internet kafeden, %7,8 oranında da okuldan bağlanmaktadırlar. İnternet bağlantılarının ekonomik oluşu, ebeveynlerin çocuklarını internet kafeler gibi evlerinin dışında bir mekâna internet için göndermek istememeleri ve bu nedenle evlerine internet ve bilgisayar almaları evde internete girme oranının yüksek olmasında etkilidir. Okullarda okulun internet hattından sosyal paylaşım sitelerine giriş, Milli Eğitim Bakanlığı'nın kararınca yasaklanmıştır. Öğrenciler cep telefonu, iphone v.b. gibi cihazlar ile bağlanıyor olabilirler. %7,8' lik oran bu durumdan kaynaklanabilir. Ortaöğretim öğrencilerinin sosyal paylaşım sitelerini kullanım amaçları ve kullanım süreleri yukarıdakilerden hangisi olursa olsun, bilinçli ve iradeli kullanıcı olmak gereklidir. Onları bu sitelerden tamamen yoksun bırakmak çözüm olamaz. Kullanıcıların etkileşim halinde olduğu büyüklerin öğrencileri bilinçlendirmesi, onları internet ve sosyal paylaşımın olumlu taraflarına yönlendirmeleri gerekmektedir.

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LLP ERASMUS HAREKETLİLİK PROGRAMI ONLİNE BAŞVURU VE BİLGİ SİSTEMİNİN TAŞINABİLİRLİĞİNİN TASARIM DESENLERİ YARDIMIYLA SAĞLANMASI

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Özet

LLP Erasmus hareketlilik programının amacı, Avrupa'nın farklı ülkelerindeki üniversiteler arasında öğrencilerin ve eğitimcilerin birbiri ile değişimleri sağlanarak üniversitelerdeki iyi uygulamaları Avrupa'nın bütününe yaymak ve karşılıklı fikir alışverişi ortamını oluşturmaktır. Bu kapsamda Erasmus hareketlilik programına katılmak isteyen öğrenci ve eğiticilerin programa başvurma ve yerleştirme işlemleri her üniversite için benzer süreçlerden oluşmaktadır. Bu benzer süreçleri bünyesinde barındıran bir çerçeve yazılımı geliştirmek her üniversitenin kendi Erasmus online başvuru sistemini en başından tasarlama zorunluluğunu ortadan kaldıracak ve gereksiz işgücü ve kaynak kullanımının önüne geçecektir. Bu çalışmada, üniversitelerin Erasmus hareketliliklerini düzenlemeye yönelik yazılım ihtiyaçlarını karşılayacak bir Erasmus Online Başvuru ve Bilgi Sisteminin geliştirilmesinde kullanılacak tasarım desenlerinin, sistemin tekrar kullanılabilmesi ve taşınabilmesine sağladığı katkılar üzerinde durulmuştur.

Anahtar Kelimeler: Erasmus, Öğrenci Hareketliliği, Personel Hareketliliği, Online Bilgi Sistemi, Tasarım Desenleri

Abstract

The purpose of the LLP Erasmus mobility program aims for creating a common base of mutual exchange of ideas and practices among universities of European countries . In this context, students and lecturers who want to participate in the Erasmus mobility program's application and placement process consists of similar processes for each university. In this context, enrollment and placement procedures Erasmus Mobility Program for participant students and lecturers are nearly similar among all universites. Developing a software framework that handles these similar processess prevent the unnecessary use of manpower and resources for design performances on creating their online Erasmus mobility programs. This study focuses on discovering principles of design patterns for reusability and portability of Erasmus Online Application and Information System used in Sakarya University.

Keywords: Erasmus, Student Mobility, Stuff Mobility, Online Information Systems, Design Patterns

Giriş

Bologna süreci kapsamında Avrupa Birliği hayat boyu öğrenme Erasmus programı, Avrupa'daki üniversiteler arası karşılıklı fikir alışverişi ve iyi olanı yayma anlayışını amaçlamaktadır (Ulusal Ajans, 2012). Avrupa Birliği Eğitim ve Gençlik Politikası, Avrupalılık bilinci oluşturmak ve Avrupa vatandaşlığı kavramını her bir Avrupalı bireye kazandırmayı hedeflemiştir (Üre, R., K., 2010; Tanyeri, 2006). Erasmus programı, belirtilen amaçları; üniversiteler arasında ülkelerarası işbirliğini teşvik ederek, öğrencilerin ve eğitimcilerin Avrupa'da karşılıklı değişimini sağlayarak ve programa katılan ülkelerdeki çalışmaların ve alınan derecelerin akademik olarak tanınması ve şeffaflığın gelişmesine katkıda bulunarak gerçekleştirmeye çalışmaktadır (Gümrükçü, 2006; Serbest, 2005). Bu karşılıklı değişim sadece öğrencileri değil öğretim elemanlarını hatta üniversite idari personeli de kapsamaktadır.

Erasmus programından yararlanmak isteyen adaylar, uzun bir süreçle karşılaşmaktadırlar. Başvuru yapma, sınava tabi tutulma, değerlendirilme ve yerleştirilme gibi adımlar sonucu kesin adaylar belirlenir. Bu işlemlerin hepsi uzun zaman alan işlerdir. Bu uzun süreçler karşılıklı değişim yapacak üniversiteler için büyük bir sorun haline gelmiştir. Üniversitelerin uluslararası ilişkiler ofisi personeli tarafından yürütülen bu zorlu süreçler programa başvurmak isteyen adayların sayılarının artmasıyla daha da karmaşık ve içinde çıkılmaz hale gelebilir. Bu problemler beraberinde daha çok sayıda insanın Erasmus programından yararlanmasına engel teşkil etmektedir. Böylece AB'nin hedeflediği iyi olanı tüm Avrupa'ya yayma hedefi bu tür uzun işlemler yüzünden sekteye uğramaktadır.

İnternetin yaygınlaşmaya başlamasıyla birlikte bilgisayarlar üzerinde yönetilen sistemler internete açılmış ve daha kolay erişim imkânı bulmuşlardır (Erkunt, & Akpınar, 2006). İnternetin aktif bir şekilde her alanda kullanılması eğitim alanında da yenilikler getirmiştir. Bu noktada AB'nin hedeflediği karşılıklı değişim programları da internet üzerinden daha büyük kitlelere ulaşmakta ve bu programlardan milyonlarca kişi haberdar olmaktadır (İşeri, 2005). Bilgi çağında bilgisayarın bize sunduğu hizmetlerden yararlanarak yukarıda bahsedilen uzun süren süreçler kısaltılabilir. Bu amaçla Erasmus programından yararlanmak isteyen adayların kısa sürede doğru sonuca ulaşmaları ve programın önündeki uzun kabul süreçlerini en kısa zamana indirgemek için internet olanaklarını da kullanarak Erasmus online başvuru ve bilgi sistemleri geliştirilmektedir.

Üniversitelerin Erasmus hareketliliklerini düzenlemek için geliştirilen sistemlerde bulunması gereken belli başlı temel yapılar vardır. Bu yapıların çoğu Bologna Süreci kapsamında belirlendiğinden her uygulamada bulunmalıdır. Örneğin öğrenim hareketlilikleri, ders verme hareketlilikleri ve staj hareketlilikleri gibi işlemler her Erasmus programında aynı şekilde çalışmalıdır. Bu şekilde benzer işlemleri yapan bir programı her üniversitenin kendisinin geliştirmesi gereksiz işgücü ve kaynak kullanımına sebep olmaktadır. Bunu engellemenin bir yolu ilgili programların ortak özelliklerini içinde barındıran ve uygulamalara temel bir çatı belirleyen yazılım çerçevelerinin (software frameworks) kullanılmasıdır (Morisio vd., 1999; Vladimir ve Sylvia, 2005).

Yukarıda bahsedilen benzerliklerin yanında Erasmus online bilgi sistemi, üniversitelerin kendi farklılık ve özgünlüklerine göre değişiklik gösterecek ve diğer üniversitelerdeki uygulamalardan ayrılacak özelliklere de sahip olabilir. Bu sebeple belli bir noktaya kadar geliştirilen çerçeve yazılımının üniversitelerin Erasmus hareketliliklerini yönetmeye yönelik sistemlere temel oluşturacak bir yapıda olması ve üniversitelerin kendi ihtiyaçlarına göre genişleyebilir ve taşınabilir olması gerekmektedir. Bu genişlemeye imkan verecek yapıların oluşturulmasında tasarım desenleri önemli bir role sahiptir.

Tasarım Desenleri ve Erasmus Bilgi Sistemi

Bir yazılım mühendisliği kavramı olarak tasarım desenleri, yazılım tasarımında ortaya çıkan benzer problemlerin genel çözümleridirler. Tasarım desenleri genel bir tasarım şablonudur. Tamamıyla bitmiş ve doğrudan kodlanabilen tasarımlar değillerdir. Ortaya koymuş oldukları genel çözüm yolları uygulamaya göre şekillendirilerek ve değiştirilerek kullanılırlar (Yıldırım, 2006).

Tasarım desenleri, kullanılmış ve başarıya ulaşmış tasarım ve mimarilerin yeniden kullanılabilmesini sağlarlar. Bu sayede üretilen sistemin yeniden kullanılabilirliği artmaktadır. Zaten kullanılmış ve başarıya ulaşmış tasarımları kullanmak, uygulamaya özel problemlerin çözümü için iyi bir başlangıç yapmayı sağlar ve düşülebilecek potansiyel hataları engeller. Geliştiriciler ve tasarımcılar, zaten çözülmüş problemlerle tekrar tekrar uğraşmazlar. Bunun yerine başarıya ulaşmış iyi tasarımları yeniden kullanarak kendi sistemleri için özelleştirirler (Douglass, 2002). Tasarım desenleri, yeni gereksinimleri önceden sezerek sistemi genişleyebilir olarak tasarlamak için kullanılırlar. Sistem değişimlere ve genişlemeye uygun tasarlanmadıysa, ilerde ortaya çıkan gereksinimler, sistemin belki de baştan yazılmasına ve test edilmesine neden olacaktır. Tasarım desenleri, sistemin daha rahat, hızlı ve sağlam bir değişebilirlik özelliğine sahip olmasını sağlarlar (Gamma vd, 1994).

Tasarım desenlerinin temelleri, mimar Christopher Alexander'ın 1970'li yılların sonlarında başlattığı çalışmalara dayanmaktadır. Alexander, desenlerin belgelenmesi için temel kabul edilen örnekler ile ilgili 1977'de "Desen Dili: Kentler, Binalar, Yapılar" (Alexander vd, 1977) ve 1979'da "Ebedi Yapım Yöntemi" (Alexander, 1979) kitaplarını yayınlamıştır. Bu kitaplarda mimari desen örnekleri yanı sıra, bu desenlerin nasıl belgeleneceği de konu edilmiştir. 1987'deki uluslararası "Nesneye Yönelik Programlama, Sistemler, Diller ve Uygulamalar" (OOPSLA) konferansına kadar tasarım desenleriyle ilgili bir çalışma ortaya çıkmamıştır. Bu tarihten sonra ise Grady Booch, Richard Helm, Erich Gamma ve Kent Beck başta olmak üzere tasarım desenleri ile ilgili birçok makale ve sunum yayınlanmıştır. 1987 yılından 1992 yılına kadar Erich Gamma, Richard Helm, Ralph Johnson ve John Vlissides çeşitli desen katalogları hazırlamışlardır. OOPSLA'91 görüşmelerinde çok sayıda tasarım deseninin tartışması yapılmıştır. Bu tartışmalarda Jim Coplien, Doug Lea, Desmond D'Souza, Norm Kerth, Wolfgang Pree gibi saygın model uzmanları katılmıştır. 1993 yılı Ağustos ayında Colorado şehrinde Kent Beck ve Grady Booch sponsorluğunda Hillside Group ilk toplantısını yapmıştır. Daha sonra desen toplantısı OOPSLA'93 yapılmış ve Nisan 1994'te Hillside Group ilk "Pattern Languages of Programs (PloP)" konferansını planlamak üzere toplanmıştır. Kısa bir süre sonra 1994'de Erich Gamma, Richard Helm, Ralph Johnson ve John Vlissides tarafından yayınlanan "Tasarım Kalıpları: Tekrar kullanılabilir Nesneye Yönelik Yazılımın Temelleri" kitabı, tasarım desenlerinin yazılımda kullanılmasında dönüm noktası olmuştur (Gamma vd, 1994)..

Erasmus online bilgi sisteminin geliştirilmesinde, ileride doğabilecek ihtiyaçlara göre bir tasarım yapmak ve sistemi diğer üniversitelerin de kendi ihtiyaçlarına göre genişletebilmesine olanak sağlamak gerekir. Bu da ancak, sistemin modüler bir yapıda tasarlanmasıyla mümkün olabilir. Bu şekilde, sisteme yeni eklenen bir modül, diğer modüllerin çalışmasını bozmayacak ve modüller arası iletişimi etkilemeyecektir. Bu modüler yapıyı sağlamanın en önemli unsuru ise sistemin tasarımı ve geliştirilmesi sırasında tasarım desenlerinin kullanılmasıdır (Horasan, 2007).

Erasmus Online Başvuru ve Bilgi Sistemi İşleyişi

Geliştirilen online bilgi sistemi çerçeve yazılımı , Erasmus programına başvuracak öğrenci ve öğretim elemanlarının aday kabul ve yerleştirme işlemlerindeki karmaşık süreçlerinin çözümü için tasarlanmıştır.

Bu kapsamda sistemin gerçekleştirdiği temel fonksiyonlar ve özellikler aşağıda verilmiştir:

Sisteme dahil olan ülkelerin, üniversitelerin, fakülte ve bölümlerin tanımlanması

Yapılan anlaşmalar ve kontenjanların girilmesi

İnternet üzerinden başvuruların alınması

Belirlenen kriterlere göre puanlamanın yapılması

Otomatik ve manuel yerleştirme işlemlerinin yapılması

Yerleştirme sonuçlarının yayınlanması ve onaylanması

Boş kalan kontenjanlara yeni başvuruların alınması
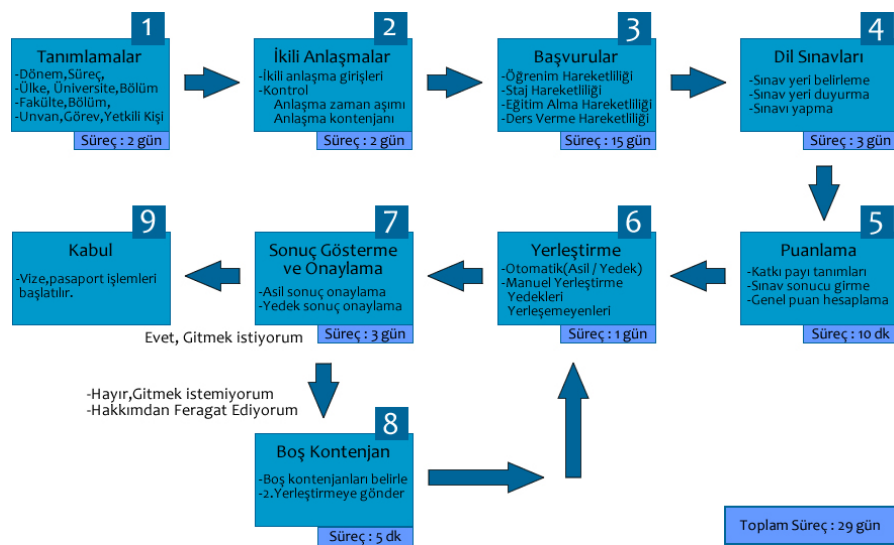
Şekil 1: Erasmus Online Başvuru ve Bilgi Sistemi Aday Kabul ve Yerleştirme Süreci

Geliştirilen Sistemin Modülleri

Geliştirilen sistem modüller şeklinde tasarlanmıştır. Şekil 1'de verilen aday kabul sürecindeki her adım modüllere bölünerek sistemin entegre çalışmasına olanak sağlamıştır.
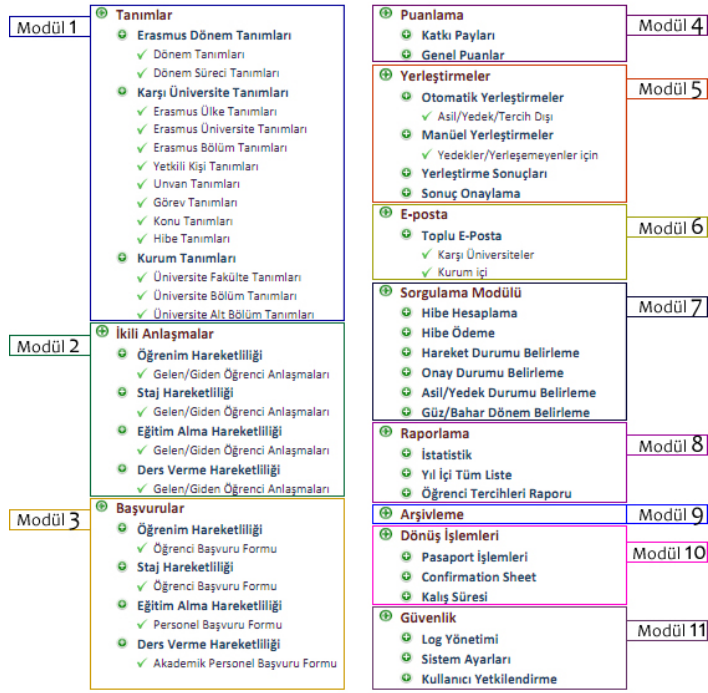
Şekil 2. Erasmus Online Başvuru ve Bilgi Sistemi Modülleri

Geliştirilen Sistemde Kullanılan Tasarım Desenleri

Tasarım desenleri, tasarımın yeniden kullanılabilirliğine ve taşınabilirliğine dayanmaktadır. Ancak bir sistemde kullanılan tasarım desenleri, sistemin belli özelliklerini iyileştirirken, bazı özelliklerine ise olumsuz yönde etki edebilmektedir. Bu nedenle bir sistem tasarlanırken kullanılacak tasarım desenlerinin ihtiyaca ne derece katkı sağladığına ve getirdiği avantajların ve dezavantajların neler olduğuna dikkat edilmelidir (Yıldırım, 2006).

Geliştirilen sistemde bulunan modüller birbirinden bağımsız olarak sorumlu oldukları işlemleri yerine getirseler de sahip oldukları sınıflar ve işlevler açısından birbirlerini etkilemekte ve birbirlerinin sınıf ve metotlarını kullanabilmektedirler. Nesneye dayalı programlama paradigması çerçevesinde geliştirilen Erasmus online bilgi sistemi çerçeve yazılımında, yukarıda bahsedilen modüller arasındaki ilişkilerin sağlanmasını kolaylaştırmak ve uygulamanın sınıf hiyerarşisinin bir noktadan sonra karmaşık ve anlaşılması zor bir hale gelmesine meydan vermemek için sistemde bulunan sınıflar ve nesneler en uygun tasarım desenleri kullanılarak geliştirilmeye çalışılmıştır.

Tanımlar Modülünde Kullanılan Tasarım Desenleri

Üniversitelerdeki bölüm ve programları temsil eden birimler hiyerarşik bir yapıda bulunmaktadır. Örneğin bir fakültenin altında bölümler ve bölümlerin altında da ana bilim dalları vardır. Bu tip hiyerarşik yapıların yazılımda temsil edilmesi gerektiği durumlarda Composite(Bileşik) tasarım deseni kullanmak oldukça yerinde olacaktır. Composite tasarım deseni sayesinde sistemde bölüm ve programları temsil eden hiyerarşik yapıların kolay bir şekilde gerçeklenmesinin yanısıra bu hiyerarşik yapıya yeni birimler eklenmesi de oldukça kolay ve genişleyebilir bir yapıya kavuşmaktadır. Üniversiteler kendi eğitim birimlerinin hiyerarşik yapısını sisteme kolayca ekleyebilmektedirler.
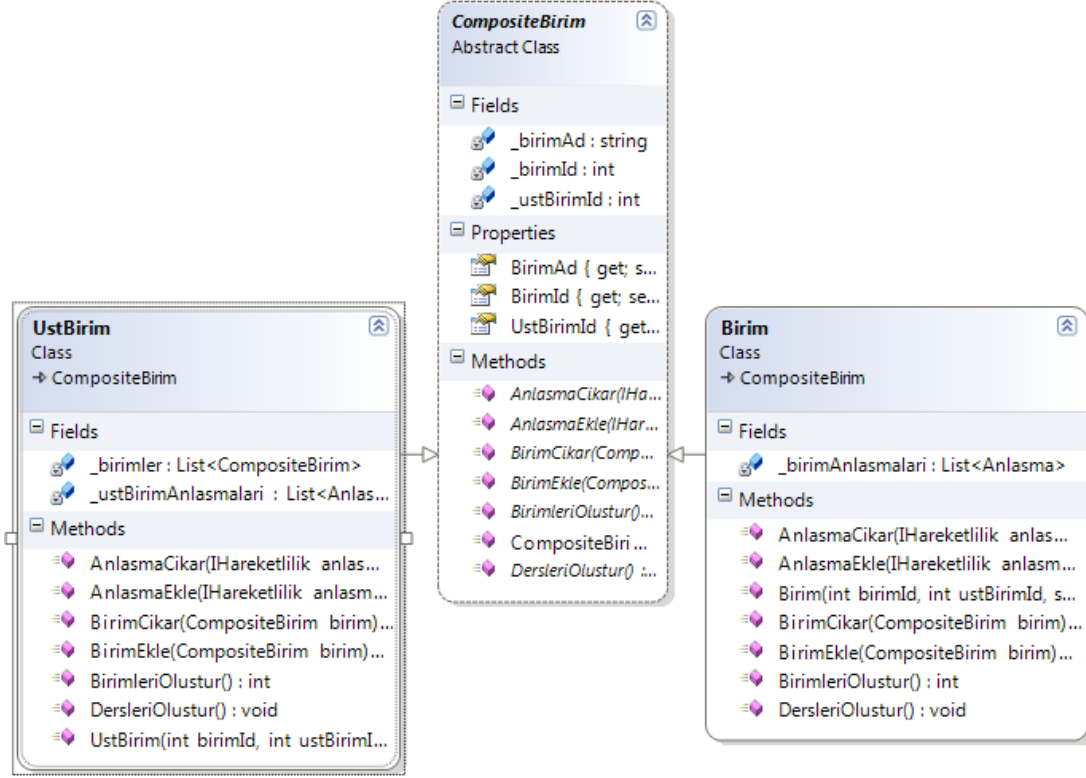
Şekil 3. Tanımlar Modülünde Kullanılan Composite Tasarım Deseni

İkili Anlaşmalar ve Başvurular Modüllerinde Kullanılan Tasarım Desenleri

İkili anlaşmaların tanımlanması ve başvuruların alınması işlemleri Erasmus hareketlilik tiplerine göre değişmektedir. Örneğin ikili anlaşma tanımlanırken öğrenim ve ders verme hareketliliğine göre kontenjanlar veya hibeler farklı özelliklerde olabileceği gibi başvuruların alınması işleminde de staj, öğrenim ve ders verme hareketliliklerine göre farklı özellikler bulunmaktadır. İkili anlaşmaların tanımlandığı veya başvuruların alındığı arayüzler farklı hareket tiplerinden etkilenmemelidir. Bu durumun sağlanabilmesi için ikili anlaşmaları veya başvuruları gösteren arayüz kendisine verilen hareketlilik nesnesinin hangi sınıfın bir nesne örneği olduğunu bilmemelidir. Bu arayüzün bilmesi gereken tek şey kendisine verilen hareketlilik nesnesinin IHareketlilik arayüzünü uygulamış olduğudur. Uygulamada bunu sağlamak için de Strateji tasarım deseni kullanılmıştır.
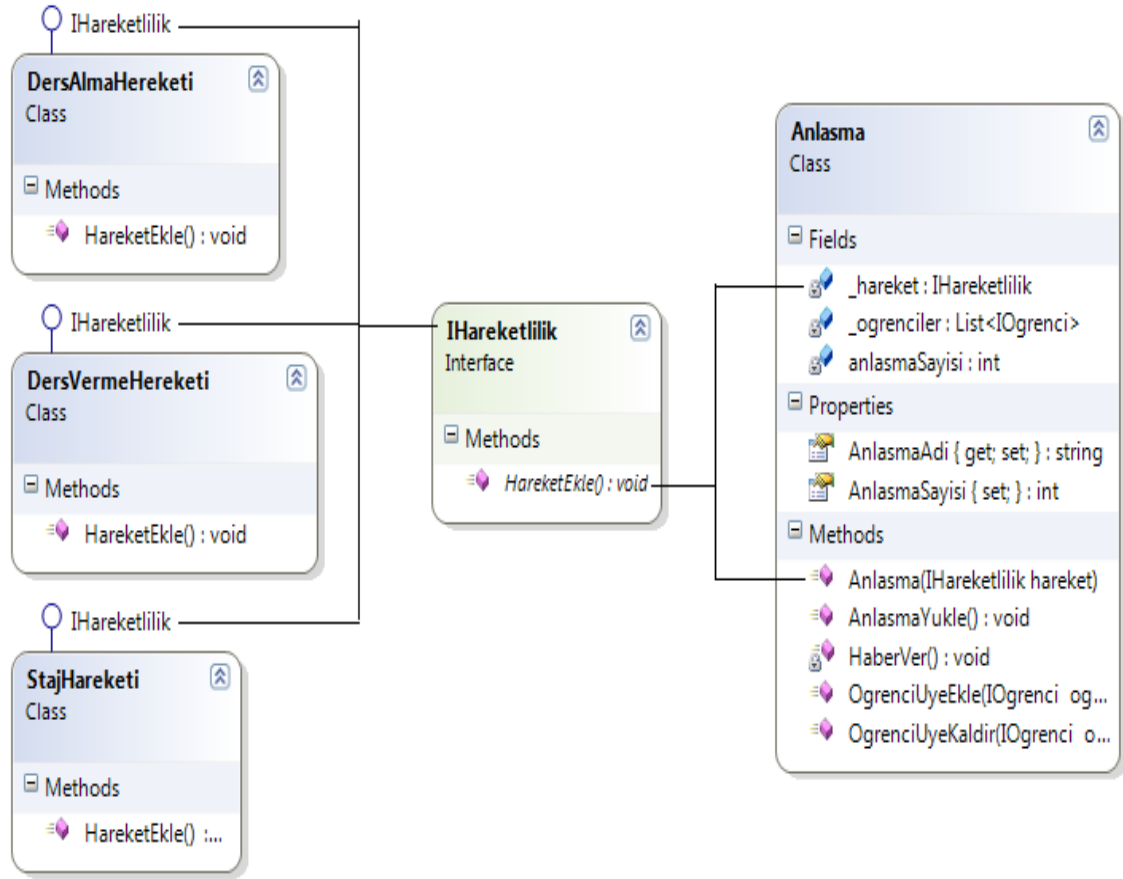
Şekil 4. İkili Anlaşmalar Modülünde Kullanılan Strateji Tasarım Deseni

E-posta modülünde Kullanılan Tasarım Desenleri

Erasmus programından yararlanan öğrenci ve öğretim elemanlarına başvuru ve yerleştirme süreçleriyle ilgili duyuruların veya haberlerin, yapılan yeni anlaşmaların, sisteme yüklenen belge ve dokümanların bildirilmesi sistem üzerinden veya kullanıcılara manuel olarak toplu e-posta gönderilmesi yoluyla yapılmaktadır. Bunun yanında sisteme üye olan kullanıcıların sadece kendilerine veya bulundukları bölüme özel bir değişikliğin otomatik olarak bildirilmesi sürecin işleyişini hızlandıracak ve bilgilendirme işlemini manuel olmaktan kurtaracaktır. Bu bilgilendirme işlemi için Gözlemci (Observer) tasarım deseni kullanılmıştır. Gözlemci tasarım deseni, sisteme üye olan nesnelerin, sistemin herhangi bir yerinde olabilecek bir değişiklikten haberdar edilmesi esasına dayanır. Örneğin sisteme yeni bir anlaşma eklenmesi durumunda Gözlemci tasarım deseni sayesinde sistem, önceden tanımlanan herhangi bir yöntemle –mail yoluyla veya sistem içerisinde geliştirilebilecek mesajlaşma modülüyle olabilir- otomatik olarak o anlaşmanın yapıldığı bölümdeki kullanıcılara bilgilendirme mesajı gönderebilecektir.
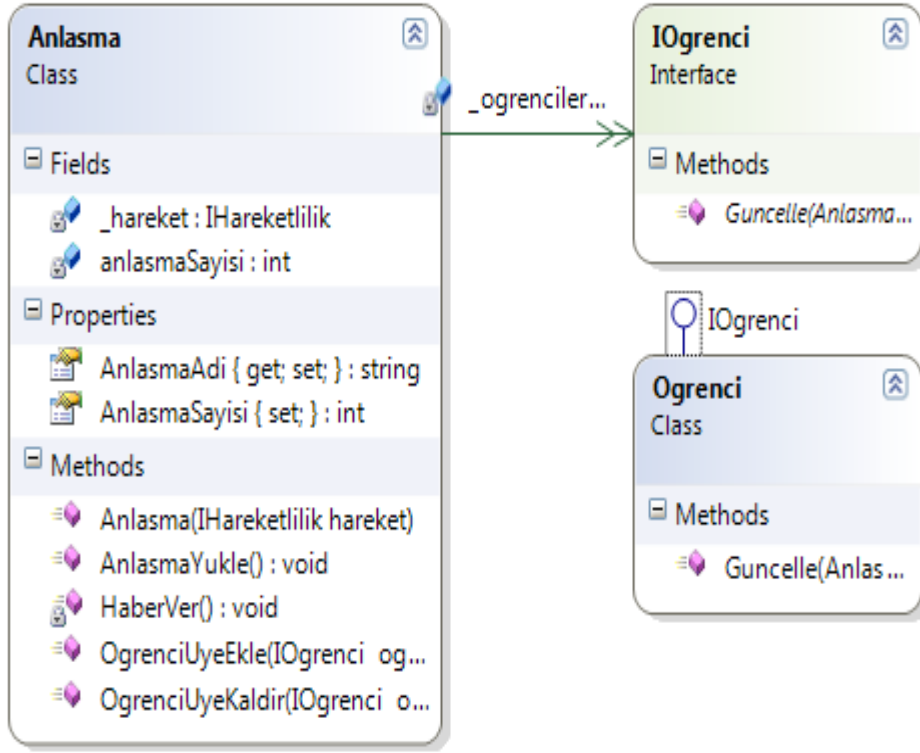
Şekil 5. E-posta Modülünde Kullanılan Observer Tasarım Deseni

Kullanılan Tasarım Desenlerinin Sistemin Taşınabilirliğine Etkisi

Nesne tabanlı bir uygulamanın kalitesini ölçebilmek için çeşitli yazılım metrikleri kullanılabilir. Bu çalışmada Chidamber ve Kemerer metrik kümesinde tanımlanan nesneler arası bağımlılık (Chidamber&Kemerer, 1994) parametresine göre uygulama test edilmiştir.

Şekil 6' da görüldüğü gibi Anlaşmalar, Başvurular ve Yerleştirmeler modülleri arasında herhangi bir bağımlılık söz konusu değildir. Aynı zamanda bu modüllerin ihtiyaç duydukları Hareketlilik sınıflarıyla birebir bir ilişkisi yoktur. Gerekli olan bağlantı IHareketlilik arayüzü üzerinden sağlanmaktadır. Yeni bir öğrenim hareketliliği ileride sisteme eklenmek istendiğinde Anlaşmalar, Başvurular ve Yerleştirmeler modülleri içerisinde herhangi bir değişiklik yapmaya gerek kalmayacaktır. Çünkü yeni öğrenim hareketliğine ait sınıf, IHareketlilik arayüzünü uygulayacatır. Bu da sistemin modüler bir yapıya kavuşmasına ve sistemin değiştirilmeden genişletilmesine katkı sağlamaktadır. VeritabaniYonetimi modülü, veritabanıyla ilgili işlemlere ihtiyaç duyulan tüm sınıflarda sıkça kullanıldığından dolayı bağımlılığı yüksektir. Fakat diğer modüller arasında sıkı bağlı bir yapı söz konusu değildir. Bu da sistemin taşınabilir olmasına katkı sağlamıştır.
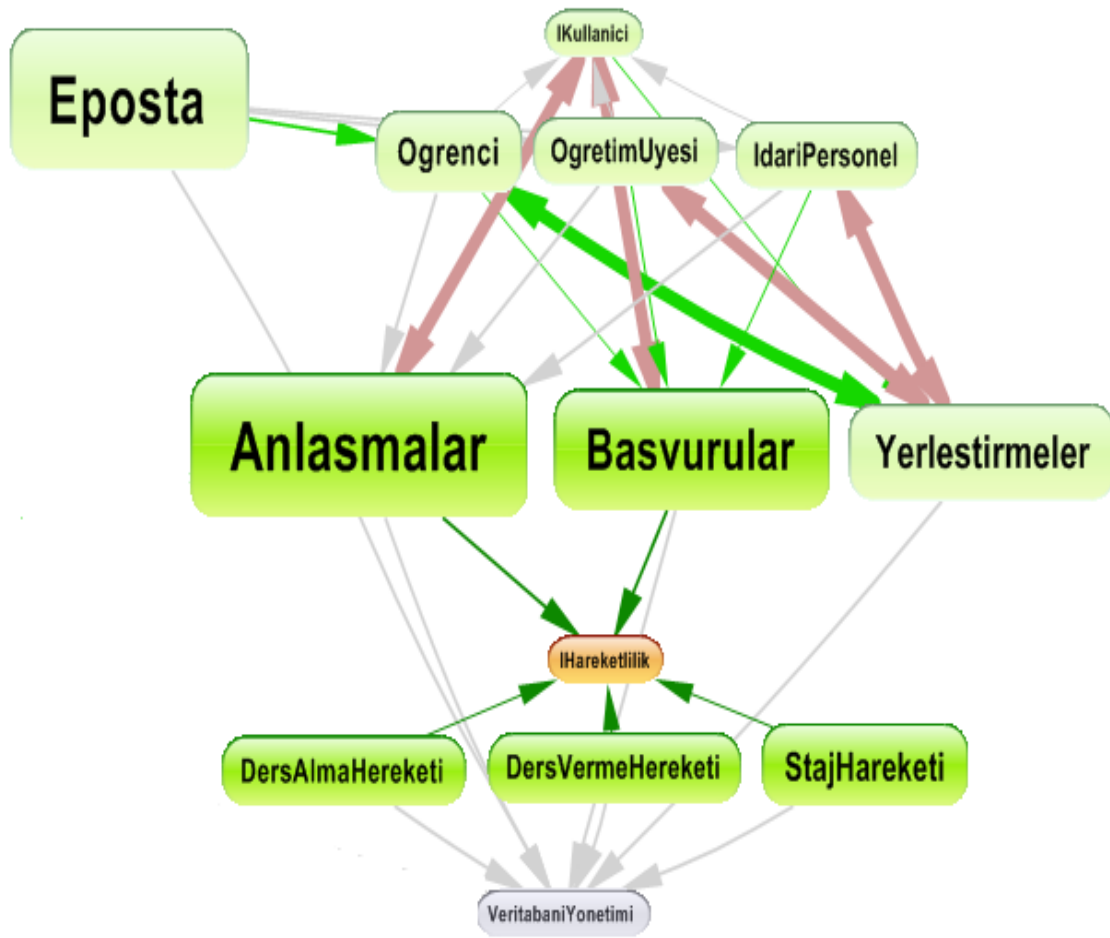
Şekil 6. Modüller Arası İlişkiler

Sonuç

Bu çalışmada üniversitelerin Erasmus hareketlilik süreçlerini düzenlemeye yönelik yazılım ihtiyaçlarını karşılayacak bir Erasmus online başvuru ve bilgi sisteminin geliştirilmesinde kullanılacak tasarım desenlerinin, sistemin tekrar kullanılabilmesi ve taşınabilmesine sağladığı katkıların önemi üzerinde durulmuştur. Genel bir Erasmus online başvuru ve bilgi sistemi çerçeve yazılımının sahip olması gereken standartlar incelenmiş, üniversitelerin değişen ihtiyaçları doğrultusunda yazılımın genişlemeye imkan veren bir yapıda tasarlanması, tasarım desenleri kullanılarak sağlanmıştır.

Sistem geliştirilirken ileride doğabilecek ihtiyaçları da hesaba katarak bir tasarım gerçekleştirmek ve sistemi diğer yükseköğretim kurumlarının da kendi ihtiyaçlarına göre genişletebilmesine olanak sağlamak amaçlanmıştır. Bu nedenle kullanılan tasarım desenleri, sistemin, tasarım prensiplerinde önemli bir yeri olan Açık-Kapalı prensibine göre tasarlanmasına yönelik olmuştur. Bunun anlamı ileride doğabilecek ihtiyaçlara göre yeni modüller eklenirken eski modüller değiştirilmeden sistemin genişleyebilmesine olanak sağlamaktır. Fakat kullanılan tasarım desenlerinin sistemin performansı üzerine yaptığı etkiler üzerinde ayrı bir çalışmaya da ihtiyaç bulunmaktadır.

Sistem genel olarak bir Erasmus online başvuru ve bilgi sistemi yazılımında sahip olması gereken işlevleri barındıran bir çerçeve programı olmasından dolayı her üniversitenin Erasmus başvuru süreçlerini düzenlemede ihtiyaç duyacakları temel işlevleri yerine getirebilmektedir. Bu sayede her üniversitenin, temel adımları

gerçekleştirecek işlemleri yerine getirecek program sınıflarını tekrar tekrar yazmalarının önüne geçildiğinden programın taşınabilirliğine ve genişletilebilirliğine katkı sağlanmıştır.

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MAKING MUSIC, SOUNDSCAPES AND SPOKEN WORD: CASE STUDY OF CKUT

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Abstract

Using narrative inquiry, three case studies, "BlackTalk with CKUT, McGill University's community radio station in Montréal, Canada, a brief mention of CKCU's "Beyond Our Backyard" on Carleton University's community radio station in Ottawa and WETV, an effort to bring about international television with a human rights perspective will be discussed

Keywords: Music, Soundscapes And Spoken

Main text

When I was 10, the vice-principal of O'Connor Public School in Toronto set up a mini-television studio, called OCTV, so the students could have their announcements on close-circuit TV. A small group of grade 5 students, myself included, rotated through the various production jobs. Sometimes, I was the sound engineer, which meant playing the theme song "Here Comes the Sun," and sometimes I was the announcer, which meant informing the students about Peter Pan play auditions.

One "International Day," we had to bring a dish from our heritage to be sampled by other students. An OCTV announcer asked me on-air what I had brought in, and I told him "matoke" – a common Ugandan meal made of steamed and mashed green bananas. The announcer asked me where Uganda was, and upon hearing "Africa" exclaimed, "Oh Africa! I thought they ate people there!" I was so upset, I almost burst into tears, but I did not want to cry on-air. Instead, I told him – and also about 500 other students who were watching OCTV – everything I knew about Uganda. I told them stories about my family who lived in a brick house, not a grass hut; who drove cars, not camels, and who ate matoke, rather than people. The response was phenomenal. Scores of students wanted to know more. I came to know the power of broadcasting.

This was my first experience with public affairs broadcasting, and particularly, black public affairs broadcasting. The power that can make a young boy think all Africans eat people is the same power that can tell him that they are people. Working with OCTV developed my love television rather than radio…I was a child of the TV age. I grew up with access to radio in every room of the house, but I listened mainly when Michael Jackson or Boy George was singing. I lived for Top 40 countdowns so knowing the "coolest" music would help me in my public affairs in school. Still, television had a more dominant role in my life: even my music knowledge came mostly from watching music videos. To me, radio broadcasting was intended solely for music. Later, I discovered it could do more.

In journalism school, I did stories on a variety of issues, but really enjoyed the stories about Spike Lee's movie "Malcolm X" and its positive portrayal of Muslims, a feature on fraternal twins who both had sickle cell anemia and an all-black fashion show which opened up issues around re-defining standards of beauty. These are public affairs issues. Effective public affairs is knowledge, and also information, that better prepares you to function in society. Black public affairs is an important part of public affairs broadcasting. I agree wholeheartedly with Carter G. Woodson as quoted in Gerald Early's article "Understanding Afrocentrism": Furthermore, no one can be thoroughly educated until he learns as much about the Negro as he knows about other people (Woodson, 1933).

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At first, I never found radio a useful medium for situating blacks in public affairs. In the time I was in journalism school, or my time at CBC's "Metro Morning" (where I got a chance to do radio stories) I never did a story that focused on black people. Radio for black public affairs…for many years this was a foreign concept. Who wanted to be simply heard, when you could be seen and heard? When I first started working with CBC Toronto in National Radio News, it was viewed as a kind of "racial Utopia," where colour did not matter, image did not matter, and as a black person, you had more freedom to express views you could not in TV. It was also around this time that I discovered WBLK on the radio dial, a black commercial radio station in Buffalo, New York. This station is not focused on public affairs talk programming, but on music, with a priority to entertain. It really wasn't until my involvement with community radio station CKUT's "BlackTalk," a day of programming devoted to black public affairs issues, that I realized that maybe radio could be a "racial Utopia"…or is it? This is what the following will explore.

By "racial Utopia" I mean the creation of a work environment and product that is anti-racist, anti-sexist, anti-heterosexist as it relates to people of colour. A "racial Utopia" as it relates to media is a product that is all encompassing of what is black, not stereotypical, and it is a work environment that is free from white supremacist structures, or black self-hating attitudes.

First, I will discuss the history of "BlackTalk" at CKUT and second the greater access black people have to radio compared to TV. A discussion of the "tyranny of the image," as Bill Gilsdorf refers to it and the "tyranny of sound," will follow.

History of "BlackTalk" at CKUT:

"BlackTalk" began in 1990 as an initiative of the Black Students' Network (BSN) at McGill University. The network felt that it needed a forum to discuss issues that black people face on a daily basis, and a radio program during Black History Month could address some of these issues. The BSN approached CKUT because the station had a reputation for being accessible to minority groups, a main part of its mandate. The accessibility of CKUT to minority groups was discussed in class by Rufo Valencia, Spoken Word Co-coordinator. CKUT agreed to interrupt regularly scheduled programming to devote a day of black-focused programs called "BlackTalk." The first group who did "BlackTalk" consisted mainly of the 18 to 21-year-olds who were part of the BSN. The first "BlackTalk" provided a model for future ones. The segments of black information called "Black Facts" has remained in the structure of the programming for eight years.

For 1998, "BlackTalk" was on Sunday, February 22nd and started at 7 a.m. on 90.3 FM. "BlackTalk" devotes more than 19 hours of airtime to programs dealing with aspects of black history, heritage and consciousness. That year was the ninth year of the program. It featured various shows that explored diverse and often under-represented aspects of blackness. The programming consists of panel discussions, call-ins, reviews, interviews, documentaries and live shows. Part of the objective of "BlackTalk" is "to acknowledge the achievements of black people through history, raise awareness of existing and emerging issues in the community and reinforce commitment to social change (Interview: Adrian Harewood, CKUT). Here is a run-down of what the day of programming was like in terms of its schedule, as well as a few explanations on the shows:

0700h – "Mind Soul and Spirit": this was a religious show that consisted of gospel music and interviews with ministers.

0900h – "Taking Care of Our Own": panel discussion on big brother program

1000h- "Kid's Show": featured interviews with children in schools and in studio discussing issues of interest to them

1030h – "Music Show": Jazz

1100h – "Ebonics": this is a term given to the type of language black people speak that is also referred to as slang. There was a movement-taking place that originates in the U.S. to have this language become a recognized one distinct from English and more reputable than slang.

1130h – "The Sir George Williams Affair": this was an incident that took place at Concordia University in the late 1960s that involved black Canadian students who were protesting.

1200h – "Black Canadian Literature"

1300h – interviews with youth

1330h – music show – Afro-Zouk

1400h – "Black Youth in Youth Protection" (live from ISART)

1500h – "Hair Politics" (live from ISART): a discussion surround the aesthetics of natural black hair versus chemically processed hair, and everything in between.

1600h – "Standards of Black Beauty"

1630h – "Blacks and Media Representation"

1700h – "Environmental Activism in Haiti"

1730h – "Blacks in Sport"

1830h – "Black Health Issues"

1900h – "White Families Adopting Black Children"

2000h – "Black Youth of the Diaspora": this discussion includes looking at issues around identity for young black people who may have citizenship in one country, but their parents are from somewhere else – where do they belong? What do they identify as?

2100h – "Emancipatory Education"

2130h – "The McGill Africana Studies Program"

2200h – music

2230h – "The Globization of Hip Hop"

2330h – "Male-Female Relationships"

0030h – "Black Gay and Lesbian Committee"

0130h – "Black Sexuality"

0230h – "DJ Culture" (Interview: Harewood, CKUT)

"BlackTalk" has had a significant impact on black community projects, particularly at McGill University. Adrian Harewood, the former station manager at CKUT, became part of "BlackTalk" in 1993. The success of the show prompted him to start a similar type of program in Ottawa after he left McGill. He was part of a day of black-focused programming at CKCU, Carleton University's community station, called "Shades of Blackness." This day of programming also took place during Black History Month of 1994. "Shades of Blackness" won a Standard Award sponsored by the National Campus and Community Radio Association. "BlackTalk" sparked a library at McGill University in 1993. The BSN felt in order to keep an on-going feeling of interest of black issues alive, well after "BlackTalk" was off-air, they needed resource materials for anyone with research

interests…the Alfie Roberts Library is still running at McGill. With the tradition of "BlackTalk" having an impact on the black community, the day of programming has also spawned a Black Audio Collective that will have a continuous role in producing oral histories and exploring some of the issues unable to be covered during "BlackTalk." The work of the collective will be broadcast on CKUT, and potentially become part of the Alfie Roberts Library.

"BlackTalk's" history in terms of content was concentrated on black firsts. There was an "emphasis on our place in history," (Interview: Harewood, CKUT). Segments of "Black Facts" were sponsored by small businesses. "BlackTalk" has changed. "It's become more aware, even more informed" (Interview: Harewood, CKUT). That year's programs did not include business sponsorship of "Black Facts" because the community of people involved decided against it. It was felt by most of the group that they did not want corporate interests to influence programming. In the past, "BlackTalk" volunteer producers and CKUT felt that some businesses that sponsored "Black Facts" were not committed to the development of the black community that was exemplified in such things as their hiring practices.

The age range of "BlackTalk" volunteers both on- and off-air has changed as well. There were about 40 people involved. People involved this year were from 18- to 43-years-old. Unlike the past, they were not all McGill students. The group consisted of students from most universities in Montreal, some CEGEPs, and community members. True to the nature of community radio, "BlackTalk" was a community-run production. Decisions from programming, to scheduling, to sponsorship, to training, were all made as a group.

"'BlackTalk'" is not just about the broadcast or the actual radio program. It's a demonstration of what we can do, that we can participate in these institutions and we produce something that is quality and a tremendous utility for the community," (Interview: Harewood, CKUT).

Access of Blacks to Radio and TV:

Television Access:

When I asked Adrian Harewood why the BSN did not approach community television stations to do black public affairs programming, he said it was felt that radio would be an easier medium for community programming. Technically, radio is not as complicated. The basics of radio could be learned easier. "All you need is a mic and a voice," (Interview: Harewood, CKUT). He also said that most people do not feel as intimidated by radio, whereas "TV is a bit of an abstraction" (Interview: Harewood, CKUT). It was felt that people may not watch a whole day of TV programming of black public affairs, and one has to put a lot more time and resources in to producing quality TV. At t he time, in 1990, there were not many BSN people who had skills in television. This is perhaps partially a result of the kind of access that black people have had to producing television. The same mass-produced writing was once the domain of upper class white men, as mentioned in class by Dr. Gilsdorf, so was mass-produced television. As Carlos I. Fontes points out in "Alternative Video at a Crossroads: A Global Perspective," it has only been in the last 25 years that because of changes to video technology, there have been a number of grassroots organizations and social groups who are using video for non-mainstream purposes. Often grassroots means of using television, with minimal broadcasting capacity, is the only way that blacks and other minorities can have access to having freedom in production. One does not need the CRTC to give approval to a grassroots video not show on cable.

The difficulties that blacks have had in producing public affairs programming for television were discussed in seminars at the National Association of Black Journalists conference in Chicago, June 1997. One seminar was called "Whatever Happened to Community Affairs Programming? And the other, "Black News Magazine Programs: Where Are They, and Are They Needed? The emphasis of the latter seminar was on looking at failed commercial television efforts made by Jesse Jackson, Ebony Magazine and Essence Magazine.

In 1994, the CRTC decided on new specialty channels, and among those who made a bid for their own station were broadcasters Sylvia Sweeney and Paul de Silva. They each made separate applications for channels that would have focused on black public affairs programming. Both of them lost their bids.

The African-Canadian Communication and Broadcasting Corporation (ACCBC) tried to create black-focused public affairs programming by aligning themselves with Black Entertainment Television (BET). ACCBC was trying to get BET into Canada, as well as using it as a catalyst to create programming that was being done in Canadian television. This group disbanded, though BET was let into Canada by the CRTC late in 1997. Unfortunately, without the ACCBC's involvement, BET has become a television version of WBLK. Because of its dependence on commercialism, the Canadian version of BET does not include black public affairs programming.

Even efforts that black people have made to have a presence on Canadian community television have been difficult in the past. I used to be involved with a black video collective in Ottawa called Black Community in Residence (BCIR). This group was linked with SAW Video, an artist-run video co-op. Because of the nature of the kind of video, with its non-mainstream content and aesthetics, community television was the main venue for broadcasting material from SAW. Several efforts BCIR members made to broadcast material on Rogers Cable were turned down. Thirty-minute pieces were considered too long for broadcast by programming directors. Many times, senior producers said they just did not have the airtime. The community served at Rogers often did not include black people.

Radio Access:

In the late 1990s, a group called Milestone, in Toronto, made efforts to have a black commercial radio station on the FM dial. This station is completely black-owned and also was meant to have public affairs programming. Milestone's application for a license was denied and the frequency was assigned to the CBC so they could broadcast on the FM dial, although they already had a station on the AM dial. Success, in terms of black commercial TV and radio, and community TV, had been minimal.

But, community radio seems to have a different story of access for blacks. CIUT and CKLN in Toronto have been involved in black public affairs programming for many years. CKCU has carried on with its tradition of "Shades of Blackness" and other programs that appear outside of Black History Month as well. CKUT, along with "BlackTalk," also includes programs about African news and current affairs, and a regular show called "Soul Perspectives" that includes black public affairs programming. It would seem that community radio is kind of a racial Utopia for black public affairs programming.

Tyranny of Image:

Despite successes made in community radio for African-Canadians in terms of public affairs, personally valuing this success is made static by my love for television. Some little boys, such as a young Dr. Gilsdorf, dreamt of being President of the United States as we got a glimpse of in the documentary "Primary." I was a little girl who dreamed of owning a television station, like OCTV, so I could broadcast messages that would correct the misinformation about black people. My experience with "BlackTalk" made me question the capability of television to be a racial Utopia – perhaps radio has the answer. The "tyranny of the image" has a special connection to the black experience. "Tyranny of the image" is a term I first heard from Dr. Gilsdorf. The way I understand the expression is the power of the image to dominate and define the content of television. I will be using this term from a black perspective.

The image is a powerful thing. Joel Worrell, how used to work for CUTV, Concordia's TV station, and as a producer and cameraperson for Maturity Video, says, "radio has a slight disadvantage because today's public is more visual (Interview: Worrell, CUTV and Maturity Video). Joel was one of the participants in "BlackTalk" and he said portrayal of blacks on TV is not reflecting reality and that, perhaps, radio does. A lot of the criticisms made by blacks and non-blacks about the media's negative portrayals and stereotyping is based on an analysis of film and television. Patricia Turner's Celluloid Mammies and Ceramic Uncles is an American book that analyzes the portrayal of many black-focused television program and movies. Even in my own experience, there seems to

be this view that radio is free of racial bias. When I worked for CBC Toronto's television news and current affairs program, "The Evening News," and "Metro Morning," a radio news and current affairs program, radio was viewed as a racial Utopia when compared to TV. In about the last month of my work with these shows, I was assigned to monitor to determine how diverse they were. Setting up a computer program to examine the "Evening News" was easy. It consisted of noting the race of the reporters and sources, the occupation of the sources, as well as their sex – it also included information on the topic of the story. Setting up a program to examine "Metro Morning" was so difficult though, that it never happened. How could you determine the race of someone based on their voice? (This is an issue I will discuss later in this essay). Recording the number of times the radio program dealt with issues of diversity did not seem sufficient in giving a complete picture of how much the show reflected Toronto – which was a definition of diversity based on race. The executive producer of "Metro Morning," and myself, also wanted to know how many times a person of colour commented on something that did not directly involve race, such as pollution in Lake Ontario. Because of a lack of the "tyranny of the image," radio was often seen as creating an inclusive world. In my work previous to monitoring of the "Evening News," I also organized editorial boards, for both the television and radio programs, with people from diverse communities. Most of the complements made were aimed at radio journalists. Most of the criticisms made in these boards were aimed towards the TV journalists. Rosemary Sadlier, in the black community editorial board, criticized the "Evening News" executives for always putting on their black anchors and reporters late at night.

The "tyranny of the image" brings into question the aesthetics of television. Joel has been told at CUTV that black skin and black clothing really do not look good on TV. What looks good on television is dominated by a white aesthetic. When black people do appear on Canadian television, often they are lighter skinned and resemble whites in their features. This fact was spoofed by "The Newsroom" who, when looking for a black anchor, favoured a woman who looked white, with a "subtle ethnicity" as opposed to an "in-your-face ethnicity":

They watch an anchor's audition tape. She is black:

Monique: (on monitor) The annual East Coast…

Carole: Monique is also very wonderful. She doesn't have an in-your-face ethnicity.

Leonard: No, exactly. Seventy-four per cent of her audience in Saskatoon actually thought she was white. It's a very subtle ethnicity.

Carole: An almost subliminal ethnicity.

George: Didn't Coke or Pepsi do some advertising like that? Subliminal.

Carole: Does anyone want a Diet Coke? Everyone drinks generic diet cola.

Leonard: Colour's great, but you don't want to hit the viewer over the head with it (Finkleman 30).

The above exemplifies the white aesthetic of television. As well, when I learned about technical production in ¾ inch video at SAW Video, Neil – who was training the group of us in the Black Community in Residence – commented on the fact that you always had to white balance the camera to get your colours correct. He pointed out how inherently racist the medium of television was that it was encoded into the technology.

The image is an important issue for black people and this was reflected in "BlackTalk" '98. Adrian comments on the shift that has happened in issues that came up during "BlackTalk," and mentions the "Hair Politics," "Standards of Black Beauty" and "Media Portrayals of Blacks" as examples. What these issues had in common was that they all discussed the power of the image. These programs explored everything from seeing natural black hair in magazines, film and TV, to views on the fat black body, to the prevalence of lighter skinned blacks on TV. Even on the radio, so many topics still deal with the image.

At "BlackTalk" '98, you did not see blacks gelling and straightening out their kinky hair before going on-air, you did not see make-up artists putting beige foundation on chocolate brown skin, you did not see large women

wearing vertical stripes so it would take off the 10 pounds TV adds on – there was less impact of the "tyranny of the image." In "light" of all this, did this make the radio a racial Utopia? I do not completely think so. There is a "tyranny of sound" that has a special meaning for black people.

Tyranny of Sound:

In order to explain what I mean by the "tyranny of sound" I will use Andrew Crisell's "Understanding Radio" as a starting point:

The contact, or medium as I will now term it, is utterly non-visual: the receivers, who are listeners, or collectively an audience, cannot see the sender or broadcaster as they can on television or film; nor are they offered the compensation of a visible and lasting message as they are in literature. Radio's codes are purely auditory, consisting of speech, music, sounds and silence, and since, as we shall see, the ear is not the most 'intelligent' of our sense organs their deployment has to be relatively simple. The risks of ambiguity or complete communication failure are high, and so in all kinds of radio much effort is expended on overcoming the limitations of the medium, on establishing the different kinds of context that we would generally be able to see for ourselves (Crisell, 5).

Crisell neglects to realize that because the ear is such a strong stimulus for our imaginations, it can be classes as a very intelligent organ. Radio's codes on the surface level are predominantly auditory, but there is also a visual aspect to radio, which Crisell suggest is akin to fiction.

Crisell exemplifies what he means by the fiction quality of the radio image by discussing Jimmy Young presenting his morning show on BBC Radio 2. Young may be an actual person, but since the audience only knows him on the radio by picturing and imagining him, he is, in a sense, "fiction." This relates to race in looking at the impact retired CBC announcer Dwight Wylie had. I had been listening to Dwight for years; when I met him in the CBC radio newsroom, I was astonished (and happily surprised) that he was black. Dwight Wylie does not "sound" black. But, what is sounding black or white…or Asian, or Aboriginal, or South American, for that matter? There are racial stereotypes attached to voice that become as complicated as the stereotypes created by image.

I received a taste of my own racial stereotyping based on images and voice at an exhibition in April 1997 at the Ontario Science Centre, in Toronto. The exhibition, called "A Question of Truth," had many displays that were based on examining racism and sexism. The exhibition's aim was to make people realize that bias can exist behind every experiment and way of doing things. One display really stumped me. It had faces that could be found all over the world. When you pressed a button, a voice came out talking about anything, and you had to match the faces with the voice. Even though I knew the exhibit was supposed to trick me, I was still fooled. When I heard a female West Indian accent, my reflexes wanted to choose the black woman. I considered choosing the white woman, but to me she loosed so Aryan, very much unlike the native white people I had seen in the West Indies, who "sounded more black" than me. So I chose the Indian woman. It turned out to be the very blonde and fair woman I dismissed as not looking white Caribbean enough. Sound and our perception of image can be deceiving.

Although I had the advantage of knowing that my racial stereotyping based on voice was incorrect, and I learned something from the experience, stereotypes, or "fictions" can dominate mental images. It happens at least twice a year since Have been old enough to use the telephone – someone will give me that surprised look when they meet me and sometimes tell me that I do not look the way they imagined. There are probably many people out there who do not know that Dwight Wylie (former CBC announcer) was black. Does it make a difference? I think it does, just as I think broadcasting can make a real difference in racial relations, one of the biggest public affairs issues of this century. The summer 1994 edition of the Media Studies Journal has on its cover – "Race – America's Rawest Nerve." This issue examines how race is covered in the media. Race is a raw nerve for Canada as well.

If a word can have this power, surely the spoken word has at least equal power. The article Harris writes in is titled "Whiteness as Property." In a stereotypical way, races own sounds. Music companies know well what is

termed as black music and what is termed as white music exemplifies how much racial sound is a commodity. White rappers such as Marky Mark and Snow are making lots of money from having a black sound. This phenomenon is not exclusive to rap music: some say Michael Bolton makes a lot of money from having a black sound, too.

Steering away from popular music, some may say news anchors Bernard Shaw and Bryant Gumbel are also making a lot of money by have a white sound. Just so I do not seem like I am taking a high moral ground, I myself have turned racial sound into a commodity. In the months I spent in Uganda in 1996 and 1997, I spent a lot my time doing freelance voice-overs for Sanyu Radio and Television. What I was once told by the programming director was that they liked my voice because I "sounded more white but was still Ugandan. We (Sanyu) could employ someone black to get the desired effect." The desired effect they were talking about was the sound of whiteness. I know of some West Indians and Africans who go to great lengths, including a speech coach, to get rid of their accents.

Radio is not necessarily a racial Utopia, but there are glimpses of it in the community radio at CKUT. Ebonics, the language originating from African-Americans, more commonly known as slang, is a big issue concerning Afrocentric issues, and I have yet to hear any form of Ebonics on CBC radio, as much as a racial Utopia it is sometimes touted as being. In 1993, "BlackTalk" did a show about relationships that consisted of language that would be hard to find anywhere else. "What's up," "Chill," "No Respect" – this is a dialogue that is related to a more informal style. It is not broadcast quality CBC style. Usually when you hear this kind of language, especially on TV, it is used to make objects out of blacks. For example, on the talk/trash former show "Rikki Lake," she often booked guests who talked in Ebonics about issues that made them look silly, such as a man sleeping with several women without a condom. With the relationship show on "BlackTalk," it was informal dialogue to discuss a serious issue, relationships between men and women. The language was not used to accentuate that they were from a lower class or for pure entertainment value. The whole nature of the "BlackTalk" show was to give information, and hopefully some knowledge too.

Conclusion:

Is radio a racial Utopia? Indeed, I do believe that radio is a racial Utopia, but I must qualify this statement. By radio, I do not mean commercial radio, or even public radio, but community radio. Unlike Robert McChesney, I make a distinction between public and community radio. I have worked in both and never in the time I was at the CBC were so many decisions made as a groups as they were with "BlackTalk." Yet, the individuality of people also came out in the programs. There is a difference between public and community radio. Also by qualifying my statement I must add that community radio is the closest thing in existence right now to a racial Utopia, of course using an Afrocentric definition of what is a racial Utopia/

Just because black people have managed to make some progress in terms of black public affairs programming with community radio does not mean they should not keep striving for more progress in commercial radio, such as Milestone, community TV, such as Rogers, or commercial TV, such as Sylvia Sweeney's Access Network. Using community radio, such as CKUT's "BlackTalk" as a role model, progress made in all these areas will make a real difference in diminishing the "tyranny of the image" and the "tyranny of sound." I have great faith in the future of black public affairs programming at all levels of broadcasting, even TV. If a bunch of 10-year-olds could do such a good job at educating others with OCTV, I think the older and wiser can do it too.

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MATHEMATICAL TYPICAL AND PROBLEM TASKS AS AN EDUCATIONAL COGNITIVE CONTEXT

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Abstract

School education is always rooted in culture, which makes it involved in some kind of ideology. The ideology can manifest itself, for example, in the cognitive context created for school learners. In turn, mathematical problem tasks can be a manifestation of the cognitive context. Dealing mainly with typical problems may have a limiting effect on mathematical notions. This is characteristic of the cultural transmission ideology. The knowledge constructed in such a context is schematic, rigid and useless in situations outside school. Solving problem tasks creates a chance to attain a different cognitive context – based on constructivism. Creating situations which develop learners' concepts versus the context which limits them, activates a different cultural interpretation approach to what mathematical knowledge is and how it is used.

Keywords: Knowledge, cognitive context, educational transmission, constructivism

Introduction

School is where we experience contexts in which the pedagogical culture is defined. Culture as a whole is composed of interconnected parts, therefore it can be said to "consist of elements" (Eller, 2012). These elements, however, should not be perceived separately but with a deep awareness that while performing unique functions, they affect the entire culture (Ibidem). My assumption has been to limit their number to selected aspects. I am interested in educational experience from the perspective of the pupil's knowledge, which the school is concerned with. If education is considered, after J. Bruner, in the broad perspective of a complex process, focused on adjusting culture to its participants and, on the other hand, on adjusting the latter and their types of knowledge to culture (J. Bruner, 2006), then we must not neglect the role of a cognitive context. The cognitive context is like a filter through which constructed knowledge acquires certain constitutive characteristics. Thus, it is important what knowledge will serve as an instrument for creation and participation in culture.

The cognitive context is a tool for understanding and interpreting other people's behaviour. It is a source of more or less intuitive concepts about the minds of other people (Ibidem). The educational dimension of a cognitive context is primarily associated with the teacher's ideas regarding the child's mind. These ideas determine the teacher's actions and therefore create the pupils' understanding of what knowledge is and how it can be used. In the teaching process, it is necessary to conceptualize what schoolchildren do, but also what they think about what they are doing and why they are doing it (Ibidem). The need (or its lack) to have such cognition is related to the teachers' educational ideology. The ideas based on behavioural concepts will always focus the teacher's attention on the child's activities. Being certain that a child who does the tasks defined by the teacher is learning is at the foundations of educational transmission. In contrast, accepting theories which perceive the mind as a tool for constructing individual and unique senses creates an area of interests connected with pupils' metathinking. The cognitive context created for a pupil is a broadly understood background for the teaching process, which originates (among others) from a teacher educational theory [43].

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[43]Because of the limited length of the text, I omit other elements connected with the generally understood school system.

The key category in the present considerations is the pupil's knowledge. It is a product of many types of cognitive experiences. But it falls outside any unambiguous description, being a concept very difficult to define. The knowledge being created in the human mind cannot be presented as a uniform model, neither from the perspective of cognitive psychology. In the most significant model, it is assumed that during the development process of any individual cognition is achieved in two ways: through experience and by transmission. By necessity, the category 'knowledge' is subjected to modifications of its meaning according to the latest tendencies in psychology. The cognitive theory perspective reveals creative values of an individual, the innovativeness which helps 'to surpass thresholds of one's achievements and in some cases to develop culture" (J. Kozielecki, 2000).

In the recent years, the approach to how the human mind thinks and analyzes the world has largely changed, stimulating interest in human mental processes and attempts at separating description of data from their explanation (Trzebiński, 1994). On the wave of these changes, a theory of knowledge has been created, known as constructivism, currently the most desirable and innovative approach, which defines a new attitude to the way we think about knowledge. B. Gołębniak suggests that the current, specific 'demand' for this theory is created by an extremely strong pressure to change the educational model, the pressure originating from different spheres of public life, and by the development of cognitive psychology (Gołębniak, 2005).

In opposition to the positivistic thinking about knowledge, the new concept – drawing from phenomenological sociology – assumes that knowledge "is a set of socially and historically constructed meanings" (Sawisz, 1989). It also negates the existence of objective knowledge, replacing it by socially negotiated concepts.

If we take as a starting point 'existence' of knowledge in the mind, we feel the need to distinguish two of its forms: personal and objective (scientific) knowledge, which function in a non-dichotomous manner.

Personal knowledge is the motif less exploited in school education, and especially in the context of teaching mathematics in youngest forms. Youngest pupils are perceived as not independent intellectually, with very limited capabilities of creating mathematical concepts. It is my understanding, however, that knowledge means concept-making strategies which are formed independently. Personal mathematical knowledge is therefore understood not as a set of information from life outside school, but as strategies of thinking.

2. Knowledge in paradigms: educational transmission versus constructivism

In our attempt to interpret the school educational context, let us take two models of thinking about education: educational transmission and constructivism, and use them as kind of a filter.

The model of educational transmission, originating from the positivistic thinking about reality, relies on the following assumptions:

knowledge is objective, permanent and unquestionable in character,

the learner gains knowledge by transmission,

the learner is a passive recipient of abilities and skills,

school knowledge is the type of uniformed concepts acquired by pupils in an identical way (Kohlberg, Mayer, 1993).

The constructivist theory of teaching is distinctly different, with its assumptions located at the other extreme:

knowledge about reality is constructed actively by an individual,

an individual acts independently,

the source of knowledge consists of personal experiences, whose sense is interpretable depending on the previous knowledge of an individual,

personal knowledge is continually re-constructed,

meanings are assigned individually (J. Dewey, J. Piaget, L. Wygotski, J. Bruner, in Poland: S. Dylak, B. Gołębniak, D. Klus-Stańska).

The theoretical context of teaching mathematics can be perceived through one of the above paradigms. Each will set a different cognitive backdrop. Mathematical knowledge constructed under such diverse cognitive and theoretical conditions need not, and cannot be a set of analogous competences. And although we often think about mathematical competences as being very clear, studies on mathematical concepts formed by pupils show differences in the understanding of notions due to previous cognitive experiences[44]. Analogously, one may say that the ability to solve problem tasks can depend on culturally determined cognitive context.

Solving mathematical word problems is one of the most common classroom activities. It activates the mathematical cognitive mechanism, which is colloquially recognized as constructing the ability to apply mathematical knowledge to real life. It is often assumed that a pupil who will work through certain schematic models while solving classroom tasks (for example, problems involving clock time calculations) will be able to use them in real life. But actually real life, which is not a school application of mathematics, abounds in problems not necessarily analogous to the ones in school textbooks. Real-life situations are most often the type of problems which need to be conceptualized individually and solved by applying a personal thinking strategy rather than a schematic action. In other words, a mathematical cognitive context should be an area where pupils create individual thinking concepts instead of learning many patterns of action.

Mathematical word problems in the youngest forms have been classified in many ways, taking the following as criteria for divisions: structure of a sentence, solution model or number of data. The assumptions underlying the elaborated typologies constituted an element of the approach where a problem is perceived as a certain mathematical object. According to the contemporary cognitive theories, it would be more appropriate to focus our attention on the ways in which the mind of a pupil functions whilst solving a problem and on the undertaken intellectual activity.

For the purpose of this text, the distinction of mathematical word problems into typical and problem tasks has been assumed. Although this division is not completely satisfactory, it points to some context potential. A typical task is the one where a pupil has learnt a mathematical model according to which the given problem can be solved and the model is imitatively executed in the following tasks. The activity that is initiated then most often involves matching ready-made patterns hidden in the memory to the problem's text. An example could be this problem: First-form pupils planted 8 deciduous trees in the school yard and second-form pupils additionally planted 6 coniferous trees. How many trees altogether did the pupils plant? The pupils who can do calculations on the required level of difficulty find the figures in the text and perform the operation according to the key word 'altogether'. This strategy suffices to handle mathematical problems in the school context.

Problem tasks are different. When defining a problem, J. Kozielski notices that solving it should be accompanied by productive thinking, connected with the enrichment of an individual's knowledge of the world., because while thinking a man "formulates new hypotheses about the world, constructs different machines or

[44]Cf. a survey of third formers, who solved untypical problems based on a mathematical model not yet introduced at school (access on 10.04.2012 http://trzecioklasista.cke-efs.pl/kategoria/publikacje)

elaborates action plans" (Kozielecki, 1969). Thus, the scope of one's knowledge changes too. Problem tasks are the ones where a mathematical model is unknown. The pupils need to use creative thinking to build a model and while doing it they create new knowledge. Examples are the sentences: How will the quotient change if I multiply the dividend by three? or There are three sisters in the *Kowalski family. Each has a brother. How many children are there in the Kowalski family?* When such problems are solved, the pupil must refer to own personal knowledge and carry out a research process consisting in putting the given situation in a real-life context and discovering the regularity which leads to the solution model.

3. The transmission cognitive context – limiting mathematical notions

The cognitive context is an important criterion differentiating the experience gained by youngest school children. Our understanding of how mathematical knowledge is used becomes constructed owing to the context in which mathematics is dealt with.

For some time now, many theoretical dissertations have been suggesting an unsatisfactory level of mathematical skills among youngest learners[45]. Attention is drawn to the excessive development of the technical aspect, i.e. the tasks given to pupils basically consist of having to calculate rows of sums, although they are made more attractive by adding a text, a picture or an additional task such as 'colour the picture' (Klus-Stańska, Nowicka, 2005) as if to reward doing mundane sums. Solving similar problems during many similar lessons makes it more difficult for pupils to extend the range of mathematical notions, because the latter appear repetitively in an identical mathematical context. If the term 'difference' occurs in similarly described relations, like: *Subtract 46 from 145. What is the difference?*, then children construct the notions related to the name but not to the relations between mathematical objects. They do not have an opportunity to examine this relationship or to build an awareness that such relationships are fundamental to mathematical thinking. In contrast, pupils who for example test the following problem: *How will the difference change if we add the same figure to the minuend and subtrahend?* will be able to assign other meanings to the term 'difference'.

If the mathematical knowledge is organized by the teacher in the minds of youngest pupils according to the above pattern, the learners become intellectually dependent. The school context teaches them that they are not independent solving mathematical problems. Pupils cannot construct own thinking about a situation described in a task[46] but should use 'the best' available proposals. In general, such mathematical skills are applicable in situations analogous to the ones in which a pupil has learnt the notions[47], which is at school. Learners then become convinced that they are not self-reliant intellectually because wherever they comes across any difficulty the teacher's suggestion seems to be the only aid strategy.

[45]This anxiety also occurs among older pupils, and the distinction has been made for the purpose of this text.

[46]It is not just accepting or not a different solution sometimes suggested by a more talented pupil. I am thinking here about the absence in youngest forms of a holistic mathematical educational concept on principle accepting, or consciously stimulating pupils to create own ways of handling cognitively difficult situations.

[47]Usefulness of mathematical knowledge (apart from the four basic arithmetic calculations) is often perceived by pupils as a school requirement but not useful in everyday life.

The scheme-creating cognitive context associated with solving similar typical tasks creates various, not always expected educational results. Apart from limiting the understanding of mathematical concepts, it is the basis for building specific strategies to handle problems. Many pupils who have just started school manage to add and subtract numbers up to ten. The strategy consists in drawing their attention to the numbers and key words in a mathematical problem (Cf. Dąbrowski, 2008). It does not require pupils to read a given text carefully or to become aware of mathematical relations between the objects described in a problem. Dealing with overly simple problems implies that children will construct a strategy that seems logical in that case, a strategy mentioned above. The observed similarities and differences do not relate to mathematical analogies (similarities in mathematical regularities), but are limited to pointing to an important key word which suggests what operation is to be performed. The scale of this phenomenon is worrying, as was demonstrated, for example, by surveys carried out in 2006-2011 on mathematical and linguistic skills among third formers. The surveys showed that learners handle very well simple problems including difference and ratio comparisons. They reached over 90% of correct answers. In one of the tests, next to some other untypical tasks, the following one was included: *There were 30 sparrows sitting in a tree. Suddenly most flew away apart from 6. How many sparrows stayed on the tree* (Dąbrowski, Wiatrak, 2011). This problem, whose correct solution was contained in the text itself, was correctly solved by just 30.9% of the surveyed learners. The most common mistake (49.1% of pupils) was to do the subtraction 30-6=24 and give the result as the answer (Ibidem). The schematic approach to a mathematical word problem proved to be a limiting factor. When summarizing the ability of third formers to solve typical problems, M. Dąbrowski puts forth a very worrying hypothesis that "a total of 60.4% of third formers could solve this problem by 'removing' from the text the given numbers and selecting 'a matching' action" (Ibidem).

Creating the transmission context during mathematics lessons is generated by a teacher, who was previously socialized at school in an analogous manner[48]. The teacher offers typical tasks to the youngest learners, being deeply convinced that this is the most effective educational method. This conviction grows deeper when pupils, especially the ones poorer at mathematics, do not handle so well other than typical problems given from time to time. This fact is accepted without any deeper reflection on behalf of teachers (sometimes, unfortunately, also learners) and becomes an important argument. However, the actual reasons why pupils fail lie hidden in ideologies to which teachers (and even the whole society) adhere. As an example, let us cite the belief that a mathematically talented learner is the one who solves problems quickly (Kalinowska, 2010). Problem tasks, by definition, require more consideration and time. When this happens, a pupil feels anxious when a solution cannot be found immediately and is unwilling to take such a risk. As a consequence, the learner's self-confidence suffers: *If I do not know the answer straightaway, I am not so good at mathematics.* Another reason could be the teachers' belief that when learners are trained in using many paradigms, they will be able to handle any problem. But this is not the case because, if taught as above, the youngest learners do not construct tools for thinking (drawing an image, making an unknown situation more concrete, etc.). Once fossilised in the above cognitive context, learners will find it more difficult to solve problems themselves, not only in the early school forms but also in the future.

4. A constructivist cognitive context – developing mathematical meanings

[48]It needs to be stated clearly that many of the actions pursued by teachers are connected to the need to comply with the requirements imposed by the transmission educational ideology hidden in the school system. For example, the contents and structure or early education textbooks are full of typical problems and action patterns. Few problem tasks are designed for the most talented pupils and are given very little time.

A different context for learning mathematics is created when the youngest learners become engaged in solving mathematical problem tasks. According to the model of developing mathematical thinking (Cf. Mason, Burton, Stacey, 2005), learners must use creative knowledge and independently build realistic contexts. Owing to such experience, they have a chance "to experience the feeling of being totally engaged in the problem, rarely felt at school" Bruner, 1978).

The development-stimulating cognitive context is created when the youngest learners are asked to create mathematical knowledge by themselves through activation of personal knowledge. Being confronted with a new cognitive problem, learners activate other strategies of thinking. Mathematical problem tasks can become an area of some kind of research and intellectual experiences. Creating a solution model for a task like: *There were 78 books on two shelves. On one shelf there are twice as many books as on the other. How many books are on each shelf? What would change if there were three-fold more books on one shelf than on the other? And five-fold?* stimulates pupils to uncover regularities. Learners have a chance to notice analogies in constructed models because they refer to the models of thinking they have already worked through. It is much more difficult when all that pupils possess are ready-made patterns stored in their memory, e.g. *this has to be divided by three*. When that is the case, they only analyze what action has to be written down and calculated, but relinquish the opportunity to search for any verification why it happens. Stimulating learners to discover mathematical regularities becomes an area of experimentation and creation, of questions asked by both the teacher and the learner. Constructing learners' capabilities of asking interesting cognitive questions develops their mathematical thinking.

Working on problem tasks encourages children to refer to representations of lower-order mathematical concepts. When trying to bring the story contained in a problem task closer to real life, they spontaneously use things or draw pictures, thus modelling the mathematical situation. Teaching mathematics in this sense, as J. Bruner claims, is a microcosm of intellectual development, which progresses from an instrumental action through the creation of images to a symbolic notation – an abstract notion, albeit based on visual images. It is then possible to reach a heuristic level while solving problems (Ibidem). Being able to handle real-life problems is similar to a situation of being capable of solving mathematical problems which require the recognition of a situation, observation of some regularity that governs a certain phenomenon and an attempt to describe it (create a model).

5. Recapitulation

Creating situations which develop learners and teachers' notions activates a different nature of cultural interpretation of what mathematical knowledge is and how it is used. The transmission cognitive context originating from the positivistic model of thinking describes a certain school reality. The teacher is the kind of a benefactor who transmits ready-made and uniformed notions to learners. The latter acquire these concepts in a ready-made and unchangeable form. The perspective of constructivism uncovers a completely new school reality. The learner can become an independent creator of own knowledge, which is continually reconstructed owing to the learner's personal experience. The constructed knowledge is understood as a cultural tool rather than a set of defined contents.

From the perspective of these two, so differently perceived cognitive contexts, school pupils may treat standard problem and real-life mathematical tasks as different cognitive categories, to which different strategies are applicable. With regard to typical problems, the ways in which pupils solve them are strictly connected with the strategy of recognizing the mathematical difficulty via identification of key words in the contents of a task. As a result, they build other mathematical notions, and their knowledge is characterized by other characteristics than when they deal with problem tasks independently.

Table 1. Pupils' meanings given to process of mathematics teaching-learning depending on the congnitive context

Transmissive context (solving typical tasks)	Constructivist context (solving problem tasks)
Impaired self-agency (learnt helplessness)	Constructing mathematical notions of different levels of generalization
Mathematical competences equated with imitative reasoning	Solving mathematical problems as an everyday cognitive experience
Personal knowledge invalid in the classroom	Using personal knowledge and building the feeling of competence
Lack of self-reflection	Formulating and verifying hypotheses
Mathematical notions become more rigid	Becoming familiar with a mathematical problem
No need to ask questions; being dependent on instructions	Asking questions: learner-teacher, learner-learner, learners-to themselves, feels necessary
Created mathematical knowledge: schematic rigid rarely useful inert	Created mathematical knowledge: flexible useful dynamic

In the light of the above considerations, it is worth reminding ourselves that "man is incapable of experiencing the natural and social world in any other way but through cultural prismatic symbols" (Eller, 2012). It is also impossible to interpret and use mathematical cognitive tools at school or in real life in any other way. The limiting cognitive context will not activate the capacity for cultural (i.e. based on personal thinking

strategies) use of mathematics. Moreover, it can become one of the causes of mathematical illiteracy among a large part of the society.

In the transmission method, we achieve more effective traditional understanding, whereas in the constructivism approach we create conditions for the youngest learners to build a critical identity, able to oppose the encountered notions. This way, the learning-teaching of mathematics enters the realm of emancipation and critical pedagogics, which to some extent may surprise many participants of the broadly understood educational process.

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MATHEMATICS SET THEORY IN A PRE-SCHOOL CONTEXT

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Abstract

We are daily confronted with materials, objects and spaces and through their exploration we develop adaptation, discovering and comprehension abilities concerning the use of these resources.

In Pre-School context, everything that children have already seen make sense for them and they will explore the contents related with the first approach to the objects they already know. This study emphasizes situations related to Set Theory as well as its continuity in the first cycle of Basic Education.

The goal of this communication is to show in which way the contents learnt by students in high school, such as intersection, union, complementarity, notion of element belonging to a set or not, may also be worked by young students in Pre-School. The second author conducted several experiments in classroom during the school year, focusing on this idea.

The activities and the learning process have been integrated in the classroom's normal course, creating a continuous exploration. As result of the articulation between other contents and domains, the teacher will be able to feel the children's progress.

Is our intention to point that Mathematics, and particularly Set Theory, is, and should remain as a catalyst in children's teaching process, concerning the knowledge that can be transversal to other areas of this cycle.

The gradual move from playful experiments to a more formal environment requires contents also to be adjusted to this change from a concrete to an abstract reasoning. Off course ideas can always be targeted for improvement, considering the differences in the class or for other reasons.

It is desirable that "dialogue and collaboration between educators and teachers ease the transition and the child's positive attitude facing compulsory education".

It is also an objective to discuss in a sharing environment how is pre-school seen in an international context, highlighting Mathematics teaching, essential link to the development of other student's important characteristics that will be arise in the future.

MEANING IN LIFE AND SUBJECTIVE WELL-BEING AMONG TURKISH UNIVERSITY STUDENTS

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Abstract

The aim of this study was to investigate the relationships between meaning in life and subjective well-being. The sample of the study consisted of 232 university students (171 female / 61male) from Sakarya University. The Satisfaction with Life Scale, The Positive-Negative Affect Scale and The Meaning in Life Questionnaire were used to collect data. In data analysis, Pearson correlation coefficients and multiple regression analysis were used. The findings showed that presence of meaning in life and search for meaning in life significantly predict subjective well-being. According to regression analysis, meaning in life accounts for 34% of the variance within subjective well-being. The findings were discussed and in the light of these findings suggestions for future studies were proposed.

Keywords: Meaning in life, subjective well-being, presence of meaning, search for meaning

Introduction

Human beings have been questioning the meaning of life and trying to make their lives more meaningful since the beginning of their existence. Many religions, philosophies and other disciplines up to now have tried to contribute to the search for meaning in life (Sezer, 2012; Pope, 1999). The science of psychology is definitely one of those contributing to the search for meaning by humans. Especially after World War II, questions about meaning in life have become an important issue. Psychologist Viktor Frankl, who escaped from Nazi death camps, is the founder of 'Logotherapy', and attempts to answer these questions in his book *Man's Search for Meaning*. Frankl was influenced by the ideas of philosophers such as Nietzsche, Kierkegaard and Schopenhauer, and also mentioned his own experiences and observations from Auschwitz concentration camp. Frankl observed that people who had no meaning in their lives died earlier than people who had purpose in their lives (Frankl, 2000). According to Frankl, lack of meaning in life is associated with many pathologies such as weakness in the face of difficulties, depression, suicide, dependence and negative well-being (Frankl, 2000; Schnell, 2009).

The concept of well-being, according to many philosophers and psychology researchers, is based on the eudaimonic and hedonic approaches of Aristotle (Waterman, 1993). While the eudaimonic approach refers to self-actualization and full functioning, the hedonic point of view defines well-being as satisfaction and happiness (Diener, Suh, Lucas & Smith, 1999). Today, happiness is explained within the concept of subjective well-being (Eryılmaz, 2011). Subjective well-being, besides positive and negative affection, includes life satisfaction, which evaluates an individual's life and expresses the level of life goals one attains (Tuzgöl-Dost, 2010). Therefore, subjective well-being is a three-dimensional construct including positive affect, negative affect and life satisfaction (Hybron, 2000). Life satisfaction represents the cognitive side of subjective well-being and includes judgments about an individual's satisfaction from different life areas (Myers and Diener, 1995). High satisfaction from life and more positive affect mean that the individual has high subjective well-being (Eryılmaz & Aypay, 2011).

Based on the literature, the concept of meaning in life is positively associated with many concepts examined within positive psychology (Melton & Schulenberg, 2008; Steger, 2005; Zika & Chamberlain, 1992). In a study investigating the relationship between meaning in life and life satisfaction which represents the cognitive side of subjective well-being, it was found that there is a positive relationship between meaning in life and life satisfaction (Bonebright, Clay & Ankenmann, 2000). Another study of meaning in life similarly indicates a positive relationship between happiness represented by subjective well-being and meaning in life (Debats, Lubbe & Vezeman, 1993). Although there are existing studies on the relationship between meaning in life and subjective well-being, there has not been enough research on this issue in Turkey yet. The aim of the present study is to investigate the association between meaning in life and subjective well-being in Turkish culture. Two hypotheses were determined for the aim of the study:

H1: Presence of meaning in life positively predicts subjective well-being.

H2: Search for meaning in life negatively predicts subjective well-being.

2. Method

A relational screening model was used in this study. The aim was to examine the relationships between meaning in life and subjective well-being. Subjective well-being is the dependent variable and meaning in life and search for meaning in life are the independent variables of the research.

2.1. Participants

Participants of the study are 232 students from Sakarya University Faculty of Education, 171 female and 61 male. Age range of participants is 18-26 and mean of age is 21.43 (S=1.68).

2.2. Measures

2.2.1. The Satisfaction With Life Scale (SWLS)

The Satisfaction With Life Scale (SWLS) is a 5-item, Likert type self-report questionnaire, developed by Diener, Emmons, Larsen and Griffin (1985). Diener et al., (1985) found that internal consistency of SWLS is .87 and test-retest reliability coefficient is .82. Scale was adapted to Turkish by Yetim (1993). Yetim (1993) also reported that internal consistency of SWLS is .76 and test-retest reliability coefficient is .85.

2.2.2. Positive-Negative Affect Scale (PANAS)

Positive-Negative Affect Scale (PANAS) was developed by Watson, Tellegen and Clark (1988) and adapted to Turkish by Gençöz (2000). PANAS is a Likert type questionnaire including 20 items; 10 negative and 10 positive. Gençöz (2000) reported that internal consistency is .83 for "Positive affect" subscale and .86 for "Negative affect" subscale.

2.2.3. The Meaning in Life Questionnaire (MLQ)

The Meaning in Life Questionnaire (MLQ) was developed by Steger, Frazier, Oishi and Kaler (2006). The questionnaire is Likert type with 10 items and has two subscales: Search and Presence. Steger et al. (2006) reported that internal consistency coefficients are between .83 and .85 for "search" subscale, and between .83 and .88 for "presence" subscale. It was adapted to Turkish by Terzi, Tekinalp and Leuwerke (2011).

2.3. Procedure

A personal information questionnaire was also used to collect the demographical information of participants in addition to other measurement tools. Cross-sectional design was used and data was obtained at one time. Group practices were performed. Participants were informed about the purpose of the study and informed consent was considered. Questionnaires took approximately 30 minutes and data was analyzed by SPSS 15.0 and Lisrel 8.71 programs. Subjective well-being is defined as life satisfaction, feeling more positive emotions and feeling less negative emotions (Diener, 1984). Based on the theoretical definition, SWLS and PANAS were used to measure subjective well-being. Subjective well-being was considered by the following formula:

Subjective Well-being = (Satisfaction with Life + Positive Affect) – Negative Affect

3. Results

3.1. Descriptive Statistics

Mean scores and standard deviations of research variables were calculated and findings are displayed on Table 1.

Table1. Mean scores and standard deviations of searching for meaning in life, presence of meaning in life and subjective well-being

Variables	$\overline{X}$	Sd
Presence	27.41	5.88
Search	22.98	7.42
Positive affect	33.15	6.97
Negative affect	22.74	7.01

Satisfaction with life	21.86	6.05	
Subjective well-being	32.26	13.87	

N=232

Mean scores of search for meaning in life, presence of meaning in life and subjective well-being are showed on Table 1. According to these findings, the mean score of presence is 27.41 (Sd=5.88), mean score of search is 22.98 (Sd=7.42) and mean score of subjective well-being is 32.26 (Sd=13.87).

3.2. Multiple Regression Analysis Findings

Multiple Regression Analysis was conducted to investigate the relationships between subjective well-being and interpersonal relationship styles (see results on Table 2).

Table 2. Multiple regression analysis findings of subjective well-being prediction of presence and search variables

	B	Std. Error	Beta	t	p
Presence	1.327	.127	. 56	10.482	.000
Search	-.274	.100	-.15	2.738	.007

R=.58, R^2=.34, F=59.281, p<.001

According to the findings, presence of meaning in life and search for meaning in life subscales significantly predict subjective well-being (R=.58, R^2=.34, F=59.281, p<.001). In regression analysis, it was found that presence of meaning in life positively affects subjective well-being (β= .56; p= .000) and search for meaning in life negatively affects well-being (β= -.15; p<.007). Meaning in life accounts for 34% of the variance within subjective well-being.

4. Discussion and Conclusion

Meaning in life and subjective well-being are important research topics of positive psychology. This study aimed to test the relationships between presence and search for meaning in life and subjective well-being. Research findings indicated that presence of meaning in life significantly predicts subjective well-being in a positive way and search for meaning in life significantly predicts subjective well-being in a negative way. Accordingly, presence and search for meaning in life account for 34% of variance of subjective well-being.

These findings show that meaning in life is an important component of subjective well-being. It is inferred that presence of meaning in life has an increasing effect and search for meaning in life has a reducing effect on subjective well-being. Previous research done in different cultures also shows the same findings as this study (Cohen & Cairns, 2011; Galang, Magno, Paterno & Roldan, 2011; Ho, Cheung & Cheung, 2008; Morgan & Fastides, 2009).

The findings of the study can be utilized on two levels. The first is the positive relationship between presence of meaning in life and subjective well-being. Human beings are the only creatures who have awareness of meaning in life and death. Meaning in life can be described by the answer to the question 'What am I living for?', and individuals who can answer this question have meaning in their lives. The first hypothesis is that presence of meaning in life positively predicts subjective well-being. Findings of the study confirm the hypothesis. The second hypothesis was determined that search for meaning in life predicts subjective well-being negatively. Findings also confirmed this hypothesis. Search for meaning in life is actually a positive concept. Therefore this question arises: Why is the search by individuals for meaning in their lives negatively associated with subjective well-being? Search for meaning in life may indicate that there is still no meaning in life. Hence, search for meaning in life was found negatively associated with subjective well-being.

Consequently, findings of this study would contribute to the existing literature. Cultural factors are directly associated with the meaning in life. In this context, results of this research on Turkish university students have clinical utility. Considering the results, meaning in life can be focused on during psychological counseling procedures and programs aiming to increase happiness. Future research may examine the mediating effect of variables such as religion and altruism, which contribute to the meaning in life, between subjective well-being and meaning of life.

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MESLEKİ VE TEKNİK EĞİTİMDE MENTORLUK UYGULAMALARİ KONUSUNDA ÖĞRETMENLERİN GÖRÜŞLERİ

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Öz

21.yüzyılda nitelikli insangücüne duyulan ihtiyaç artmakta ve mesleki ve teknik eğitim giderek önem kazanmaktadır. Mesleki ve teknik eğitimdeamaçların gerçekleştirilmesi, öğrencilerin istendik davranışlara sahip olmalarında öğretmenlerin mentorluk becerileri oldukça önemlidir.Bu araştırma,mesleki ve teknik eğitimde görev yapan öğretmenlerin mentorluk konusundaki görüşlerini belirlemeyi amaçlamaktadır. Araştırmada tarama türü yöntem ve nitel araştırma deseni kullanılmış olup, veriler yarı yapılandırılmış görüşme formu aracılığı ile toplanmıştır.Araştırmanın çalışma grubunu Bitlis merkez ilçede yer alan Meslek Lisesi, Halk Eğitim Merkezi ve Mesleki Eğitim Merkezinde görev yapan 30 öğretmen oluşturmaktadır. Araştırma sonucunda öğretmenler mentorluk becerilerinin geliştirilmesi, öğrencilerin ilgi ve yeteneklerinin göz önünde bulundurulması, aile ve iş çevrelerinin desteğinin sağlanması yönünde görüş belirtmişlerdir.

Anahtar Sözcükler: Mentorluk, mesleki ve teknik eğitim, öğretmen görüşleri, nitelikli iş gücü, mesleki rehberlik

TEACHERS' VİEWS ON MENTORİNG IN VOCATİONAL AND TECHNICAL EDUCATİON

Abstract

In 21th century, groving need for qualified human resources and vocational and technical education has increasingly become important. Mentoring skills of teachers are very important in realizing the objectives of vocational and technical education, and in making students acquire in this regard, this research aims to determine the views of the teachers working in vocational and technical high schools and training centres about vocational mentoring. This research is aqualitative survey study ,and semi-structured interview form has been used to collect data. The study group consists 30 teachers working in vocational and technical highs chools and public educatinal centres in the city centre of Bitlis. As a results of the study the teachers are of theopinionthatmentoringskillsshouldbe improved, thestudents'interestsandabilitiesshould be takenintoaccount, and support from the families and bussinesss circles should be provided.

Keywords: Mentoring, vocational, vocational and technicale ducation, teacher'sviews, qualified labor force, vocational guidance.

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Giriş (Introduction)

Nitelikli ara insan gücünün ülkelerin kalkınmasındaki önemi yadsınamaz. Bu gücün oluşturulmasında mesleki ve teknik eğitim sürecinin niteliği önem kazanmaktadır. Bu bağlamda mesleki ve teknik eğitimde uygulanan öğretim programlarının, bireysel, sosyal, ekonomik ve ulusal gereksinimlere cevap verebilecek nitelikte olması gerekliliği ortaya çıkmaktadır (Alkan, Doğan ve Sezgin, 1996).Kalkınmanın hızlandırılması, istihdamın artırılması ve ülkenin rekabet gücünün yükseltilmesi yönünden kritik öneme sahiptir.

Mesleki ve teknik eğitim, Türk toplumunda 18. yy'a kadar geleneksel usullere dayalı bir sistem içerisinde Selçuklu döneminde Ahilik, Osmanlı döneminde ise Lonca teşkilatları tarafından yürütülmüştür. Bu yapıda anne ve babaları tarafından meslek öğrenmek üzere bir ustanın yanına verilen çocuklar, belli bir süre burada çalışarak önce kalfalığa, sonra da ustalığa terfi ederdi. Bunun yanı sıra devlete bağlı bazı büyük kuruluşlar da kurs ya da okullar açarak ihtiyaç duydukları kalifiye elemanları yetiştirmekteydiler (Semiz ve Kuş, 2004: 272–295).Selçukluların mirası olan ahilik anlayışı günümüzde de devam etmekte; bu bağlamda her yıl, "yılın ahisi" seçimi yapılarak, ahilik haftası kutlanmaktadır. Osmanlı devletinin esnaf teşekkülü olan lonca teşkilatının yerini ise günümüzde Esnaf ve Sanatkârlar Odaları almaktadır.

Türkiye'de mesleki eğitim, örgün ve yaygın orta eğitim kurumlarında verilmektedir. Örgün mesleki *orta öğretim kurumları*; Meslek Liseleri ve Teknik Liselerdir. Meslek Liselerinin bütün alanları temel eğitimini tamamlayan herkese açıktır. Teknik liseler ise, meslek liselerindeki ilk yılını başarıyla tamamlayan öğrencileri almaktadır. Anadolu Meslek Liselerinde 1 yıllık hazırlık sınıfında yabancı dil öğretilmekte, üç yıllık mesleki eğitim bunu izlemektedir. Teknik Liseler, mesleki eğitim müfredatlarıyla birlikte, genel liselerin fen kollarında uygulanan eğitime benzer bir eğitim vermektedir. Dolayısıyla, bu okullara devam eden öğrencilerin yüksek öğrenime yerleştirilme şansları daha fazladır (TEKEV. (2007). Yaygın eğitim ise zorunlu temel eğitimini bitirmiş, ortaöğretimini yarıda bırakmış veya ortaöğretimini tamamlamış bireylere gerçek iş ortamında fiilen çalışmak suretiyle meslek öğrenmek isteyen 15 yaş ve üzerindeki vatandaşların teorik ve pratik eğitimlerinin bir programa göre yapılmasını sağlayarak, çıraklık, kalfalık, ustalık eğitimleri ile meslek kursları şeklinde gerçekleştirilir.3308 sayılı "Çıraklık ve Meslek Eğitimi Kanunu" ile gerçekleştirilmiştir. Bu düzenleme ile tam zamanlı mesleki teknik okulu ile okul endüstri işbirliğine dayalı mesleki teknik okuldan oluşan karma bir model kabul edilmiştir. (C.Alkan, H.Doğan 1991).

Yüksek öğrenimde mesleki teknik eğitim iki yıllık Meslek Yüksekokulları ve dört yıllık Mesleki ve Teknik Eğitim Fakülteleri aracılığıyla yürütülmektedir. İki yıllık meslek yüksekokulları sanayinin ihtiyacı olan ara eleman (tekniker) ihtiyacını sağlamaya yönelik olarak kurulmuşlardır. Dört yıllık eğitim verilen Mesleki, Endüstriyel Sanatlar, Teknik ve Ticaret Turizm Eğitim Fakültelerinin temel amacı ise mesleki ortaöğretim kurumlarının öğretmen ihtiyacını karşılamaktadır(Şahin ve Fındık,2008). Mesleki ve teknik eğitim uygulama ağırlıklı bir eğitimi içermektedir. Örgün ve yaygın mesleki eğitimin nitelikli bir hale getirilmesinde öğretmenlerin mentorluk yeterlikleri önem kazanmaktadır.

Mentor kavramının kökeni Yunan mitolojisine dayanmaktadır. Mitolojiye göre,Kral Odysseusuzun süreli bir savaşa çıkarken, oğlu Telemachus'un eğitimi için yakın arkadaşı Mentor'u görevlendirir. Günümüzde ise bu kavramın karşılığı sözlüklerde, güvenilen ve deneyimli rehber, kılavuz danışman, akıl hocası ve yol gösterici gibi anlamlarda kullanılmaktadır.(Sheal, 1992,51) . Mentorluk; danışman, destekleyici, öğretmen, koruyucu, model ve rehber görevlerini kapsayan ilişkiler bütünüdür (Starcevich, 1997). Mentorluğun Türk tarihindeki yeri de önemlidir. Selçuklular 'da ahilik, atabeylik, Osmanlılar 'da lalalıkşehzadenin yetiştirilmesinde önemli kurumlar olarak görülmüştür.

Eğitsel açısından mentorlük, deneyimli bir eğitimcinin, başka meslektaşlarının öğretimsel gelişiminin sağlanması amacıyla yaptığı yardım ve destek çalışmaları, önerilerde bulunma süreci olarak tanımlanabilir.(Sullivan, 2000). Bu açıdan mentorlük uygulaması eğitim sistemi açısından kritik bir öneme haizdir. Bir yandan kıdemli ve başarılı öğretmenlere yeni bir kariyer fırsatı yaratırken, diğer yandan ürkek ve güvensiz bir biçimde sisteme giren yeni öğretmenler, kıdemli ve başarılı öğretmenler tarafından iş başında yetiştirilerek kendilerini daha güçlü ve başarılı hissetmelerine katkıda bulunmuş olmaktadır. Mentorlük özellikle öğretmenliğin ilk

yıllarında büyük bir rol ve önem taşımaktadır.(Feiman-Nemsen,1996).Bu önem mesleki ve teknik eğitimin mentorlük anlayışının yerleşmesi ve gelişmesiyle olur.

Amaç (Purpose)

Bu araştırma, Bitlis ili'ndekiMesleki ve Teknik Eğitim(Teknik veya Anadolu Teknik Liseleri, Halk Eğitim, Mesleki Eğitim Merkezi)kurumlarında görev yapan öğretmenlerin "Mesleki ve Teknik Eğitimde Mentorlük" konusundaki görüşlerini belirlemeyi amaçlanmaktadır. Bu amaçla aşağıdaki sorulara cevaplar aranmıştır.

1.Öğretmenler,Mesleki ve Teknik Eğitim(Teknik veya Anadolu Teknik Liseleri, Halk Eğitim, Mesleki Eğitim Merkezi)'de mentorlük konusunda kendilerini yeterli görmekte midirler?

2. Mesleki ve teknik eğitimin kalitesini arttırmak için öğretmenlerene gibi görevler düşmektedir?

3. Öğretmenlerin mesleki ve teknik eğitim ve istihdam konusunda görüşleri nelerdir?

4. Mesleki ve teknik eğitimde öğrencilere gerekli mesleki rehberlik ve yönlendirme yapılmakta mıdır?

5. Mesleki teknik eğitimde mesleki rehberlik ve yönlendirme nasıl yapılmalıdır?

Yöntem (Method)

Araştırmadabetimsel yöntem, nitel araştırma desenlerinden olgubilim deseni kullanılmıştır. Veriler yarı yapılandırılmış görüşme formu aracılığı ile toplanmıştır.Bitlis merkez ilçede bulunan Meslek ve Anadolu Meslek ve Teknik Liseler ile Halk ve Mesleki Eğitim Merkezi araştırmanın çalışma evrenini oluşturmaktadır. Bu amaçla, Bitlis merkez ilçede yer alan 3 Meslek Lisesi, 2 Anadolu Meslek Lisesi ve Teknik Lisesi,1 Halk Eğitim Merkezi ve 1 Mesleki Eğitim Merkezinde çalışan 30 öğretmenle görüşülmüştür. Görüşmelerde katılımcıların izni ile kısa notlaralınmış, kayıtlar içerik analizi yöntemi ile çözümlenmiştir. Veriler dört aşamada analiz edilmiştir: 1. Verilerin kodlanması, 2. Kodlanan verilerin temalarının belirlenmesi, 3. Kodların ve temaların düzenlenmesi, 4. Bulguların tanımlanması ve yorumlanması (Yıldırım ve Şimşek, 2008: 228). Çözümlemelerde görüşüne başvurulan öğretmenlere birer kod numarası verilerek (Ö1, Ö2...) açıklamalar yapılmıştır. Açık uçlu sorular ile elde edilen veriler sayısallaştırılarak frekans ve yüzde olarak ifade edilmiştir. İfadelerdeki benzer öğeler gruplandırılmış ve gruba uygun olarak temalandırılmıştır.

3.1.Çalışma Grubu (The study groups)

Anket formunun uygulandığı öğretmenlere ait kişisel özellikler Tablo 1 ve Tablo 2' de verilmiştir.

Tablo 1. Katılımcıların yaş, eğitim düzeyi, görev yaptıkları okul türü ve kıdem yıllarına ilişkin özellikler

Değişken	Cinsiyet		Yaş						Eğitim Düzeyi				Okul Türü						Kıdem Yılı				
Kategori	K	E	20-25	26-30	31-35	36-40	41-45	45+	Ö.L	L	Y.L	D	K.	E.	M.	T.	H.	A.	1-5	6-10	11-15	16-20	21+
f	6	24	4	13	11	1	0	1	2	22	6	0	5	5	5	5	5	5	22	4	3	0	1
%	20	80	13,3	43,3	36,7	3,3	0	3,3	6,7	73	20	0	17	17	17	17	17	17	73	13	10	0	3,3

Tablo 1'e göre çalışma grubunda cinsiyet açısından erkeklerin (%80), yaş değişkeni açısından en fazla 26-30'lu yaşların(%43,30) ve 31-35'li yaşların (%36,70), öğrenim düzeyi açısından en fazla lisans mezunlarının(%73), kıdem değişkeni açısından 1-5 yıl kıdeme sahip olanların (%73) en fazla oranı oluşturduğu görülmektedir. Okul türü açısından eşit bir dağılımın olduğu (her okul türünden 5' er kişi) görülmektedir.

Çalışma grubunda her branştan öğretmenin yer alması sağlanmıştır. Katılımcıların %20'sini Bilişim Teknolojileri, %10'unu Ahşap Teknolojileri,6,6'sını Elektrik Elektronik Teknolojileri, Makine Kalıp, Matematik ve Metal Teknolojileri, % 3,3'ünü ise diğer branşlar oluşmaktadır. Araştırmaya genel olarak kültür dersleri öğretmenine göre mesleki öğretmenlerin ağırlıkta olduğu görülmektedir. Katılımcıların mesleki ve teknik eğitim alanındaki yeterliklerine ilişkin görüşleri Tablo 3'te gösterilmiştir.

Tablo 3. Katılımcıların mesleki ve teknik eğitimde mentorluk yeterliklerine ilişkin görüşleri

İfadeler	Evet		Hayır		Kısmen	
	f	%	f	%	f	%
Mesleki ve teknik eğitimde mentorluk becerileriniz yeterli düzeyde midir?	20	66,7	3	10	7	23,3
Mesleki ve teknik eğitimi tamamlayan öğrencileriniz, alanlarında istihdam ediliyorlar mı?	7	23,3	4	13,3	19	63,3
Kurumda öğrencilere gerekli mesleki rehberlik ve yönlendirme yapılıyor mu?	15	50	5	16,7	10	33,3
Toplam	30	100	30	100	30	100

Tablo 3'te, anket formunda yer alan 1.,3.ve 4. sorular ve bu sorulara verilen cevapların analizi yapılmıştır.Tablo 3'teki ifadelerden ilki incelendiğinde öğretmenlerin%66,7'si mentorluk alnında kendilerini yeterli, %23,3'si ise kısmen yeterli görmektedir.3 katılımcı ise mesleki ve teknik eğitimde mentorluk konusunda kendilerini yeterli görmediklerini beyan etmiştir. Mentorluk alanında kendini yeterli görmeyen katılımcılara, hangi alanlarda yetersizliklerinin bulunduğu sorulmuş, katılımcıların hepsi özellikle işin teknik ve uygulama kısmında eksikliklerinin olduğunu, bunun gerekçesini de okullarında uygulamaya fırsat verilecek atölye,alet ve donanım eksikliği olduğunu belirtmişlerdir.Katılımcılar, mesleki ve teknik eğitimi tamamlayan öğrencilerin%23,3'sininistihdam edildiklerini, %63,3'ünün kısmen, %13,3' nün ise istihdam edilmediklerini beyan etmişlerdir.

Tablo 3'te öğretmenlerin %50'sinin öğrencilere gerekli mesleki rehberlik ve yönlendirme yapıldığını, %33,3'ünün ise mesleki rehberlik ve yönlendirmenin kısmen yapıldığını beyan etmişlerdir. Araştırmaya katılan öğretmenlerin %16,7'si öğretmen ve kurumların herhangi bir mesleki rehberlik ve yönlendirme yapmadıklarını bildirmişlerdir. Öğretmenler mesleki rehberliğin orta öğretim kurumlarından önce yapılıp, kişinin ilgi ve yeteneklerine göre yönlendirmenin yapılması gerektiği görüşündedirler.

Tablo3'teki sorulardan yola çıkarak araştırmaya katılanların büyük çoğunluğunun kendilerini alanlarında yeterli gördüklerini dolayısıyla iyi birer mentorolduklarını,mesleki ve teknik eğitim kurumlarının gerekli mesleki rehberlik ve yönlendirme yaptığını ve bunun sonucunda kendini yetiştirmiş öğrencilerin mesleklerinde iş hayatına atıldıklarını söylemek yanlış olmaz. Öğretmenlerin iyi bir mentordan beklentileri Tablo 4'te sunulmuştur.

Tablo 4. Mesleki ve Teknik eğitimde görev yapan öğretmenlere göre mentorluk yeterlikleri

S .No	Öğretmenlerin mentorluk yeterliklerine ilişkin görüşleri	f	%
1	Yeniliğe açık olup, kendini mesleki anlamda geliştirebilmeli.	12	40
2	Mesleki ve teknik eğitimin uygulama ayağına daha fazla önem vermeli.	3	10
3	Alanında yeterli donanıma sahip olup, mesleki bilgisini iyi aktarabilmeli.	3	10
4	Öğrencilerine meslekler hakkında rehberlik yapmalı.	3	10
5	Var olan imkânlardan azami ölçüde yararlanmayı amaç edinmeli.	1	3,3
6	Bilimsel çalışmalarda aktif görev almalı.	2	6,7
7	Öğrencilerinin ilgi ve yeteneklerini göz önünde bulundurmalı.	2	6,7
8	Öğrencilere alanlarında sorumluluklar(ödevler, projeler)vermeli	2	6,7
9	Öğrenci psikolojisi düşünen, çok yönlü bir profil oluşturmalı	1	3,3
10	Öğretmenler yasal olarak güçlendirilmeli.	1	3,3
	Toplam	30	100

Öğretmenlerin mentorluk yeterliklerine ilişkin görüşleritablo 4'te yer almaktadır. Araştırmaya katılanların %40'ı öğretmenlerin yeniliğe açık olması ve mesleki anlamda kendini geliştirmesi gerektiği görüşündedir. Mesleki ve teknik eğitimin uygulama ayağına önem verilmesi(%10), alanında yeterli donanıma sahip olup, mesleki bilgisini aktarabilmesi(%10),öğrencilerine meslekler hakkında rehberlik yapması(%10),var olan imkanlardan azami ölçüde yararlanmayı amaç edinmesi(%3,3),bilimsel çalışmalara aktif görev alması(%6,7),öğrencilerinin ilgi ve yeteneklerini göz önünde bulundurması(%6,7),öğrencilerine alanlarında sorumluluklar(ödev, proje) vermesi(%6,7),öğrenci psikolojisini düşünen çok yönlü bir profil oluşturması(%3,3),öğretmenlere güvenilmesi ve yetkilerinin arttırılması(1-%3,3) araştırmaya katılan diğer öğretmenlerin görüşleridir. Mesleki ve teknik eğitimde öğrencilere sunulacak yardım, mesleki rehberlik ve yönlendirme konusunda öğretmenlerin görüşleri Tablo 5'te sunulmuştur.

Tablo 5. Öğrencilere sunulacak yardım, mesleki rehberlik ve yönlendirme konusunda öğretmenlerin görüşleri

S. No	Öğretmen Görüşleri	f	%
1	Mesleki rehberlik ve yönlendirme işbirliği içerisinde, bilimsel, objektif uygulamalarla yapılmalıdır.	5	16,7
2	Fabrika, işletme, atölye vb kurumlara tanıtıcı geziler yapılmalıdır.	3	10
3	Görselliğe ve uygulamaya dayalı olmalıdır.	5	16,7
4	Öğrenci istekleri doğrultusunda yapılmalıdır.	3	10
5	Öğrencinin ilgi ve yeteneklerine göre yapılmalıdır.	10	33,3
6	Mesleki rehberlik ve yönlendirmede veli bilgilendirilmelidir.	1	3,3
7	Mesleki rehberlik ve yönlendirme, öğrenciye yerinde ve zamanında yapılmalıdır.	2	6,7
8	Hayatın içinden güzel örnekler verilmelidir.	1	3,3
	Toplam	30	100

Öğrencilere yönelik mesleki rehberlik ve yönlendirme konusunda öğretmen görüşleri incelendiğinde öğretmenlerin %33,3'ü öğrencinin ilgi ve yeteneklerine göre mesleki rehberlik ve yönlendirme yapılması gerektiğini beyan etmiştir. Okulla ailenin işbirliği içerisinde bilimsel testler ışığı altında objektif uygulamaların yapılması%16,7; fabrika, işletme, atölye vb kurumlara tanıtıcı gezilerin yapılması%10; görselliğe ve uygulamaya dayalı olması%16,7; öğrencinin isteklerinin göz önünde bulundurulması%10; mesleki rehberlik ve yönlendirme konusunda velilerin bilinçlendirilmesi %3,3; mesleki rehberlik ve yönlendirmenin yerinde ve zamanında yapılması%6,7 ve hayatın içinden güzel örneklerin verilmesi %3,3şeklindedir.

Mentorlukla ilgili öğretmenlerin diğer görüşleri ise; "Mesleki ve teknik eğitimin kalitesini arttırması konusunda gerekli yasal ve yapısal düzenlemelerin yapılması % 13.3; Meslek liselerine girişte öğrencinin yeterlikleri ve ilgilerinin göz önüne alınması % 16,6; "Mesleki ve teknik liselere genel bakış açısının değişmesi % 6,7; "Mesleki ve teknik eğitimin piyasa istek ve beklentilerini dikkate alarak teknolojik değişimlere uyum sağlayacak nitelikte olması gerektiği % 3,3 şeklindedir.

Sonuç ve öneriler (Result and proposal)

Yapılan araştırmalarda mesleki eğitim alanında yoğunlaştırılmış mentorluğun, bireye daha yüksek statü, gelir ve iş doyumu sağladığı sonucu ortaya çıkmıştır (Dreher ve Ash, 1990). Yine Amerika'da lise öğrencileri üzerinde yapılan bir araştırmada, mentorun öğrenci gelişimi üzerinde olumlu etkilerinin olduğu ortaya çıkmıştır (McCortie, 1991). Günümüzde teknoloji ve endüstri, çağdaş toplumsal kültürün vazgeçilmez bir parçasıdır. Bu

sayede birey kendini yetiştirme ihtiyacı duyar, toplumun refah düzeyi gelişir. Bireyin meslekleri tanıması, kabiliyetine uygun mesleki eğitim alması, işinde ve hayatında başarılı olması mesleki eğitimde kendisine sunulan yardım ve rehberlikle olasıdır. Mesleki yardım geçmişte ahiler, günümüzde ise mentorler tarafından verilmektedir. Bu konuda özellikle öğretmenlere büyük görev düşmektedir. Ancak öğretmenlerin mentorluk konusunda yeterli eğitime sahip olduklarını söylemek zordur. Ayrıca toplumun mesleki eğitime bakış açısı da olumlu değildir. Bir diğer önemli husus ta, mesleki eğitimin çağın, piyasanın beklentilerine uygun teknoloji ve uygulama eğitimi ile gerçekleştirilemeyişidir. Bu araştırmada mesleki ve teknik alanda çalışan öğretmenler mentorluğun, öğrencilerin gelişiminde önemli katkılar sağladığını, ancak mentorluk konusunda uygulamaya yönelik yeterliklerin geliştirilmesini, aile ve çevre ile işbirliğinin sağlanmasını önermişlerdir. Yapılan araştırmadan yola çıkarak ülkemizde mesleki ve teknik eğitimde mentorluk anlayışının tanınması ve yerleşmesi için şu önerilerde bulunmanın önemli olacağı tahmin edilmektedir:

1. Mesleki ve teknik eğitimde görev yapan öğretmenlere mentorluk konusunda eğitimler sağlanmalıdır.

2. Mesleki teknik alanda yapısal, yasal ve teknolojik değişimler gerçekleştirilmelidir.

3. Mesleki ve teknik eğitimde mentorluk, rehberlik ve işbirliği içerisinde ilgili tüm paydaşları kapsayacak şekilde yapılmalıdır.

5. Öğretmenere yaptıkları mentorluk uygulamaları için ücret verilmelidir.

6. Mesleki ve teknik eğitim görselliğe ve uygulamaya dayalı olarak yapılmalıdır.

7. Mesleki ve teknik eğitim kurumlarının oluşturulması konusunda özel sektör özendirilmelidir.

8. Mesleki ve teknik öğretimden mezun olan bireylerin istihdamı kolaylaştırılmalıdır.

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MICRO-TEACHING VIDEOS IN EFL TEACHER EDUCATION METHODOLOGY COURSES: TOOLS TO ENHANCE ENGLISH PROFICIENCY AND TEACHING SKILLS AMONG TRAINEES

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Abstract

The main goal of the study presented in this paper was to investigate the opinions of 40 prospective English as a Foreign Language (EFL) teachers about the effectiveness of micro-teaching videos in two English language teaching methodology courses. The study was conducted at a state university in Turkey and the data collection was mainly done via a questionnaire. Quantitative data analysis done on participants' responses to the questionnaire items show that absolute majority of participants believed in the usefulness of micro-teaching videos. The paper reports and discusses the English proficiency and English teaching skills enhanced by micro-teaching videos in detail.

Keywords: English as a Foreign Language; Digital Videos; Micro-teaching; Teacher Education

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Introduction

With the introduction of digital videos, incorporating teaching and learning activities with videos and video editing tools has been relatively easier and more popular. Videos in teacher education in particular can be powerful tools in enhancing professional development as videos can be used in several ways in teacher education and training programs. For example, videos can be used to allow trainees to watch "best practices" of experienced and effective teachers. In this way trainees can see the links between theory and practice in teaching (Dymond & Benz, 2006; Hsueh-Hua & Rosenbusch, 2005). Trainees can also watch and comment on peers' teaching videos, which can improve collaborative and reflective learning.

Another use of videos in teacher training can be on the videos of trainees' own teachings. Whether in inservice or preservice teacher training programs, trainees can watch and reflect on their own performances in teaching, which has several benefits. First of all, the teaching videos can provide trainees with a permanent record of their own teaching that they can watch and reflect on anytime (Hung et al, 2004; Wu and Kao, 2008). Furthermore, by watching their own teaching videos, trainees can have a more objective perspective on their own teaching practices (Dymond & Benz, 2006; Clarke, 2009; So, Pow, and Hung, 2009). This objective approach to one's teaching can also be accompanied by reflecting on one's teaching in a "non-threatening way" (Rich and Hannafin, 2009), which in return would result in an increase in awareness (Hernandez-Ramos, 2007; Kong, Shroff, & Hung, 2009; Liu, 2012; Tripp & Rich, 2011) for acquiring the necessary skills to become an effective teacher.

The use of videos in English as a Foreign Language (EFL) teacher education is additionally important because with the help of videos trainees can listen to and watch native speakers, learn culture-bound non-verbal language (Clarke, 2009). Moreover, EFL teachers can monitor and self-correct their language use with the help of videos because one of the most important components of being an EFL teacher is having a good command of the language that they are teaching. In addition to the proficiency in English, EFL teacher trainees can also reflect on their teaching skills that are specific to language teaching. Thus, it can be stated that videos are potentially effective teaching and learning tools in teacher education programs from a teacher educator's view.

Whether teacher trainees find videos as powerful tools of learning in teacher education programs- specifically in EFL teacher training programs- needs to be studied in detail so that trainees' experiences and opinions are also taken into account. Therefore, the main purpose of the study presented in this paper was to investigate the perceptions of 40 EFL teachers on the effectiveness of the use of videos in micro-teaching activities in English Language Teaching (ELT) methodology courses. An EFL teacher has to have the necessary knowledge and skills in at least two areas: being proficient in English and being competent in teaching English skills.

Thus, the specific *research questions* for the study presented in this paper were designed as follows:
1. *Based on the perceptions of 40 EFL teacher trainees*
- *are micro-teaching videos effective in improving EFL teacher trainees' English proficiency?*
- *are micro-teaching videos effective in improving EFL teacher trainees' teaching English skills?*

The rest of the paper covers the details of the methodology and findings of the present study followed by the discussion and conclusions sections.

Methodology

In this section the study presented in this paper is described in detail in relation to the context it was conducted in, the participants, data collection procedure including the data collection instrument, and the data analysis methods.

Context and the Micro-teaching Video Activity

The study was conducted in a Foreign Language Department at an English medium state university in Turkey. The micro-teaching videos were recorded and the data was collected in "ELT Methodology Course II" in which participants were trained on how to teach reading and writing to EFL students. All communication including the instruction, micro-teachings, and data collection procedure was conducted in English. The micro-teaching activity lasted for one academic semester and it was carried out mainly in four steps. The steps followed by the instructor-researcher can be seen in Figure 1 below:

STAGE I
- Teacher trainees prepared their lesson plans in pairs as a take-home project
- One of the pairs was assigned the role of the teacher for the micro-teaching to be done in class.

STAGE II
- Each micro-teacher (teacher trainee) taught his/her lesson in class to peers who assumed the role of learners in an EFL classroom.
- The micro-teaching of each teacher trainee was video-recorded by the instructor-researcher.
- Each trainee received oral feedback by both peers and the instructor-researcher after the micro-teaching, which was also video-recorded on the same day.

STAGE III
- One week after the micro-teaching each trainee received his/her micro-teaching and feedback videos on a DVD.

STAGE IV
- Each trainee watched his/her micro-teaching and feedback videos and wrote a reflection report as a take-home assignment.

Fig. 1. Overview of micro-teaching video activity

As Fig. 1 above illustrates the study involved a micro-teaching video-recording activity carried out in mainly four steps through one academic semester. Throughout the semester each teacher trainee micro-taught one lesson (either Reading or Writing in English) and their micro-teachings were recorded via a digital camcorder by the instructor-researcher. Each lesson recorded had been planned in pairs and one of the pairs took the role of the teacher so that each trainee had the chance to teach at least once in class in front of peers. Trainees' peers acted out as the learners in the micro-teaching. In addition, each lesson was designed to fit within 50 minutes whereas the micro-teacher taught 15 minutes of the lesson due to the high number of trainees in class and time constraints. After the micro-teaching was over, each trainee received oral feedback by both the instructor and peers which was also recorded. One week after the micro-teaching each trainee received a DVD that contained two videos burned by the instructor-researcher: Video A (trainee's micro-teaching video) and Video B (instructor and peer feedback video). All trainees watched their videos at home and wrote a reflection report on their performances and handed in the reflection report to the researcher two weeks after the micro-teaching. Reflection reports were used to ensure that trainees watched and reflected on their videos.

Participants

Participants of the study were 40 third year students in a four year B.A. program majoring in Foreign Language Education. Six of the participants were males and 34 of them were females. Their ages ranged between 21 and 22. The English proficiency level of the participants was advanced as they were prospective EFL teachers who were studying in an English medium university. All participants of the study were familiar with the micro-teaching video recording procedure as they had been through this procedure previous year in "ELT Methodology I" course in which they had been trained on how teach "vocabulary, listening", and "speaking" to EFL students. At the time of the study, each teacher trainee had gone through the micro-teaching activity shown in Fig. 1 twice.

Data Collection and Analysis

The main data collection instrument used in the study was a survey. Before the survey was conducted, all participants were given a consent form explaining the study. Only the volunteer trainees were included in the data collection procedure. The survey was implemented at the end of the academic semester during class time and it was organized under two main sections:

Section A: This section was designed to gather demographic data about participants and their previous experiences with being video-recorded while speaking and teaching in English.

Section B: This section included statements that require responses from the participants in the form of four Likert scale options which were "Strongly Agree", "Agree", "Disagree", and "Strongly Disagree". The statements in section B were organized under two sub-sections: Items 1-5: Statements about the effectiveness of Micro-teachings in relation to improving English proficiency and Items 6-15: Statements about effectiveness of Micro-teachings in relation to improving teaching in English

Data analysis done on the participants' responses to the survey was done via Frequency Analysis. Each participant's response was counted and the total number of responses to each option in every statement was calculated in terms of percentages. In addition, the duration of each teacher trainee's micro-teaching and feedback videos were written down using the video play software and all trainees' video durations were added. Finally, the average number of minutes for each video was calculated via dividing the total duration by the number of participants in the study.

Results

Data analysis done on the participants' responses to the survey questions and statements showed that 70% of the participants had had no experience in video-recording their performance while speaking in English and/or teaching in English before their ELT methodology courses. In other words, the majority of the participants had experience with video-recordings only during their micro-teachings in ELT Methodology courses. The average duration of micro-teaching videos (Video A) recorded for the present study was 17 minutes since each trainee taught the first half of his/her lesson plan in class due to time constraints. Peer and instructor feedback videos (Video B) for each trainee lasted for approximately six minutes. Table 1 below shows both the total and average duration of each video type in minutes.

Table 1. Duration of micro-teaching activity videos

Duration of Videos in Minutes	Video A (MT videos)	Video B (Feedback videos)
Total Number of Minutes	693	245
Average Number of Minutes for each Trainee	17	6

Participants' responses to survey statements in relation to the effect of micro-teaching videos on improving English proficiency

Table 2 presents the results to the statements between 1 and 5 in the survey. As it can be seen in Table 2 responses to statements between 1 and 5 in the survey revealed that the majority of the participants thought the micro-teaching videos helped them to improve their English proficiency. For example, in all statements more than half of the participants selected either "strongly agree" or "agree" for the statements on all sub-skills of English mentioned in the survey. Particularly, the participants believed that the videos were helpful in improving their "speaking" and "pronunciation" in English. Overall, the results of the data analysis done on the responses to the statements between 1 and 5 showed that micro-teaching videos were effective in improving English proficiency skills of EFL teacher trainees, which is the answer to the first research question of the study.

Table 2. Participants' responses to survey statements in relation to the effect of Micro-teaching videos on improving English proficiency

Statements	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
1. Watching my MT videos helped me to improve my grammar in English.	25	52,5	15	7,5
2. Watching my MT videos helped me to improve my vocabulary in English.	32,5	50	15	2,5
3. Watching my MT videos helped me to improve my listening in English.	27,5	50	15	7,5
4. Watching my MT videos helped me to improve my speaking in English.	60	32,5	7,5	0
5. Watching my MT videos helped me to improve my pronunciation in English.	57,5	37,5	5	0

Participants' responses to survey statements in relation to the effect of micro-teaching videos on improving teaching in English

Similar to the responses to statements between 1 and 6, participants' responses to statements between 6 and 15 showed that micro-teaching video activity had a positive impact on improving participants' teaching English skills. Table 3 presents the participants' responses to the statements on the sub-skills of English language teaching skill asked in the survey.

Table 3. Participants' responses to survey statements in relation to the effect of micro-teaching videos on improving teaching in English

Statements	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
6. Watching my MT videos helped me to improve my teaching English.	75	22,5	2,5	0
7. Watching my MT videos helped me to improve my giving instruction in teaching English.	75	25	0	0
8. Watching my MT videos helped me to improve my classroom management in teaching English.	65	27,5	7,5	0
9. Watching my MT videos helped me to improve my giving feedback in teaching English.	50	40	7,5	2,5
10. Watching my MT videos helped me to improve my material design in teaching English.	40	47,5	12,5	0
11. Watching my MT videos helped me to improve my activity design in teaching English.	45	37,5	17,5	0
12. Watching my MT videos helped me to improve my board use in teaching English.	52,5	35	10	2,5
13. Watching my MT videos helped me to improve my monitoring student while teaching English.	62,5	27,5	10	0
14. Watching my MT videos helped me to improve my time management in teaching English.	52,5	40	7,5	0
15. Watching my MT videos helped me to improve my problematic areas in teaching English.	80	15	5	0

As it can be seen in Table 3 majority of the participants thought the micro-teaching videos were helpful in improving their EFL teaching skills. For example, more than half of the participants (75%) strongly agreed that watching their micro-teaching videos helped them to improve their teaching English and giving instructions in teaching English. In fact, only one participant did not agree with these statements and none of them strongly disagreed. In addition, 65% of the participants strongly agreed that with the help of micro-teaching videos their classroom management skills were improved while teaching English. The positive impact of micro-teaching videos on improving teacher trainees' problematic areas in teaching English was another statement that participants' responded mainly homogenously. 80% of the participants thought that these videos helped them to improve their problematic areas in teaching English. In all other statements, more than half of the participants favored the use of micro-teachings in improving their English teaching skills. Thus, it can be stated that based on the participants' perceptions micro-teaching videos were effective in improving teacher trainees' teaching skills, which is the answer to the second research question of the study presented.

Discussion and Conclusions

The results of the data analysis showed that the participants in the study overwhelmingly believed in the effectiveness of the micro-teaching videos on improving both English proficiency and teaching English skills among EFL teacher trainees. In terms of English proficiency "pronunciation" in English was found to be mostly improved with the help of micro-teaching videos. Ninety-five percent of the participants either "strongly agreed" or "agreed" with this statement in the survey. If "strongly agree" and agree" responses are added and calculated in percentages for each sub-skill investigated in the present study, the positive effect of micro-teaching videos on improving English language proficiency can be better observed, which is illustrated in Figure 2.

Based on the results shown in Figure 2 the sub-skills of English that were improved by the micro-teaching videos were (in the order of the degree of improvement) a. Pronunciation (95%), b. Speaking (92,5%), c. Vocabulary (82,5), and d. Grammar (77,5) as well as Listening (77,5%) in English. Thus, teacher educators who wish to monitor and enhance teacher trainees' English proficiency can make use of video-recording activity. Kapanja (2011) and Wu, Yen, and Marek (2011) found that the use of video can lead to an increase in positive attitude toward instruction and motivation among EFL teachers and learners. In addition, Collins et al (2004) concluded in their study that teacher trainees found video reflection highly valuable. Similarly, in this study micro-teaching videos were found highly effective and favorable by the teacher trainees and there is a possibility that the use of this type of activity may motivate and encourage teacher trainees to excel in their performance in micro-teachings that are done in methodology courses. In addition, these video recordings give teacher trainees a record that they keep in their training as well as a chance to monitor their own progress in English language.

Furthermore a similar calculation can be done for the second sub-section of Survey section B; that is, both "strongly agree" and "agree" responses can be added to see the positive effect of micro-teaching videos on improving teaching English skills. This calculation is given in the chart presented in Figure 3. The chart shows that the most improved skill among teacher trainees is "giving instructions while teaching English" as all participants (100%) believed that watching their micro-teaching videos helped them to improve giving instructions in teaching English. Similarly, 97,5% of the participants believed that their overall teaching English skills had improved with the help of watching their own micro-teaching videos.

	Percentages
Giving instructions	100
Teaching English	97,5
Problematic areas in teaching	95
Time management	92,5
Classroom management	92,5
Monitoring students	90
Giving feedback	90
Material Design	87,5
Board use	87,5
Activity design	82,5
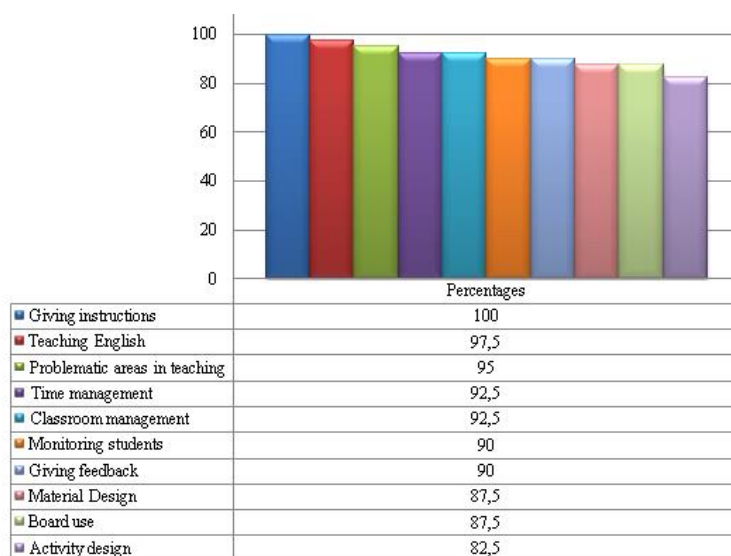
Fig.3. . "Strongly agree" and "agree" responses combined to teaching English skills statements in the survey

Figure 3 also illustrates the effectiveness of micro-teaching video-recording and watching activity on improving other sub-skills of teaching English. For example, videos were found effective especially in teacher trainees' overcoming problematic areas in teaching English as 95% of the participants either "strongly agreed" or "agreed" that they could overcome these problematic areas after watching their own micro-teaching videos. Overall all statements in relation to improving teaching English skills were responded as positively by over 80% of the participants in the study. Therefore, micro-teaching videos were clearly found effective by the teacher trainees in improving their teaching English skills and teacher educators can make use of video-recording as a tool to enhance teaching skills in their classrooms.

The findings and results of the study presented in this paper are limited to 40 teacher trainees in one institution. A similar study can be carried out across institutions and/or with different groups of learners in other disciplines to test whether similar results will be achieved. Nevertheless, the findings of the present study imply that the micro-teaching tools have great use and potential to enhance language proficiency and language teaching skills among EFL teacher trainees. Thus, based on the perceptions of the participants who took part in this study, it can be recommended that micro-teaching video activity may be used in methodology courses of teacher education programs.

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MISCONCEPTIONS IN GEOMETRY AND SUGGESTED SOLUTIONS FOR SEVENTH GRADE STUDENTS

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Abstract

The principal aim of this study is to find the weaknesses of secondary school students at geometry questions of measures, angles and shapes, transformations and construction and 3-D shapes. The year 7 curriculum contains 4 geometry topics out of 17 mathematics topics. In addition to this, this study aims to find out the mistakes, 28, 7th grade students made in the last 4 exams including two midterms and two final exams. To collect data, students were tested on two midterms and two final exams using open –ended questions on geometry to analyze their problem solving skills and to test how much they acquired during the year. Frequency tables were used in data analysis. To fulfil this aim in the first midterm exam the subject measures were tested. In the first final exam which followed the first midterm exam in addition to measures and angles shapes skills were also tested. Following these tests, in the second midterm we tested the students on transformation and construction. A descriptive methodology and student interview were used in the study to analyze and interpret the results. The results from this study revealed that 7th grade secondary school students have a number of misconceptions, lack of background knowledge, reasoning and basic operation mistakes at the topics mentioned above

Keywords: mathematics education; student difficulties; geometry questions; misconceptions; geometrical errors; teaching suggestions for geometry.

INTRODUCTION

The general aim of mathematics is stated as making an individual acquire the mathematical knowledge needed in daily basis , teaching how to solve problems , making him/her have a method of solving problems and acquiring reasoning methods (Altun,2008) .For this purpose to acquire mathematical concepts one should be able to visualize the diagrams. In other words, mathematics is the field in which preconditions are crucial so before the teaching process student backgrounds on the subject should be tested (Baykul, 1987).Gagne divided the concepts into two as concrete and abstract concepts. Concrete concepts are learnt starting from the beginning of life by the person himself. However to learn abstract concepts sometimes being taught by others is necessary (Senemoğlu, 2000).In this context, mathematics based learning should be done according to three aims listed above (Baykul, 2002).

- To student acquiring mathematical concepts.
- To understand mathematical operations.
- To help students make connections with the concepts and operations.

According to Piaget and Inhelder(1956), there are certain stages of learning starting from birth. These stages are

Stage 0: scribbles (less than 2)
Stage 1: topological - irregular closed curves to represent circles, squares,etc(2-4 years)
Stage 2: projective- progressive differentiation of Euclidean shapes (4-7 years)
Stage 3: Euclidean- ability to draw Euclidean shapes(7-8 years)

Although there are specific age groups in this, it has not been widely accepted. It has been suggested that even younger children can sometimes operate with some Euclidean concepts. It is probable that topological, projective and Euclidean notions all develop over time and their usage becomes increasingly integrated.

Piaget suggested that children looked at the world from a very different perspective than adults did. So scientists started to investigate the reasons behind it by listening carefully what students were saying and doing

on a variety of subject-matter tasks. They found surprising facts that students acquire ideas that completed often quite effectively with the concepts presented in the classroom environment. They had a powerful development of conceptions but they were sometimes inconsistent with the accepted mathematical and scientific concepts.

The Van Hiele model (1986) continues to be the best-known theoretical account of students' learning about shape. The model suggests that children have to take a sequence of levels in a fixed order in their learning about shape. The first three levels in the model are as follows:

the Visualization level (Level 1, also known as the level of *recognition*) in which students recognize and learn to name certain geometric shapes but are usually only aware of shapes as a whole, and not of their properties or of their components;

The Analysis level (Level 2, also known as descriptive) students begin to recognize shapes by their properties.

The Abstraction level (Level 3, also known as relational), students begin to form definitions of shapes based on their common properties, and to understand some proofs.

Many teachers have observed that many young children have numerous misconceptions about geometry when a teacher discusses a geometry proof problem in class, it generally involves oral presentation of a formal proof and body movements pointing at different parts of the figure of the problem. Students must watch, listen, jot notes, and think as a lecture proceeds. They have to refer to many elements of the instruction and incorporate them into their memory (Sweller, 1988). This often causes cognitive overload and poses a negative effect on students' learning. Numerous researchers have experimented different ways of teaching and found serious problems in geometry learners: incomplete comprehension of the problem and mathematical symbols, producing proofs based on direct visual elements (e.g., Chazan, 1993; Healy & Hoyles, 2000), lacking strategic knowledge in producing proofs, etc. Addressing the difficulties in learning geometry, Duval (1998) and Healy and Hoyles (1998) explained that geometry instruction is often more complex than that of numerical operations or elementary algebra. It is therefore more important that geometry instructions incorporate new and tested approaches such as using visual and multimedia tools in the classroom.

Studying geometry is an important component of learning mathematics because it allows students to analyse and interpret the world they live in as well as equip them with tools they can apply in other areas of mathematics. Therefore , students need to develop an understanding of geometric concepts as well as gaining adequate geometry related skills. In this project, analyses the development of geometric skills and the use of tools, reproduction of constructions, properties verification, conjecture and research. It can be said that geometry is not used by students from the beginning due to their previous static learning experiences. Another difficulty with some of the students is the geometric language comprehension. After this survey, a seventh grade teacher can analyze students' geometric mistakes and help them to improve their geometric knowledge. In this paper, we describe some guided research techniques for teachers of seventh grade students' in a geometry lesson. This article gives the techniques about teaching.

In our sample class, when construction activities are used, they involve developing new ideas and connecting these with students' existing ideas. If students are not in a particular level of Van Hiele model they might not be able to perceive what the teacher sees in a geometric situation so higher levels of understanding is required. Misconceptions arise frequently if learners bypass or skip a level from the model. A teacher should get students to explain how they come to their answers or rules so that s/he can analyze the faulty interaction between the students' extant ideas and the new concept. By this way the teacher can understand the reason behind misconceptions and they can be corrected by challenging or contrasting it with the right conception. Students' prior learning sometimes arises misconceptions either in the classroom or from their interaction with the social and physical world. However the search for the origins of those misconceptions can not be located to the root of an educational problem. If misconceptions are persistent and resistant to change, that means they have got strong experiential foundations.

THE AIM OF THE STUDY:

The aim of this study is to reveal the performances of 7th grade college students at geometry and to show the conceptual difficulties they face while learning. By doing this, the study tried to identify the misconceptions which arouse during the learning process of geometry.

SAMPLE

28 seventh grade students consisted of 12 males and 16 females at Turk Maarif Koleji in Cyprus.

METHOD

The purpose of this research is to determine college students' misconceptions on geometry subject. The descriptive methodology and student interview were used in the study to analyze and interpret the results. The descriptive method was used since the main purpose of this study is to clarify an existing situation .This descriptive research analyzed the perspectives and experiences of 28 students' exam papers (two midterms and two finals).

THE IMPORTANCE OF TECHNOLOGY IN A GEOMETRY CLASS:

Technology enables both students and teachers to access wide range of tools to use in mathematics. Perkins (1995) offered three stages in the process of understanding in the context of an information and communication technology. These are
- They offer students explanations
- Make relational knowledge available
- Students can possess revisable and extensive web explanations

PROBLEM

The main problem addressed by this of research is the reality of misconceptions that the students already passes or acquire during geometry lessons. These misconceptions are often related to shape perception and three dimensions.

STUDENT INTERVIEW PART:

Students are interviewed and asked four questions to have their opinions taken. The researcher recorded the face to face interviews by taking notes. In order not to create a disturbing environment no recording machine was used. In the students' statements above, the students' names are represented by the numbers in the parenthesis. Main subjects of the research and the data of 10 students, which were above randomly chosen 7th grade students, at the end of the term, are:

1. What do you think about Geometry Lessons? Do you find it interesting?

Eight out of ten students love Geometry Lessons and they are interested in the lesson. One of these ten students loves Geometry Lessons however s/he finds the measurements subject challenging. S/he prefers subjects which includes logic and operations. The other 1 accepts the fact that Geometry is necessary but since it is very time consuming, it is not interesting. According to this data, 80 percent of students said they loved Geometry Lessons. Although the students love the lesson, they make mistakes so it can be resulted that more quizzes should be done and student misconceptions need to be more emphasized after the quizzes and addition to this more thought provoking questions should be chosen and the subjects should be related to real life.

2. Do you want to change Geometry lessons into something more visual by using computers?

Nine students said that computer use can make the lessons more interesting. It was thought that using computers enable them to visualize and this helps them to learn permanently. One of the students thinks that it is not necessary to use computers. S/he thinks that teacher drawing on the board is more helpful. According to this data, ninety percent of the interviewed students think that computer use in Geometry lessons helps them to learn and remember better.

3. How do you learn and remember the rules and formulae?

Two of the students said that they learn them by writing. One of them said by memorizing. Four of them said by writing and visualizing. One said that by writing and drawing. One said by reading out loud and writing. The ones, who learn by visualizing, claim that when they write and stick papers to some places around the house like their study or wardrobe doors find it easier to learn the rules and the formulae. The last one student said that s/he learns by making logical connections with them and so that she remembers better later by the logic she has created. According to the data, teachers should give students choices of learning rules and formulae so that the students can choose the best for them.

4. Why do you think Geometrical mistakes are made in the exams?

Seven of the students think the cause of the mistakes is hastiness and negligence. One of the student said that the classrooms are crowded so students can not get enough attention from the teachers. One of them said that s/he underestimated drawings so when s/he saw them in the exam s/he was panicked and could not do them properly. The last one thinks s/he did not study enough so got confused in the exam. According to the data, since seventy percent of the students think that the cause of their mistakes are negligence and hastiness, the teachers can suggest them methods to avoid their habits.

The data received after student interviews are directly quoted. During the interviews, it was found that students are satisfied with the method used however teachers can use computers and give more focus on drawings.

DIRECT STUDENT OPINIONS:

Student (1): '....I find Geometry lessons enjoyable however more emphasis should be given to drawings and more assignments should be given. I had the most difficulty in the enlargement topic.....'

Student (2): '....I didn't have any difficulties in geometry. After the mathematics topic algebra, it gave me motivation. I enjoyed drawing, using the compass and the protractor. I learn the formula by writing them on papers and white board....'

The curriculum of the 7 grade can be divided into four main categories as measures, angles, transformations and construction and 3D shapes.

FIRST MIDTERM EXAM:

The first midterm exam consisted of 25 questions.3 out of 25 questions were on geometry subjects

Mistake Made	Possible Reasons	Suggestions
While the area of the triangle was found the student forgot to divide the number by two which was on the area formula.(The area formula of triangle is base times height over two and the student forgot dividing it into two)	-Just memorized the formula -Cant visualize the image -Lack of reasoning -Few authentic in the primary grades	-More exercise on the topic -Frequent use of images by more interactive teaching -More visual –object use -Deduction of the area formula in class
Operation mistakes while finding the shaded area from the total	-Lack of spatial/thinking -Lack of construction idea -Lack of background education on operations	-More exercise -More homework -Practising the same procedure on paper to make understanding easier -More practice should be done on operations during primary school
Wrong or missing formulae use. (Ex: area of parallelogram is base times height. The student divided base times height by two)	-incomplete understanding -No concentration -Not enough practice of the topic	-Computer based teaching can be used to show students the formulae in more fun and colourful way to make them remember easier.

FIRST MIDTERM FINAL EXAM RESULTS

In the first midterm final exam, there are 25 questions of which 8 of them are on geometry subjects.

TABLE 2: The first midterm final exam misconceptions

Mistakes Made	Possible Reason	Suggestions
Wrong formula use (area of triangle, parallelogram...etc)	-Can not understand the term area. -no proper understanding of the formulae.	-More warm –up before teaching about shapes -Ask students to find the shapes in their real lives. For example a square coffee table, a rectangular notebook, triangular ashtray so that they can understand the shapes better.
No given reasons for the	-Problem in the second language usage(can not express themselves in the language)	-More mathematical term use in the classroom -More practice

answers	-Can not give explanations to their answers	-More stress on explanations in the classroom.
Lack of assimilation of the angles in parallel lines such as alternate and corresponding angles	-Ignore the importance of angles in parallel lines	-The importance of looking at the angles should be emphasized more in the classroom -Colourful images can be used to show alternate and corresponding angles.
-Lack of recognition and of perception properties of quadrilaterals -Can not distinguish the types of quadrilaterals	-Can not visualize -Can not assimilate the properties of quadrilaterals -Students put in little effort.	-More emphasis on properties of quadrilaterals and the similarities and differences while teaching -The students should be involved more during the similarity and difference stages of learning
Wrong conversion of metric measurements (such as changing millimetre to metre)	-No adequate use of conversions in real life -Not enough practice or studying	-Variety of activities can be used in the classroom to show their use in real life (such as showing the metric system on their own rulers)
Wrong detection of angles in an isosceles triangle	-Can not connect the background data learned in primary school to new material. -Answering the questions spontaneously without reading the rubric of the question. -Lack of spatial reasoning	-More variety of questions on different types of triangles
Operation mistakes (during area calculations, multiplication, and addition, subtraction or division mistakes).	-Lack of concentration -Underestimate -the importance of operations	-Lectures can be given by student advisors on paying attention techniques -More practice on operations
Mistakes done on angle , side	-Insufficient practice and	-colourful materials can be

and parallelism properties on special quadrilaterals	learning -Can not assimilate the properties of quadrilaterals	used while teaching properties of quadrilaterals to show the equal angles and sides and parallelism.(equal angles can be shown in red and equal sides in green to emphasize the difference)
Can not distinguish the concepts of equations and expressions (for example when the side lengths are given in algebraic expressions , students are unable to find the area)	-Equations and algebraic expressions topic are not learned well.	-Instead of using x,y,z (which are frightening letters for students a,b,c can be used more to show the unknown)

Table 3: The second midterm exam misconceptions

Mistake Made	Possible Reason	Suggestions
-While the student was doing enlargement s/he didn't write the coordinate of the center of the enlargement	-The student read the question carelessly -The student didn't follow the instructions of the question carefully	-Teacher should emphasize the importance of reading the questions more carefully to give relevant answers. -The teacher should summarize the topic to improve the understanding of students
-The students mixed the names of three dimensional objects. For example: instead of writing cuboid, the student wrote cubic.	-Basic vocabulary mistake The student started with wrong step so s/he couldn't finish correctly.	-Details should be shown clearly in the classroom -Revisions and more practice should be done
-The student found the sum of the interior angles incorrectly and also found the size of each interior and exterior angles incorrectly	-Learning formulas and definitions inadequately. -Students don't know what to do properly.	-Students should be encouraged to study and practice harder

-The student shifted the lines while applying reflection and rotation.	-Student can't use the tracing paper properly and counts the squares on the paper incorrectly.	-The use of tracing paper should be shown in detail by using computer based teaching

TABLE 4 Second Term Final exam misconceptions:

There are 20 questions and 8 of them are geometry topics.

Mistakes Made	Possible Reasons	Suggestions
Missing information in descriptive questions(for example, when the student was asked to describe transformation s/he did not use specific words like translation, rotation)	-Lack of enough knowledge -Forget the details about the topic	-Students should be more careful in the exams while describing transformation -The teacher should revise transformation more in detail from beginning to end by using visual aid.
The student did mistakes while enlarging objects and wrong use of coordinates	-Did not understand the process of enlarging. -Confused the coordinates when enlarging objects	-Computer based exercises can be practiced so that students can get a better knowlwdge on the enlargement topic. -Describe the position and movement more in detail. -2 and 3 dimensional objects should be used to make students able to visualize the images.
The student multiplied the number by 2 instead of 3 when calculating the volume of a cube	-Did not know the formula -Confused the formula of the cube with the formula of area	-To teach students volume , use visuals of 3-d objects from different perspectives and analyze the idea of volume
Wrong use of vocabulary (for example the student used the	-Lack of recognition of formal	-Formal mathematical terms should be emphasized more

word "translation " instead of "transformation"	terms	during teaching and practising
Measurements were wrong in bearings questions	-Wrong use of protractor -Wrong application of angle rules	-Make students use of real life objects in the classroom so that they can visualizeand learn better
Questions on polygons and square ,the student considered just one angle of the polygons and ignored the square	-Can not analyze compound figures	-Use geometric images to give students the idea of combining objects
Could not draw angle bisector (for example the student was expected to draw the angle bisector of the given angle but s/he constructed just the angle)	-Misunderstood the questions	-More variety of questions on similar topics should be practiced to avoid misunderstandings
Cube's surface area was miscalculated because of wrong length measurement	-The connection between the length and surface area calculations was not understood properly	-Strategies should be developed to teach students perceptions of cube and cuboid such as using related visual examples to answer questions of surface area and volume
Wrong rotation of images	-Wrong use of tracing paper	-Make students recognize positions and directions . -Use colorful images to teach students rotating objects -Make students draw the shapes onto their own notebooks and ask them to interpret the rotation.
Wrong positioning in translation questions	-Insufficient concentration -Mislearned measuring	-More practice at their own pace -Teacher should make available more practice questions (Moodle can be used more frequently and efficiently)

In a student learning process there are some key factors such as network, images, words, anecdotes, cases in point, formal principles and finally explanation structures.

Conclusion

According to my research, it can be concluded that 7th grade students succeeded in reaching the curriculum objectives. My research aims to make the teachers aware of student misconceptions and general educational issues. The results from the study revealed that seventh year secondary school students have a number of misconceptions and lack of knowledge related to geometry subject.

SUGGESTIONS:

The major problems in mathematics are inadequate thinking and reasoning abilities. The role of the teacher is very crucial to overcome this problem. The teacher should explain students what they should be careful about in image based questions in detail. In mathematics, teaching should be done in using visual aids. It was found out that students couldn't understand and evaluate mathematics, visual materials and methods which aim at students' five senses should be used to improve understanding . To succeed in geometry learning, it is very important to define objects and their definitions. Students get confused at recognizing the shapes. The reason for this is human perception. To eliminate this problem the teacher should first make students recognize the shapes then teach how to rotate the objects mentally to perceive them more clearly. According to the level of geometric thinking of the students, methods can vary.The teacher should continuously remind students that rotation of an object does not change its shape.

New practices for geometry lesson General suggestions

To teach students the names of various shapes, television, books and computer games can be used. Their comprehension of the concept should be improves. Their meta cognitive abilities should be enhanced.
- Teachers should use relevant vocabulary to describe relevant geometric statements and their relationships.
- To assess the validity of geometric arguments a teacher should apply logic. A way of doing this is, analyzing the consequences of using alternative definitions for geometric objects.
- To help students memorize the formulas easier, the formulas can be shown with either proofs using different approaches.

The properties of geometric figures and mathematical thinking should be applied in order to perform and justify basic geometric constructions. Simple straightedge and compass constructions should be performed and explained In order to increase efficiency and reach aims computer based , visual methods are necessary.To test or create the conjectures of geometric properties or relations geometric computer or calculator packages can be used.
- Geometry sketchpad is a software that can be used for constructing basic geometric figures. It also enables you to edit and with the display menu you can add figures and animate them. It's custom tools let you replay complex geometric constructions in an easy one step way.
- Scheme of work : A detailed scheme which topics and what order topics   should be covered.
- Practice book: They provide students plenty o exercises based on the content   of the units.
- Powerpoint Representations

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MODERN TRENDS IN THE TEACHING THE VOCABULARY OF CZECH SIGN LANGUAGE

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Abstract

The paper deals with the possibilities of using modern information technologies in the self-study of signs vocabulary of Czech sign language. Whereas that there are not yet available the general Czech sign language textbooks presenting its grammatical and lexical component in the market, there is the only way to learn Czech sign language - attending intensive courses of sign language and its practical use. Because of time and didactic reasons, it is appropriate when students can self-study lexical components of sign language and the direct lessons with the teacher is then used to teach grammar and conversational skills. The self-study of signs may be used various teaching aids. As seems most appropriate, however, electronic dictionaries, today more and more often affixed to the Internet. Current possibilities of information technologies offer a variety of unique and useful features, including the use of modern mobile devices.

Keywords: Sign Language; Deaf; Information Technologies; Teaching; Study

Introduction

Obtaining sufficient communicative competence in the relevant sign language by teachers and parents of children with hearing impairment is one of the conditions to ensure full and effective communication, and thus the harmonious development of deaf children. Learning of sign language due to its specifics is significantly different from the study of other foreign languages. Macurová (2001) points out that the basis for really successful mastering of sign language is accession of his otherness and acceptance of the view that the "other" is not equal "worse". While the study of "classical" foreign language (eg English or German), the students have no doubt that it is "independent" and "peculiar" language (with its own lexicon, grammar, history, etc.) in case studies of national of sign language leads to of his underestimation and detraction, particularly in relation to the national spoken language.

The fundamental difference between the spoken foreign languages and sign language is a different form of existence. Sign language requires the student to use means of expression that have not yet to communicate by spoken language had not been forced to use (or a small extent), and which would be therefore unnatural. These include well-defined and sometimes very difficult position of the palms and fingers, hand movements, head and body, using three-dimensional space and the necessary use of facial expressions. Hearing users of spoken language (which has a linear character) have also considerable difficulties with simultaneity of sign language.

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Learning sign language

Learning of visual-motoric communication systems, especially sign language, because of its difficulty is at least comparable with the study of any "traditional" spoken languages, encountered most of the population. In the case of sign language is the study further complicated esp. usually lacking study materials, crude methodology of teaching and visual-motoric form of existence of sign language. This gives him completely different linguistic features than we know of spoken languages. Sign language requires the student to use the means of expression that have not yet been used in communication by spoken language (or to a small extent), and which would be so unnatural. These include precisely defined and sometimes very difficult position of the palms and fingers, hand, head and body movements, using three-dimensional space and necessary to use facial expressions. For hearing users of spoken language (which has a linear character) the simultaneity of sign language is considerable difficult. Much more so depends on direct interaction between teacher and student with the most intense focus on practical conversation.

For hearing students sign language usually is a secondary language (their primary, native language is the national language spoken), so it is seen only as a "second" language. The authors of the guide for teachers of American Sign Language (in Jabůrek, 2000) declare these basic principles of teaching and learning a second language:

Aim of the study is the ability to communicate with the target language.

Most fundamental factor in learning any language is the appropriate contact of the student with this language.

Student must have a desire, motivation and opportunity to communicate in the target language.

Dialogues, practice, communicative activities and games are the basis for meaningful contact with the target language.

Language teaching, especially in adults, is in part a conscious process and not a mere imitation of the teacher's expression. The student should therefore always know what communicates about.

During the teaching process mistakes occur and it is important to realize that it its important and integral component of learning.

Macurová (2001) states that, like the study of any foreign language, is to study sign language necessary to focus on the lexical component of language (ie to learn signs in their quotation, dictionary form) on his grammar (ie to learn ways to different forms of turning quotation signs in sentences and how sentences of sign language are ever built). To learn about the signs (especially their manual part) is relatively simple phase of the learning process of sign language. Learning a sign language is not limited only on the signs (similarly cannot be possible to learn, for example, English language by studying Czech-English dictionary). Focussing on learning the lexical component of sign language and underestimation its grammatical part results in the acquisition of communicative competence rather than in a national sign language, but in the national signed language (e.g. Signed Czech). As carriers of the grammar of sign languages there are used facial expressions, movements of the head and upper torso. "The movements and positions of these parts of the body in sign language are not just something "extra", what may or may not be in addition to what is expressed by hands. Contrary, non-manual components are "mandatory" part of the sign language and usually have grammatical effect – carry grammatical meanings as well as the need to bear in Czech language the endings." (Macurová, 2001, p. 74)

The basic prerequisite for obtaining the required communication skills in sign language is its systematic theoretical and practical studies. Understanding the specificity and theoretical properties of the structures of the

studied sign language greatly facilitates and accelerates its mastering and practical training. Practical skills in sign language, in fact facilitate the understanding of its theoretical bases. Both components, theoretical knowledge and practical skills, it is necessary to develop simultaneously and in harmony. Another prerequisite for the successful learning of sign language is knowledge of the specifics of culture and communication norms of natural users, namely the deaf people (or the Deaf).

Hearing people interested in sign language can obtain the communication competence in three ways: by self-study, in sign language course and during spontaneous communication with deaf sign language users. Each way has its objective positives and negatives. The highest efficiency in the learning process can be best achieved by the systematic and blended combining of these ways. The quickest way to gain communicative competence in sign language is passing quality courses. A prerequisite of sufficient quality sign language course is a teacher (tutor) who is sufficiently skilled in sign language and has the necessary pedagogical skills. The best teacher is obviously deaf sign language user.

The problem of deaf teachers is often their low erudition in the theory of sign language and lack of teaching competence. Hearing, pedagogically and knowledgeable teachers again quite often lack of the communication competence in sign language and in their courses teach signed language rather than sign language. Situation where the teacher is fully linguistically and pedagogically competent is unfortunately quite rare. One way to eliminate insufficient sign language competence of teachers is to give them the quality methodological materials from which they can draw information, which then can be used in teaching. Students should have a quality learning tools.

In most courses, however, learning lexical component of sign language prevails the component of learning grammar, which undoubtedly decreases the quality and effectiveness of the learning process. Quite often the studying narrows to a mere teaching of isolated learning of signs, sometimes practised in whole sentences. Another reason why learning of signs usually takes more time is more complicated learning new concepts (signs) than is common in spoken language learning. As opposed to English or German vocabulary which we can simply write on the paper, including pronunciation, clear and re-usable note of new signs is much more demanding and complicated. Individual signs are repeated and thus more practiced in order to be accurate if they remember.

From this follows, therefore, that if the study of sign language has become an effective and is to be acquired sufficient communicative competence, it should be approached comprehensively and dynamically. Practical experience of sign language tutors show that increasing the quality and effectiveness of teaching is better self-study with using of teaching materials, which should be seen primarily as preparation for direct communication process, respectively for repeating the already learned skills The time saved in direct instruction (which does not need lengthy learning of new signs, but only their practice and control) can then be used to practice conversational interaction and direct communication. Sign Language courses led by a competent teacher allows a relatively rapid acquisition of communicative competence, to rise to a very good level, however, is only possible on the basis of direct and iterative communication with the deaf.

Methods of presentation of signs of Czech sign language

In the past, the most widely used printed (picture) books and sign language dictionaries are now overcome because the static images or photographs, accompanied by arrows and written descriptions do not exactly display the progress of dynamic signs. It is also very difficult to capture non-manual components of signs. In the early 90

of the 20 century educational programs of sign language were set up on video. Videotape, as a carrier of the signs of sign vocabulary, can (compared to static images, presented in the printed books), faithfully and accurately capture the process of the interpreted sign, including its non-manual components. Compared book publication, the user can also see the method of connecting of isolated signs in contiguous communication, incorporation in sign language, using the space around, classifiers, mimetic description and other specific characteristics of sign language. In the coherent narratives (or dialogs) is also possible to present grammatical structure of sign language and explain it with some examples. The disadvantage of teaching programs on video was, in addition to having to use expensive technical equipment, also difficult to orientate on the tape, especially evident when searching for a specific term and gradual deterioration of tapes and video. Modern alternative to video-programs would now be able to special educational programs on DVD. Their use, however, still not because the much as seems to be better use of modern computer technology.

Multimedia form of electronic sign language dictionaries allows you to combine sound (in the case of sign language dictionary the sound component is redundant, but it is up to the author decision if there will be the spoken commentary, which is intended to hearing users), text and image (in the form of pictures or video clips) expressions and provides therefore the possibility that previous forms of dictionaries did not offer. Interpretation of signs using digitized video clips is dynamic, allowing you to faithfully capture the process of the sign that can be played repeatedly at any speed or phasing the frame by frame. High operating speed of modern computers today also enables a very quick orientation in the dictionary, sorting signs into thematic units and lessons, or search for concrete signs according to various criteria (Langer, 2007, 2008). Like videotapes can multimedia present except of isolated signs of Czech sign language also a continuous communication and dialogues.

Looking for the best teaching tool, designed primarily for self-study and homework, there is no need to have at its disposal to use a personal computer a significant limiting factor. Wide range of features that offer electronic dictionaries, significantly exceed the capacity of books and videotapes. (cf. Langer, 2006) During the making electronic dictionaries of Czech sign language is more appropriate to focus on particular topics because of the limited capacity of data storage and create thematically oriented sign dictionaries. (Langer, 2001) When creating a sign language dictionary to serve primarily as a teaching tool, however, because of didactic reasons should be taken to give the user an overview of the general sign vocabulary needed for normal communication in the Czech sign language. Concrete signs should be (like the words in the textbooks of foreign languages), divided into separate, mostly themed sessions. Computer technology, however, allows the learning to use electronic dictionaries as classical alphabetically ordered dictionaries of Czech sign language.

In addition to really easy orientation in the electronic dictionary, easy searching the required term and possibility the playback of recorded sign at any speed, multimedia teaching tools offers many other functions. All signs can be presented in multiple views (standard is used front and side view or detailed view) so that all phases of sign can be well-observed. Meaning of the signs or their Czech equivalents may be further explained with concise definitions, images, spoken commentary, or other short clip with an explanation in sign language. From the didactic point of view is very useful to use testing and verification of already learned signs. Recent innovation is a new feature consisting in searching signs and their translations into spoken languages by parameters of concrete signs. This feature allows not only for translating from spoken language into sign language, but also vice versa.

Experiences of users of multimedia teaching materials and dictionaries of sign language show that the electronic processing is very suitable and beneficial for the study of Czech sign language. According to feedback received from users of this multimedia tools actually provide quality homework and self-study and allow greater use of contact with the teacher for teaching practicing conversation.

Creation of sign language dictionaries (which can become a useful tool in the study) deals the sign language lexicography. The first dictionaries of sign languages began to emerge in the late 18th century based on the work of Abbe de l' Epée, who introduced sign language in the education of persons with hearing impairment. To capture the signs were primarily used mainly the verbal descriptions, later supplemented by a graphical representation of a sign. The first sign language dictionary prepared according to the linguistic lexicographic principles was published in 1965 in the U.S. under the leadership of W. Stokoe (Okrouhlíková in Slánská-Bímová, Okrouhlíková, 2008). In the Czech Republic (or further in Czechoslovakia) were created first publication of dictionaries and Czech Sign Language and signed Czech (then called "sign speech") in the 80 of the 20th century. Until now there have been published 14 books or serial publications, 5 programs on video, about 40 multimedia CD-ROMs or DVD-ROMs and 4 internet online dictionaries.

On-line dictionaries of Czech sign language

In recent years begun to electronic dictionaries of sign languages expand into the Internet, which allows on-line access to a database of signs. In the Czech Republic are now 4 freely accessible online dictionaries containing the signs of Czech sign language:

Glossary of signs (Slovník znaků). Available online at: http://www.znakovka.cz.

Glossary of Dramatic Education: Czech – Czech sign language (Terminologický slovník oboru dramatická výchova: český jazyk – český znakový jazyk). Available online at: http://difa.jamu.cz/slovnik-vdn.

Spreadthesign.com – The sign language dictionary for the world. Available online at: http://www.spreadthesign.com.

Given that the development of electronic dictionaries online is still in its infancy, dictionaries are not usually equipped with all the features that the Internet as an electronic medium offers, but operate on a relatively simple platform. The dictionaries also typically lack information about their procession, making Subject Heading System, strategy of elicitation of signs, etc. For this reason, a user of the dictionary cannot know whether the signs contained in the database are linguistically correct, how and where they were searched, etc. If the dictionaries are not shielded by some trusted institution, the suitability of these products to self-study of sign language is then very questionable.

A much more ambitious aims the current developed **Online Dictionary of Czech Sign Language**, involving a University of West Bohemia in Pilsen, Palacký University in Olomouc and Masaryk University in Brno that results in long-term cooperation between these universities. Dictionary, available on the Web at **http://znaky.zcu.cz** in addition to standard functions, (which are to find and play the concrete signs), offers a variety of other features. These include for example:

Grammatical features of the Czech equivalent

Manual parameters of sign

Description (notation) of the sign in HamNoSys

Description (notation) of the sign in Signwriting

Hypertext links to synonyms, antonyms, hypernyms, hyponyms

Choice of front, side and a detailed view

Description of the meaning of the term

Examples of the use of the term

Animated avatar, etc.
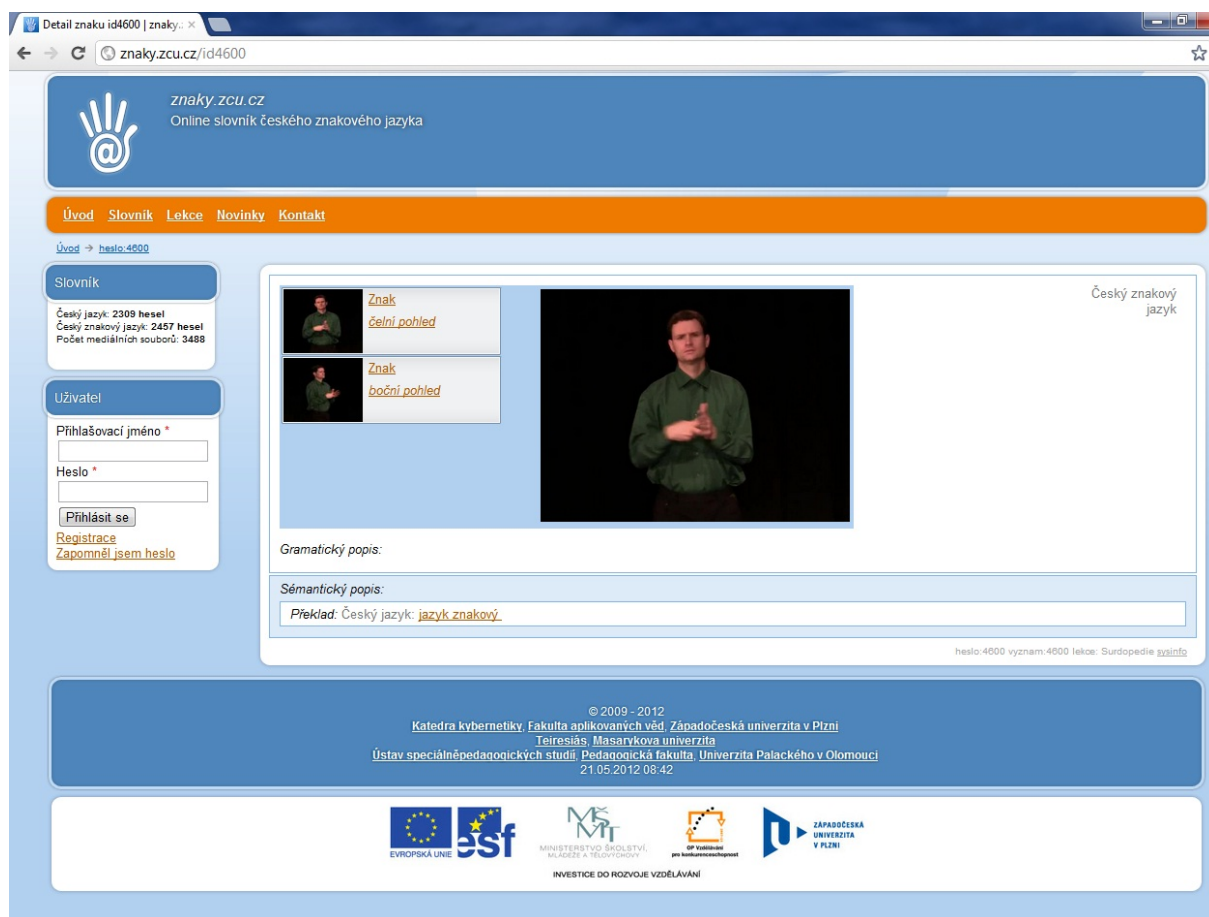
Fig. 1. Workspace of the *Online Dictionary of Czech Sign Language*

Dictionary today contains approximately 7000 of signs of Czech Sign language from the general sign language vocabulary as well as vocabulary from the general study and special educational terminology. Gradually, the database will be supplemented with signs from the previously published electronic dictionaries of sign language and signs obtained from the continually maintained elicitation from currently required subject areas. The management of that online Dictionary has been supervised by expert editorial board, which guarantees the accuracy and validity of the contained data. The absolute innovation in the field of online dictionaries of sign language is the ability to search sign based on its parameters in the notation systems HamNoSys and SignWriting and then write its Czech equivalents. The dictionary is also able to translate the traditional way from the Czech language into sign language, but also vice versa. (cf. Langer, 2008)
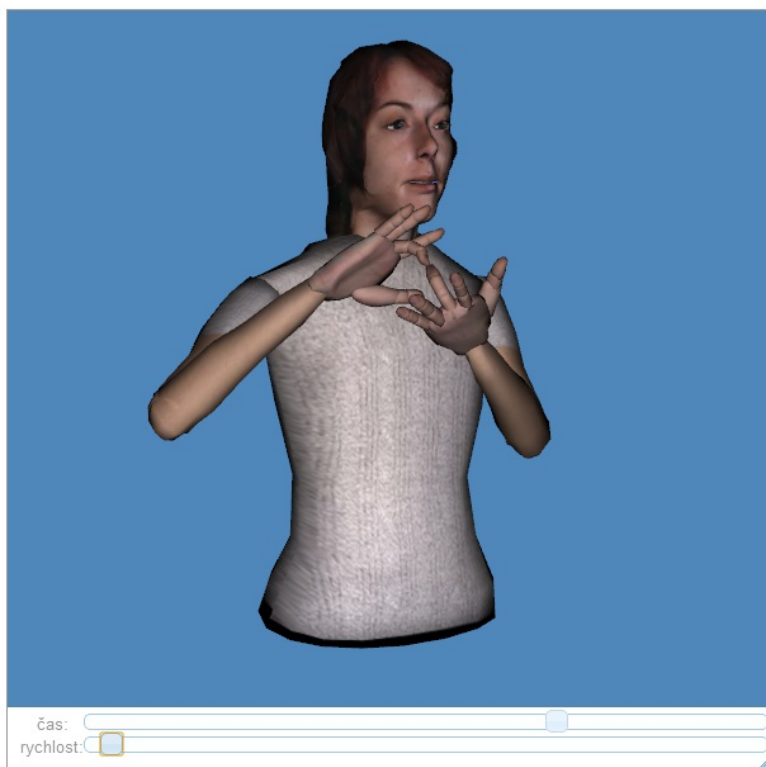
Fig. 2. Virtual signing model (avatar)

On-line dictionary will also allow users to export selected signs (eg, by topic, alphabetically, etc.) into a simple off-line version of the dictionary, which will eventually be used even without an Internet connection. After filling the database with a sufficient number of signs it will be possible to create special "individual" electronic dictionaries of sign language that will be able to create "tailored" by the tutor for his students. The dynamic development of information and mobile technology also eliminates one of the major weaknesses of electronic and online dictionaries of sign language, which is the necessity of using computer technology. The dictionary mentioned above is fully functional, even on mobile devices like smartphones or tablets, so it is entirely possible to use anywhere in the field.
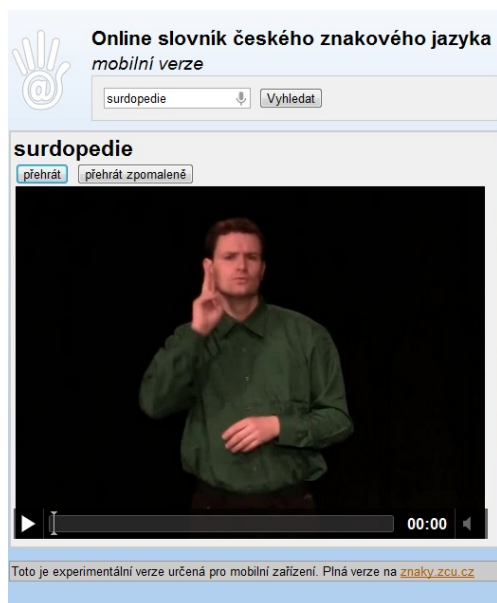
Fig. 3. Mobile version of the online dictionary
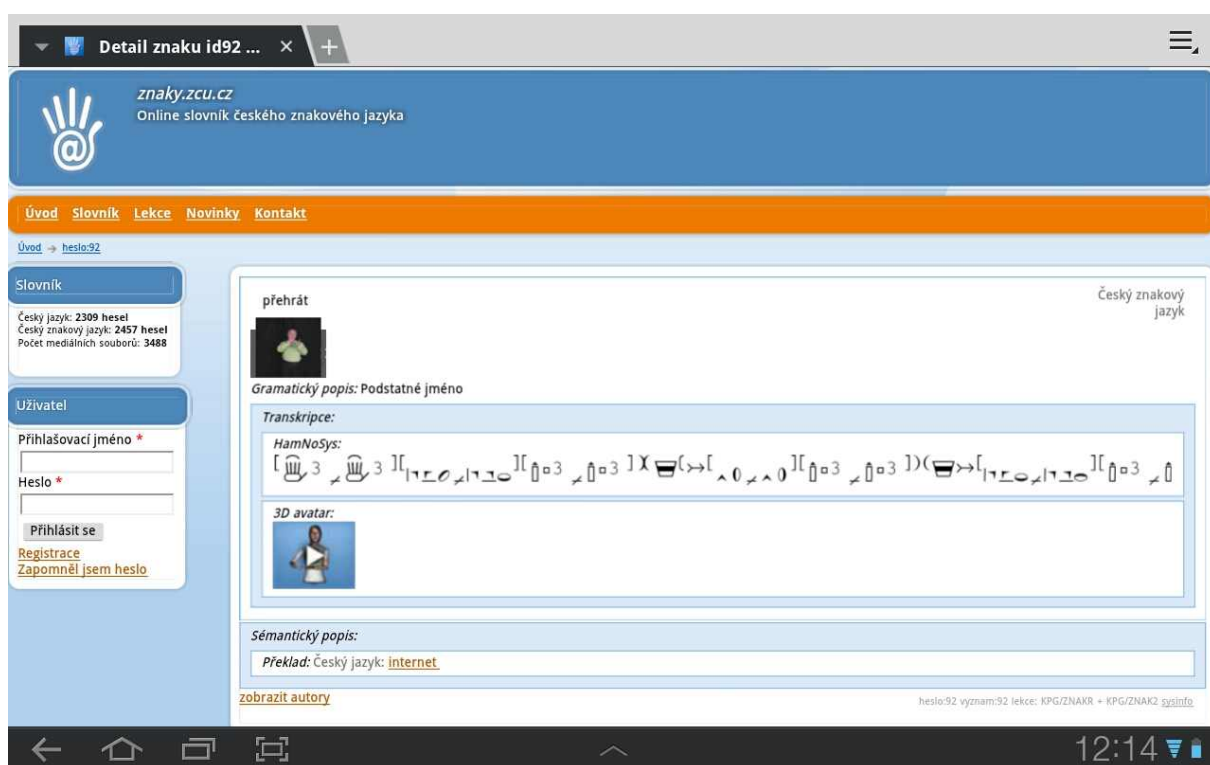
Fig. 4. *Online Dictionary of Czech Sign Language* on the tablet

The number of dictionaries and materials from which it is possible to study the vocabulary of the Czech sign language or Signed Czech is already relatively high, but none of them focus on teaching grammar Czech sign

language. For a description of the concrete publications and evaluation of their characteristics cf. Slánská-Bímová, Okrouhlíková, 2008; Okrouhlíková, 2008; Tomek, 2008; Langer, 2004. The only way the student can therefore learn the grammar of Czech sign language is in lessons with a teacher and direct communication with its native users.

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MUSEUM CONCEPT FROM PAST TO PRESENT AND IMPORTANCE OF MUSEUMS AS CENTERS OF ART EDUCATION

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Abstract

The present study aims to examine the concept of museum and the transformation of museums to centers of education in its historical development. Museum, as a concept, comes from the 9 muses each possessing a different ability and source of inspiration (Calliope- the muse of epic poetry; Clio-the muse of history etc). Open and enclosed spaces (gardens and inside temples) dedicated to these 9 muses were called museums in Ancient Greece. However, The Museum of Alexandria, established in 4th century B.C, was the first museum that presented collection, exhibition, preservation and classification missions for museums in the historical development. A comprehensive archive was developed in Alexandria by visiting all settlements in the Mediterranean to collect artifacts sometimes through copying sometimes by seizing by means of pillages. In this sense, the Museum of Alexandria is the temple of the thought to bring together all cultural indicators of the world in the same location.

Medieval collections were the means to collect cultural treasures and to pursue what is different to display them. With the discovery of the New World and the resulting conquests to faraway lands, not only the land but also the universe of images of The Other was conquered. Museums with their Cabinets of Curiosity, that display everything that is extraordinary and rare, living and nonliving, are exalted to mysterious settings. Along with the Renaissance-the conveyor of the Ancient Greece and the messenger of the modern world view- museums transformed into visual encyclopedias established with a philosophy of classification and documentation rather than sorting the mysterious objects or the living things. In this sense, the museums have started to develop as service facilities that contribute to the progress of the society instead of settings that only collect and store objects. While Palazzo Medici built in 15th century laid the foundations of the modern museum, arts and science started to transform into academic structures. Now, the most precious artifacts of history are presented in the museum setting in a chronological order. The function of object based information usage started to be dominant in the 18th century along with the establishment of the institutional structure and the 19th century brought the provision of services to educate the working class that started to rapidly increase in the cities as a result of industrialization and the museums have obtained the mission of training citizens as well.

As a result, museums stopped being the indicators of wealth for rulers and the bourgeois in the history and started to gain importance as educational institutions. Hence, modern museums are settings in which research towards the preservation of cultural heritage is undertaken on one hand and training, publications, knowledge-document centers, performances, meetings, discussions and workshops are provided on the other.

Key words: Muse, Cabinets of Curiosity, National Museum, Universal Museum, Modern Museum Studies, Information Services

INTRODUCTION

Today museums have progressed from being mere spaces where art and science products are displayed and all treasures of the past are conserved to being informal educational areas and tools for communicating the mass culture. Museums, consisting wide base libraries, project development facilities, art ateliers and display rooms and with presentation techniques addressing the products comprehended not only with two or three but with five dimensions, are turning into educational areas which enrich social life. "The type of relationship that the Art and especially Nature and History of Science Museums have formed with children and their families not only proved that an object in a museum is not only for observation but also unearthed the field called museum pedagogy. These spaces salvaged from only being the temples of muses….are questioning the fundamental means of observing and learning" (Çalıkoğlu, 2009:7)

CONCEPT OF MUSEUM

Museums, "past guardians" of ancient objects or treasures, are generally known to be locations or buildings where art and science artifacts are preserved, kept and meet the viewers. When examined in more detail, museums are organizations with the mission of investigating the production of humanity along the ages from the viewpoint of science and art to enlighten them about the history in addition to being spaces that present and conserve the treasures of science and art and the under and above ground treasures. International Council of Museums in their meeting in 1955 defined museums as "permanent organizations in the service of society and its development, open to public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment" and in their 1962 meeting the Council focuses on the mission of education in the definition of museums as "permanent organizations that preserve and exhibit collections consisting of objects with cultural and scientific value for research, education and enjoyment purposes" (Atik; 2009: 120). Sözen and Tanyeli define museums as "organizations open to public established to exhibit artistic, cultural, historical or scientific artifacts permanently or establishments that carry the properties listed above" (Sözen, Tanyeri 1987: 168) Riviere emphasizes the educational role of museums as ICOM does and portrays museums as "permanent organizations working for the benefit of the public by carrying collections of art, science, history, health and technology to preserve, study, assess and exhibit the cultural values as a whole in order to develop aesthetical enjoyment and education in public" (Riviere, 1962:22-23).

DEVELOPMENT OF MUSEUMS: FROM THE MUSES OF ANCIENT GREECE TO MODERN ART MUSEUMS

Origins of museum concept date back to Ancient Greek myths. Museums in Ancient Greece were defined as "adobes of the Muses" (Artun, 2006:11). The origin of the word museum comes from the Greek word "Museion" (İnel, 1998: 24) which means the temple of the goddesses called "Muses". According to these myths, the word "muse" derived from the word "men" meaning wisdom, thought and creativity means muse (source of inspiration). According to mythology, Zeus, the King of the Gods and the Goddess of Memory Mnemosyne had nine daughters each with a specific skill and inspiration: Euterpe, the muse of music; Erato, the muse of love poetry; Calliope, the muse of epic poetry; Clio, the muse of history; Melpomene, the muse of tragedy; Polyhymnia, the muse of hymns; ,Terpsichore, the muse of dance; Thalia; the muse of comedy and Urania; the muse of astronomy. Although there were muses in many areas form music to dance, from theatre to history, there were no

muses in plastic arts (painting, sculpture, ceramic etc) because in Ancient Greece painting and sculpting were not considered pure art at the time but seen as handcrafts or *techne*. Structures or artistic activities dedicated to these nine muses such as temples, festivals and poetry were called muses.

The collection of objects with artistic values was first undertaken by the Greeks. Along with colonization movements, buildings called "Theasuri" (Treasuries) were built in centers with political and religious significance (Yücel, 1999 : 19). The first development that can be cited as the nucleus for the museum concept is the Great Museum of Alexandria. In 3 BC after conquering Egypt, Alexander the Great planned to establish a city carrying his name that "would be the center of Hellenic culture in these lands and ordered that a library for the muses to be built to bring good luck to the city" (Artun, 2006:13). This ancient library built by Greek Ptolemaios Soter Dynasty in 306- 285 BC was known as "musaeum". Literary works owned by all emperors at the time were reproduced and books in all ships that visited Alexandria port were pillaged to have thousands of handwritten manuscripts. Library of Alexandria also consisted of a part called museum. "Museum section…the part where artists, philosophers and scientists freely did research under the guardianship of the dynasty; the part where intellectual, spiritual and philosophical production was undertaken was called the museum" (Madran: 2009: 66). In this sense, "The Great Museum of Alexandria is the first center for the design of dream, to collect all words and symbols from Hindu, Mesopotamia and Ancient Greek civilizations and maybe from the whole world" (Artun, 2006:15). The origin of modern museums started to be built in the 18th century dates back to The Library of Alexandria in terms of classification approach.

Centuries after the Ancient Greek approach filled with "the rational", the approaches to museology retreated into the irrational, magical and mystical brought by the Middle Ages. Western countries brought back all the interesting flora, fauna and crafts discovered during their expeditions undertaken to new continents and decided to create collections from these imageries to display their conquests. These collections existing all through the Middle Ages are called Cabinets of Curiosity. Cabinets of Curiosity are composed of all pillage materials that are obtained such as living and nonliving things, natural and artificial materials, dried plants, stuffed birds, unicorns, and embryos in short all mysterious objects collected together without rational classification criteria. The cabinets deemed the ancestors of the museums are the collections that belong to the pre enlightenment period and "since they did not carry a scientific form, the objects they sported were scattered in all directions and the museum in the sense we understand now is born" (Artun, 2005: 10).

Figure 1: Musei Wormiani Historia, (Kopenhag Ole Worm Museum), from Museum Wormianum, 1655.

Contrary to Middle Ages, in the period of the Renaissance museums recaptured the sense of the rational of the Ancient Greece. With the Renaissance, museums achieved the standing as being substantial elements in intellectual life in a humanist approach and they were no longer locations where lining and non-living objects and artifacts were exhibited. Palazzo Medici accepted as the conception of Modern European Museums revived museums by providing the museums with both chronological classification elements and aesthetical canon. The works in Palazzo Medici built in 1940 by Great Cosimo who started the Medici Dynasty in Florence were created according to the norms of classicism, the artistic approach of the time and the problematic of perspective was sought in the works which led to the decay of the worldview with the focus on the "other world" emphasized in the previous Gothic period. The works in the Medici achieved a norm that can be measured and calculated, that can have perspective problematic and that focus on how the nature and human body worked instead of portraying the other world. This power of reasoning increases the observation and assessment skills of the individuals in relation to the environment and art. The artifacts selected to be exhibited in the museum especially the works of Leonardo Da Vinci, Rafaello and Michelangelo all emphasized the central human structure contrary to paintings with religious themes ordered by the Church to exalt God. These works seen as the representations of the rational approaches of the Renaissance were transferred to Uffizi Gallery in the later years. The architect of Uffizi, Giorgio Vassari, was among the founders of Academia Dell'Arte del Disegno, the first art academy in addition to being the art director of Medici collections. In this sense, both the enlightenment of the Renaissance and the establishment of the Medici museums supported the formation of relationships among the university, academy, library and the museum. However, although Uffizi Collection was opened to public as an institution at the time, it was not cited in the literature as the first library. "Institutionalization of museums in the formal sense starts with the Ashmolean Museum located in Oxford University in England as the first museum space open to public" (Madran; 2009: 70). Along with the Renaissance and the information regimes of the 18th century; the leading museum in the transformation from the culture of collections to the memory rooms of the enlightenment period is the Louvre Museum in France. "Museums leading us as the perfect places for memory since the 18th century are among our theoretical instruments and in many respects they are the emblems for the aspirations rejuvenated by the Enlightenment" (Preziosi, 2006: 139). Louvre Museum is the location where art, historical civilizations and development gained a chronology, became institutionalized and the traces of the nation state were exhibited. The museum created by housing all the collections of the royalty in Louvre Palace after the 1789 French revolution has destroyed the structure that attributed art works only to royalty and made them the property of the public. Other developments of the 19th century declared as the golden age of the museums can be cited as the institutionalized establishment of the National Gallery (Britannia National Museum) and British Museum. "British Museum has the function of an encyclopedia or a dictionary based on historical facts. The ordering of spaces, the classification of objects, their exhibitions help comprehend the relationships among these objects and samples in a three dimensional world". (Artun, 2006: 41). Museums in this sense "have started to obtain the context towards the end of the 18th century to store and exhibit items of cultural heritage instead of collections themselves" (Onur, 2012: 20). America followed in the footsteps of Europe in the transformation of royal museums to public museums in the 19th century. Museum of Modern Art (MoMA) in New York built in 1929 is the first large public museum of America and reflects the Western painting tradition. The first floors of the museum are allocated to Greek-Roman-Egyptian artifacts and upper floors house the works of the Renaissance period. With this distinct representation that divides Western and Eastern art. MoMa embodies an imperialist ideology. The most significant point of the museum approach of MoMa is explained in art critic Brian O'Doherty's book "Inside the White Cube". According to O'Doherty, new modern museums are "white walled, carpeted in grey or parqueted, with no décor" (O'Doherty: 2000: 15). The exterior sections of MoMA give the feeling of modernism as the interior where the paintings are mounted in specific areas with seating systems that enables the viewer to observe the work for longer periods. In the place of imposing columns of the British Museum or the National Gallery, there is the simple, plain and minimalist façade. "The gallery aims to provide a neuter environment to observe and reflect on the works of art. The visitors in MoMA do not only view and reflect, they also take compulsory introduction to art history (Artun, 2006: 95). As opposed to MoMA's stern classification in presentation and the simplicity in its architectural structure, Pompidou Museum built in 1977 in France has a more voluminous architecture and a public oriented presentation style and usage. Pompidou reflecting a futurist approach with the colorful installation pipes

covering the exterior façade feature public libraries, art design ateliers, cinemas and collections which bring public and art together in addition its mission of bringing art, culture and education together.

Figure 2. MoMA, NewYork Museum of Modern Art   Figure 3. Pompidou Center, France.

MUSEUM AND EDUCATION

Investigation of the development of museums from the Ancient Greece to 20th century shows that museums have progressed from merely exhibiting collections to being the centers for observation, learning and questioning. They no longer are in the status of being objects to be merely observed. It is possible to link museum and education to 16th century cabinets of Curiosity. As a result of expeditions and imperialist approaches of the Western countries, all living-nonliving objects and natural-artificial things brought back to Western countries form the lands of the "other" were exhibited in these cabinets which in a sense provided information about the history of nature, geology, ethnography, archeological findings, historical remains and religious documents. 'Tradescent Ark' now called "Science History Museums" was opened in the 17th century by John Tradescent with the curiosities collected in his trips to faraway lands. In the subsequent years all the collection was donated to Oxford University. "The fact that these types of collections are seen as educational materials started after the establishment of the Ark and school principal Charles Hoole, in his book of 1660, mentioned the use of objects in education hence the education of museums of today" (Onur, 2012: 166). American philosopher and educator John Dewey regarded museums as a part of knowledge process of the educational organizations. According to Hein "Early 20th century museum educators and administrators applied Dewey's ideas and defended the museum education philosophy based on progressive educational movements" (Onur, 2012: 168). One of the results of integrating educational activities in schools with museums actively is the Brooklyn Children's Museum opened in 1899 in America aiming to develop children's interests and learning styles.

As opposed to formal learning methods in educational organizations which focuses on showing and presenting and in which students are expected to participate physically, museums promote museum based learning in which "students touch objects; discover houses and gardens climb the stairs… they use their senses and bodies as learning sources. The key to feeling different pleasures, recording concepts in the brain and developing skills and self respect is the formation of physical and bodily associations" (Onur, 2012: 190). In this

respect, museums have obtained pedagogical, sociological and psychological content and "museology" as a science has started to develop   in universities. Also transition from the passive educational systems consisting of rote learning and information transfer to more active educational systems which promote research, analysis and synthesis has supported the use of libraries and labs along with museums (Atagök 1999 : 16). In this context, modern museums are transforming into informal educational organizations.

TODAY'S MUSEUMS AS CENTERS FOR ART EDUCATION

The fact that during the course of the time, museums undertake the task of providing modern education and training has immensely contributed to children's bonds with art. Coming across art objects in museums from very early ages and getting involved in art activities will develop the aesthetical sensitivity and viewpoints of children. The share of today's museum approaches is very substantial in the enrichment of children's outlook to art. There are four important approaches in today's museum concepts: virtual museum, touchable museum, mobile museum and foundation museum. "Museums in modern museology undertake their activities by taking the different segments of society into consideration. These activities are permanent exhibitions, temporary exhibitions, guided tours, dia-film demonstrations, discussions, seminars and atelier trainings" (Keleş; 2000: http: //sosyalbilimler.atauni.edu.tr). Art education through museums goes back to mid 19th century in the West. In developed countries museums and galleries frequently consulted by art teachers develop special training programs for the public. Similarly museums in Western Europe and America are turning into centers where social, cultural and educational activities are undertaken in order to give back to society and to develop the community. Ateliers in modern museum for example "provide the kindergarteners with realistic archeological objects and ask them to make these objects with the clay or play dough" (Şahan http://www.tebd.gazi.edu.tr/arsiv/2005_cilt3/sayi_4/487-501.pdf). In this context, students under the supervision of the educator meet with archeology and art history and gain skills such as observation and manual dexterity. The best example of creating new forms and developing aesthetical ideas by touching objects is the "Philadelphia Please Touch Museum". "This museum organized exhibitions for children and reached out to groups in the slums. They taught and informed the children and their parents by letting the children play with the museum replicates carried in mobile trunks" (American Association of Museums in the Life of a City: 1995, Atasoy, 1998, 38.). This activity known as the "Philadelphia Initiative" is important in showing the effects of art and cultural organizations on the social and economic life of the city. Touchable museums both strengthen the communication between children and objects and serve individuals with special needs such as individuals with mental retardation, physical disability and visual problems. For example, an exhibition titled "Sculpture for the Blind" was organized in Tate Gallery in 1976 in London. Some of the works in the exhibition were gathered from collections and others were destined solely for this purpose. "Since the 1980's, exhibitions are the starting point in the period to touch; especially in sculpture" (Hooper- Greenhill, 1999:160). MoMa organized touching tours for blind and partially sighted visitors with a small collection of sculptures by having the visitors wear protective gloves in the beginning of the 70s. In 1991, MoMA Education Unit organized a training program with a group of 25 blind and partially sighted and provided the sustainability of the program to learn by touching. One of the most noteworthy galleries that combine art, commerce and education with collections is the Saatchi Gallery in London. The gallery, established in 2008 by the Iraqi origin Englishman Charles Saatchi, an important name who directs and manages the modern art market, attracts attention with the simplicity of its architecture in the first glance. The students not only work in the modern art ateliers but also in the main sections where artworks are displayed. Saatchi Gallery carries the mission to present modern art to students and educate the youth about new artistic trends of post 60s. the Gallery also undertakes the mission of an artistic educational organization by providing school projects, gallery tours under the supervision of the educators, educational packages and ateliers that promote active participation. The Gallery continuously updates these activities in its website. School visits to the Gallery are organized with the cooperation of the Directorate of Education and students are given free guided tours.

Figure 4-5-6-7: Students visiting Saatchi Gallery and participating in art classes

RESULTS

Museums today are the tools for mass culture. The missions of museum do not only consist of conserving and exhibiting treasures and objects that provide us with information but include the provision of educational tasks. Museums sporting object centered and self enclosed approaches until the 19th century have headed towards human centered and outward looking approaches since the '60s influenced by the changing world, modern art views and new outlook to museology. Museums have proved that objects are not only for observation and created a new field called the museum pedagogy. They have started to get involved with more projects and keep close relationships with the community to contribute to the education, development and culture of the communities with the help of the shares they receive from the public organizations. Many museums today develop and present different programs that can interest various groups by getting to know viewer groups better since it is known that the viewer will integrate the messages with his/her own experience, will be involved with the objects and topics of interest and the messages created by the curator cannot be directly imposed upon them. Modern museums such as Tate, MoMA and Saatchi consider the development of programs that contribute to the education and enrichment of children among their fundamental functions. Many theoreticians emphasize the importance of museums in children's education with the advancement of concepts such as active participation in

education, gaining experiences, environment, interaction and constructivism. Museum environments provide children with opportunities to learn by doing in a setting that contributes to their intellectual, physical, emotional, cognitive and social developments and they contribute to the acquisition of aesthetical taste from the very early years. In addition, museums present various documents related to culture aiming to train individuals who are more sensitive to the community and to the world and they facilitate the establishment of foundations for the development of personality, self confidence and citizenship. Museums play an important role in the integration of various groups in multicultural societies. In short museums are both social platforms that bring the region's artistic life and culture together with their exhibitions, concerts, wide based libraries and shopping centers and modern educational organizations that question the new methods to observe, learn through applications and obtaining artistic awareness.

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NEW TRENDS AND PRACTICES IN TURKISH HIGHER EDUCATION POLICY: TEACHING STAFF TRAINING PROGRAM (ÖYP)

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Abstract

Two of basic dimensions of lecturers in higher education institutions, who are identified as academicians, are functions of producing knowledge through scientific research and providing students with efficient theoretical and practical education service. Training of academicians as researchers and educators who constitute such manpower in higher education institutions are shaped by current high education policies in a country. Therefore, education programmes implemented to train academicians have a significant role in determining the qualifications of higher education.

According to Higher Education Personnel Code number 2914, academic teaching is conducted by three groups known as lecturers, instructors and prelectors with assistants. Academicians who serve under professor, associate professor and assistant professor cadres comprise the faculty members group. Lecturers and instructors are academicians who give lectures in their own fields and implement guidelines. In the group of teaching assistants; research assistants, specialists, translators and education-teaching planners take place.

In this paper, current situation of faculty members in our country and their training within the currently implemented higher education policy is being addressed.

Key words: New Trends in Higher Education, Faculty Member, Faculty Member Training Programme (ÖYP).

Introduction

With the new Turkish higher education strategy which can be summarized with the motto "one University for each Province", forty one new universities are founded in the last five years. With these new foundation of universities however, the lack of academic personnel came into question. In order to overcome this absence of academicians, the Higher Education Council (YÖK) put into effect the Faculty Member Training Programme (ÖYP). This programme is a new model developed to fulfil the need of faculty members with the support of State Planning Agency (DPT) by blending the 33rd and 35th articles of higher education law number 2547, which comprises national and foreign doctorate degree education. In this model, while universities' science and technology producing capacities are increased on one hand, faculty members are trained on the other. Under the coordination of the Presidency of Higher Education Council, the programme regulates in higher education institutions having the capacity for delivering post-graduate education, post graduate education of research

assistants from other higher education institutions which have the need of faculty members.(Procedures and Principles Regarding Faculty Member Training Programme, Article 1). Hence, ÖYP which is developed to close the gap in the numbers of faculty members is designed so as to train scientifically well equipped faculty members in a reputable university and a good research environment. Within the programme if required, students are economically and legally supported to attend language training for three months and carry out research for one year in during their doctoral thesis period abroad. ÖYP therefore is a domestic alternative to Post-graduate Education Programme Abroad (YLSY) which has been implemented by the cooperation of Ministry of National Education and YÖK for some time. A total of 5500 vacancies within ÖYP were designated, 2500 for universities founded in 2010 and 3000 for universities founded in 2011.As for this year, designation of 4000 vacancies for ÖYP is being expressed by YÖK officials.

2.Conditions of admission to the programme

Being younger than 35 years of age, not possessing any health obstacles which would prevent working as a research assistant, a minimum score of 70 (seventy) from ALES (Academic Personnel and Post-graduate Training Entrance Examination). (Scores obtained from this test are valid for three years following the test date). Placements will be made according to 35% of grade point average, 50% of ALES score, 15% of foreign language test score if any. (http://personel.yok.gov.tr/OypDuyuru/?sayfa=aciklamalar).

3. Post-graduate training placement

If research assistants accepted into the programme have 65 or higher foreign language score, they usually make a preference among post-graduate programmes of reputable universities over the internet during selection periods and in their relevant field. Admission of research assistants into this programme is according to their ÖYP scores. Research assistants with lower than 65 language score are placed with their ÖYP scores in 15 universities designated by YÖK to go through a language course for 6 months. Research assistants who cannot score a minimum 50 language points for a period of two years within their taking office are discharged from the university.

4. Study Period

ÖYP study period for post-graduate education is 4 half years, for doctorate programme 8 and for integrated doctorate programme 10 half years. For research assistants who could not complete their thesis work, a maximum 2 half years for post-graduate and 4 half years for doctorate or integrated doctorate degree are additionally provided upon thesis monitoring committee's reasoned decision and approval of institution's governing board. Research assistants who are provided with additional time cannot make use the support provided within the programme. (Procedures and Principles Regarding Faculty Member Training Programme, Article 9).

5. Completion of post-graduate education and assignment for faculty member

ÖYP research assistance who successfully graduate from doctorate programme, return within latest a month to their assignments in universities for which they are obligated for compulsory service.   In faculty member vacancy announcements, departments where research assistants who successfully completed post-graduate education within ÖYP are given priority. (Procedures and Principles Regarding Faculty Member Training Programme, Article 23).

6. Compulsory Service Agreement

Before being assigned to universities where they will receive post-graduate education, research assistants sign a bill. This bill states that research assistants will work in their affiliated universities for a period as long as the duration of their post-graduate education, otherwise, they should reimburse the total amount of salaries they received.

7. Foreign country experience

Upon their request, research assistants who scored a minimum of 65 from KPDSor ÜDScan be assigned for a foreign language course abroad for three months. Furthermore, again upon request, they can conduct their research for a maximum of three months during their post-graduate period and for a maximum of twelve months during their doctorate thesis period abroad. (Procedures and Principles Regarding Faculty Member Training Programme, Article 17).

8. Budget availabilities

Each research assistant and his advisor has a budget of 50.000 TL;20.000 of which is for project expenses (procurements for post-graduate education, basic office equipment, waste material, machine-equipment and service procurement) and 30.000of which is for travel expenses (Long term foreign assignments for research assistants – *for a maximum of 1 year during the course of education –*, attending national or international scientific meetings –*maximum 15 days annually -,* attending short term national or international scientific meetings for advisors – *maximum 15 days annually*)(oyp.uludag.edu.tr/belgeler/ogretim_uyesi_yetistirilme_esaslari.pdf).

9. Conclusion

Conclusively, higher education policy, shaped with the discourse of one university for each province is in the process of developing certain projects in order to overcome the shortcomings in the number of academic personnel in newly funded universities. One of such projects is the ÖYP. With ÖYP, young science people who has international experience, academically valid foreign language ability, familiarity with the scientific developments in the outside world, are affiliated with the scientific institutions in other countries, able to multi-directionally evaluate scientific facts, well trained in rooted national or international universities and has high research and reporting capability are expected to positively contribute to Turkish higher education system.

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OBJECTIVES OF THE STUDENTS USE GENERAL AND VOCATIONAL EDUCATION STUDENTS TO FACEBOOK

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Abstract

Depending upon developing internet technologies in Turkey and in the world, the emerging innovations are commonly used by individuals. Social network websites are the most prominent innovation which assembles people from each part of community at the same point according to their interests by removing the borders in real life. Since communication and interaction are the top-level in these days, the attraction of using social network websites in education has significantly increased. The aim of this study is to indicate purposes of use of Facebook, which is one of the most popular social network websites, in educational environments.

Keywords: Education, Facebook, Social Networks, Social Network Sites, Social Networks For Education

Introduction

As a result of the technological developments obtained from information and communication technologies in the 20th century, each part of our lives has been significantly influenced by these developments (Keser, 1991). With internet technology, environments, that removed the concept of real time and real place and, that established interaction between people sharing their opinions, were formed (Preeti, 2009). In these formed environments, there are online communities called social network (Buss, 2009). The concept of social network; It includes virtual communities on the internet where individuals that have the same interest are able to interact each other and to share their thoughts (Preeti, 2009). . Social network websites are applications which escalate social communication and collaboration. The first social website was developed in 1995 called Classmates and it was followed by SixDegrees, which was developed in 1997. In the following years, many social websites were developed such as Livejournal (1999), Friendster (2002), MySpace (2003), Flickr (2004), Facebook (2004), Youtube (2005) and Twitter (2006) (Boyd ve Ellison, 2007).

Facebook, which has more than 800 million users and provides more than 70 languages, is the one of the most popular social websites which brings people together across the World (Facebook, 2011). As a result of studies conducted in the educational institutions in Turkey, the most preferred social network website was found Facebook (Schroeder ve Greenbowe,2009). In the higher educational institutions, the rate of use of Facebook was found significantly high (Şener 2009). Bu bağlamda sosyal ağ sitelerinin eğitim kurumlarında kullanılması gerekli olduğu söylenebilir. In that, it may be necessary to use social network websites in educational institutions. Custom social web environments created and managed by users in Facebook provide an alternative way to learning environments in process of education (Munoz ve Towner, 2009). Therefore, Facebook was ranked the first in education among the social network websites due to its customisable and developable environment and its ease of use feature in process of education (Gülbahar, Kalelioğlu, Madran, 2010).

Purpose

The aim of this study is to indicate purposes of use of Facebook, which is one of the most popular social network websites, in general and vocational education. In this study, the sub-questions below will be answered. These questions are;

- What are the purposes of associate degree students to use Facebook in general?
- According to variables of gender and age, are associate degree students able to show significant differences in their opinions about purposes of Facebook use?
- What are the purposes of associate degree students to use Facebook in vocational education?
- According to variables of gender and age, are associate degree students able to show significant differences in their opinions about purposes of Facebook use in vocational education?

Method

Research Methodology

This research is a descriptive study and relational scanning model was selected to use for examining this study. Scanning models are research approaches which depict issues as how they are or how they were in the past (Karasar, 1999). In descriptive scanning model, the opinions of the students were determined in terms of their purposes of Facebook use in vocational education, in relational scanning model, the obtained opinions were examined in terms of demographic variables.

Population ve Sapmle

The universe of this research consists of the students studying in Vocational School at Istanbul Gelisim University. The scope of this study is composed of 500 students that studied in 2011-2012 academic year.

Data Collection

In the research, individual information form, the scale of purpose of Facebook use, and the scale of purpose of Facebook use in vocational context were used as tools to collect data. Via individual information form, demographic data (gender, age, department etc.) were collected. The scale of purpose of Facebook use were developed by Mazman (2000), and it is a 5 likert scale. For each matter, interviewee can only select one of these items, which are "Never", "Rarely", "Sometimes", "Usually" and "Always".

The scale of purpose of Facebook use in vocational context developed for this study is also a 5 likert scale. As a result of reliability analysis of the survey, Cronbach Alpha value was found 0,927. The data obtained from the study were analysed via using SPSS 16.0 software application. In order to evaluate the obtained data, t-test and one-way ANOVA were used. The findings arisen from the variance analysis were evaluated as 95 per cent reliable results by disregarding the tolerance on the level of $P<0,05$ (Büyüköztürk, 2003).

Findings and Comments

The Findings and Comments Regarding to the Purposes of Facebook Use of the Students

Table 1. Demographic Information of the Participants

		Frequency	Percentage
Gender	Male	90	30,5
	Female	205	69,5
	Total	295	100,0
Age Groups	16 and 18	74	25,1
	19 and 21	178	60,3
	22 and 24	32	10,8
	25 years old or above	11	3,7
	Total	295	100,0
Departments	Computer Programming	33	11,2
	Child Development	117	39,7
	Logistics	30	10,2
	Health Care Management	31	10,5
	Civil Aviation Management	37	12,5
	Medical Documentation and Secretary	47	15,9
	Total	295	100,0
Visit Duration	Everyday	157	62,5
	A few times per week	82	32,7
	A few times per month	10	4,0
	A few times per year	2	,8
	Total	251	100,0

		Frequency	Percentage
	less than 30 minutes	85	33,9
	1 hours	73	29,1
Visit Frequency	1 and 2 hours	60	23,9
	2 hours or above	33	13,1
	Total	251	100,0

In table 1, when the gender variable is examined, it is seen that the most of the participants were composed of women (69,5%). According to the age variable, the most of the participants were composed of the students aged between 19 and 21 (60,3%). According to department variable, the students from child development department comprised the majority of the participants (39,7%). When the frequency of usage of the students is examined, it is seen that the most of the students are the ones who use Facebook every day (62,5%). When the time the students spend each day is examined, it is seen that the most of the participants (33,9%) use Facebook less than 30 minutes every day.

Table 2. T-Test Analysis Results of Opinions of Students about their Purposes of Facebook Use Based on Gender Difference

	Gender	N	Mean	Sd	df	T	P
I use Facebook to find new friends	Male	97	2,40	1,187	285	4,484	,000
	Female	190	1,82	,953	186,269		
I use Facebook to find new people who have the same interest and to join social groups	Male	97	2,55	1,181	285	3,434	,001
	Female	190	2,06	1,117	184,271		

Concerning gender variable, the result of t-test analysis performed to determine whether the students' opinions differ from each other or not is given in Table 1. It is seen in table 1 that with respect to gender variable, significant difference was found (P=,000, P<0,05) in this paragraph: "I use Facebook to find new friends". For this purpose it was found that male students (X=2,40) use Facebook more than female students(X=1,82) do. According to this paragraph; "I use Facebook to find new people who have the same interest and to join social groups", significant difference (P=,001, P<0,05) was found on the basis of gender difference. For this purpose, male students (X=2,55) use Facebook more than female students (X=2,06) do.

Table 3. The Variance Analysis Results of Opinions of Students about their Purposes of Facebook Use Based on Usage Time

	Age Groups	N		Sum of Squares	df	Mean Square	F	P
I use Facebook to find my old friends	16 and 18	63	Between groups	9,751	3	3,250	3,222	,023
	19 and 21	157						
	22 and 24	25	Within groups	249,197	247	1,009		
	25 years old or above	6	Total	258,948	250			
I use Facebook to follow up-to-date news	16 and 18	63	Between groups	17,838	3	5,946	3,918	,009
	19 and 21	157						
	22 and 24	25	Within groups	374,895	247	1,518		
	25 years old or above	6	Total	392,733	250			

As a result of findings obtained from the study; based on age variable, there is a significant difference found on the level of $P<0,05$ in these two paragraphs; "I use Facebook to find my old friends" and "I use Facebook to follow up-to-date news". After LSD test was applied these two paragraphs in the previous sentence, significant differences were found and the results below were obtained.

Table 4.According to the age groups LSD Test Results Applied to the Paragraph of "I use Facebook to find my old friends"

	Age Groups		Mean Difference	P
I use Facebook to find my old friends	25 years old or above	16 and 18	-1,333	,002

	Age Groups		Mean Difference	P
	25 years old or above	19 and 21	-1,222	,004
	25 years old or above	22 and 24	-1,200	,009

As a result of the test, for those students who are 25 years old or above, significant differences were found on the level of P<0,05 compared respectively to the students aged between 16 and 18 (average difference=-1,333, P=,002), the students aged between 19 and 21 (average difference=-1,222, P=,004) and the students aged between 22 and 24 (average difference=-1,200, P=,009). It is seen that the group of students aged 25 and above use Facebook to find old friends more than the groups of students aged between 16 and 18, between 19 and 21 and between 22 and 24 do.

Table 5.According to the age groups LSD Test Results Applied to the Paragraph of "I use Facebook to follow up-to-date news"

	Age Groups		Mean Difference	P
I use Facebook to follow up-to-date news	25 years old or above	16 and 18	-1,007	,057
	25 years old or above	19 and 21	-1,245	,016
	25 years old or above	22 and 24	-,580	,301

As a result of the test, for those students who are 25 years old or above, significant differences were found on the level of P<0,05 compared respectively to the students aged between 19 and 21 (average difference=-1,222, P=,016).
It is seen that the group of students aged 25 and above use Facebook to follow up-to-date news more than the groups of students aged between 19 and 21 do.

The Findings and Comments Regarding to the Purposes of Facebook Use of the Students in Vocational Context

Table 6. Demographic Information of the Participants

		Frekans	Yüzde
	Male	86	42,0
Gender	Female	119	58,0
	Total	205	100,0
	16 and 18	22	10,7
	19 and 21	110	53,7
Age Groups	22 and 24	40	19,5
	25 years old or above	33	16,1
	Total	205	100,0
	Computer Programming	55	26,8
	Child Development	76	37,1
	Logistics	16	7,8
Departments	Health Care Management	9	4,4
	Civil Aviation Management	29	14,1
	Medical Documentation and Secretary	20	9,8
	Total	205	100,0
	Everyday	97	54,8
	A few times per week	74	41,8
Visit Duration	A few times per month	6	3,4
	Total	177	100,0
Visit Frequency	less than 30 minutes	67	37,9

1 hours	48	27,1
1 and 2 hours	37	20,9
2 hours or above	25	14,1
Total	177	100,0

In table 6, when the gender variable is examined, it is seen that the most of the participants were composed of women (58%). According to the age variable, the most of the participants were composed of the students aged between 19 and 21 (53,7%). According to department variable, the students from child development department comprised the majority of the participants (37,1%). When the frequency of usage of the students is examined, it is seen that the most of the students are the ones who use Facebook every day (54,8%). When the time the students spend each day is examined, it is seen that the most of the participants (37,9%) use Facebook less than 30 minutes every day.

Table 7. T-Test Analysis Results of Opinions of Students about their Purposes of Facebook Use Based on Gender Difference

	Gender	N	Mean	Sd	df	T	P
I use Facebook to find new friends	Male	78	2,57	1,167	175	6,445	,000
	Female	99	1,59	,856	136,744		
I use Facebook to find new people who have the same interest and to join social groups	Male	78	2,79	1,342	175	3,173	,002
	Female	99	2,16	1,299	162,895		

Concerning gender variable, the result of t-test analysis performed to determine whether the students' opinions differ from each other or not is given in Table 1. It is seen in table 1 that with respect to gender variable, significant difference was found (P=,000, P<0,05) in this paragraph: "I use Facebook to find new friends". For this purpose it was found that male students (X=2,57) use Facebook more than female students(X=1,59) do. According to this paragraph; "I use Facebook to find new people who have the same interest and to join social groups", significant difference (P=,002, P<0,05) was found on the basis of gender difference. For this purpose, male students (X=2,79) use Facebook more than female students (X=2,16) do.

Tablo 8. The Variance Analysis Results of Opinions of Students about their Purposes of Facebook Use in Vocational Context Based on Usage Time

	Age Groups	N		Sum of Squares	df	Mean Square	F	P
I use Facebook to share a range of information and sources with my friends	16 and 18	63	Between groups	12,527	3	4,176		
	19 and 21	157						
	22 and 24	25	Within groups	208,197	173	1,203	3,470	,017
	25 years old or above	6	Total	220,723	176			
I use Facebook to communicate with my colleagues	16 and 18	63	Between groups	19,237	3	6,412		
	19 and 21	157						
	22 and 24	25	Within groups	301,282	173	1,742	3,682	,013
	25 years old or above	6	Total	320,520	176			

As a result of findings obtained from the study; based on age variable, there is a significant difference found on the level of P<0,05 in these two paragraphs; "I use Facebook to share a range of information and sources with my friends" and "I use Facebook to communicate with my colleagues". After LSD test was applied these two paragraphs in the previous sentence, significant differences were found and the results below were obtained.

Table 9.According to the age groups LSD Test Results Applied to the Paragraph of "I use Facebook to share a range of information and sources with my friends"

	Age Groups		Mean Difference	P
I use Facebook to share a range of information and sources with my friends	25 years old or above	16-18	-,617	,023
	25 years old or above	19-21	-,392	,203

	Age Groups		Mean Difference	P
	25 years old or above	22-24	-1,023	,00 3

As a result of the test, for those students who are 25 years old or above, significant differences were found on the level of P<0,05 compared respectively to the students aged between 16 and 18 (average difference=-,617, P=,023) and the students aged between 22 and 24 (average difference=-1,023, P=,003). It was found that the students aged between 25 and above use Facebook to share a range of information and sources with their friends more than the students aged between 16 and 18 and between 22 and 24 do.

Table 10.According to the age groups LSD Test Results Applied to the Paragraph of "I use Facebook to communicate with my colleagues"

	Age Groups		Mean Difference	P
	25 years old or above	16-18	-1,101	,01 4
	25 years old or above	19-21	-1,370	,00 2
I use Facebook to communicate with my colleagues	25 years old or above	22-24	-,659	,16 8

As a result of the test, for those students who are 25 years old or above, significant differences were found on the level of P<0,05 compared respectively to the students aged between 16 and 18 (average difference=-1,014, P=,014) and the students aged between 22 and 24 (average difference=-1,370, P=,002). It was found that the students aged between 25 and above use Facebook to communicate with their colleagues more than the students aged between 16 and 18 and between 22 and 24 do.

Results

As a result of research, the findings below were obtained.

The students use Facebook for various reasons such as communicating with their friends, interacting with people who have the same interest, taking advantage of the educational feature of Facebook, catching up news in Turkey and in the world and so on.

In the opinions of students about purposes of Facebook use, a significant difference was found based on gender variable. It was found that male students use Facebook to find new friends more than female students do. Male students compared to female ones use Facebook more to find people which have similar interest and

characteristic and to join groups. There were significant differences found in purpose of Facebook use based on age variable.

The students aged between 25 and above use Facebook to find their old friends more than the students from the other age groups do. It was found that the students aged between 25 and above use Facebook to follow up-to-date news more than other students do.

The students use Facebook for various reasons such as communicating with their colleagues, interacting with people who have the same interest, taking advantage of its facilities for their career, catching up news in Turkey and in the world and so on.

In terms of gender variable there is a significant difference found in the students' opinions about the purpose of Facebook use. It was found that male students use Facebook to find new friends more than female students do. Other finding is that male students use Facebook for their corporate business advertisements and introductions more than female students do. In terms of age variable, a significant difference was also found about the purpose of Facebook use. The students aged between 25 and above use Facebook to share various information and sources with their friends more than others do. The students aged between 25 and above use Facebook to communicate with their colleagues more than others do.

Towards these results, more significant evaluations may be performed to determine purposes of Facebook use of associate degree students in general and vocational context.

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ÖĞRETIM ELEMANLARININ ÖĞRETMEN ADAYLARINDAN KIŞISEL ÖZELLIKLERI İLE İLGILI BEKLENTILERI- BIR ÖLÇEKLEME ÇALIŞMASI

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Öz

Bu araştırmada, Hacettepe ve Sakarya Üniversiteleri Eğitim Fakülteleri öğretim elemanlarından "eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri" ni ikili karşılaştırma yaparak ölçeklendirme çalışması ile belirlenmeye çalışılmıştır. Araştırma 2011-2012 öğretim yılı güz döneminde Hacettepe Üniversitesi ve Sakarya Üniversitesi Eğitim Fakültelerinde görev yapan öğretim elemanlarıyla yürütülmüştür. Hacettepe Üniversitesi Eğitim Fakülte'sinde görev yapan 68 öğretim elemanı ile Sakarya Üniversitesi Eğitim Fakülte'nde görev yapan 74 öğretim elemanı ile çalışılmıştır. İkili karşılaştırmalar yöntemi ile yapılan ölçekleme çalışmasından elde edilen bulgulara göre, Sakarya Üniversitesi Eğitim Fakültesi öğretim elemanlarının üniversitelerinden mezun olacak olan öğretmen adaylarının sahip olmalarını bekledikleri kişisel özelikler sırasıyla empati kurabilen, etkili iletişim kurabilen, meslek sevgisine sahip, demokratik, özgüvenli ve son olarak lider özellikleridir. Bunun yanında Hacettepe Üniversitesi Eğitim Fakültesi öğretim elemanlarının üniversitelerinden mezun olacak olan öğretmen adaylarının sahip olmalarını bekledikleri kişisel özelikler sırasıyla empati kurabilen, özgüvenli, demokratik, etkili iletişim kurabilen, meslek sevgisine sahip ve son olarak lider özellikleridir.

Anahtar kelimeler: Öğretmen adaylarının kişisel özellikleri, İkili karşılaştırma yöntemi

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EXPECTATIONS OF LECTURERS FROM TEACHER CANDIDATES ABOUT THEIR CHARACTERISTICS- A SCALING STUDY

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Abstract

The characteristics that lecturers wish teacher candidates that should possess are determined in this paper quantitatively through pair-wise comparisons according to the lecturers' responses. This research was performed on 68 lecturers who are working in Hacettepe University and 74 lecturers who are working in Sakarya University at 2011-2012 fall semester. According to the results of scaling study by pair-wise comparison "expected characteristics of a skilled teacher" was sorted from the most desired characteristic to the least desired characteristic by Sakarya University lecturers. It was determined that the most desired characteristic was "emphatic". This characteristic was followed by, being able to communicate effectively, love of job, democratic, self-confident, and the least desired characteristic was determined as being leader. In addition to this; according to the results of scaling study by pair-wise comparison "expected characteristics of a skilled teacher" was sorted from the most desired characteristic to the least desired characteristic by Hacettepe University lecturers, it was determined that the most desired characteristic was "emphatic". This characteristic was followed by, self-confident, democratic, being able to communicate effectively, love of job" and the least desired characteristic was determined as being leader.

Key Words: Characteristics of teacher candidates, Pair-wise comparison method.

1. GİRİŞ

Günümüz insanı için üretilen bilgiye sahip olma ve bu bilgiyi kullanabilme yeterlilik ve kapasitesi önemli bir özellik olmuştur. Bunun bir sonucu olarak toplumlar, bireyin bilgiye daha kolay erişimini sağlamak için bir yandan teknolojik araçlardan yararlanma yoluna giderken öte yandan bireyin sahip olduğu bu bilgiyi daha işlevsel kullanmasını sağlamak için eğitim kurumlarının yeniden yapılandırılması yönünde birtakım çalışmalar yapmayı zorunlu bir görev olarak görmektedirler. Çünkü kalkınmanın önemli ayaklarından birinin de eğitim olduğu bilinmektedir.

Kalkınmanın eğitim boyutu dikkate alındığında; çağın yeterliklerinin farkında olan, yetişmiş "nitelikli insan kavramı" ile karşı karşıya gelmekteyiz. Diğer bir ifade ile toplumların, çağın koşullarına uygun "eğitilmiş insan" gücüne olan ihtiyaçları ön plana çıkmış ve çağın gerektirdiği yeterliklere sahip nitelikli insan gücü bütün ülkelerin eğitim politikalarının en önemli ve vazgeçilmez amacı haline gelmiştir (Ekinci,2005).

Eğitim sistemlerinin temel amacı o ülkenin nitelikli insan gücünü yetiştirmek ve yurttaşlarına vatandaşlık eğitimini vermektir. Bunu gerçekleştirebilmek için her eğitim sistemi, yetiştireceği insan modelini, sahip olduğu eğitim felsefesi ve insan gücü politikası ışığında saptayarak eğitim etkinliklerini bu amaca göre düzenlemektedir. Temel toplumsal kurumlardan birisi olan eğitim, bütün toplumların temel sorunlarının başında yer almaktadır (Altınok, 1999). Bu soruna çözüm oluşturacak bir eğitim sisteminin yapılanmasında en önemli aktör kuşkusuz

öğretmen olacaktır. Dolayısıyla bir eğitim sisteminin niteliği, sistem içerisindeki öğretmen nitelikleri ile doğrudan ilişkilidir.

Özellikle günümüzde öğretmenlerin rolleri değişmiş ve gelecekte de bu değişim sürecektir. Yeni anlayışta öğretmenler bilgi yayan ya da bilgiyi aktaran birimler olmanın ötesinde bilgiye ulaşma ve bilgiyi kullanma, daha genel bir ifadeyle *öğrenmeyi öğrenme* sürecine rehberlik edecek liderler olarak görülmektedir.

Öğretmenin mesleği ile ilgili olarak yüklendiği imgeler mevcuttur. Mesleği itibariyle öğretmen; bilgiyi aktarabilen, pedagojik ve mesleki alan bilgisine sahip, öğrenci danışmanı, disiplin unsuru ve benzeri özellikler taşıyandır. Ancak bunların yanında öğretmen kişilik, çevreye uyum, çevre kalkınmasına katılma, toplumsal katılımcı, halkla ilişkiler gibi birçok değişken içerisinde özgün özelliklere sahip olması gerekendir.

Ülkelerin kaderlerinde öğretmenler çok önemli roller oynamaktadır. Bu nedenle öğretmen yetiştiren kurumların her yönüyle eksiksiz bireyler yetiştirmesi bir zorunluluk haline gelmiştir. Bu zorunluluk üniversitelerin eğitim fakülteleri öğretim elemanlarına düşen görevi ve kendilerinin bu konu hakkındaki düşüncelerinin önemini arttırmıştır. Bu nedene dayanarak bu çalışma öğretmen adaylarında bulunması gereken kişisel özellikleri bakımından öğretim elemanlarının beklentilerini konu almıştır.

Çalışmada psikolojideki ölçekleme yöntemlerinden biri olan ikili karşılaştırmalar adıyla bilinen ölçekleme yöntemi kullanılmıştır. Thurstone (1927) tarafından geliştiren bu ölçekleme yöntemi "ikili karşılaştırmalar kanunu" olarak nitelendirilmiş olsa da, kanun olarak değil de, istatistiksel bir model olarak ifade etmek daha doğru olur (Turgut ve Baykul, 1992).

İkili karşılaştırmalarla ölçekleme yöntemi, ilk olarak tutum cümlelerinin ölçeklendirilmesinde kullanılmıştır. Cevaplayıcıların uyarıcıları ikişerli olarak değerlendireceği her durumda kullanılabileceği için bu yöntemin geniş bir uygulama alanı bulunmaktadır. Özellikle, duyuşsal alandaki pek çok davranışın ölçeklenmesinde ve bireylerin bazı kişilik özelliklerinin değerlendirilmesinde kullanılmaktadır (Anıl ve Güler, 2006)

İkili karşılaştırmalarla ölçeklemede, uyarıcıların fiziksel büyüklüklerine göre sıralandıkları eksene

fiziksel boyut, algılanan büyüklüklerine göre sıralandıkları eksene ise psikolojik boyut adı verilmektedir. Psikolojik boyut terimi ölçekleme boyutu olarak da ifade edilmektedir. Bu boyut uyarıcıların ölçeklecek niteliği ile belirlenir. Bu çalışmada ölçekleme boyutu 6 kişisel özellikten oluşmaktadır. Bu özellikler alan uzmanları ile yapılan görüşmeler, alanda yapılan çalışmaların incelenmesi ve yapılan pilot çalışma ile belirlenmiştir. Sonuç olarak, " demokratik, empati kurabilen, etkili iletişim kurabilen, lider, meslek sevgisine sahip, özgüvenli" kişisel özelliklerinin ölçek içinde kullanılmasına karar verilmiştir.

Bu çalışma öğretmenlik mesleğine aday olan eğitim fakültesi öğrencilerinin kişisel özellikleri açısından değerlendirilmesinin öğretim elemanları gözüyle yapılması açısından önem taşımaktadır. Bu çalışmada kullanılan ikili karşılaştırma ölçeği ile Hacettepe ve Sakarya üniversiteleri eğitim fakültesi öğretim elemanlarının, öğrencileri mezun olduklarında sahip olmalarını bekledikleri özellikleri sıralaması amaçlanmıştır.

Böylece birbirinden farklı üniversitelerin eğitim fakültelerinde yer alan öğretim elemanlarının bu konuyla ilgili çıkan sonuçlarının karşılaştırılması imkânı bulunması açısından önemli olduğu düşünülmüştür.

2. YÖNTEM

2.1. Araştırmanın Türü

Bu çalışmada, öğretim elemanlarının "eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri"ni ikili karşılaştırma yaparak ölçeklendirmeleri istenmiştir. Yapılan çalışmada, örneklem bilgilerinden bir evrene genelleme yapma amacı güdülmediğinden bu araştırma, temel bir araştırma (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2008) niteliğindedir.

2.2. Araştırmanın Yapıldığı Grup

Araştırma, 2011-2012 öğretim yılı Güz döneminde Hacettepe Üniversitesi ve Sakarya Üniversitesi Eğitim Fakültelerinde görev yapan öğretim elemanlarıyla yürütülmüştür. Hacettepe Üniversitesi Eğitim Fakültesinde görev yapan Eğitim Bilimleri Bölümünden 27, İlköğretim bölümünden 12, Ortaöğretim Bölümünden 18, Bilgisayar ve Öğretim Teknolojileri Eğitimi bölümünden 8 ve Yabancı Diller Eğitimi Bölümünden 3 öğretim elemanı olmak üzere toplam 68 kişi ile çalışılmıştır.

Sakarya Üniversitesi Eğitim Fakültesinde görev yapan Eğitim Bilimleri Bölümünden 20, İlköğretim bölümünden 33, Ortaöğretim Bölümünden 2, Bilgisayar ve Öğretim Teknolojileri Eğitimi bölümünden 8, Özel Eğitim bölümünden 6 ve Türkçe Eğitimi Bölümünden 5 öğretim elemanı olmak üzere toplam 74 kişi ile çalışılmıştır.

2.3. Ölçme Aracının Hazırlanması

Ölçme aracının hazırlanması aşamasında, öncelikle random olarak seçilmiş farklı bölümlerdeki öğretim elemanlarından mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentilerini açık uçlu olarak listelemeleri istenmiştir. Bu listede yer alan ortak özellikler dikkate alınarak, uzman görüşlerine başvurularak ve alanda konu ile ilgili yapılan çalışmalar göz önünde bulundurularak 6 kişisel özellik belirlenmiş ve bu sürecin sonunda ikili karşılaştırmanın yapıldığı ölçme aracı hazırlanmıştır.

2.4. Verilerin Analizi

Bu çalışmada her bir öğretim elemanından, 6 kişisel özelliği ikili karşılaştırma yaparak sıralama yapmaları istenmiş ve her bir özelliğe ait frekans değerleri belirlenmiştir. Bu işlem sonucunda da frekans matrisi oluşturulmuştur. Frekans (F) matrisinin her bir hücresindeki değer toplam kişi sayısına (N) bölünerek oranlar matrisi elde edilmiştir. Oranlar matrisindeki hücre değerlerine (P) karşılık gelen (Z) standart değerler belirlenerek birim normal sapmalar matrisi elde edilmiştir. Matrisin sonunda her bir sütuna ait değerlerin toplamını gösteren bir satır oluşturulmuş ve bu satırdaki her bir z hücre değerinin sütunlar boyunca ortalamaları alınarak ölçek değerleri hesaplanmıştır. Eksenin başlangıcı (0 noktası) bu satırdaki ortalama z değerlerinden en küçük olanına kaydırılarak ölçek değerleri (S) sıralanmıştır. Bu işlem; eğer en küçük değer negatif ise tüm değerlere bu değerin mutlak değeri eklenerek, en küçük değer pozitif olduğunda ise tüm değerlerden bu değer çıkarılarak elde edilir. Bunun sonucunda her bir özelliğin ölçek değeri sayı doğrusu üzerinde belirlenmiştir.

3. BULGULAR

Bu bölümde, öğretim elemanlarının eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri Hacettepe ve Sakarya Üniversitesi'nden elde edilen veriler ile ayrı ayrı ikili karşılaştırma yapılarak ölçeklendirilmiştir.

Ölçeklemede yer alan aşamalar "eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri" ikili karşılaştırma ölçeği ile Sakarya Üniversitesinde yapılan uygulamadan elde edilen veriler üzerinden açıklanarak gösterilmiştir. Diğer analizlerin tamamı doğrudan verilmeyip sadece ölçek değerleri kişisel özelliklerin tercih edilme sırasına göre sıralı olarak verilmiştir.

Çalışmada öncelikle her bir öğretim elemanından, 6 kişisel öğretmen özelliğini ikili karşılaştırma yaparak sıralama yapmaları istenmiş ve her bir özelliğe ait frekans değerleri belirlenmiştir.

İkili karşılaştırma ölçeği sonucu Sakarya Üniversitesi öğretim elemanlarının eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentilerini içeren frekans matrisi Tablo 1'de gösterildiği şekilde oluşturulmuştur.

Tablo 1'de yer alan her hücredeki eleman f_{ij} ile gösterilmek üzere $S_j > S_i$ değerini veren frekansları göstermektedir. Oluşturulan bu matrise frekanslar matrisi (F) denir. Matris esas köşegene göre simetriktir ve simetrik elemanların toplamı, toplam gözlemci sayısını verir ki burada toplam kişi sayısı olan Sakarya Üniversitesi için 74 Hacettepe Üniversitesi için 68'dir.

Burada dikkat edilmesi gereken nokta, aynı uyarıcının kendisi ile karşılaştırılması yapılamayacağı için esas köşegen üzerindeki elemanların yazılmamış olmasıdır.

Tablo 1. Frekans matrisi

F MATRİSİ						
Uyarıcılar	A	B	C	D	E	F
A		15	28	68	36	48
B	59		33	68	36	48
C	46	41		71	22	39
D	6	6	3		14	5
E	38	38	52	60		40
F	26	26	35	69	34	

Bir sonraki adımda frekans (F) matrisinin her bir hücresindeki değer toplam kişi sayısına (N) bölünerek Tablo 2'deki oranlar matrisi elde edilmiştir. Bu matrisin elemanları Tablo 1 'deki frekans matrisinin elemanlarının (gözlemci sayısı olan N=74) 74'e bölünmesiyle oluşturulmuştur. Böylece oranlar matrisi (P) hesaplanmıştır. Bu oranlar matrisinin esas köşegene göre simetrik olan elemanlarının toplamı 1'i vermektedir.

Tablo 2.Oranlar Matrisi

P MATRİSİ						
Uyarıcılar	A	B	C	D	E	F
A		0,203	0,378	0,919	0,486	0,649
B	0,797		0,446	0,919	0,486	0,649
C	0,622	0,554		0,959	0,297	0,527
D	0,081	0,081	0,041		0,189	0,068
E	0,514	0,514	0,703	0,811		0,541

| F | 0,351 | 0,351 | 0,473 | 0,932 | 0,459 | |

Oranlar matrisindeki hücre değerlerine (P) karşılık gelen (Z) standart değerleri belirlenerek Tablo 3'deki birim normal sapmalar matrisi elde edilmiştir. Bu tabloya, Tablo 2'deki oranlar matrisinin her elemanına karşılık gelen, birim normal dağılımının z değerleri yazılmıştır. Bu matrise de birim normal sapmalar matrisi (Z) adı verilir. Burada esas köşegene göre elemanlar birbirinin ters işaretlisidir ve mutlak değerce birbirlerine eşittirler. Matrisin sonunda her bir sütuna ait değerlerin toplamını gösteren bir satır oluşturulmuş ve bu satırdaki her bir z hücre değerlerinin sütunlar boyunca ortalamaları alınarak yani sütunların eleman sayısı olan 5'e bölünerek ölçek değerleri hesaplanmıştır. Bu satırın toplamı da sıfıra eşittir.

Tablo 3. Birim normal sapmalar matrisi

Z MATRİSİ						
Uyarıcılar	A	B	C	D	E	F
A		-0,832	-0,310	1,398	-0,034	0,382
B	0,832		-0,136	1,398	-0,034	0,382
C	0,310	0,136		1,744	-0,532	0,068
D	-1,398	-1,398	-1,744		-0,881	-1,494
E	0,034	0,034	0,532	0,881		0,102
F	-0,382	-0,382	-0,068	1,494	-0,102	
Toplam	-0,604	-2,442	-1,726	6,915	-1,583	-0,561
Sj	-0,121	-0,488	-0,345	1,383	-0,317	-0,112

Aşağıdaki Tablo 4'de gösterildiği gibi, eksenin başlangıcı (0 noktası) bu satırdaki ortalama z değerlerinden en küçük olan -0,488 değerine kaydırılarak ölçek değerleri (S) sıralanmıştır ve her ölçek değerine en küçük değerin mutlak değeri olan 0,488 eklenerek her bir özelliğin ölçek değeri şekil 1'deki sayı doğrusu üzerinde belirlenmiştir.

Tablo 4. Ölçek Değerlerinin Sıralı Olarak Gösterimi

Sj	-0,121	-0,488	-0,345	1,383	-0,317	-0,112
Sj	0,367	0,000	0,143	1,871	0,171	0,376
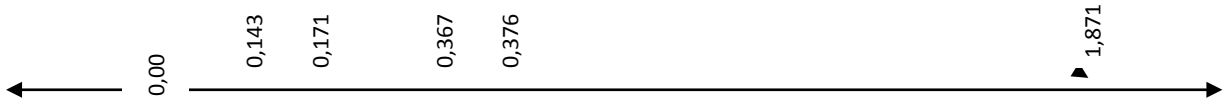
Şekil 1: Özelliklerin Sayı Doğrusu Üzerindeki Ölçek Değerleri

Tablo 4'den elde edilen uyarıcı sıralamalarına göre, Sakarya üniversitesi öğretim elemanlarının Sakarya Üniversitesi eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri Tablo 5'te gösterildiği şekilde sıralanmıştır.

Tablo5. Kişisel Özelliklerin Ölçek Değerleri ve Uyarıcı Sıraları (Sakarya Üniversitesi)

Kişisel özellikleri	Ölçek Değerleri	Sıralama
Demokratik	0,367	4
Empati Kurabilen	0,00	1
Etkili İletişim Kurabilen	0,43	2
Lider	1,871	6
Meslek Sevgisine Sahip	0,171	3
Özgüvenli	0,376	5

Tablo 5'te görüldüğü gibi; Sakarya üniversitesi öğretim elemanlarının, Sakarya Üniversitesi eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri arasında en çok istenilen özellikten en az istenilen özelliğe doğru bir sıralama yaparsak; "Empati kurabilen"in ilk sırada yer aldığı görülmektedir. Bu özelliği de sırasıyla etkili iletişim kurabilen, meslek sevgisine sahip, demokratik, özgüvenli özellikleri izlemektedir ve bu özellikler arasında en son olarak lider özelliği yer almaktadır.

Benzer şekilde yapılan analizler sonucunda Hacettepe Üniversitesi öğretim elemanlarının, Hacettepe Üniversitesi eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri Tablo 6'da gösterildiği şekilde sıralanmıştır.

Tablo 6. Kişisel Özelliklerin Ölçek Değerleri ve Uyarıcı Sıraları (Hacettepe Üniversitesi)

Kişisel özellikleri	Ölçek Değerleri	Sıralama
Demokratik	0,090	3
Empati Kurabilen	0,000	1
Etkili İletişim Kurabilen	0,125	4
Lider	0,904	6
Meslek Sevgisine Sahip	0,215	5
Özgüvenli	0,087	2

Tablo 6'da görüldüğü gibi; Hacettepe Üniversitesi öğretim elemanlarının Hacettepe Üniversitesi eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri arasında en çok istenilen özellikten en az istenilen özelliğe doğru bir sıralama yaparsak; "Empati kurabilen"in ilk sırada yer aldığı görülmektedir. Bu özelliği de sırasıyla özgüvenli, demokratik, etkili iletişim kurabilen, meslek sevgisine sahip, özellikleri izlemektedir ve bu özellikler arasında en son olarak lider özelliği yer almaktadır.

4. TARTIŞMA VE SONUÇ

Bu araştırmada, Hacettepe ve Sakarya Üniversiteleri Eğitim Fakülteleri öğretim elemanlarından "eğitim fakültesinden mezun olacak olan öğretmen adaylarından kişisel özellikleriyle ilgili beklentileri" ni ikili karşılaştırma yaparak ölçeklendirmeleri amaçlanmıştır. Araştırma, 2011-2012 öğretim yılı güz döneminde

Hacettepe Üniversitesi Eğitim Fakültesinde yer alan 68, Sakarya üniversitesi Eğitim Fakültesinde yer alan 74 öğretim elemanı üzerinde yapılmıştır.

Bu araştırmada her bir katılımcıdan 6 kişisel öğretmen özelliğini ikili karşılaştırma yaparak sıralama yapmaları istenmiştir. Daha sonra, bu sıralama dikkate alınarak her bir özelliğe ait frekans değerleri hesaplanmıştır. İkili karşılaştırma ölçeği sonucu frekans matrisi oluşturulmuştur. Frekans (F) matrisinin her bir hücresindeki değer toplam kişi sayısına (N) bölünerek oranlar matrisi bulunmuştur. Oranlar matrisindeki hücre değerlerine (P) karşılık gelen (Z) standart değerleri belirlenerek birim normal sapmalar matrisi elde edilmiştir. Matrisin sonunda her bir sütuna ait değerlerin toplamını gösteren bir satır oluşturulmuş ve bu satırdaki her bir z hücre değerlerinin sütunlar boyunca ortalamaları alınarak ölçek değerleri hesaplanmıştır. Eksenin başlangıcı (0 noktası) bu satırdaki ortalama z değerlerinden en küçük olanına kaydırılarak ölçek değerleri sıralanmıştır. Bunun sonucunda her bir özelliğin ölçek değeri sayı doğrusu üzerinde belirlenmiştir.

Bu sıralamaya göre Sakarya Üniversitesi Eğitim Fakültesi öğretim elemanlarının üniversitelerinden mezun olacak olan öğretmen adaylarının sahip olmalarını bekledikleri kişisel özelikler sırasıyla empati kurabilen, etkili iletişim kurabilen, meslek sevgisine sahip, demokratik, özgüvenli ve son olarak lider özellikleridir.

Bunun yanında Hacettepe Üniversitesi Eğitim Fakültesi öğretim elemanlarının üniversitelerinden mezun olacak olan öğretmen adaylarının sahip olmalarını bekledikleri kişisel özelikler sırasıyla empati kurabilen, özgüvenli, demokratik, etkili iletişim kurabilen, meslek sevgisine sahip ve son olarak lider özellikleridir.

Bu çalışmanın sonuçları dikkate alındığında Hacettepe ve Sakarya Üniversitesi Öğretim elemanlarının üniversitelerinden mezun olacak olan öğretmen adaylarında olmasını bekledikleri kişisel özellikler sıralamasında her iki üniversitede de ilk olarak empati kurabilen yer almaktadır. Bu sonucun birçok yönden farklı olan iki üniversitede aynı olması öğretmen için empati kurabilmenin önemini vurgulamaktadır. Bir diğer deyişle, empati kurabiliyor olmak zamanın gereksinimlerini karşılayan bir öğretmen olmak için en önemli özelliklerden biri olarak görülmüştür.

Diğer yandan özgüvenli olma özelliği Hacettepe Üniversitesi öğretim elemanlarınca ikinci sırada yer alırken bu özellik Sakarya Üniversitesi öğretim elemanlarına göre beşinci sırada yer almaktadır. Özgüvenli bireyler yetiştirmek için özgüvenli öğretmenler yetiştirmek gerekir gerçeğinden yola çıkarak bu özelliğin üst sıralarda yer alması beklenen durumdur ancak Sakarya Üniversitesinde beklenenin aksi bir durum söz konusudur. İki üniversite arasında mezun edecekleri öğretmen adaylarının özgüvenli olması durumundaki sıralama farkı şu an içinde bulunduğumuz sınava dayalı eğitimin bir sonucu olabilir.

Toplumsal kalkınmanın aydınlatıcıları olarak görülen öğretmenler, öğrenmeyi öğrenme sürecine rehberlik edecek liderler olarak tanımlanmasına rağmen elde edilen sonuçlarda iki üniversite öğretim elemanları da mezun edecekleri öğretmen adaylarında bulunmasını bekledikleri özellikler arasında lider olma özelliğine son sırada yer vermişlerdir.

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ÖĞRETMEN ADAYLARININ ÖĞRETİM YAZILIMLARINA YÖNELİK GÖRÜŞLERİ

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Abstract

Bu çalışma ile öğretmen adaylarının öğretim yazılımına yönelik görüş ve düşünceleri incelenmiştir. Araştırmaya Aksaray Üniversitesi İngilizce Öğretmenliği 1. sınıf öğrencilerinden 22 öğretmen adayı katılmıştır. Araştırmanın ilk aşamasında katılımcılar ilköğretim programına uygun olarak hazırlanan öğretim yazılımını incelemişlerdir. Araştırmanın ikinci aşamasında ise katılımcıların incelenen öğretim yazılımına yönelik görüş ve düşünceleri alınmıştır. Öğretmen adaylarının görüşleri araştırmacılar tarafından hazırlanan ölçek kullanılarak elde edilmiştir. Ölçekte öğretmen adaylarının incelenen öğretim yazılımlarının kullanımına, içeriğine, işlevselliğine ve hangi ek özellik ile bu boyutların daha etkili olabileceğine yönelik görüşlerine yer vermeleri istenmiştir. Araştırma kapsamında toplanan veriler araştırmacılar tarafından içerik analizi ile incelenmiştir. Elde edilen sonuçlar öğretmen adaylarının öğretim yazılımlarının öğrenci motivasyonu ve başarısında etkili olacağı ve bir takım ek özellikler ile bu etkililiğin daha da artacağı görüşünde olduğunu göstermektedir.

Anahtar Sözcükler: öğretim yazılımı, yazılım değerlendirme, öğretmen adayı

Giriş

Bilgi ve iletişim teknolojilerinde yaşanan hızlı gelişmeler toplumların yaşam biçimlerini değiştirmiş ve yaşamın pek çok alanında yeniden şekillenme ihtiyacı doğmuştur. Bilimsel ve teknolojik alanda yaşanan bu değişimler eğitim sistemlerini de etkilemiştir. Özellikle, teknolojik yeniliklerin ekonomide önemli bir pay haline gelmesi eğitim sürecinde teknoloji kullanımını bir zorunluluk haline getirmiştir (Akkoyunlu, 1998a; Aşkar, 1999). Yaşanan bu değişim ve gelişmelerde büyük bir paya sahip olan bilgisayar teknolojisi de eğitim sürecinde yerini almış ve bilgisayar destekli öğretim, eğitim faaliyetlerinin vazgeçilmez bir parçası haline gelmiştir. Yalın (2004)'a göre bilgisayar destekli öğretim, bilgisayarların sistem içine programlanan dersler yoluyla öğrencilere bir konu ya da kavramı öğretmek ya da önceden kazandırılan davranışları pekiştirmek amacıyla kullanılmasıdır.

Eğitim sürecinde bilgisayar teknolojilerinden etkili bir şekilde yararlanabilmek için donanımsal ihtiyaçların yanı sıra nitelikli öğretim yazılımlarına da ihtiyaç duyulmaktadır. Güzeller ve Korkmaz (2007)'a göre bilgisayar destekli öğretimin kalitesini belirleyen en önemli değişkenlerden biri bu süreçte kullanılan öğretim yazılımlarıdır.

Öğretim yazılımları, öğretilecek konuların bilgisayar teknolojilerinden yararlanılarak sunulmasını sağlayan öğretim materyalleridir. Bu yazılımlar okullarda öğretim programlarını desteklemek amacıyla hazırlanan ya da öğrencinin öğrenme sürecinde tek başına yararlanabileceği öğretim materyalleridir (Kazu ve Yavuzalp, 2004). Öğretim yazılımları önceden belirlenmiş konular için öğrenme kaynağı olarak düzenlenebildikleri gibi, diğer öğrenme ortamlarını destekleyici bir araç olarak da kullanılabilirler (Alkan, Deryakulu ve Şimşek, 1995). Bu özellikleri sayesinde öğrenciler, hem evde hem okulda öğrenmek ya da alıştırma yapmak amacıyla öğretim yazılımlarından faydalanabilirler. Ancak bu yazılımların doğru olarak seçilmesi önemlidir. Öğretim

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yazılımlarından beklenen yararın sağlanabilmesi ancak nitelikli yazılımların seçilip kullanılması ile mümkündür (Akkoyunlu, 1998b). Doğru öğretim yazılımının tercih edilmesi; yazılımı kullanacak öğrencilerin öğrenmesine katkı sağlanabilmesi, dersin öğretim hedeflerine ulaştırılabilmesi, öğrencilerin ilgilerinin derse çekilebilmesi ve motivasyonlarının artırılabilmesi açısından büyük önem taşımaktadır. Bu sebeple gerek yazılımları derslerinde kullanacak eğitimcilerin, gerekse çocuklarına satın alacak ailelerin bu konuda gerekli özeni göstermeleri gerekmektedir (Özmen ve Varol, 2011).

Nitelikli öğretim yazılımlarının en önemli özelliği bu yazılımların öğrenme ve öğretme ilkelerine uygun olarak hazırlanmış olmaları ve elverişli kullanım özelliğine sahip olmalarıdır. Öğretim yazılımları çoğu zaman süreçte öğretim işlevini yüklenmiş olmaları sebebiyle öğrenme için önem taşıyan pek çok faktörü barındırmak zorundadır. Özellikle; önkoşul davranışları kazandırma, öğrenim hedeflerinden haberdar etme, ipuçları verme, aktif katılımı sağlama, pekiştireç sunma, sunulan içerik ve değerlendirme etkinlikleri arasında tutarlığı sağlama ve dönüt / düzeltme verme öğretim yazılımlarında bulunması gereken önemli öğelerdendir (Akkoyunlu, 1998b). Ayrıca, öğretim yazılımları farklı kişisel öğrenme biçimlerine sahip bireyler göz önüne alınarak tasarlanmalı ve bireysel farklılıklara göre ek öğrenme yaşantıları sunabilmelidir (Kara, 2009).

Öğrenme ve öğretme sürecinde öğretim yazılımlarını kullanmayı planlayan öğretmenler, bu tür yazılımlarından beklenen verimin elde edilebilmesi için öncelikli olarak öğretim yazılımlarının kapsamlı bir değerlendirmesini yapmak ve seçimlerini bu değerlendirme sonuçlarına göre yapmak zorundadırlar (Güzeller ve Korkmaz, 2007). Doğru bir değerlendirme işlemine tabii tutulmadan kullanılan öğretim yazılımları süreçte bir fayda sağlamayacağı gibi öğrencilere birtakım zararlar da verebileceğinden değerlendirme işleminin önemi bir kez daha ortaya çıkmaktadır (Ateş, 2010).

Öğretim yazılımlarının değerlendirilmesinde farklı ölçütler söz konusudur. Farklı araştırmacılar bu tür yazılımların değerlendirilmesinde farklı ölçütleri ele alarak farklı değerlendirme araçları geliştirmişler ve yazılımların niteliğine bu ölçütler doğrultusunda karar vermişlerdir. Değerlendirme sürecinde farklı yöntemlerin izlenmesi, öğretim yazılımlarının değerlendirilmesine yönelik olarak geliştirilmiş standart ve genel kabul görmüş bir değerlendirme yönteminin olmadığı (Sim, MacFarlane ve Read, 2006) şeklinde yorumlanabileceği gibi değerlendirme yönteminde farklı bakış açılarına sahip araştırmacıların farklı ölçütler doğrultusunda değerlendirme işlemini yaparak sürece zenginlik kazandırdıkları şeklinde de yorumlanabilmektedir (Ateş, 2010). Bu görüş doğrultusunda eğitim yazılımlarının zenginleştirilmesine yönelik bir çalışma yapılmak istenmiş ve öğretmen adaylarının fikirlerine başvurulmuştur. Bu çalışma ile öğretmen adaylarının eğitim yazılımlarına yönelik görüş ve fikirlerinin belirlenmesi amaçlanmıştır. Çalışma kapsamında aşağıda belirtilen sorulara cevap aranmıştır:

1. Öğretmen adaylarının

a. uygunluk

b. işlerlik açısından öğretim yazılımına yönelik görüşleri nelerdir?

2. Öğretim yazılımlarına hangi ek özelliklerin eklenmesi etkiliği artırır?

Yöntem

Bu araştırma örneklem grubunda yer alan katılımcıların görüşleri doğrultusunda elde edilen verilerin açıklandığı betimsel bir çalışmadır.

Katılımcılar

Araştırmanın katılımcıları, 2011-2012 Eğitim-Öğretim yılı Bahar Dönemi'nde Aksaray Üniversitesi Eğitim Fakültesi'nde öğrenim görmekte olan 22 öğretmen adayından oluşmaktadır. Katılımcılar, Yabancı Diller Eğitimi Bölümü'nde İngilizce Öğretmenliği eğitimi alan birinci sınıf öğrencileridir. Araştırmaya katılan öğretmen

adaylarının süreç boyunca her an gözlenebilmelerini ve herhangi bir sorunla karşılaştıklarında rahatlıkla yardım alabilmelerini sağlayabilmek amacıyla katılımcıların seçiminde araştırmacının ders öğretmeni olarak aktif bir rol üstlendiği bir grubun seçilmesi ölçütü kullanılmıştır.

Veri Toplama Aracı

Çalışma kapsamında öğretmen adaylarının öğretim yazılımlarına ilişkin görüş ve düşüncelerini almak amacıyla araştırmacılar tarafından "Öğretim Yazılımları Değerlendirme Ölçeği" hazırlanmıştır. Ölçeğin hazırlanmasında Akkoyunlu (1998b) ve Şimşek (1999) tarafından belirlenen nitelikli öğretim yazılımlarının seçiminde dikkat edilmesi gereken değerlendirme ölçütleri temel alınmıştır.

Hazırlanan ölçek öncelikle kapsam geçerliliğinin sağlanması için uzman görüşüne sunulmuştur. Uzman görüşlerinden elde edilen dönütler doğrultusunda gerekli düzeltmeler yapıldıktan sonra ölçek çalışmanın katılımcıları haricinde üç öğretmen adayına sunulmuş ve bu kişilerin ölçekte yer alan maddeleri kullanılan dilin uygunluğu, ifadelerin anlaşılırlığı ve ifadelerin amaca uygunluğu açısından değerlendirmeleri istenmiştir. Elde edilen geri dönütler doğrultusunda gerekli düzeltmeler yapılmış ve ölçeğe son şekli verilmiştir.

Ölçek, temel alınan değerlendirme ölçütlerini yansıtan üç adet açık uçlu sorudan oluşmaktadır. Bu sorulardan ilk ikisi öğretmen adaylarının yazılımı öğretimsel uygunluk ve işlevsellik yönünden değerlendirmelerine ilişkin düşüncelerini keşfetmeye yönelik sorulardır. Ölçekte yer alan son soru ise incelenen öğretim yazılımının nasıl daha etkili bir hale getirilebileceğine yönelik önerilerin elde edilmesi amacıyla hazırlanmıştır.

Uygulama Süreci

Bu araştırma kapsamında öğretmen adaylarının öğretim yazılımlarına ilişkin görüş ve önerileri incelenmiştir. Araştırmanın ilk aşamasında ilköğretim programına uygun olarak geliştirilen bir öğretim yazılımı katılımcılara sunulmuştur. Bu süreçte ilk olarak katılımcılara öğretim yazılımının değerlendirilmesine yönelik olarak hazırlanmış veri toplama aracı verilmiş ve katılımcıların kendilerine sunulan yazılımı belirtilen ölçütler doğrultusunda incelemeleri istenmiştir. Araştırmanın ikinci aşamasında ise katılımcıların incelenen öğretim yazılımına yönelik görüş ve önerileri alınmıştır. Bu aşamada katılımcılardan inceledikleri öğretim yazılımını ölçme aracında yer alan ölçütler doğrultusunda değerlendirmeleri ve yazılımlara hangi ek özellikler katılarak daha nitelikli hale getirilebileceğine ilişkin önerilerini sunmaları istenmiştir

İncelenen öğretim yazılımının seçiminde Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü'nde görev yapan üç uzmanın görüşlerine başvurulmuştur. Her üç uzman tarafından da belirtilen yazılımın araştırma kapsamında incelenmesine karar verilmiştir.

Verilerin Analizi

Araştırma kapsamında hazırlanan veri toplama aracında yer alan açık uçlu sorular yardımıyla elde edilen verilerin analizinde nitel analiz tekniklerinden yararlanılmıştır. Katılımcıların verdikleri cevaplar nitel veri analiz tekniklerinden olan içerik analizi yöntemi kullanılarak iki araştırmacı tarafından incelenmiştir. Büyüköztürk, Çakmak, Akgün, Karadeniz ve Demirel'e (2012) göre sistematik ve tekrar edilebilen bir yöntem olan içerik analizinde birden çok kelimeden oluşan metinler belirli kurallar çerçevesinde daha küçük içerik kategorilerine dönüştürülmektedir.

Bulgular

Sunulan İçeriğin Uygunluğuna İlişkin Bulgular

Araştırmaya katılan öğretmen adaylarının öğretim yazılımını sunulan içeriğin uygunluğu açısından değerlendirmelerine ilişkin görüşlerini belirleyen soruya verdikleri yanıtlar incelendiğinde, katılımcıların büyük çoğunluğunun ($n = 17$) sunulan içeriğin yazılımın hedefleri doğrultusunda uygun olduğu görüşüne sahip oldukları gözlenmektedir (bkz. Tablo 1). Katılımcılar; genel olarak incelenen öğretim yazılımının içeriğinin kolaydan zora doğru aşamalı olarak verildiğini, küçük adımlar ilkesi temel alınarak içeriğin öğrencinin bir defada kavrayabileceği şekilde küçük parçalara bölünerek modüler şekilde düzenlendiğini ve içeriğin ilköğretim ders programı ile tutarlı bir şekilde ele alındığı görüşünü belirtmektedirler. Bu konuya ilişkin olarak öğretmen adaylarının görüşleri şu şekildedir:

"İçerik öğrencinin düzeyine uygundur. Müfredata uygun hazırlanmıştır. Kolaydan başlayıp zora doğru gitmesi öğrenci için yararlıdır. "

Tablo 1. Öğretmen adaylarının öğretim yazılımına ilişkin görüşleri ($n = 22$)

	Ölçütler			
	Sunulan İçerik	Değerlendirme	Ekran Tasarımı	İşlerlik
Uygun	17	12	14	18
Uygun Değil	5	10	8	4
Toplam	22	22	22	22

Ayrıca, araştırmaya katılan öğretmen adayları öğretim yazılımında içerik sunulurken açık ve anlaşılır bir dil kullanıldığını, net ifadeler kullanılarak kavram karışıklığının önüne geçildiğini, dilbilgisi ve yazım kurallarına dikkat edildiğini belirtmiş ve içeriğin çoklu ortam materyalleri ile desteklendiğini ifade etmişlerdir. Bu konuya ilişkin olarak öğretmen adaylarının görüşleri şu şekildedir:

"İçerik öğrenci seviyesine uygun ve onların anlayabileceği nitelikte hazırlanmış. Her şey açık ve net anlatılmış. Karmaşıklık ya da anlamayı engelleyecek bir belirsizlik söz konusu değil."

"Konuların görsellerle ve çoklu ortam öğeleri ile desteklenerek verilmesi öğrenmeyi kolaylaştırma açısından önemlidir."

Yazılımın içeriğinin uygun olmadığını düşünen katılımcılar ($n = 5$) ise içeriğin çok fazla metin yoğunluğuna sahip olduğunu ve bu yoğunluğun ilköğretim öğrencilerinin gelişim seviyelerine göre fazla olabileceğini belirtmiştir:

"İçeriğin bazı bölümlerde tam anlamıyla anlaşılmaması öğrenciler için problem teşkil edebilir."

Değerlendirme Yönteminin Uygunluğuna İlişkin Bulgular

Öğretim yazılımının öğrenciye sunduğu değerlendirme etkinliklerinin uygunluğuna ilişkin görüşler incelendiğinde etkinliklerin uygun olduğunu düşünen ve düşünmeyen katılımcı sayılarının birbirine yakın olduğu görülmektedir (bkz. Tablo 1). Öğretmen adaylarının yarıdan fazlası (*n* = 12), yazılımda sunulan ve öğrencinin hedeflenen amaçlara ulaşıp ulaşmadığına ilişkin değerlendirme yapmasını sağlayan etkinlerin belirtilen ölçütler doğrultusunda uygun olduğu görünüşüne sahiptirler. Olumlu görüş belirten katılımcılar incelenen öğretim yazılımının değerlendirme bölümlerinde yer alan etkinliklerin; öğrenciye kazandırılmak istenen içerik ile tutarlı bir şekilde hazırlanmış olduğunu, öğrencinin kendi başarısını değerlendirmesini sağlayan geri dönütler sunduğunu ve hedef kitlenin yaşına ve gelişim seviyesine uygun sorulara yer verdiğini belirtmişlerdir. Bu konuya ilişkin olarak bir öğretmen adayının görüşü şu şekildedir:

"Değerlendirmede sorular dikkat çekiciydi ve onların düzeyine uygun olarak verilmişti."

Yazılımda yer alan değerlendirme etkinliklerinin belirtilen ölçütler doğrultusunda uygun olmadığını belirten öğretmen adayları (*n* = 10) ise yazılımların değerlendirme etkinliklerinde yetersiz sayıda soruya yer verildiğini, soru çeşitliliğinin az ve soru formlarının yetersiz olduğunu, öğrenciye verilen geri dönütlerin karmaşık olduğunu, öğrencinin performansı hakkında detaylı bilgi sunmadığını ve sorularda öğrenciyi yönlendirici ipuçlarının verilmediğini belirtmektedir. Ayrıca, olumsuz görüş belirten katılımcılar etkinliklerde yer alan sorulardaki ifadelerin net olmadığı ve bu durumun öğrencide kavram karmaşıklığına neden olacağı görüşünü belirtmişlerdir. Öğretim yazılımlarının değerlendirme yöntemi açısından uygun olmadığına ilişkin belirtilen görüşlerden birkaçı şu şekildedir:

"Öğrenciye kazandırılmak istenen hedeflere bağlı olarak sorular çeşitlendirilebilir."

"Öğrencilerin test sonuçlarını açıklarken yüzde yerine sayılardan yararlanılması daha uygun olurdu."

"Bazı sorularda dönüt karmaşık verilmiş öğrencinin düzeyine göre açık olarak belirtilmeli."

Ekran Tasarımının Uygunluğuna İlişkin Bulgular

Araştırmaya katılan öğretmen adaylarının yazılımın ekran tasarımının uygunluğuna ilişkin verdikleri yanıtlar incelendiğinde, katılımcıların çoğunluğunun (*n* = 14) yazılımın genel olarak ekran tasarımı açısından uygun niteliklere sahip olduğunu belirtikleri görülmektedir (bkz. Tablo 1). Ekran alanının etkili bir şekilde kullanılması, renklerin ve görsel öğelerin birbirleriyle uyum içerisinde sunulması ve öğrenmeyi destekleyici nitelikte olmaları, kullanılan renklerin dikkat dağıtmayacak ve öğrencilerin içeriğe odaklanmasını kolaylaştıracak şekilde sade ve uyumlu olarak seçilmesi ve sunulan görsel öğelerin (yazı, grafik, resim, vb.) belirli bir denge içerisinde verilerek hedef kitlenin yaş seviyesine uygun ekran yoğunluğunun sağlanması; öğretmen adayları tarafından öğretim yazılımının olumlu özellikleri olarak belirtilmiştir. Bu konuya ilişkin olarak bir öğretmen adayının görüşü şu şekildedir:

"Yazılar öğrencilerin seviyesine uygun boyutta verilmiş. Kullanılan şekil ve grafikler dikkat çekici. Renkler karışık değil gözü yormuyor."

Buna karşın öğretim yazılımının ekran tasarımı açısından bazı özelliklerinin uygun olmadığı görüşüne sahip olan öğretmen adayları (*n* = 8) da bulunmaktadır. Olumsuz görüş bildiren katılımcılar; öğrenciye sunulan yönergelerin ekranda uygun yerlere yerleştirilmemesi, görsel öğelerin (butonlar, şekiller, kaydırma çubukları, vb.) hedef kitlenin yaş seviyesine göre çok küçük olarak tasarlanması, metinlerde kullanılan yazı puntosunun göreceli olarak küçük olması, ekran okunurluğunun düşük olması; katılımcılar tarafından belirtilen olumsuz özelliklerdir.

Yazılımın İşlerliğine İlişkin Bulgular

İncelenen öğretim yazılımının işlerliğine ilişkin katılımcılardan elde edilen yanıtlar incelendiğinde katılımcıların büyük çoğunluğunun ($n = 18$) olumlu görüş belirttiği gözlenmektedir (bkz. Tablo 1). Olumlu görüş bildiren katılımcılar öğretim yazılımının genel olarak doğru bir biçimde çalıştığı ve teknik bir hata vermediğini düşünmektedir. Yazılımın sistem gereksinimlerinin yüksek olmaması ve kısa sürede hızlı bir şekilde başlatılabilmesi, farklı ekran gösterimleri arasındaki geçişlerin hızlı olması, ekran yönergelerinin doğru bir şekilde çalışması ve yardım menüsünün yeterliliği, öğretmen adayları tarafından belirtilen olumlu özelliklerdir. Bu konuya ilişkin bir öğretmen adayının görüşü şu şekildedir:

"Öğrenci programı kolayca çalıştırabilir. Diğer bölümlere geçişler kolay. Butonlar gayet açık ve net."

Buna karşın işlerliğe ilişkin olumsuz görüş bildiren öğretmen adayları ($n = 4$) da mevcuttur. Olumsuz görüş bildiren öğretmen adayları, bilgisayar kullanım tecrübesi zayıf olan öğrencilerin yazılımı kullanırken zorlanabileceğini, yazılımın çıkış menüsündeki yönergelerin yetersiz olduğunu ve kullanıcı onayı alınmadan direkt programdan çıkış yapılabildiğini belirtmektedir. Bu konuya ilişkin bir öğretmen adayının görüşü şu şekildedir:

"Yazılımın işlerlik açısından sorunlarının olduğunu düşünüyorum. 'Esc' tuşuna basıldığı zaman hemen çıkış sağlıyor bu durum bana göre dezavantaj."

Yazılımların Etkiliğinin Artırılmasına İlişkin Öneriler

Araştırmaya katılan öğretmen adaylarından yaptıkları değerlendirmeler sonucunda öğretim yazılımlarının nasıl daha etkili ve nitelikli bir yazılım haline getirilebileceğine ilişkin belirttikleri görüşler incelendiğinde, katılımcıların yazılımların farklı açılardan geliştirilebileceği görüşüne sahip oldukları görülmektedir. Katılımcılar, bu alternatif özelliklerin eklenmesi halinde yazılımların daha nitelikli hale getirilebileceğini ifade etmişlerdir. Öğretmen adayları tarafından getirilen öneriler şu şekilde sıralanabilir:

Öğretim yazılımlarında çoklu ortam öğelerine (ses, video, animasyon, vb.) daha fazla yer verilmelidir. Özellikle sunulan içerik yabancı dil öğretiminde büyük bir öneme sahip işitsel materyaller ile desteklenmelidir ($n = 12$).

Öğretim yazılımları öğrencinin ihtiyaçları doğrultusunda düzenlenebilmeli ve öğrencinin kendi hızına uygun olarak bireysel öğrenmeye olanak sağlayan özelliklere sahip olmalıdır ($n = 10$).

Yazılımlara kullanıcı kontrolünü artırıcı özellikler eklenmelidir. Yazılımında bulunan videoların istenilen yerde durdurulup yeniden başlatılabilmesi, ses kontrolünün yapılabilmesi, programın kapatıldıktan sonra kullanıcının kaldığı yerden tekrar başlayabilmesi öğretim yazılımlarına eklenmesi gereken özelliklerdir ($n = 8$).

Öğrenciye kazandırılmak istenen içerik özgün bir senaryo içinde verilmelidir ($n = 4$).

Hedef öğrenci kitlesinin yaş ve gelişim seviyesi göz önüne alınarak içerik görsel öğelerle zenginleştirilmelidir ($n = 4$).

Öğrencilerin eğlenerek öğrenmesine imkân sağlayacak etkinliklere yer verilmeli ve öğretim yazılımları aracılığıyla kazandırılmak istenen davranışlar öğrencilerin üstün düşünme becerilerini geliştirecek nitelikte oyunlar vasıtasıyla kazandırılmalıdır ($n = 3$).

Sonuç ve Öneriler

Bu çalışma ile öğretmen adaylarının öğretim yazılımlarına ilişkin görüş ve fikirleri belirlenmiştir. Öğretmen adaylarından verilen öğretim yazılımını incelenmeleri ve bu yazılımı uygunluk ve işlerlik açısından değerlendirmeleri istenmiştir.

Uygunluğa yönelik elde edilen bulgular içerik, değerlendirme, ekran tasarımı öğeleri açısından incelenmiştir. Araştırmaya katılan öğretmen adaylarının büyük bir bölümü içeriğin uygun bir şekilde sunulduğu görüşündedir. Konuların, belirlenen hedefler doğrultusunda, küçük adımlar ilkesi temel alınarak, kolaydan zora doğru verildiği en çok belirtilen olumlu görüşler arasındadır. Olumsuz görüş belirten katılımcılar ise daha çok metin yoğunluğu üzerine odaklanmıştır.

Yazılımın değerlendirme bölümüne yönelik görüşlerde ise değerlendirmenin içerik ile tutarlı olduğu, uygun geri dönütler sunulduğu ancak soruların çeşitlendirilebileceği görüşleri hâkimdir. Ekran tasarımına yönelik değerlendirmelere bakıldığında öğretmen adaylarının büyük bir bölümü tasarımın uygun olduğu görüşündedir. Ancak yönergelerin konumlarının açık olmaması, buton, kaydırma çubukları gibi görsel öğelerin hedef kitleye göre küçük tasarlanması katılımcıların ekran tasarımına ilişkin olarak olumsuz görüşlere sahip olmasına neden olmuştur.

Yazılımda değerlendirilen diğer bir ölçüt olan işlerlikte ise genellikle olumlu görüşler hâkimdir. Yazılımın çalıştırılmasına ya da sayfalar arası geçişlerine yönelik herhangi bir olumsuz görüş belirtilmemiş olmasına rağmen "esc" tuşuna basıldığı anda kullanıcıdan hiçbir onay almadan programın kapanması, katılımcılar tarafından yazılımın olumsuz bir özelliği olarak nitelendirilmiştir.

Etkili bir yazılıma yönelik katılımcılardan alınan görüşler incelendiğinde, cevapların genel olarak çoklu ortamlar ile içeriğin desteklenmesi ve yazılımın bireysel öğrenmeye olanak tanıyacak şekilde tasarlanması üzerinde yoğunlaştığı görülmektedir. Oluşturulacak yeni öğretim yazılımlarında, bu öneriler doğrultusunda daha etkili yazılımların sunulacağı düşünülmektedir. Ayrıca yazılım değerlendirmede kullanılacak farklı ölçütlerin daha çeşitli sonuçlar sunacağı, üreticilere daha etkili ve kaliteli yazılımlar oluşturması açısından yarar sağlayacağı düşünülmektedir.

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ORGANIZATIONAL METAPHOR PERCEPTIONS OF PRIMARY SCHOOL ADMINISTRATORS AND TEACHERS TOWARDS THE INSTITUON THEY WORK FOR

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Abstract

The aim of this study is to investigate primary school administrators' and teachers' organizational metaphorical perceptions of the institutions they work in and whether metaphorical perceptions differ in their professional titles. For this aim, totally 311 people, primary school administrators and teachers, from 18 primary schools in the central district of Kastamonu were applied "The Organizational Metaphor Scale" developed by the researcher. The data gathered were entered in the computer and analyzed via SPSS (12) package program. In the study, it was concluded that school administrators and teachers generally express the institution they work in with more of a metaphor of organism.

Keywords: Organizational metaphor, teacher, primary school, school administrator, perception of metaphor

Introduction

Metaphor in Turkish means simile, figure of speech and analogy. It is referred in Turkish language dictionary as a word used in a different context different from its real meaning as a result of a reference or analogy and which is used in a literary way to connote various meanings apart from its real meaning (TDK, 1969). The exact meaning of metaphor in Latin is "to transform from somewhere to another place" (Anderson, 2005). It is a conceptual framework that intertwines with a notion carrying and discovering a meaning (Waguespack, 2010). The researchers that analyze the use of language claim that there is no other way than using metaphor to grasp the meaning of a notion (Becerikli, 1999).

It is used in Greek as a concept through which very intricate concepts could be elucidated (Dur, 2006). To put in a different way, metaphor is the relationship between two conceptual structures. This very structure may refer to a domain, space, category or conception. Along with this, it is not totally correct to name all connections between two conceptual structures metaphoric. The recent cognitive linguistics theories and researches show that metaphor, which is commonly known as the analogy between two conceptual structures, is very inclusive (Steen, 2007) and metaphor is a means of perception (Arnett, 1999). That is, metaphors enable one to unveil how the concepts analyzed are perceived (Cerit, 2008). In addition to all of these definitions, metaphor is used to convey symbolical meanings in a cultural context and to make an analogy between a situation and an action, object, idea or a word (Palmer and Lundberg, 1995).Gareth Morgan (1998) approaches metaphor to meditate on an organization or a quality of an organization. As Morgan underlines in his study, there is a close connection between ideas and actions. Making these relationships to be understood is significant to make sense of how organizations formalize an issue, how different areas they can adapt it to and how they create new organization models (Thomas and Allen, 2006). Metaphors may play a constructive role for managers to internalize, comprehend the situations and act accordingly. Metaphors associated with literature are analyzed as machine, organization, brain, culture, politics and means of domination and the prison of souls. Organization oriented metaphors have been analyzed in the same context in this study and an example of metaphor is explained below.

Organizations as Machines: The understanding that organizations could be constructed mechanically occurred with the Enlightenment Period and the institutional background was carried out as to comprehend the organizations (Tsoukas and Knudsen, 2003, 160). Although the approach of organizations as machines that prioritize stylistic qualifications in productivity growth contributed to organization theory to a significant extent, it was exposed to serious criticisms for it thought of human beings as a part of the organizational system (Özdemir, 2008, 1). The traditional organization theory associated with machine-organization metaphor is basically constructed upon non-human qualities of the organization. Human factor is back grounded. This theory, as mentioned before, considers the organization an entity without human beings that are seen as a gear of the machine. That is, traditional organization theorists focused on the organizational structure more and regarded the organization in terms of its performance and efficiency (Peker, 1995, 72). Traditional organization theories are linked with the machine metaphor.

Organizations as organisms: The problems of mechanical organization understanding resulted in many organization theorists shift their focus from mechanical approach to biological approach. Organization theory was transformed to a kind of biology in time and molecular cells, complicated organisms, the differences between species and ecology, relationships and individuals, groups, organizations, the populations of them (their branches) , the dichotomies between their social ecology and the similarities of the relationships were given priority within this understanding. The organization theorists espousing such an approach came up with many new ideas about the comprehension of organization processes and the factors affecting their well-being (Morgan, 1998, 45). The resemblance of the organization to an organism takes place among these new ideas and such a comparison resorts to the connection between the organization and environment. Environment is the atmosphere where the organization exists. When the environment is convenient, the organization can live and provides the nearby environments with necessary sources to survive. The organization is surrounded by other organizations whereby it has to be in a constant give and take (Hicks, 1975, Akt; Başaran, 1984, 74). Hatch, (1997, Akt; Nayır, 2008, 20)), compares the organization to an alive organism and supports the idea that they are bound to their surrounding likewise. What distinguishes the organization from creatures is that while creatures furnish themselves with food and accommodation, organizations acquire information, money, worker and raw material from its surrounding. Organism metaphor puts forward that different organizations require different wishes and reactions. Thus, there is no "a mere best" for them, which forms the basis of contingency theory and hails open system theory.

Organizations as Brains: The aim here is to be able to make a connection between brain process and working principal. Knowledge is defined as acknowledged believes (Nonaka, 1994, Akt: Tunç, 2010, 74). Knowledge is actualized in the brain of the recognizant and it carries the traces of the values, experiences, culture and learning of the individual. Knowledge can exist overtly in organizational structures as well as in values, acceptances and evaluations covertly. This definition points at the vantage of knowledge that is not simple but complicated, subjective and individual (Sallisve Jones, 2002, Akt: Tunç, 2010, 75). Information flow is vital for organizations to survive. The word cybernetics "kubarnetes" which means steersman in Greek is used to mean the processes of information flow necessary for the organization's existence and maintenance of routine besides the thinking and feedback processes of the system. As for March and Simon (1958),what determines the practices of organizations is the information necessity which will explain, interpret and eliminate the differences between aims and accomplished. Simon and March, through taking mechanisms' decision making approach into consideration, claim that the individuals in an organization make their decisions on the grounds of limited information during decision making and communication; therefore, they can analyze restricted alternatives and they are not exactly certain about the results (Akt: Morgan, 1998, 93). Organizations are associated with information processing system and learning organization approach.

Cultural Organizations: Organization culture is pertinent to the nature of organization identity (Whetten and Godfrey, 1998, Akt: Taşdan, 2010, 252). A positive and receptive organization culture stimulates creativity and provides satisfying results. An organization adopts creative behavior by means of affective coordination and integration and helps construct a balanced system that enables the organization operate effectively. Thus, organization culture represents a system based on mutual change and understanding which consolidates creativity within the organization and the framework of reciprocal admissions (Chang ve Chiang, 2007, Akt: Balay, 2010; 59). The organization is the place where mutual actions are carried out and it is important that the individuals share some common meanings and values (Schein, 1985, Akt: Şişman, 2007). Total quality management in organizations is related to culture metaphor.

Organization as Political Systems: Political issues like pecking order are certainly focused on while mentioning management in organizations. Management can take different shapes in organizations. While some are authoritative, some are democratic. Organizations could be labeled as political since it is required to manage different people in pursuit of different benefits. The ones who regard organizations as political systems consider them loose structures made of various people with different aims and interests rather than rational and integrated unities. In this respect, political point of view focuses on issues such as power/ rulership, benefit, disagreement, coalition, collective agreement and distribution of sources (Bolman and Deal, 1991, Akt; Şişman, 2007). Management of organizations (democratic/ autocratic) and organizational approaches are related to the disagreement management.

Organizations as Prisons of Souls: Individuals in contemporary work life complain about their position since they suffer from the suffocating and boring atmosphere from where they cannot step aside. This situation may be the metamorphosis of what Plato asserts centuries ago as the imprisonment of souls as an allegory of the impossibility of freedom. It may be considered that when the individual in modern life can understand his essence and his position in the organization, he can live in conformity with the organization and the social life (Akar, 2008, 99).

The imprisoned souls metaphor aims at introducing certain control processes and models. These models are subconscious processes under the iceberg waiting to be unfolded. Also, these models fall short of satisfying people. One of the most outstanding analyses of the metaphor is its contribution to one's understanding of organizational changes dynamics and challenges (Morgan,1998). Changing processes in organizations is also associated with this metaphor.

Organizations as means of dominance: The first types of formative organization probably emerged in hierarchical societies where a social group generally made the other accept its own will via subjugation. With certain people's being in service of the administrator class as bishops, clerks, accountants, sellers; societies became more layered. These people who do not deal with producing necessary for maintaining their lives formed a medium level class between the administrative class and the villagers who have to produce. Organizations have been associated with the processes of dominance where individuals and groups found ways to impose their own wills on others. The best way to understand various organizations in the history and in the modern world is viewing them as means which reflect the changes in the same style as the dominance applied. Furthermore, the idea that organizations are always based upon a class arrangement may be grounded on a well-supported basis (Morgan, 1998, 339-345).

People are inclined to view organizations generally as rational managements aiming at satisfying everyone's benefits. Nonetheless, there is a great deal of evidence demonstrating that this view expresses an ideology more than a reality. Organizations are mostly used as means of domination which put the selfish interests of elitists ahead for the sake of others and there is a dominant element in all organizations (Morgan, 1998, 339). While mentioning organizations, it becomes impossible not to mention power. When power is of question, various types of it may be stated. If the concept of power is to be addressed in view of administers, it may be defined as the power of having works done or the ability to control people. Administrators benefit from sources of power in directing employees so as to internalizing the purposes of the organization. As for the authority, it brings forth the linear hierarchical system. In such a structure, the uppers are at a more elitist level than the lowers, inequality and injustice are matters of fact, the process is in favor of the administrators in the difference of administrators and the ones administered.

Organizations are the systems established to actualize a target. The principal element directing a system is the human and actions by humans. It would not be wrong to state that school administrators and teachers mostly direct the organization/ school. School administrators both lead to the implementation of educational services and play a role for appropriate learning environment. Teachers have the important duty of conducting educational services efficiently. Undoubtedly, school administrators and teachers' perceptions styles of the institutions they work in would affect the quality of their jobs; in parallel to this perception, either the way for change and transition would be cleared or the repetition of the current situation would occur again. Therefore, teachers'' and school administrators' perceptions of the institutions they work in with which of the organizational metaphors; from among the metaphors of machine, organism, brain, culture, politics, prison of souls or domination gains importance. Moreover, whether there is a meaningful difference between the perceptions of teachers and school administrators with different duties and roles on the institutions they work in appears to be another issue which needs investigating.

2. Method

2.1 Study Group

The population of the study consists of primary school administrators and teachers working in primary schools located within the borders of the central district under Kastamonu Directorate of National Education. The total number of primary schools in the central district of Kastamonu is 51; 26 of which are in villages and the remaining 25 in the city centre. The number of teachers working in these schools is 781, the number of primary school administrators is totally 55; 20 of which are in primary schools in the villages dependent on the centre and 35 of which are in primary schools in the city centre. Considering that it would be appropriate to have 100 units in the bigger sub group and 25-30 units in each of the smaller sub groups during the surveys while obtaining samples (Balcı, 2009), a survey was applied to totally 450 people from among the school administrators and teachers working in 18 primary schools randomly selected from 35 public primary schools located in the central district in Kastamonu for the study sample. The survey applied to 311 people were taken into evaluation 287 (92.3%) of the participants in the study were primary school teachers and 24 (7,7%) of them were primary school administrators. 172 (55,3%) of the participants were female and 139 (44,7%) of them were male.

2.2. Data collection tools

The data were obtained by using "The Organizational Metaphor Scale" and personal information form.

Organizational Metaphor Scale (OMS) was developed by the researcher. At the first stage, principal components factor analysis was applied for the construct validity of the scale. With the help of the factor analysis, the scale consisting of 74 items was detected to have been divided into 7 dimensions and that 25 of the items whose factor load value was over .50 were found to be appropriate to be included in the scale. Cronbach alpha values were checked for the reliability of the scale. The reliability coefficient of the scale developed is α .80 and of the data collected within the context of the research is α .86. The OMS was constructed via 5-point Likert scale ranging from "I absolutely disagree" to "I absolutely agree".

Personal Information Form was developed in order to specify features such as the participants' professional titles, gender, and level of experience.

2.3. Data Collection Method

The data of the study were collected during 2009-2010 academic year. After receiving the necessary permissions, the scales were conveyed to the schools by the OMS researcher and the scales which were filled in were re-collected by the researcher.

2.4. Data Analysis

In the study, the metaphors which primary school administrators and teachers use to express the school they work in and whether these metaphors differ in their professional titles were examined via SPSS (12) statistical package program. First, normality tests were conducted on the analyzed data and while t-test was applied to the data showing normal distribution, Mann-Whitney U test was applied to the data which did not show normal distribution. Statistical meaningfulness level was taken as *"p<0.01.*

3. Findings and Comments

The t-test results regarding the metaphors which the primary school administrators and teachers participated in the study used to express the schools are given in Table 1.

Table 1: The Distribution of the Metaphors Which the School Administrators and Teachers Participated in the Study Used to Express the Institution They Work in According to their Professional Titles and T-Test Results

Metaphor	Title	N	$\bar{X}$	ss	Sd	Mean Difference	T	p
Machine Metaphor	Administrator	24	1,90	,99	309	-,33	-1,46	,144

Metaphor	Group	N	$\bar{x}$	SD	df		t	p
	Teacher	287	2,23	1,08				
Brain Metaphor	Administrator	24	3,49	1,15	309	,00	,02	,979
	Teacher	287	3,48	1,11				
Culture Metaphor	Administrator	24	3,71	1,03	309	,32	1,56	,118
	Teacher	287	3,39	,97				
Politics Metaphor	Administrator	24	2,14	,90	309	-,31	-1,42	,156
	Teacher	287	2,45	1,04				
Prison of Souls Metaphor	Administrator	24	1,45	,89	309	-,37	-1,77	,077
	Teacher	287	1,82	,99				
Domination Metaphor	Administrator	24	2,20	,98	309	-,14	-,61	,539
	Teacher	287	2,35	1,14				

As seen in Table 1, it is observed that the primary school administrators ($\bar{x}$: 3.49) and teachers ($\bar{x}$ 3.48) express the school they work in with the brain metaphor at the "most" level. There is not a meaningful difference statistically between the perceptions of the groups of the institutions they work in. It may be said that two factors underlie the fact that primary school administrators and teachers express their schools with the "brain" metaphor. The first one is that schools are the institutions where information is produced and stored. The second factor is that it is resembled to the operation of brain and is about the fact that negative experiences are not repeated (e.g. people do not make the mistake they have made before). The supervision and all other evaluation activities can be assessed within the context of this metaphor. This finding of the study also shows coherence with the results of other studies. In a study of Balcı (1999) where he examined the metaphors towards school, school is described as the place of information transfer and where the youth is educated; likewise, the same features are also included in the description of ideal school in the study of Aydoğdu (2008) mentioned above. Thus, this obtained finding may be said to be directly associated with the purposes of educational institutions.

It has been derived from the study of Güçlü and Türkoğlu (2003), the subject of which is on primary school administrators'' and teachers' perceptions of the learning organization, that the perception levels of school principals and assistant principals on the learning organization disciplines such as personal expertise, mental models, shared vision, learning as a team and system thought are higher than those of teachers. This result is similar to the result obtained in this study stating that primary school administrators' tendencies to perceive the school they work in as the brain metaphor are higher than those of teachers.

When the mean values regarding the groups' **cultural metaphor** perceptions are viewed, it is observed that primary school administrators ($\overline{x}$:3.71) expressed the institution they work in with the **metaphor of culture** at the "most" level but teachers' ($\overline{x}$:3.39) at the "medium" level (Table 1). The organization is the place where common actions are mostly actualized. The organizational climate, where the individuals to be included in common actions may share some common meanings and values, is created by school administrators. One of the strong sides of the cultural metaphor is that it points at administrators as the ones to create new changes and to actualize the decisions taken. Henceforth, the administrators' perceptions of themselves as the ones to commence and continue the change is a result consistent with their roles as administrators and this obtained finding show similar results to the findings of other studies. For instance, in the study conducted by Dönmez (2008) in order to describe the administrator metaphors in the education system, it has been concluded that school administrators are attributed characteristics such as leader, guide, and unifier.

Primary school administrators and teachers express the institution they work in with, respectively, the metaphors of politics, domination and machine at the "least" level; whereas the mean values of teachers are a little higher than the mean values of administrators, there is not a meaningful difference among groups (Table 1). When these three findings are evaluated altogether in view of both the perception of metaphors and the perception levels of teachers' being higher than those of school administrators, it may be said that the results obtained show inner consistency individually. Moreover, groups' or individuals' interests are the matters of fact in an organization according to the political metaphor. In other words, the "self" is one step forward in the organization. Employees can abuse and take advantage of others for the sake of their benefits, conflict of interest is abundant. Rivalry is evident in organizations. No cooperative action can be possible. According to the domination metaphor, there exist two groups in the organization; administers and the administered; the process continues in favor of administrators. In addition to a strict hierarchy, inequality and injustice are the matters of fact. Domination ways of organizations are similar to social imposition types. The meanings attributed to these three metaphors are more valid for the organizations established to make profit over exploitation of labor. Since schools serve for the purpose of creating social benefits, employees do not evaluate schools with this metaphor. These metaphors do not comply with humane values. Schools are the social institutions where humane values are created according to their purposes and which aim at providing students with these values.

The distribution of scores regarding the metaphor of organism which the participants used to express the institutions they work in according to their professional titles and Mann-Whitney U test results are given in Table 2.

Table 2: The distribution of scores regarding the metaphor of organism which the participants used to express the institutions they work in according to their professional titles and Mann-Whitney U test results

Metaphor	Title	N	Mean Order	$\overline{X}$	Ss	Mann Whitney U	Z	p
Metaphor of Organism	Administrator	24	210,98	4,05	1,03			
						2124,50	-3,137	,002
	Teacher	287	151,40	3,50	0,90			

As seen in Table 2, primary school administrators ($\bar{x}$:4.05) and teachers ($\bar{x}$: 3.50) generally express the institution they work in **more** with the **metaphor of organism**. Along with this fact, the difference among the group means are statistically (MW-U:2124,50, Z:-,137 and p:0,002) meaningful.

The fact that primary school administrators and teachers compare the institution they work in, in other words the school, to an organism can be said to be based upon the fact that there is a kind of dynamism compatible with the purpose and structure of schools. According to the metaphor of organism which pictures an organizational model where human needs are cared; physiological, psychological and social needs of organization members are important. In organizations which are resembled to the metaphor of organism, informal human relations are attempted to be developed and the needs of the organizations' employees and the needs of the organization are attempted to be integrated. Employees' embracing their jobs, their creating a feeling of possession towards the organization and perceiving the needs of the organization as their own needs can be accomplished with the human relations developed the values attributed to employees in the organization. In the organizations which are compared to organisms, what is meant by organism becomes the surrounding of the organization. School administrators' comparing schools more to an organism than teachers may be explained with administrators' feeling more responsible for these mentioned issues than teachers. Being inspired by this metaphor, educational institutions are defined as "open system" which receive inputs from their surrounding and give outputs. In the light of these explanations, the school administrators'' and teachers' using the metaphor of organism at the utmost level among the metaphors of organization and administration in explaining the institutions they work in can be explained by the reasons that school administrators and teachers are in close relationship with their surroundings, each other, parents, other employees in schools, directorates of national education as required by their jobs, and their level of responsibility for these mentioned groups is higher.

Due to the fact that descriptions of school are generally focused on the theory of open system, it may be said that a result has been achieved consistent with this finding of the study. Furthermore, this finding also shows consistency with the results reached in other studies. For instance, in the study conducted by Cerit (2008) which examined the metaphors attributed to teachers; teachers are perceived as the ones enlightening others and as guides, in other words, the ones who respond to the learning needs of students. Such a definition is explained as the relationship between organization and surrounding in terms of the system theory.

In another study by Saban (2004) where the metaphors of education faculty students towards the teaching profession are investigated, the meanings attributed to profession of teaching are the characteristics like supporting the student, being the guide, the one conveying information and shaping the student. A similar result was obtained in the study of Aydoğdu (2008) about the perceptions on ideal school. While the school is stated to be the place providing confidence and information; teachers are defined as the ones conveying information, providing confidence and protecting in the related study. All these are the results which can be explained in terms of the school – surrounding relationship and associated with the finding of the study which has been materialized through the metaphor of organism.

4. Results and Suggestions

In this study, with which metaphor primary school administrators and teachers express the institution they work in and whether their perceptions of metaphors differ in their professional titles were investigated. It was concluded in the study that primary school administrators and teachers generally perceive the institution they work in more with the organism metaphor. Even though both groups expressed the institution they work in with the metaphor of organism, primary school administrators' perceptions differ meaningfully from those of teachers.

The school's being compared to an organism in the study is about the schools' features of affecting and being affected. This obtained result is associated with the fact that education is societal, as well. Education's being societal cannot be explained with the cultural inheritance of future generations. Education is societal means how

much aims, targets and principles of education comply with societal priorities in addition to creating a common societal benefit and responding to the educational needs of the society. In the past few years, especially with the effect of globalism, education systems have started falling behind the needs of the society. Schools play the principal role in societal changes and integrated with its surrounding. Management-based approaches towards the school and education (for example, total quality management) damage the human-oriented side of education, and disconnects the societal bond of education. The school may gain meaning only if it is integrated into the society it resides in. Apart from that, they cannot go beyond being mechanical places technically where information is loaded.

The fact that primary school administrators and teachers do still view the school as an organism is an indicator of their not evaluating (or inability to do so) schools as managements, as well. When the subject is addressed within this perspective, many more studies are required on "what" are the meanings attributed to schools over metaphors by school administrators, teachers, parents, different parts of the society. The studies to conduct will shed a light to educational sciences and educational scientists. Metaphors include perceptions and could make the up-to-then not thought of blind spots to be visible.

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ORIGINAL EXPERIMENTAL METHOD TO EVALUATE CONCEPTUAL STUDENTS' KNOWLEDGE

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Abstract

This paper considers the experimental research of measuring interconnections between the basic concepts, acquired during completion of a course in Computer Architecture. A special computer technique for estimating of students' knowledge entirety was developed and successfully tested. An original mode of experimental data visualization is proposed. Specific pedagogical regularities were revealed by assessing how students digested the main concepts of the course.

Keywords: concept; relation; knowledge structure; entirety; education; course; assessment.

Introduction

The accepted classification, described in well known book of Anderson & Krathwahl (2001), itemizes several different kinds of knowledge: factual, conceptual, procedural and meta-cognitive. The simplest tests, often used for an assessment of students' knowledge now, can amply estimate only the first one. Practical evaluation of conceptual knowledge, inclusive fundamental categories, their links and structure, is much more complex, but much more important (see Kay, 1995 for instance).

This work makes an experimental attempt to measure the interconnections between the basic concepts, acquired during completion of a course in Computer Architecture. The special computer method was developed and checked in order to estimate the rate of entirety of the system from basic concepts, which students acquired by studying the material. By term *entirety* (wholeness, integrity) here we mean the presence of essential links between basic concepts within a course, which student perceives and shows during assessment. Several gauges that can characterize student's knowledge entirety were proposed and compared; new complex method to visualize the research results is described. Some pedagogical regularity was discovered during the analysis of digesting the course's foundation.

The study started in 2008 and at present we have results for 7 academic groups of students. This paper is fully devoted to consideration of experimental method and its preliminary results for the first group; results for other groups need further detailed discussion.

Initial aim of the research was the surmise that an entirety of student's knowledge may be among effective characteristics of learning results. As follows from the proposed statement, those students, who see more associations between studied terms, have a higher rate of knowledge entirety, and, hence, digested this learning course better. The confirmation of this thesis would be very useful for learning process, especially for computer assessment of learning achievements.

Organization of experiment

Concept base

Using existing textbooks (see books Tanenbaum, 1998; Hamacher, Vranesic & Zaky, 2001; Cilker & Orlov, 2004 and Broydo & Ilyina, 2006 for example) and personal teaching experience (Eremin, 2003), the author formed a list of basic terms and concepts. It was assumed, that the rate of digesting and mastery of these terms verified the success of the course.

The full list of concepts for the architecture course, used as experimental base, contained more than 120 terms. The most general concepts – like *computer*, *software* and *hardware*, *theoretical foundations* etc., complemented by the terms that expand the previous ones – *operating system*, *processor*, *memory*, *DMA*, *principle of hierarchy*, *byte* and many others, were included in this base. Several terms from related disciplines such as microelectronics, logics and number notations were added into the list too. Contrary, the list did not include the names of concrete operating systems, external devices and their manufacturers, and other similar data, less essential from the position of learning the main course's regularities. Using the standard terminology from object-oriented programming, we may say, that classes of the concepts were under consideration, but not their instances.

Experiments showed that obtained list was large enough, so competent students usually used a little more than the half of it in their answers. So the selected set of terms was found to be sufficient for assessment.

The next step was to analyze the links between the selected terms. Non-trivial result of this work consists in the fact, that a limited set of relations was enough to describe the subject. The final set consists of standard relations such as, for example, *whole/part* or *class/subclass* as well as several links, specific for the course, like *base* (*principle of hierarchy – base – memory*) or *connection* (*controller – connection – bus*). The full table of relations with concrete examples for each can be found in author's publications (Eremin, 2007; Eremin, 2008): it contains only 11 base associations.

These results of analysis, published earlier, are of independent interest. From the point of view of this paper, constructed lists are original data, which is prepared to use during the experimental testing of student mastery of the knowledge domain under consideration. As knowledge control was realized with the help of computer, both lists (of concepts and relations), being input data for control program, were saved in the form of text files.

Computer software

To check students' knowledge, the author developed two computer programs, realized in Delphi programming environment.

The first program was written to check the associations between the concepts that students have and fix them in the text file, suitable for further computer analysis. Its window contains three lists (see Fig. 1), using which a student forms a relation looking the following way:

term 1 – relation – term 2

(for instance, the relationship *processor – whole/part – register* can be easily decoded as phrase "processor and register are linked by association whole/part" or, more exactly, "register is a part of processor"). After student constructs a linked pair of concepts, s/he fixes it clicking the control button "Fix this link". Then the constructed line is immediately added to multi-line text field, arranged in the bottom of the program window.
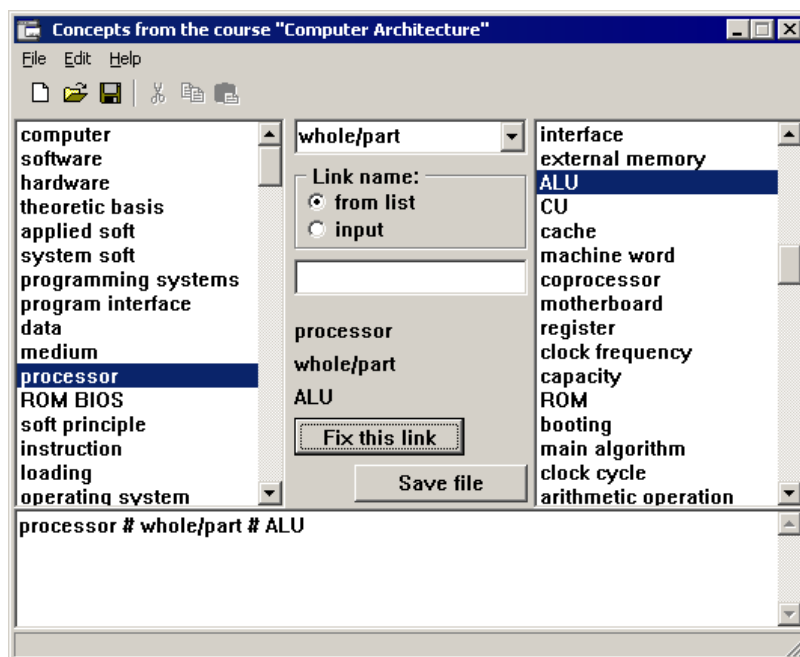
Fig. 1. Screenshot of testing software

Except the list of associations, loaded from pre-arranged file, the program covers a potential possibility to input additional (not provided by the author) name of relation between the terms: special radio buttons and text field in the center of the window allow such input. As experiments showed, students did not use this alternative, preferring to select link type from the available list.

When a student finishes his/her work, the results are saved in a text file, designed for the further analysis. All files were checked for correctness by the experimenter: distinctly wrong lines were erased from every result file. It was the only "manual" operation during the processing of testing results – all others were done by computer software automatically.

At the last step all checked files with the results of knowledge control fall under computer processing by means of the second program. Its main aim was to educe linked groups of concepts for every student. For example, when computer, processing a file, finds associations *functional units – class/subclass – processor*, *functional units – class/subclass – memory*, *functional units – class/subclass – input devices* and *functional units – class/subclass – output devices*, it joins all five concepts, mentioned there, into one group. Later on some other terms will be added to this group: for instance, relations *processor – whole/part – ALU* and *processor – whole/part – CU* join two new terms to the group – *arithmetic and logic unit* and *control unit*.

In ideal case all concepts of the course are interrelated; test running of the program with thoroughly prepared author's file, built according to full results from publication (Eremin, 2007), confirms this. But experiments show, that all real students' files represent more scattered picture, which consists of several isolated groups of concepts, and some groups are very small (2-3 terms). Every such small group must be interpreted as a separate fact that student does not associate with other facts from the course. You must note that an increased rate of fragmentation indicates student's knowledge is sparser.

Described program helps experimenting teacher to analyze the results of knowledge checking and output different statistics. During experiments software was modified for drawing graphic representation of calculated data.

Progression of experiment

The experiments estimated knowledge of students, who studied on the physical faculty of our university. Knowledge control took place twice: at the beginning and at the end of semester, that is to say before and after the learning of the referenced discipline "Computer Architecture". Unfortunately, the number of students, who learned the course and took part in the experiments, was not too large.

Students did not know that the aim of the experiment was entirety of concepts' system because it could artificially improve their results. They were simply told that testing tries to verify the rate of digesting the material. Their instruction was not to think about the parameters of evaluation, but just try to demonstrate digested knowledge the best way they could.

As students did not study the types of relations between concepts before, they were given a special table (with all types of links and numerous examples for each one) before testing. The results showed that it was insufficient and practically all students unsatisfactorily differentiated the types of links. Often they even missed classical relations *whole/part* and *class/subclass*, not to mention other link types. The aim of the experiments was to estimate the general entirety of the basic concepts – so from this point of view concrete kinds of links are not too important. Such effect became a motive to neglect the errors in this part of the task and just fix the existence of relation but not its type. This simplification of method notably facilitated the processing of results and ultimate analysis.

The time for implementation of the task was not limited, the work finished individually at students' will. Presumably, it brought some uncertainty into experiment, because some students really indicated all interrelations they knew, but others just got tired and finished their work. The task execution employed about an hour in average. According to my observation of computer testing, the students' reaction was mainly neutral ("we just get one more task"), so the checking procedure did not lead to any difficulty.

Discussion of results

Selection of gauge

Let us discuss what parameters can claim to be the characteristics of student's knowledge entirety.

Primary parameters are evident: *total number of terms* and *total number of links* between them; they can be easily counted from any student's file with the results. The ratio of these values, which means *average number of links per one concept*, also may be introduced into consideration. It is evident, that the more these values are, the better student mastered the material.

Another set of parameters may be built while arranging interrelated terms into groups. We can offer here *total number of concepts' groups* (this value must be as small as possible, in ideal case all terms must form the only group) and *size of the largest group* (this factor we want to see as large as possible). Additionally we can divide total number of terms by number of groups, i.e. get *average size of group*, which must be large when student learned the course profoundly.

All listed above characteristics were calculated for every student, and then compared for testing before and after the course. **Average number of terms per group** T/G seems to be the most suitable measure for knowledge growth. For the first experimental group this parameter varies from 3 to 13; essential changes of parameter make its experimental measure more reliable (Rogosa & Willett, 1983).

Diagrams of concepts' interconnection

For demonstration of entirety of concepts' system new original form of diagrams was proposed by the author (Fig. 2). This "spotted" diagram is organized the following way. Pairs of columns we see on it represent input and output testing (often called *pretest* and *posttest*): the right bar in every pair indicates final results. Height of any column is proportional to the number of concepts that student selected during assessment. Every dot in a column means one individual concept. All columns are divided into several areas; each of them represents a group of interrelated concepts, learnt by every student. For better visibility, neighbor areas are painted in white and gray colors. Number of the multicolored areas and their size characterize the rate of grasped data's scattering and indicate knowledge fragmentation. The black region in the bottom, which is always the largest, symbolizes the kernel of student's knowledge. As you can notice, all groups in every bar are regularized by size, so the smallest groups from 2-3 concepts (such groups may be interpreted as separate facts out of common picture) are always placed to the top of the bar.
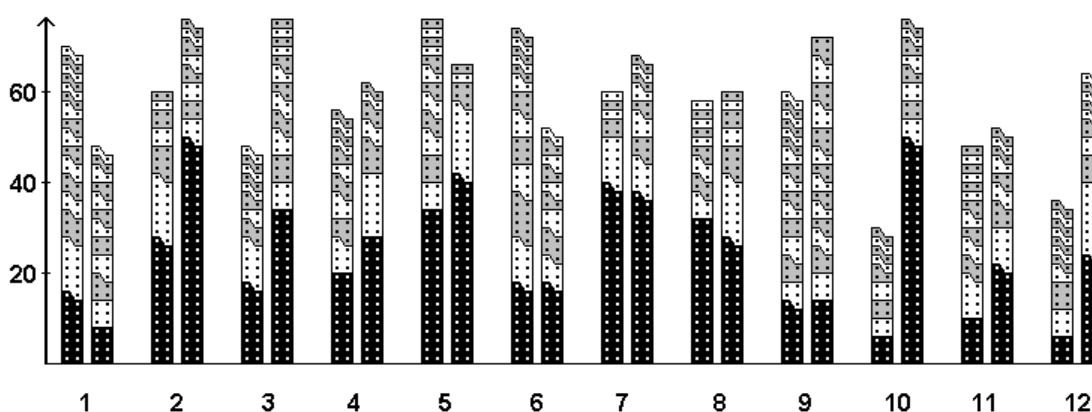
Fig. 2. Diagram of concepts' interconnection

In ideal case the diagram bar must be heterogeneous black bar (consisting from the only group), and its height must include all the concepts of the course. Real picture, as you can see from Fig. 2, is far from ideal: students' knowledge comes apart on several independent groups of terms and the highest bar includes less than 70 concepts from more than 120 ones that were offered in the task.

It's important to mention that students on the diagram are rank-ordered according to some rating: the criterion of such arrangement was *time of finishing all the tasks*, given by the teacher. The students with small numbers finished the course earlier; hence they are supposed to demonstrate better results in learning the course content. In opposite, columns for "the slowest" students form the right part of the picture. My subjective impressions and interview with students during learning process confirm the acceptability of selected criterion as measure of learning success.

Examining Fig. 2, we may get several practical conclusions about successfully digesting of the course content. The most evident of them is that all weaker students, who have large numbers, improved the entirety of their knowledge. Such phenomenon was earlier reported by Libarkin & Anderson (2005). We must emphasize, that growth we see for low-perform students is not error caused by known *regression to the mean* statistic effect (Barnett, van der Pols & Dobson, 2005): students' level is evaluated independently in our research, but not from pretest scores.

Careful person may cognize, that there are some identical columns on Fig.2: for instance, compare right columns for students 2 and 10. This means that one of them cheated: just copied the result file from other student. Unfortunately, I noticed it too late to enforce students to redo their work. But for all further experiments special anti-cheating measures were developed.

Conclusion

The computer method for experimental research is offered, which allows to study the entirety of system of basic concepts after educational course learning. This method was tested on students' learning the course content in "Computer Architecture" and the results showed its efficiency. This paper also describes a new original visual form of data representation, which clearly demonstrates the structure of interrelations between concepts in student's knowledge. Some interesting pedagogical results were discovered during the research, for instance, how knowledge entirety depends on the level of student's background. Further experiments with improved testing technique already brought more detailed results – they are worth separate extended discussion.

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PARENTAL STRESS AND DAYCARE ATTENDANCE. DOES DAYCARE QUALITY AND PARENTAL SATISFACTION WITH DAYCARE MODERATE THE RELATION BETWEEN FAMILY INCOME AND STRESS LEVEL AMONG PARENTS OF FOUR YEARS OLD CHILDREN?

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Abstract

This study examine whether quality of daycare and parental satisfaction with daycare moderate the relationship between family income and parental stress. The sample consisted of 163 families of four year old children (Montreal), who have attended regulated daycare full time since 12 months old. Results indicate that parental satisfaction with daycare is a significant predictor of parental stress and that low quality of care moderates the relation between low family income and high parental stress. The results underline the importance of interventions to enhance quality in daycare settings, particularly in a childcare network largely funded by the government.

Keywords: Parental Stress; Daycare Quality; Family Income; Parental Satisfaction with Daycare.

Introduction

Parental stress is a strong predictor of difficulties in children's development (Attree, 2004). When parents experience chronically high levels of stress, their parenting practices are less appropriate (Huang et al. 2005; Lyons, et al., 2005). At the same time, their children's behavior is more problematic (Crnic, Gaze, and Hoffman, 2005) and their level of development less optimal (Attree, 2004). Parents who report a larger number of people in their social support network tend to have children who exhibit fewer developmental and behavioral problems (Ceballo and McLoyd, 2002; Oravecz, Koblinsky and Randolph, 2008). Some research has also indicated that the social support available to parents of young children can help to reduce parental stress levels (Lyons et al., 2005) and improve child outcomes. These relationships between social support and parental stress are stronger for families living in poverty (Kim-Cohen et al., 2004).

Daycare may provide a certain kind of social support to families. Daycare is increasingly important in the lives of today's families; parents who work full time increasing rely on regulated daycare and prefer this type of care for their children (ISQ, 2011). In Quebec (Canada), nearly 67% of children aged 0-5 years old attend regulated daycare settings. One goal of the Quebec's regulated nonprofit educational childcare network is to promote equal opportunities for all children (Gouvernement du Québec, 2007). But what about children whose parents live in conditions of economic insecurity (low income)? Daycare may provide an important source of emotional, instrumental and informational social support (Lepage, Vézina and Desrosiers, 1990) to low-income parents, which could in turn contribute to lower levels of parental stress. If so, daycare attendance could act as a protective factor for low-income families. Parental satisfaction with daycare may also play a role in parenting stress. When parents are worried about what is going on in their child's daycare, they probably feel more stressed; when parents are satisfied with daycare, they are likely less stressed about their children (Sund & Ostwald, 1985).

It is important to note that the quality of care is key to insuring the best outcomes for children and families, and that quality may be especially important for families from less advantaged backgrounds (Belsky, 2006, Lambert et al. 2006; Papero, 2005). Research has shown that daycare settings offer varying degrees of quality, and that family income and daycare quality interact to influence child and family outcomes. Notably, high quality daycare has been associated with improved outcomes for children living in poverty, while poor quality of care has been linked to worse outcomes (Burger, 2010). These relationships are present but not as strong for middle income families. This study explores these issues by examining whether quality of daycare and parental satisfaction with daycare moderate the relationship between family income and parental stress.

Methods

2.1. Subjects

The sample consisted of 163families and their four year old children who have attended regulated daycare full time since the age of 12 months old (M = 12.77, SD = 4.61). They were recruited from the Montreal metropolitan area between 2009 and 2010.

2.2. Measures and procedures

Measurements were taken at daycare and at home when children were 4 years old. During a home visit, mothers completed questionnaires about the selected variables. Daycare quality was observed at the same time.

Measures of the *socio-demographic characteristics of families* included age, income, education, marital status, language, country of origin of parents. Family income was reported by parents and was compared to low-income thresholds established by Statistics Canada (2004), a standard which takes into account the number of people living in the household and the area of residence. We determined whether families were situated above or below the poverty line according to these thresholds. Family structure (single-parent or two-parent family) and level of parental education (lower or higher than a high school diploma) were also categorized into two categories.

Parental stress was measured by a version of the Parental Stress Index (Bigras et al., 1996), designed for parents of young children (0 to 5 years) and validated for Québec (Lacharité et al., 1992). It consists of 101 questions divided into two broad categories of stressors: those related to the child (distraction / hyperactivity, enhance parenting, mood, parent acceptance, adaptability, degree requirement) and those linked to the parent (sense of competence, commitment to the child, role limitations, depression, relationship with spouse, social isolation, physical health of the parent). The questionnaire demonstrates good psychometric properties (Lacharité et al., 1992).

Parental *satisfaction with daycare* was evaluated by a questionnaire comprised of three scales (Emlen, 1999). The scale "satisfaction of parents with daycare" consists of 39 items rated on a Likert-type response scale (1 = never, 5 = always) and measures parents' perceptions regarding health and safety in the daycare environment. A second scale includes 12 items providing information on the "daycare's flexibility." A Likert-type scale (1 = strongly disagree to 4 = strongly agree) is used to rate the level of flexibility of hours of care based on the parent's work schedule. Finally, the scale "parent-teacher communication," composed of five items and also rated on a Likert type scale (1 = never to 5 = every day), measures the level of communication and emotional support between parent and educator.

Process quality was assessed using the EQOS, center-based and family-based daycare version (Bourgon et al., 2004b, c). A trained research assistant completed the instrument after 5 hours of observation (from 7:45 am to 12:45 pm on one selected day). A second assistant was present for 15% of observations to insure interrater reliability. The EQOS includes 153 items divided into four dimensions: 1- physical setting (44 items), 2-

activities (30), 3- interaction educator / children (49), 4- interaction educator / parents (7). Each item is rated on a four-point scale (1 = poor, 2 = minimal, 3 = good, 4 = very good). Global quality of care is indexed by computing the mean score across all items. Analyses of internal consistency of the center-based and family-based daycare versions show alphas ranging between 0.81 and 0.93 for each of the four dimensions (Drouin et al., 2004).

Results

A hierarchical regression analysis was conducted to verify which daycare characteristics best predicted parenting stress and to examine whether income level interacted with these predictors. Preliminary analysis indicated which family and daycare predictor variables were correlated with overall parenting stress scores. These predictive variables included family's income level, parental satisfaction with childcare, and global quality of care, as well as several interaction terms for income level with other daycare characteristics. Variables with predictive power were entered into a hierarchical regression in which the most proximal influences on parental stress were entered first, followed by more distal ones. Table 1 presents the descriptive statistics for and correlations among the final variables selected for the model.

Table 1. Means, standard deviations, and intercorrelations for parenting stress index (mothers scores) and family income level, satisfaction about daycare and overall process quality scores.

Variables	Mean	SD	1	2	3	4	5
1-Parenting stress a	217.72	33.30					
2-Income b	0.20	.40	.19**				
3-Satisfaction c	223.01	17.80	-.31***	-.01			
4-Quality d	1.70	.07	-.22**	-.07	.18**		
5-Income X Satisfaction	-0.02	1.01	.21**	.02	-.38***	-.18**	
6-Income X Quality	-0.48	1.45	.18**	.99***	-.01	-.08	.03

$*p < .05$, $**p < 01$, $*** p < .001$. Note : $n = 163$,

[a] Mean scores of Mother Parenting Stress Index total score, [b] -1 for income above the low income threshold level and 1 for income over the threshold level, [c] Mean score of parental satisfaction about daycare (mother scores), [d] Log of overall process quality scores

To predict overall parenting stress, the variable "income level" was entered in the first block in the regression as a variable representing family vulnerability, the most proximal characteristic. The second block included the variable "overall satisfaction with daycare," considered to be the next most proximal environmental variable. The third block included "overall process quality." The last block included interaction terms representing the interaction of income level with (1) "overall satisfaction with daycare'' and (2) "overall process quality of care." Some variables (parent's education, marital status) were excluded from the regression analysis because of multicolinearity (Tabachnick and Fidell, 2001). The results of this hierarchical regression analysis are presented in Table 2.

Table 2. Summary of hierarchical regression analysis for variables predicting parenting stress index scores for mothers of children in daycare at 4 years old.

Variables	B	SE B	ß
Step 1			
Income a	15.48	6.40	.19*
Step 2			
Satisfaction b	-.57	.14	.307***
Step 3			
Quality c	-70.96	34.61	-.15*
Step 4			
Income X Satisfaction	3.34	2.60	.10
Income X Quality	-99.85	39.39	-4.33*

$*p < .05$, $**p < 01$, $*** p < .001$. Note : $n = 161$, $\Delta R^2 = .03$ for Step 1 (p < .05); $\Delta R^2 = .09$ for Step 2 (p < .001); $\Delta R^2 = .02$ for Step 3(p <.05); $\Delta R^2 = .04$ for Step 4 (p <.05).

[a] -1 for income above the low income threshold level and 1 for income over the threshold level, [b] Mean score of parental satisfaction about daycare (mother scores), [c] Log of overall process quality scores.

The first step of the regression equation suggests that "income level'' is related to mothers' overall stress scores, explaining 3.5% of its variance, F(1, 161) = 5.86, $p = .017$. The Beta coefficients indicate that families below the low income threshold have higher stress scores (b = .187, $p = .017$). The second step of the regression equation reveals that ''overall satisfaction with daycare'' relates to mothers' stress scores, F(1, 160) = 11.89, $p = .000$, adding on its own 9.4% to the variance already accounted for by income level. The negative Beta coefficients indicates that lower satisfaction with daycare is associated with a higher stress scores for mothers (b = -.307, $p = .000$). The results for the third step of the regression indicate that the "overall process quality score" is also related to mothers' stress scores, F(1, 159) = 9.49, $p = .000$, even after controlling for income level and satisfaction with daycare, adding on its own 2.2% to the variance already accounted for by the other variables. The negative beta coefficient indicates that lower overall quality process scores are linked to higher mother stress scores (b = -.153, $p = .042$). The results of the final step of the regression show that a significant proportion of mothers' stress scores (3.9%) is explained by the interaction of income level and process quality, $F(1, 157) = 7.42$, $p = .000$. Figure 1 shows that for families in good quality daycare, parenting stress did not vary regardless of family income level (above or below the low income threshold). On the other hand, when quality scores were lower (below the good quality level), low-income mothers reported higher levels of parenting stress than mothers whose family income was above the low income threshold.
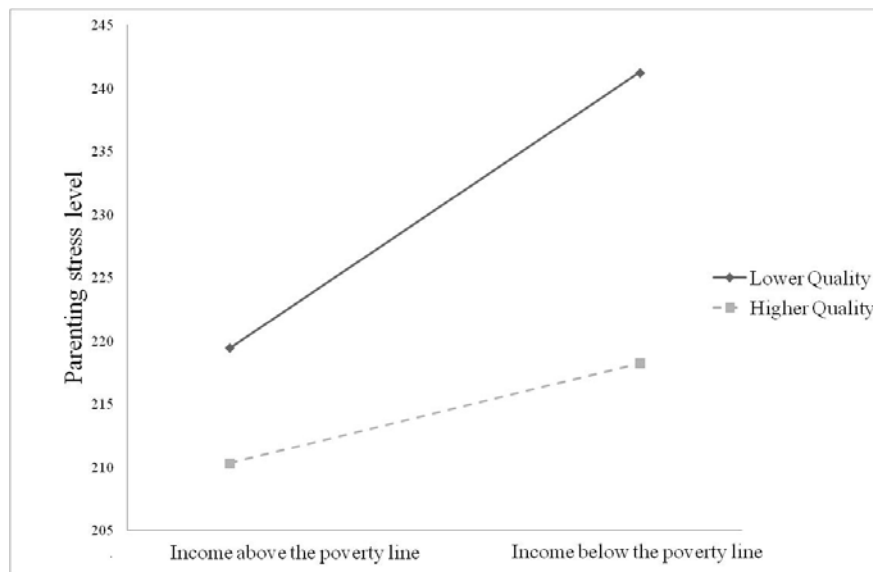
Figure 1. The relation between parental stress and family income level as a function daycare process quality

Discussion

These results suggest that low levels of daycare quality are associated with higher levels of parental stress for low-income mothers. This relation confirms results reported by previous studies (Burger, 2010) pointing to low quality of care as a key variable in outcomes for families living in poverty. In addition, correlations between the process quality scales and the parental stress index suggest that higher quality of relationships between educators and children are associated with lower parental stress for low income families. It is possible that these characteristics of the daycare environment provide emotional and informational support for parents, contributing to lower levels of stress. However, the proportion of variance explained by this interaction is small; indicating that other variables, such as parental satisfaction with daycare, remain important predictors of parental stress.

Correlations between parental satisfaction and parental stress variables indicate that a major part of the scales centered on children are linked with parental stress levels. For example, mothers who reported that the educator has the ability to answer the needs of their child also reported less parental stress. Studies show that children from less advantaged backgrounds are less likely to attend daycare either because daycare services are more difficult to find in their immediate environment or because their parents do not seek out these services (Bigras, Pomerleau, Malcuit & Blanchard, 2008; Denis et al., 2005; Magnuson et al. 2004; Parish, et al., 2005). Children from low-income families tend to have access to lower quality daycare (Japel et al. 2005; Marshall, 2004). Future studies should explore the reasons why lower income parents are more likely to use lower quality daycare, and what factors and interventions might improve quality in these settings. Research should also examine the factors that are associated with parental satisfaction with daycare. However, the correlational design of our study prevents us from inferring causal relationships among these variables. For example, it is also plausible that families who feel less stressed live in more resource-rich neighborhoods where daycares offer higher quality.

Conclusion

Ours results indicate that parental satisfaction with daycare is a significant predictor of parental stress and that low quality of care moderates the relation between low family income and high parental stress. The results underline the importance of daycare quality and of parental satisfaction in regulated daycare and the

importance of interventions designed to enhance quality in daycare settings where levels of quality are low. These results are particularly important in a context where a regulated nonprofit childcare services network is largely funded by the government in order to insure equal opportunities for all.

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PERCEPTION OF ROMA PEOPLE BY PROSPECTIVE SECONDARY SCHOOL TEACHERS IN THE CONTEXT OF GENERALIZED ETHNICIZATION OF PROBLEMS RELATED TO NON-ASSIMILATED PART OF THE ROMA POPULATION

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Abstract

The paper deals with the perception of Roma people by Czech students of education expected to perform future work with students where it is necessary to create equal opportunities for all students, regardless of affiliation to any group. In this short research we tried to capture the pedagogy students' degree of ethnicization of problems associated with the non-assimilated part of the Roma population. These values were compared to similar studies that capture the attitudes towards the Roma people not in terms of certain occupational groups, but in terms of population of the Czech Republic. Our research found significant differences in perception of the Roma in cases where the respondent evaluates the Roma simulacrum which s/he created by means of generalized ethnicization of problematic situations associated with the Roma and disseminated through the popular discourse of the Czech population, compared to cases in which the Roma are evaluated after a previous separation of character features which they are attributed by popular discourse, regardless of whether they are Roma who have adopted the values of the majority or not.

Keywords: Attitude; ethnicization; inappropriate generalization; popular discourse; Roma people; secondary school teachers; social exclusion; symbolic exclusion.

Introduction

The research presented herein shows the perception of the Roma on the part of prospective secondary school teachers, i.e. current students of bachelor study program Specialization in Pedagogy, particularly full-time as well as combined studies in Teaching of Vocational Subjects and Teaching of Practical Subjects and Vocational Training, who will after completion of their studies teach in schools that provide education at ISCED 3A or ISCED 3C levels. The paper maps the social aspects of ethnicization of contemporary issues related to broader social problems associated with those socially inadaptable communities whose members include a significant representation of Roma individuals.

This paper seeks to point out the impact of ethically questionable ethnicization of social problems associated with the lifestyle non-assimilated members of Roma communities, particularly in terms of the share of such ethnicization in the symbolic exclusion of Roma people as well as with respect to misleading interpretations of the positions of the majority population towards the Roma and with respect to non-systemic preference for Roma integration at the cost of Roma assimilation into mainstream society. Czech Government in its Report on the situation of the Roma minority summarizes the current situation as follows: „*The severity of problems associated with the Roma community is mainly due to the fact that a considerable part of the Roma minority in the Czech Republic belongs to the lowest social level, with high unemployment rate, low education level and taking into account the total population it has a disproportionately large share of crime. In addition, on the one hand the*

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share of Roma population in the total population increases, on the other hand it engages in processes inherent to the majority of society with difficulty." (Government of the Czech Republic, 2012).

Research methodology

The research sample included 144 undergraduate students of the first and third year of bachelor degree program Specialization in Pedagogy, preparing for the profession of a secondary-school teacher. These were 38 men and 106 women of whom 29 were aged under 22 years, 32 aged 23 to 24 years, 20 aged 25 to 26 years and 63 aged over 26 years. Among the respondents there was no Rom.

As a research method two consecutive questionnaires were used, each of them, apart from questions concerning age and sex, included two research questions.

The first questionnaire included a modified question from the Social distance scale by Emory Bogardus "I would willingly admit members of each race to my street as neighbours" (Kleg & Yamamoto, 1998, p. 188) which we modified so as to meet our needs to be also comparable with other findings in this area, i.e. "Would you mind having Roma people as neighbours?" with options on the following scale: definitely yes, rather yes, rather no, no. Together with this question the respondents were asked to what extent they agreed that the statement "Roma people often steal" corresponds to reality.

In the second questionnaire the respondents were posed a question whether they would mind having a decent Roma neighbour who has a job, does not live on social benefits, has no trouble with the law and raises well their children, who go to school. Furthermore, a question was posed whether they would prefer such a Rom as a neighbour rather than a socially inadaptable white citizen of Czech origin and Czech nationality if they had the choice.

Results and discussion

The questionnaire survey brought findings which are partly comparable with previous studies carried out by other authors in the Czech Republic. Rabušic (2000) presents results of research in which the respondents (a representative sample of Czech population over 18 years old) were presented with the following task: "On this list there are various groups of people. Could you please select all those you would not want to have as neighbours?" While in 1991 (n=2110) approximately 75 % of respondents selected Roma people, in 1999 (n=1908) it was 40 %. In a 2000 IVVM's (Institute for Public Opinion Research) survey, 80 % of respondents selected by quota sampling chose Roma people in their response to the same question. In the last data collection of a longitudinal study European Value Study in 2008, 56.9 % (n=1821) responded to the question "*On this list are various groups of people. Could you please tell me any that you would not, generally speaking, like to have as neighbours?*" they would not like to have a Roma person as a neighbour (Rabušic, 2010). In our research, approximately 86 % would definitely mind or rather mind having a Roma person as a neighbour (see Table 1).

Table 1. Number of responses to the question: Would you mind having Roma people as neighbours?

Response	n_i	p_i (%)	+ (%) /- (%)
Definitely yes	48	33.3	86.1
Rather yes	76	52.8	
Rather no	17	11.8	13.9

Definitely no	3	2.1	

Although it may seem at first glance that among our respondents there is a slightly higher percentage of those who would mind having Roma people as neighbours than in the general population, this should not be deduced mainly because of a different set-up of the questionnaire. In compared research by Rabušice (2000), the respondents were presented with a list containing the following: alcoholics, drug addicts, criminals, Roma, left-wing extremists, right-wing extremists, people with HIV, emotionally unstable, immigrants, homosexuals, Muslims, another race, large family, Jews. The mentioned surveys at least partially differentiated for example between a group of Roma people and a group of criminals, while our questionnaire supposes respondents' association between membership of the Roma community and criminal behaviour. We attach the existence of this association to the influence of the popular discourse regarding Roma people associated with generalization and ethnicization of problems presented in media related to coexistence with those Roma people who have a lower degree of social adjustment with respect to the values of the majority population (Jankových, 2011). The existence of such association is subsequently confirmed by the results of the respondents' answers to the second question.

Since we are interested in the relationship between the frequencies of the above answers to the question "*Would you mind having Roma people as neighbours?*" and the contemporary popular discourse regarding the Roma, the respondents were posed a second question, which reflects a part of popular discourse regarding the Roma captured for example in a popular joke: *Two Roma meet and one asks the other: "Where are you going?" "To Tesco to buy a sweater." "If they don't catch you, buy one for me too."* (source: http://www.superanekdoty.cz/cikani-romove/stranka-8/). It follows from answers we obtained that the statement "Roma people often steal" fully or mostly corresponds to reality according to nearly 94 % of respondents in our survey (see Table 2).

Table 2. Number of responses to the question: In your opinion, the statement "Roma people often steal":

Response	n_i	p_i (%)	+ (%) / - (%)
Fully corresponds to reality	30	20.8	93.8
Mostly corresponds to reality	105	72.9	
Rather does not correspond to reality	7	4.9	6.3
Does not correspond to reality at all	2	1.4	

The popular discourse is closely related to the symbolic social exclusion of Roma people. In a pilot study preceding this research, we found a symbolic link between social exclusion of Roma people and some characteristics of Roma people traceable in popular discourse; one of these characteristics was precisely the concept of Roma people as individuals who often commit theft (Jankových, 2012).

However, it is necessary to take into account that the two questions of our questionnaire do not address the real relationship of the majority population and the Roma, but the relationship of the majority population towards Roma simulacrum which is part of the symbolic social exclusion by means of demarcation between "us" and "they" (Radostný, 2005).

Table 3. Correlation coefficients of responses to question 1 and question 2 from the first questionnaire.

			Question 1: *Would you mind having Roma people as neighbours?*			
			Definitely yes	Rather yes	Rather no	Definitely no
Question 2: *In your opinion, the statement "Roma people often steal":*		Fully corresponds to reality	**_0.4716_**	_-0.3711_	-0.1347	0.0449
		Mostly corresponds to reality	_-0.3315_	**_0.4252_**	-0.0676	_-0.2393_
		Rather does not correspond to reality	-0.1598	-0.1096	**_0.3176_**	**_0.1931_**
		Does not correspond to reality at all	-0.0839	-0.1255	0.1405	**_0.3982_**

Correlation Coefficients, using the observations 1–144; 5% critical value (two-tailed) = 0.1637 for n = 144

Table 3 shows an obvious correlation between the degree of belief that "Roma people steal" and the rate of rejection of the Roma as neighbours. It could also be concluded that the stronger the respondents' association between the membership of the Roma community and criminal behaviour (here represented by a tendency to steal), the stronger they refuse the Roma as neighbours. This judgment, however, does not follow directly from the survey carried out. At the same time our survey did not take into account the existence of any respondents' generalized personal experience with Roma people or with coexistence with Roma people, therefore we only assume the existence of mediated experience with the Roma simulacrum transmitted via popular discourse.

In order to distinguish the general relationship of the majority population towards Roma people not burdened by the generalizing characteristics stemming from ethnicization of problematic cases associated with the Roma, in the following question we introduced a Rom who lacks the characteristics that form part of the symbolic exclusion. The responses to the question set out in Table 4 are almost inverse compared to responses to question listed in Table 1.

Table 4. Number of responses to the question: Would you mind having a decent Roma neighbour who 1. works, 2. raises well their children, who attend school, 3. does not live on social benefits, and 4. has no trouble with the law?.

Response	n_i	p_i (%)	+ (%) / - (%)
I would definitely mind	8	5,6	22,2
I would rather mind	24	16,7	
I would rather not mind	52	36,1	77,8
I would definitely not mind	60	41,7	

In order to subsequently assess the impact of negative characteristics which the society attributes Roma people as a whole on the basis of symbolic social exclusion, we attributed these characteristics to a person identified as "a white fellow citizen of Czech origin and Czech nationality", and we let the respondents choose between him and a Rom who lacks these characteristics. Table 5 shows the results of the survey.

Table 5. Number of responses to the question: If you could choose your neighbour between a decent Roma or a socially inadaptable white fellow citizen of Czech origin and Czech nationality who does not work, sends children to steal instead of school, lives on benefits which they regularly spend on alcohol and gambling, and often have problems with the law not only because of their aggressiveness ... who would you chose?

Response	n_i	p_i (%)	+ (%) / - (%)
Definitely the decent Rom	83	57,6	96,5
Rather the decent Rom	56	38,9	
Rather the socially inadaptable white Czech	5	3,5	3,5
Definitely the socially inadaptable white Czech	0	0,0	

Conclusion

The response to the question "Would you mind having Roma people as neighbours" is related particularly to the degree of symbolic social exclusion of the Roma. What the respondents in response to the above question perceive as a Rom is mainly the Roma simulacrum which consists primarily of a mental image of a Rom expressed by means of symbolic social exclusion in popular discourse regarding Roma people. From this perspective, this research question may not be interpreted in terms of degree of racism (anti-Gypsyism) or social intolerance of the society.

Based on our research, we observe confirmation of the information obtained from the pilot study conducted before the research on the basis of non-standardized interviews. This is, through the Roma simulacrum the Roma people are often, at the level of symbolic social exclusion, perceived primarily as Roma who often steal (participate in minor thefts) or are involved in other crimes, including violence. Moreover, they are perceived as Roma who do not have a job or work illegally abusing social benefits, which they spend in a manner different

from what they are intended for and they are perceived as Roma who do not participate in a future change of the current state through proper education of their children and their support of education needed for integration into the society in a manner which is considered usual by the majority society.

It is highly probable that the formation of such image of Roma people owes to media and subsequently popular ethnicization of problems associated with those socially excluded communities that are mainly inhabited by Roma people who were integrated into society in a manner that does impede the traditional Roma way of life before the ban of itinerancy in 1958 (Hajská, 2011) which provided them with only minimal resources for their existence, and thus were supplemented and replaced by illegal means of livelihood, such as theft (Nečas, 2002).

It is apparent that the media image and popular discourse stemming from it based on the generalization of socially inadaptable behaviour of a certain part of the Roma people leads to ethnicization of the issue of coexistence of the majority with socially inadaptable citizens, which harms the interests of that part Roma population which was able to assimilate into Czech society and adopt its values, way of life and caring for children. Such interests may then be prejudiced at different levels of education if a Roma pupil or student is perceived by the teacher and classmates through their ideas about Roma simulacrum.

Problematic is also the politicization of all issues related to the coexistence of the majority and the Roma minority. In our research, we choose to refer to the Roma as "Roma" in particular with regard to the cult of political correctness. However, we are not sure whether the insistence on politically correct expression regarding Roma people does not rather lead to frustration of a certain part of the population, which in result may turn against Roma people.

Enforcement of politically correct expression tends to lead to opposing reactions consisting of advocating the refusal of politically correct language, which can be captured for example in the treatise by Jan Štěpán (2007) on Basic problems of reasoning: *"I object to the accusation that I use the so-called politically incorrect word "Gypsy" the following way: In Gypsy language, Rom means the same as man in Czech but I am a man too, although I am not a gypsy. Similarly in Eskimo language, Inuit means the same as man in Czech; I am a man, I am not an Eskimo. Thus, as we have no reason to start calling Eskimos Inuits (and no one is offended), there is no reason to stop using the word Gypsies (although some are offended)."*

Just as we more and more often hear of the failure of the multiculturalism concept in Europe, one can speak about failure of the integration process of the Roma into the Czech society which on the one hand tells the Roma "you cannot live your original way of life" and on the other hand tells them "integrate into the majority without losing your own culture and identity". Czech government (Government of the Czech Republic, 2006) states that according to expert estimates, in 2001 150 000 to 300 000 (2.93% of the total population of the CR) members of the Roma community lived in the Czech Republic, whereas in the census in 2001 (Czech Statistical Office, 2001), a total of 11,746 persons reported to belong to the Roma national minority (0.11% of the total population of the CR). In 1991, the census of people, houses and flats recorded 32,903 persons of Roma nationality (0.32% of the total population of the CR), in 2011 it was 5,199 persons, i.e. 0.05% of the total population of the CR (Czech Statistical Office, 2012). The argument that the integration process of Roma people would lead to maintenance of their identity is therefore untenable. It seems more probable that an assimilated Rom who adopts the values and lifestyle of the majority society will be appreciated by this society sufficiently enough not to deny their ethnic roots when defining their self-concept.

As illustrated in the presented research, if given the choice, 96.5% of respondents would prefer assimilated Roma neighbours to a socially inadaptable white ethnic Czech. This finding is a positive encouragement for teaching practice, particularly with regard to the awareness of the illegitimacy of the current perception of the problem of social exclusion and poverty of a part of the Roma population as a problem of coexistence of two groups in the Czech Republic. In the process de-ethnicization of the conception of social exclusion within civil society which removes the division of our company into "we" and "they", an important role may be played by the manner of education towards civil society in elementary and secondary schools.

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PREPARING FACULTY TO TEACH THEIR FIRST ONLINE CLASS

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Abstract

In a report, entitled "Class Differences", published by the Sloan Consortium (2010, Allen & Seaman), the authors reported that 5.6 million students were taking at least one online course during the fall 2009 term. This was an increase of nearly one million students over the number reported the previous year. Furthermore, over three-quarters of academic leaders at public institutions reported that online education is as good as or better than face-to-face instruction.

The Information and Technology Systems Department at the Graduate School of UMUC has experienced similar enrollment growth in several of its programs, such as the Project Management Program. This has motivated the department to introduce quality enhancement measures in its program curriculum to ensure that quality of teaching and learning is improved along with enrollment growth. Specifically, these measures include model classes that the faculty can use and customize to teach their semester classes.

This paper discusses the need for model classes, their contents, and their role in the program, as well as programmatic issues involved in introducing such classes.

Keywords: Distance Education, online learning, teacher training

Introduction

The courses in the Project Management Program at the Graduate School of UMUC are offered in three semesters: fall, spring, and summer, where fall and spring semester each include two start dates. Due to recent increases in enrollments, each course may have as many as 10 sections in a given semester. Furthermore, each course may be taught by several faculty. It is therefore necessary to make sure that the same quality standard is met across all sections of the same course, and that the same required content is covered. In order to meet this requirement, we have prepared model classes for each course. A model class is a customizable template which the faculty can use as a basis to quickly develop their semester classes.

Model classes are particularly useful for the faculty who are new to the department or who are teaching a course for the first time, as they provide the faculty with a ready-to-go template which they can easily import into their semester classes. It is expected that, for their first semester, the new faculty will use the template as-is. In the following semesters, when they are more comfortable with the courses, curriculum, and the overall program, they can easily modify and improve the template.

Previous Research

Strategies used for online teaching are substantively different from those of face-to-face. When teaching at a distance, the instructor assumes more the role of a facilitator than a traditional teacher. This is mainly because the students have to teach themselves. Because of this, training an instructor for distance education is different from training the same instructor for traditional classrooms. De Simone (2006) has argued that "much of the focus in distance education literature centers around the learner and learning, almost to the exclusion of teachers and teaching." She recommends that "it is important to institute a training program for initial preparation and ongoing support that is sensitive to the needs of the teacher and the learning goals."

Because of the difference in teaching strategies between face-to-face and online, it is necessary to separate the function of course designer from course facilitator. Furthermore, it is necessary to orient and train the faculty on how to deliver the course. McIsaak (2003) notes that "plans must be made far in advance of the beginning of the class. If complete and well-thought-out plans are in place, the course flows smoothly." McIsaak adds that "the first step is to build a complete and well-designed syllabus. A good online syllabus is essential for a successful course. It is the roadmap that will be used by the instructor and the students."

Requirements for Model Classes

Based on the previous research and our own experience, we adopted the following requirements for our model classes:

The model class should contain the complete content for the faculty to import into their semester classes.

There should be multiple copies of assignments, examinations, case studies, etc., such that the faculty can easily choose from them.

All assignments should be accompanied with sample responses.

The faculty should be able to use the model classes to set up the entire contents of their semester classes in a very short time, approximately one day.

Model Class Content

The following are the various categories of contents in our model classes.

Syllabus

The syllabus guides the faculty throughout the course. It includes topics, such as:

- Course description and objectives
- Required course materials
- Grade distribution and grading guidelines
- Course assignments
- Weekly session plan

Assignments and Rubrics

The model class includes the course assignments, as well as solutions and responses to various assignments. In addition, model classes include optional assignments. These assignments may be used by the instructors for

advanced students in the class. Assignments also include midterm and final examinations. Multiple versions of these exams are included.

Rubrics specify the criteria under which assignments are evaluated and graded. Model classes include rubrics for each class of assignments. Examples are rubrics for class participation, essay questions, and case study analyses.

Course Content

This section of the model class includes lecture notes, presentations, and learning objects that are used in the various class sessions. A Webliography is also included in the model class.

Sample Documents

These documents include samples for various course assignments, as well as sample responses to each assignment. Examples include:

- Sample project management plan
- Sample case study analysis

Reserved Readings

In addition to required textbooks, some model classes use library articles or extracts from various books. These materials are placed in the Reserved Readings section of the model class.

Weekly Checklist

Weekly checklists are an effective organizational tool for the students. Each checklist includes a list of tasks that the student must complete in each week of the class. This includes readings, assignments, project work, etc. The checklists include deadlines for submitting each assignment, as well as how each assignment should be submitted to the student's portfolio.

Software Tools

Some of our project management classes use various software tools, such as Microsoft Project, for project management. For each software tool, the model class includes installation instructions, tutorials, sample uses of the tools, and a Q&A. In addition, a conference is included to answer students' questions.

Instituting the Faculty Training Courses

The model classes include instructions, guiding the faculty on how to use the model classes. The guidance is presented in the class announcements, conferences, or documents which are posted in the class. In addition, we provide support for using model classes via phone and email.

The project management faculty will be using the model classes for the first time in summer 2012. We have invited our faculty and teaching assistants to provide feedback on the use of these classes. Our schedule calls for revising the model classes as a result of this feedback in order to produce their final production version in fall 2012.

We expect the model classes to require regular maintenance and improvement, both as a result of experience in using them, as well as new editions of required textbooks and other resources used in our courses.

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PRESERVICE MATHEMATICS TEACHERS' UNDERSTANDINGS OF THE CLASS INCLUSION BETWEEN KITE AND SQUARE

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Abstract

The aim of this study is to examine the preservice mathematics teachers' understanding of class inclusion between kites and squares with the framework of Van Hiele levels. This descriptive study was conducted with 5 sophomore preservice teachers in Turkey. When we look at all the responses to the questions in terms of Van Hiele geometry thinking levels, it can be said that only one preservice teacher understood class inclusion relations and most of the preservice teachers were not at the expected level.

Keywords: definition, class inclusion, kite, preservice teachers, Van Hiele,

Introduction

Understanding class inclusion is the ability to have an overview of the possible relationships that exist among figures and this ability contributes students' deductive reasonings (Currie & Pegg, 1998). Hierarchical class inclusion is economical for example if a condition is true for parallelograms; it is also true for rhombuses, squares and rectangles (Fujita & Jones, 2007). It also helps to define the concepts more economically, helps to formulate the theorems to form more special concepts and contributes to problem solving processes and serves a global perspective (de Villers, 1994).

2. Related Literature

According to Fuys and others (1988), at Van Hiele Level 0, students perceive the shape of a kite as a whole, they can identify, name and compare it by its appearance. At this stage they solve the problems by operating on shapes visually rather than by using properties but they can not analyze figures in terms of their components and they can not make generalizations. At Level 1; students know components of a kite and they can analyze the relationships between these components and describe kites in terms of their characteristics. However they can not explain how certain properties of a figure are related and they can not understand class inclusions. At Van Hiele Level 2, students can identify minimum sets of the properties of a kite. They understand class inclusions as well as they can formulate a definition of a kite. At this stage they can give informal deductive arguments but they can not understand the meaning of these deductions in axiomatic sense. At Van Hiele Level 3, students can understand the properties of a formal definition and prove the axiomatic relations which were informally explained at Level 2 and they can give formal deductive arguments. At Van Hiele Level 4 students can rigorously establish theorems in axiomatic systems and they can compare these systems.

When we look over the Van Hiele Theory, it is clear that the development of the relationships between the characteristics of the figures, class inclusion, and formal definition understanding occur at Van Hiele Level 2 (Currie & Pegg, 1998; de Villers, 1998).

Many studies say that students have problems in classifying the quadrilaterals (Currie ve Pegg, 1998; de Villers, 1994; Erez & Yerushalmy, 2006; Fujita & Jones, 2006, 2007; Monaghan, 2000).

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Viglietti (2011) who conducted a study with mathematics teachers, found that teachers had imperfect knowledge of basic plain figures and kite was one of the subjects which they had many problems with. He found that most of the responses of teachers were based on physical appearances of the figures. Guiterrez and others (1991) examined Van Hiele geometric thinking levels of students and found that a student could have reasoning at two sequential levels at the same time.

The aim of this study is to examine the preservice mathematics teachers' understanding of class inclusion between kites and squares with the framework of Van Hiele levels.

3. Methods

This study was conducted with 5 sophomore preservice teachers from Elementary Mathematics Education Department at a state university in Aegean Region in Turkey. All of the participants got highest grade in geometry course (A1).

The instrument used in the clinical interview was formed by getting inspired from the study of Fuys and others (1988). The clinical interview has two parts. For the first part, the cardboards on which "kite" and "non-kite" was written were placed on the table in front of the preservice teachers and different quadrilaterals were given to them one by one at the same sequence. Then they were asked whether it was a kite or not. The quadrilaterals that were given to preservice teachers were; 1) unspecific quadrilateral, 2) kite, 3) trapezium, 4) square, 5) parallelogram, 6) rectangle, 7) unspecific quadrilateral Mainly in this part, preservice teachers were faced with the following questions:

1) Which of these are kites? (They were provided 7 different quadrilaterals and they were asked to put these into kites group or non-kites group)

1a) Why did you put square into the kites group?

1b) Why did you put square into non-kites group?

1c) Why did you put rectangle into the kites group?

1d) Why did you put rectangle into non-kites group?

The quadrilaterals which were given to preservice teachers and the true groupings are shown in Figure 1.

Fig. 1. Quadrilaterals and correct groupings

In the second part of the interview, the preservice teachers were given name cards for square, quadrilateral and kite and "is a special" arrows and they were asked if they could arrange these name cards correctly. Then, the preservice teachers were asked if a square was a kite and they were asked to explain the reason. Particularly, the following questions were asked:

2i) Can you put arrows between these cards to show some relationships?

2ii) Is a square kite, Why?

The example of the relationship is shown below:

Fig. 2. The correct arrangement of square, quadrilateral and kite

Before the main study, a pilot study was conducted with 3 preservice teachers. All of the grades of preservice teachers were high in the geometry course (A2). After the clinical interviews of the pilot study, minor changes were done.

After the transcription of the clinical interview, the answers of all preservice teachers were read question by question and the common expressions were grouped. Then, the answers were analyzed with the framework of Van Hiele levels. For the confidentiality, preservice teachers are referred as PT1, PT2, PT3, PT4, PT5 instead of their real names.

4. Findings and Discussion

4.1. Findings and Discussion of the responses of the first question

For the first question of the clinical interview, the preservice teachers were given different kinds of quadrilaterals and they were asked to put these into kites or non-kites group. Four of the preservice teachers (PT2, PT3, PT4 and PT5) grouped all of the quadrilaterals correctly while one of them (PT1) made mistakes. PT1 said that the square (number 4) was not a kite while the quadrilateral (number 7) was a kite. PT1 grouped quadrilaterals as kites and trapezoids. She also said that, it was enough to claim a quadrilateral as a trapezoid if at least two sides of it were parallel and added that this was the reason why she grouped square as a trapezoid.

When PT4 was asked why she put square into kites, she changed her mind and put square into non-kites group. As a result, the number of preservice teachers who answered correctly decreased to 3 (PT2, PT3, PT5) while it was 4 (PT2, PT3, PT4, PT5) at first.

When the answers of the preservice teachers were analyzed in a detailed manner, the preservice teachers who gave correct answers (PT2, PT3, PT5) gave responses which can be classified as Van Hiele Level 1.

Only one preservice teacher (PT3) who grouped square correctly didn't give visual expressions. This preservice teacher didn't give explanations on appearance of the shapes for her other responses, either.

PT3: "Because these sides are equal namely two consecutive sides are equal, in here the same thing, too, that's the reason"

When the explanations of the preservice teacher [(PT4) who made groupings correctly at first and then said that a square wasn't a kite] were examined in a detailed manner, it was seen that the reason for the first decision of her depended on the idea of "*square is a special form of a kite*"

PT4: "Square…..I know it as being a kite's special form. Square and rhombus….so I put it into kites group"

When PT4 was asked about the reason for doing like that, she made correct explanations while thinking visually and put square into wrong group. The reason for having a true explanation (*square is a special form of kite*) at first and for having a wrong answer with having a true explanation (*a figure with two isosceles triangles combining at bases...*) can be stemmed from rote memorization and she might not think deeply because of the visual memory in her mind.

In addition to the grouping error she made throughout the interview, PT1 gave visual expressions and besides she said that a square wasn't a kite. According to her it was a trapezoid because kite's two sides weren't parallel to each other.

PT1: "Two isosceles triangles coinciding in the bases first when we separate them like this (<u>shows on kite</u>) *this these reciprocal sides aren't parallel so I say that square is not a kite it is a trapezoid because of parallelism.*

The other preservice teacher who made incorrect groupings (PT4) gave visual explanations, besides she cut kite into pieces (instead of cutting square into pieces) and told that angles of kite weren't 90° and angles had to be perpendicular and so. This preservice teacher also explained kite in terms of a square like the other who had incorrect groupings.

PT4: When all side lengths of kite are equal....the measure of these angles doesn't change... ...again it is formed of two isosceles triangles coinciding in the bases. But these isosceles triangles then become congruent triangles but the angles of these don't become 90° any more. All the angles must be 90° for the square. This property must exist in square.....this figure (square) doesn't convert into here (kite)....

PT1 and PT2 used visual expressions in their explanations (indicator of being at Van Hiele Level 0). Besides, they mentioned about the properties as they were in Van Hiele Level 1 in addition to their grouping errors. However, the properties they stated were not correct. So, it can be said that these preservice teacher s were in Van Hiele Level 0 to 1.

As it is seen, both of the preservice teachers who put square into the incorrect group, perceived kite as being a figure which is formed of a combination of two isosceles triangles, and also tried to explain kite in terms of a square.

From this point of view, it can be said that the preservice teachers gave definitions visually as at Van Hiele Level 0 while having insufficient explanations. These visual explanations weren't enough for them and so they were in need of reflection with additional features. It was seen that these preservice teachers made mistakes in making class inclusions.

A prompt then were given to PT4 about the difference between a kite and a square, the preservice teacher arranged the characteristics of the two figures in order after thinking in terms of differences and found the true answer by putting the square into kites group with saying that a square was a special form of a kite (with using class inclusion).

PT4: "Hmmm..the difference between a kite and a square.... all the sides are equal like we see here....there is no difference...also side is longer...in square angles of side must be 90°. In kite, there is no such provision. In other words we can say that a square is a special form of a kite...but I've thought in terms of angles of 90° shortly before. It is true when we think of a triangle but when we go to quadrilateral......hmmmm...the angles must be 360°..It could be 90° then I've forgotten the detail. A short time ago I thought of that angles.....I thought these angles as wide angles....these base angels combining angles...but these...hmmmm aren't wide angles they can be 90°"

Interviewer: How did you know that?

PT4: I knew.....when we look...from...the figure misguide when we look at the figure we think that these can be wide angles but when we divide 90° into two when we think here like 45-45 when we think about a square

when we divide 90° into two precisely because diagonal lenth of this ....from here....I concluded this from the square"

As seen when the preservice teacher examined the two figures in terms of angles and sides besides their appearances she gave the correct answer. The preservice teacher deduced that square was a special form of a kite when she examined the difference between a square and a kite in terms of sides and angles. She justified her deduction with visual explanation by dividing the square into two isosceles triangles and by thinking the square visually. Thus, it can be said that when preservice teachers think in terms of class incusion characteristics besides visualization, they can change their inaccurate deductions to correct ones.

Besides, both of the preservice teachers who gave wrong answers to the question of "Is a square a kite?" (PT1 and PT4), mentioned that they had doubts about their explanations:

PT4: "Hmmm...this was an isosceles triangle....from isosceles triangle... I remember like that...I can remember wrong....When we equalize the lengths kite resolved to square as far as I remember...but...can't rightly say but....I know like that

Interview: Are you sure or not?

PT4:"I am not sure. I am not sure. But I remember like that.

Hence, it can be deduced that the explanations of these preservice teachers which are at Van Hiele Level 0 to 1 are hearsay, not contemplated and rote. Furthermore it can be said that these explanations doesn't canalize them to reflect on. The explanations of the preservice teachers were about the kite's form of two isosceles triangles and made wrong statements and they said that they had never thought on kite with this respect before.

All of the preservice teachers placed the rectangle into non-kites group correctly. One of the preservice teachers (PT1) had a wrong judgment and said that rectangle was not a kite because of being in the kites group. PT1 grouped quadrilaterals in two: trapezoids and non trapezoids and put rectangle into non kites group because of being in the trapezoid group and because it had at least two parallel sides.

PT1: "Because again it has two parallel sides like square, it resembles to trapezoid. In any case I put square, rectangle, rhombus in subclass of trapezoid .... Because all of them are trapezoids I say that it is not a kite"

Although PT1 could not make correct grouping, she answered the question correctly. Her explanations were rote and at Van Hiele Level 0 to 1.

All of the other preservice teachers stated that since consecutive sides are not equal rectangle is not a kite. They also mentioned about triangles forming the kite.

When we think that the inequality of consecutive sides is a sufficient explanation to claim the rectangle as not a kite, it can be said that preservice teachers gave unnecessary visual explanations. Hence it can be mentioned that preservice teachers had a tendency to deduce relying on visual explanation instead of considering the relationships between the characteristics.

When class inclusions about square and rectangle are discussed together, it can be said that preservice teachers who made mistakes in grouping square (PT1 and PT4) thought and deducted visually besides their wrong explanations and the preservice teachers (PT2, PT3, PT4, PT5) needed visual deduction when grouping the rectangle

4.2. Findings and Discussion of the responses of the second question

When the preservice teachers were given name cards of square, quadrilateral and kite and "is a special" arrows, only one preservice teacher (PT5) could arrange the name cards correctly at once. One of the remaining four (PT1) made a wrong arrangement, the remaining three (PT2, PT3, PT4) could reach the true answer after a

two or more attempts (PT2 after 3 attempts, PT3 and PT4 after 4 attempts) with the help of the prompts of the interviewer.

Although PT2, PT3 and PT4 put square into kites group before, they couldn't group square as a special kite or a special quadrilateral at baptism. The reason for three of four preservice teachers who put the square into kites group making wrong arrangements or making the true arrangements after two or more attempts at baptism can be an indication of the notion that thinkings of these preservice teachers about class inclusion may be conventional.

When the preservice teachers were asked if every square was a kite or not, except for the only preservice teacher who didn't put square into kites group (PT1), all of the preservice teachers were in the same idea of that every square was a kite.

PT1 made incorrect groupings as putting square into trapezoids group and therefore said that a square wasn't a kite. The only preservice teacher who couldn't arrange the name cards correctly (PT1) was the only preservice teacher who answered the question at Van Hiele Level 0 to 1. So, it can be said that preservice teachers at visual to analysis level are not capable in understanding class inclusion relationships.

PT1: "This (shows square which is figure of number 4) is in trapezoid group of quadrilaterals. This (shows kite which is figure of number 2)is in the group of kites. Every square can't be a kite.

When the responses of the preservice teachers who said that every square was a kite examined, it was seen that three preservice teachers (PT2, PT3, PT4) were at Van Hiele Level 1, one preservice teacher was at Van Hiele Level 2 (PT5).

Three preservice teachers who gave explanations in terms of sides (PT2, PT4 and PT5) besides these characteristics, used the characteristics of the equality of angles and visual expressions as two isosceles triangle combining a square to explain that every square was a kite. In other words, these three preservice teachers needed to talk about the relations of angles and sides in addition to visual expressions in order to explain that every square was a kite

PT2: "We usually draw kite. See... there are two isosceles triangle... we draw like this but if these triangles are equal to each other... if its sides, angles are equal, hmmmm if everything is equal I mean if it is composed of right isosceles triangle thus and if I coincide them in bases then I can obtain a square"

PT4: The important thing for us was that two isosceles triangle combining in bases in kite. Square always provides this condition because every side length is equal every time it is equal I mean we can get two isosceles triangles when we combine its diagonals. Hmmm the base angles are then equal every time because of the angles because it divides the base angles in 45-45. Thus square can always be a kite.

Two preservice teachers who said that every square was a kite (PT2 and PT5) had visual expressions besides angle-side expressions and said that every kite wasn't a square but every square was a kite.

5. Conclusion

When we look at all the responses to the questions in terms of Van Hiele geometry thinking levels, it can be said that two preservice teachers (PT1 and PT4) were at Van Hiele Level 0 to 1, two preservice teachers were at Van Hiele Level 1 (PT1 and PT3), one preservice teacher was at Van Hiele Level 2 (PT5). Thus, congruent with (Fujita & Jones, 2007) it can be mentioned that preservice teachers in the study are good at class inclusion relations of kite and square and have problems about class inclusion processes of quadrilaterals.

The preservice teachers who put square into kites group were at Van Hiele Level 1 and 2, while the others who put square into non-kites group were at Van Hiele Level 0 to 1. Two of the preservice teachers who grouped

square in the wrong way thought visually and cut the kite into pieces instead of doing this for square and sought its characteristics in the square.

The reason for doing this may be that they couldn't think of the characteristics of the figures at Van Hiele Level 0 to 1, despite they know the figure and they couldn't analyze the figure in terms of its components and they couldn't make generalizations about the figures (Fuys and others, 1988).

It can be said that the preservice teachers who gave correct answer to the question of classifying of the square didn't understand class inclusion relations and couldn't define kite in terms of its components.

It was seen that the preservice teachers' responses can be labeled between Van Hiele Level 0 and 2 in a fluxinal manner. We can say that congruent with the suggestions of Guiterrez and others (1991), responses of the same people can be varied according to task.

It can be mentioned that only one preservice teacher (PT5) understood class inclusion relations and most of the preservice teachers didn't reach the expected level.

When we think of the preservice teachers who got highest grade (A1) in geometry course, the unsufficiency of their responses may come from the relatively complex nature of kite. It could be harder for them to think about kite than square and rectangle. Besides, congruent with Viglietti (2011)'s study the responses of most preservice teachers were based on physical appearances of the figures

Acknowledgements

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PRE-SERVICE PRIMARY SCIENCE TEACHERS' UNDERSTANDINGS OF THE MOON'S PHASES AND LUNAR ECLIPSE

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Abstract

The aim of this study was to explore pre-service primary science teachers' understandings of the moon's phases and lunar eclipse. The survey approach was used as the research method. The sample consisted of one-hundred and five first year pre-service primary science teachers. As a tool for data collection, a test composed of six open-ended questions that drew on the scholarly literature, developed by the researchers, was used. The data from students' responses was analyzed descriptively. The statistical analysis indicated that the chi square statistics calculated is significant at a level of 0.05, suggesting that the observed frequencies' differences among various levels of understanding are not due to chance. The findings showed that pre-service primary science teachers' understanding of the moon's phases and lunar eclipses was rather weak and that they hold common misunderstandings, suggesting that traditional instruction approaches are not enough to achieve meaningful, conceptual learning and must be replaced with alternative approaches.

Keywords: astronomy education, pre-service science teacher, moon phases, lunar

Introduction

In the last three decades, science education research has made great progress. (Nurrenbern and Pickering, 1987; Gabel, 1999). Research on student understanding of scientific phenomena indicates that student explanations, also called *misconceptions*, are often inconsistent with, inferior to, and incapable of explaining observable phenomena compared to the scientifically accepted descriptions (Andersson, 1986). It is known that students of all ages widely misunderstand natural phenomena (Mulford and Robinson, 2002), one of which is astronomy. The literature shows that students at all levels hold some common misconceptions in basic astronomy and their level understanding is rather low (Sherrod and Wilhelm 2009; Cid and Lopez 2010; Kavanagh et al., 2005; Baxter, 1989; Zeilik and Bisard, 2000; Trumper ,2001; Callison and Wright, 1993; Schoon, 1992; Bekiroglu, 2007).

National Science Education Standards (National Research Council, 1996) recommend that fundamental astronomy concepts be included as an important part of every child's education. Among these are the Earth's spherical shape and gravity, phases of the Moon, and solar and lunar eclipses (Kavanagh et al.,2005). Understanding the solar system involves a number of related conceptual areas that are clearly of importance in relation to children's existing frameworks. They include an understanding of spatial aspects of the Earth, a conception of day and night, of seasonal change, etc. (Trumper 2001). It has been determined that children have particular difficulty understanding the cause of lunar phases (Baxter, 1989; Lightman and Sadler, 1993; Zeilik and Bisard, 2000; Trumper, 2001; Sherrod and Wilhelm 2009). The most prevalent misconception regarding the cause of lunar phases is that *Moon phases are the result of the Earth's shadow*. This is not only common among children but many adults as well. In research with Australian teacher trainees, it was found that only 40% disagreed with the statement that '*The moon changes shape because of the varying amounts of the Earth's shadow cast upon it*' (Skamp,1998). This information is valuable to teachers and curricula designers when creating units of study to correct this common student misconception (Sherrod and Wilhelm, 2009)

Previous research shows that there are some frequently occurring notions displayed by children aged 9–16 regarding the phases of the moon: "Clouds cover the part of the moon that we cannot see", "Planets cast shadows on the part of the moon that we cannot see", "The shadow of the sun falls on the moon, blocking our view of it",

and "The shadow of the earth falls on the moon" (Baxter, 1989). Although the various alternative conceptions exist, the most commonly held notion for the causes of lunar phases is that *the earth casts a shadow on the moon*: the eclipse explanation. There are some other research findings in which students use the eclipse explanation to explain the phases of moon (Bisard et al., 1994; Callison and Wright, 1993; Schoon, 1992). Durant *et al.* (1989; cited in Trumper 2001) carried out research in Britain and in the USA, which indicates that only 34% of Britons and 46% of Americans appear to know that the Earth goes round the Sun once a year. A poll carried out in parallel in France (Acker and Pecker 1988) showed that about 33% of the public still believed that the Sun orbits the Earth. Lightman and Sadler (1993, cited in Trumper 2001) found that students in grades eight through twelve (from 13 to 18 years old) shared some of the conceptions held by elementary school children. Less than 40% knew the correct characteristics of the Moon's revolution. Moreover, less than 30% of the students had a correct conception about "the reason for the change in the Moon's phases", the Sun overhead at noon" and "an estimation of the Earth's diameter".

In an interdisciplinary study conducted to investigate science misconceptions held by groups of students ranging from middle school through university, Bisard *et al.* (1994; cited in Trumper 2001) determined that future general elementary teachers have about as many misconceptions concerning the topics covered in this survey as typical middle-school students. In addition, their findings showed that majority of students believed that the Earth was some way involved in producing lunar phases, either through the Earth's shadow obscuring portions of the Moon or by sunlight reflecting off the Earth and clouds.

There have been many studies conducted with university students, pre-service teachers and in-service teachers related to the moon and some lunar phenomena (Parker and Heywood, 1998; Summers and Mant, 1995; Suzuki, 2003; Trumper, 2003; Bekiroglu, 2007). From the study by Suzuki (2003) the findings revealed that pre-service teachers believed that the Moon could only be seen at night. In a study of primary school student-teachers, Trumper (2003) found a considerable number of students misunderstood the role of the Earth and Sun in the cause of Moon phases, a great proportion of students' reasons for seeing the same side of the Moon was that the Moon did not rotate on its axis, and some of the students claimed that the moon only revolved around the Earth and not around the Sun. Much research has been conducted to determine both children's and adults' understandings of moon phases (Callison and Wright, 1993; Trundle et al., 2002; Bekiroglu, 2007).

The literature shows that there are a number of studies about students' understandings of the phases of the moon and lunar eclipse. But there exist few studies of pre-service primary science teachers' understandings of phases of moon and lunar eclipse. Therefore, the question of the research was: What are pre-service primary teachers' understandings of the phases of moon and lunar eclipse?

Method

Research design

This research utilized the survey method. Surveys are used to learn about people's attitudes, beliefs, values, demographics, behavior, opinions, desires, ideas, and other types of information. This method is very popular in education, primarily for three reasons: versatility, efficiency and generalizability. (Mcmillan and Shumacher, 2006, p.233)

The sample

The sample consisted of one-hundred five first year pre-service primary science teachers (aged 17-23 and 66% male, 34% female) enrolled in the Science Teacher Training Department at AIC University, Turkey.

Data collection tool

To reveal student understanding of lunar phases and eclipse, six open-ended questions developed in consultation with the literature (Bekiroglu, 2007; Trumper, 2001; Sherrod and Wilhelm 2009) were developed by the researchers. All questions were piloted and required modifications were made prior to the administration. The content validity of the questions was assessed by the researchers. The questions are about:

The cause of the phases of moon

The cause of the moon's rising while the sun is setting in evening

The cause of why we always see the same face of the moon

Lunar eclipse (illustration)

Tide phenomena

The phases of the moon in different locations on the earth in same day.

Analysis of data

The students' written responses were read individually by the researchers and categorized (see Table 1 and 2) with respect to the scheme developed by Haidar and Abraham (1991). The reading of students' written responses by the three researchers aimed to check the reliability of the research. The similarity of the findings from three researchers suggested consistency in the analytical process. The findings, which were originally Turkish, were translated into English. The excerpts supporting the results from the written responses were given. Furthermore, chi square analysis was conducted to determine whether the differences in the number of responses observed for each response category result from random effects.

Table 1. The scheme developed by Haidar and Abraham (1991) to categorize student responses

Code.	The criteria used to classify the responses
R1	No response or no explanation
R2	No understanding: irrelevant explanations or answers such as "I do not know", "I have no idea" or " I do not understand"
R3	Misunderstanding: explanations that attempt to describe the target concept but do not match the scientific conception
R4	Partial understanding: incomplete but correct explanation
R5	Sounds understanding: explanation that includes all components of the science concept

Findings

From chi square analysis performed using data from Table 2 to determine whether variability of the response for each response category are statistically significant, it was established that the minimum expected value is 5.98 and there is no cell with an expected frequency less than 5. The analysis showed that the calculated statistics are significant at a level of 0.05 (χ^2 (20) = 21.09; p=0.00). It means that the observed frequencies differences among categories are not due to chance. And, the high frequency observed in code R3 could not be attributed to random effects.

Table 2. Distribution of pre-service teachers' responses to the response categories (N=105)

	R1**	R2	R3	R4	R5
Question 1	25*	26	50	3	1
Question 2	26	32	28	9	10
Question 3	11	31	51	7	5
Question 4	13	4	46	3	39
Question 5	55	16	8	12	16
Question 6	6	12	75	2	10
Total	136	121	258	36	81
Mean	22.7	20.2	43.0	6.0	13.5
%***	21.6	19.2	41.0	5.7	12.9

* The number of students, ** The codes corresponding to the classification in Table 1

*** % = mean /the total number of students x 100

Table 3. Individual misunderstandings identified from the student responses

	Misunderstanding identified (R3)	N	%
Q1*	The amount of the light coming from the sun to moon changes with times. So, the phases of moon appear	8	7.6
	Cause of the phases of moon is change of seasons	8	7.6
	The phases of the moon are due to the change in incidence angle of sun rays to moon.	9	8.5
	The phases of the moon are the result of rotation of the earth around its own axis	6	5.7
	The phases of the moon result from the difference between day and night durations	6	5.7
	The moon comes near to the earth and sometimes moves away. The phases of moon occur because the earth's shadow fall on the dark side of moon when they come close each other.	7	6.7
	When the earth passes between the moon and sun, the earth's shadow falls on a part of the moon, so the phases of moon occur	6	5.7
Total**		50	47.6
Q2	The cause of the rising of the moon in the evening and then falling is due to the fact that the sun comes close to moon or moves away from it	17	16.2
	The cause of the rising of the moon in evening and then falling is related to the rotation of the earth around the sun	11	10.5
Total		28	26.7
Q3	All surface of the moon is homogeneous. In fact we see all faces of the moon in time. It is an illusion	8	7.6
	In different countries, various faces of the moon are visible	8	7.6
	That the same side of moon always face the earth is related to the seasons	10	9.5
	We always see the same face of the moon, because rotation velocities of the earth and the moon are equal,	25	23.8
Total		51	48.6
Q4	Lunar eclipse takes place when the moon goes between the earth and the sun	32	30.5
	Lunar eclipse takes place when the sun goes between the earth and the moon	14	13.3
Total		46	43.8

Q5	Lunar tide is related to annual rotation of the earth	4	3.8
	Lunar tide is related to cooling and warming of air	4	3.8
Total		8	7.6
Q6	In different countries, different phases of the moon appear in the same night because of weather conditions.	9	8.5
	In different countries, different phases of the moon appear on the same night depending on the hemisphere in which a country is located	46	43.8
	In different countries, different phases of moon appear in the same night depending on the place line on which country is located	20	19
Total		75	71.4

*Q: Question number; N: The number of students; %: the percentage of students in proportion with the entire sample; **corresponds the numbers in R3 column in Table 2

As can be seen in Table 3, the analysis of student responses to the first question showed that fifty pre-service teachers, almost half of the sample, had significant misunderstandings of lunar phase and eclipse. It is apparent from the same table that they hold distinctive misunderstandings related to the cause of lunar phases, some of which is new in the literature. The percentages of misunderstandings encountered in the responses changes between 5.7 and 8.5. For this question, while only one student is at the "sound understanding" level, just three of them exhibit partial understanding, which is a rather low proportion. Findings of the analysis showed that the most prevalent misunderstanding is the idea that the "*phases of moon are due to the change in incidence angle of sun rays to moon.*" However, other misunderstandings were observed in the similar proportions within the sample. The results from analyses of question 2 indicated two prevalent misunderstandings: "*the phases of the moon are due to the fact that the sun come close to the moon or move away from it*" (16.2%) and "*the phases of the moon are related to rotation of the earth around the sun* "(10.5%)

When the results of question 3 are examined, four misunderstandings can be seen. It is clear from Table 2 that the number of students with sound understandings is rather low; just five students. However, the responses of 42 pre-service teachers were coded as "no response" and "no understanding". The analysis results regarding fourth question demonstrated that 13 and 4 students were classified as "no response" and "no understanding" levels, respectively, which are the lowest total numbers observed for the two categories in the table. A considerable number of them (forty two students) have partial and sound understandings. It appears that the majority of students (46 students) hold two common misunderstandings: "*Lunar eclipse takes place the moon go between the earth and sun*"(30.5%) and "*Lunar eclipse takes place the sun goes between the earth and the moon*"(13.3%). In question 5, the number of pre-service teachers categorized as "no response" and "no understanding" is 55 and 16, respectively, which are the highest values in the table, but a minority (7.6% in comparison with entire sample) demonstrated two misunderstandings. 7.6% of them thought that *lunar tide is related to annual rotation of the earth or to cooling and warming of air.*

The results from the analysis of the last question showed the highest number of misunderstanding, a total 75 students (71.4%). The majority of them (43.8%) hold the view that *in different countries, different phases of the moon appear in the same night depending on the hemisphere in which the country is located*". Again, 27.5% of them had the misunderstandings that "*in different countries, different phases of moon appear in the same night depending on the place on which country is located or weather conditions*. By considering the number of students with sound understanding and the total student number it was calculated that only an average of 13.5

(Table 3) pre-service teacher demonstrated sound understanding. A mean of 13.5 corresponds to only 12.9% of a total of 105 student teachers. It can be inferred that in comparison with 41%, the percentage (12.9%) of the students holding an acceptable, sound understanding is considerably low.

Discussion

Student teachers hold the idea that "the amount of the light coming from the sun to moon changes with times. So, the phases of the moon appear." It seems they think the amount of the sun rays reaching the moon decrease for unknown reasons. Some students incorrectly relate the phases of moon to the change in the incidence angle of sun rays to moon, instead of earth. Some of them explain the phases using the change of seasons, rotation of earth around its own axis, the difference between day and night durations and earth's shadow falling on the moon. The last explanation was also reported by previous researches (Bisard et al., 1994; Callison and Wright, 1993; Schoon, 1992). The following excerpts taken from written responses support this view:

I know that the amount of rays reaching to moon from the sun vary with time. This situation leads to moon phases we see in sky, such as half or full moon

I think that the phases of moon is resulted from gradual changes of four seasons

While moon move, depending on this situation, the sun send the rays to moon in varied angles

I think that if the earth had no rotation on it own axis there would no the phases of moon

Duration difference between day and night is the reason why the phases of moon occur

Earth' shadow is the main reason of moon phases

While moon approach to earth, shadow of earth begins to fall on moon surface. The more this overlap, the more much area of moon become dark

I think that its reason is movement of the earth into region between moon and the sun.

So, the earth in front of the sun gives rise to the shadow on the moon

The results from question 2 indicated that students believed that the rising and falling of the moon during the night is related to the fact that the sun comes close to moon or moves away from it, or rotation of the earth around the sun. Some quotations from written responses are given below as an example.

The moon arise in evening and then begin falling with respect to being close or far of the sun to moon

It is due to   rotation of earth around the sun

The findings from Third question revealed that although the valid knowledge that we always see the same face of moon is given in the question, eight students do not believe it and consider it to be false. Accordingly, one other group holds the view that various faces of the moon are visible for different countries. 25 students tried to explain this situation with reference to the equality of rotation velocities of the earth and moon. It is clear that they harbour an implicit misunderstanding: the moon move around its own axis. Some excerpts given below support this interpretation.

I don't believe that. In fact, we, due to gradual rotation movement of moon, see all surfaces in time.

I think it is dependent on location. For example, in USA, it can be seen a distinct side of moon from this place

It is not true. Thanks to the seasons, visible surface become constant

I ascribe it to equality of velocities of rotation of the earth and moon

From the analysis of question four it was found that misunderstandings about relative locations of sun, moon and earth during lunar eclipse were widespread. As can be seen in the excerpts below, while some students advocated the order sun-moon-earth, some of them preferred the order earth-sun-moon, both of which are significant misunderstandings, indicating students' knowledge levels of basic astronomical phenomena.

Whenever moon move between the earth and sun, lunar eclipse appear

The sun, during its rotation, sometimes is located somewhere between the earth and moon, then lunar eclipse occur

Question five aimed to explore how students relate tide phenomena to celestial movements. As can be seen in Table 3, students, although in low proportion, regard the cause of tide as the annual rotation of the earth or weather conditions, such as cooling an warming of air, which are newly encountered misunderstandings for pre-service teachers. The written responses given below represent this view.

I suppose it depend on rotation of the earth

It is resulted from weather situation such as warm or cool air

The last question intended to probe student teachers' understanding of whether, in different countries, different phases of moon appear in the same night. The results showed that majority of them predominantly believed there exist different phases of the moon on the same night in the skies of different countries. Excerpts below from responses represent this notion:

For example, in Japan, in the same night, somebody will see a different moon phase, because Japan is located in other side of the earth

I think it is related to the hemisphere. While I see a phase of moon in north hemisphere, someone will see another phase in other hemisphere.

Trumper (2003) acknowledges that students frequently come to their lessons having constructed their own explanations for many of the easily observed astronomical events, and that these children's notions are at variance with the accepted view. Some of the researchers (Parker and Heywood, 1998) agree that students' unfamiliarity with optics, geometry, and light is a main reason for the learning difficulty of the moon-related concepts. Again, Trundle et al. (2002) emphasized that students' conceptions of the lunar events might be related to their naïve knowledge and/or their understanding of some physics concepts. Physics and astronomy have topics that are highly spatial in nature i.e., electricity and magnetism, seasons, lunar phases. These topics are usually presented using two-dimensional 2D representations, some of which might reinforce preconceived ideas or introduce new misconceptions about the three-dimensional 3D system (Cid and Lopez, 2010). Students must grasp multiple concepts such as perspective, light, and angles as well as the waltzing motion of two astronomical bodies in order to adequately comprehend how the Moon's phases occur. To complicate matters, these young learners bring a hodge-podge of ideas to the classroom with which to express their understanding. Therefore, instruction of this complex phenomenon has proven to be challenging for teachers (Sherrod and Wilhelm, 2009). Cid and Lopez (2010) and Kavanagh et al. (2005) stressed that another problem of teaching basic astronomical concepts is textbooks. In textbooks, lunar phenomena usually are given in two-dimensional illustrations. They point out that the 2D representations can give rise to misunderstandings. So the mental manipulation of 3D images can play a role in developing students' understanding of these concepts.

Conclusions and Recommendations

The findings of this research revealed that student understandings of the phases of the moon and lunar eclipse are low and they hold some common misunderstandings. Only an average of 13.5 of them, making up 12.9% of

total number of pre-service teachers, demonstrated an acceptable, sound understanding. About half of them (41%) have common misunderstandings, suggesting that the undergraduates have considerable difficulty understanding the phases of the moon and lunar eclipses. The investigation of student teachers' misunderstandings is significant because of its contributions to the construction of new teaching approaches, which can take into consideration students' difficulties in learning scientific concepts (Azizoglu, 2006). The results of the study have the great importance of prospective teachers who will be teachers in the coming years and teach these concepts to many primary students, because their understanding will directly affect their primary students' understandings (Aggul Yalçin, 2012). This study identified a total of twenty misunderstandings held by pre-service teachers about the phases of the moon and lunar eclipses. The findings of the present study suggest that a revision of the traditional instruction approach used commonly in science courses and alternative teaching methods should be considered in order to enhance student understanding of science topics. It is clear that the lack of knowledge of fundamental concepts and issues may result in subsequent misunderstandings. Therefore, care has to be taken to establish solid knowledge of fundamental chemical ideas before teaching advanced ideas. It is important that prospective teachers develop conceptual understanding of science concepts, because they will teach those concepts on their own students in the near future (Aggul Yalcin, 2012). Although it is not appropriate to generalize the findings from this single, limited study, the results suggest that misunderstandings identified in this study can also be seen at other levels and in other grades.

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PRE-SERVICE TEACHERS' NEED FOR COGNITION

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Abstract

The purpose of this study is to investigate the level of pre-service teachers' need for cognition and to determine how it differs with respect to some variables. A total of 344 pre-service teachers (114 males and 230 females) from 4 different universities participated in this study. The data collected through Need for Cognition Scale which was developed by Cacioppo, Petty and Kao (1984) and revised by Demirci (1998). The findings revealed that pre-service teachers' need for cognition is high and it varies with respect to their class, frequency of doing search for their own sake and career planning.

Keywords: pre-service; need for cognition; career planning; scale; teacher education

Introduction

A rapid change in some areas such as technology, industry and economy entails some changes in the characteristics and qualifications of modern era citizens. Individuals are expected to be equipped with various kinds of knowledge and skills that enable them to adapt the changes and improve the quality of their lives. Among the others, high level of thinking skills including problem solving, decision making and critical thinking are the most desirable characteristics of modern era man. Because there are lots of parameters that potentially affect the quality of one's life, high thinking skills are required to cope with and manage those parameters wisely. In many countries, those thinking skills which are indicators of need for cognition are aimed to be developed during the school years. Although development of these thinking skills is one of the goals of the curricula of different subject areas, still there are students who do not want to think about issues in depth or solve problems or analyze a fact from different perspectives. In other words, despite of all the efforts to develop higher thinking skills and create an awareness of need for thinking, students' need for cognition is still relatively low. Therefore, teachers have a vital role in the improvement of high thinking skills and students' level of need for cognition.

Need for cognition is defined as an individual's intrinsic motivation to engage in and enjoy effortful cognitive activities (Cacioppo, Petty, & Kao, 1984; Petty, Brinol, Loersch, & McCaslin, 2009). People with high need for cognition are likely to enjoy solving challenging puzzles or problems, making research about a subject of interest and thinking about their own thoughts (Coutinho, Wiemer-Hastings, Skowronski, & Britt, 2005; Curşeu, 2011; Steinhart & Wyer, 2009). However, people with low need for cognition do not enjoy challenges, they do not want to think about any issues in depth and do not question about accuracy or validity of an argument (Coutinho et al. 2005; Petty et al., 2009). Although research findings revealed that internal factors such as personality, intelligence (Fleischhauer, Enge, Brocke, Ullrich, Strobel, & Strobel, 2010), and self-efficacy (Pillai, Goldsmith, & Giebelhausen, 2011) are more likely to affect the people's need for cognition, review of the literature indicates that there are also some external stimuli that have some potential to affect one's need for cognition. Among those, academic achievement (Sadowski & Gulgoz, 1996), social interaction (Curşeu, 2011), organization of learning environments, and the influence of teachers can be considered as one of the main antecedents to the students' need for cognition.

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To foster students' thinking skills and need for cognition, teachers should be good models for their students such that they should discuss an issue from different perspectives, make conjectures and justify them, make interdisciplinary links, provide reasoning underlying the facts, relationships or formulas and give real life examples or applications. If teachers continue on using traditional teaching methods and do not allow students to question the reliability and validity of arguments and ask for their own reasoning, teachers cannot prepare their students for the requirements of the modern era. That is about educating people who can *think for themselves*. If the teachers themselves cannot think, it would be hardly possible to expect their students to *think for themselves*. Therefore, the aim of this study is to investigate the level of pre-service teachers' need for cognition and discuss how it differs with respect to some variables.

Methodology

Sample

A total of 344 pre-service teachers from 4 different universities participated in the study. The participants were from 12 different programs including teacher certificate program (n=17) and Master of Science in educational leadership (n=12). The other programs were Computer Education and Educational Technology (n=26), Elementary Mathematics Education (n=47), Secondary Mathematics Education (n=73), Elementary Science Education (n=13), Secondary Physics Education (n=15), Secondary Chemistry Education (n=24), Primary Education (n=48), Turkish Literature Education (n=30), English Education (n=17) and Guidance and Counseling (n=22). The age of the participants varied between 20 and 39.

Data collection and analysis

To collect data an 18-item Need for Cognition Scale was used. It was shorten by Cacioppo, Petty and Kao (1984) from the original scale. Gulgoz and Sadowski (1995) translated it into Turkish and Demirci (1998) changed the point scale of Likert-type items and made it 5-point scale. Then, the minimum score for the scale is 18 while the maximum score is 90. Demirci (1998) found the reliability of the scale as .89. In this study, the Cronbach alpha of the scale was found as .86.

To collect demographic information about participants, they were given a 14-item questionnaire. Their answers were categorized and analyzed with respect to their level of need for cognition. To analyze how need for cognition differed with respect to some variables, t- test or F-test was applied.

Findings

The major aim of the study was to investigate the level of pre-service teachers' need for cognition. The Need for Cognition Scale was used to determine that level. The descriptive statistics of the scale are given in table 1.

Table 1. Descriptive statistics about Need for Cognition Scale

Items	Mean	Std. dev.
Item 1	3.30	1.08
Item 2	3.52	0.94
Item 3	3.56	1.09
Item 4	3.92	0.99
Item 5	3.81	0.95
Item 6	3.65	1.03
Item 7	2.88	1.08
Item 8	3.72	1.00
Item 9	3.37	1.01
Item 10	4.00	0.88
Item 11	4.09	0.77
Item 12	4.06	0.92
Item 13	3.14	1.07
Item 14	3.62	0.97
Item 15	3.42	0.95
Item 16	3.23	1.18
Item 17	3.74	1.91
Item 18	3.66	1.91
Total	64.77	9.60

The minimum score that can be obtained from the scale is 18 while the maximum score is 90. The minimum score obtained was found to be 30 and the maximum score was 90 for the sample. Furthermore, the mean of the need for cognition for the sample was found to be 64.77 and the standard deviation was 9.30. According to Demirci (1998), the score which is above 61 indicates a higher need for cognition meaning that the participants enjoy activities requiring a lot of cognitive effort. Thus, the need for the cognition for the sample was high. The mean score (4.09) was found to be the highest for the item 11 "I really enjoy a task that involves coming up with new solutions to problems" and the lowest (2.88) for the item 7 "I only think as hard as I have to"

In the study we also investigated how the need for cognition differed with respect to some variables including gender, department, class, GPA, the frequency of reading periodicals, the frequency of doing research for their own sake, the willingness to pursue an academic career. No significant difference was found for the variables gender, department, GPA, and the frequency of reading periodicals as shown in table 2. On the other hand, a significant difference was found for the grade levels $(F(5,338)=3.29, p=0.006)$, doing research for their own sake $(F(4, 339)=3.331, p=0.011)$, and career planning $F(2, 340)=4.827, p=0.009$.

Table 2. Analysis of the need for cognition with respect to variables

		N	$\overline{X}$	Std. dev.	t/F
Gender	Male	114	65.53	8.68	1.040
	Female	230	64.39	10.02	
Department	Computer Education	26	65.76	11.24	1.853

	Educational Administration	12	67.83	9.41	
	Secondary Physics	15	65.06	5.59	
	Elementary Science	13	64.30	11.60	
	Teaching English	17	63.76	11.04	
	Elementary Mathematics	47	67.02	7.19	
	Secondary Chemistry	24	64.95	8.75	
	Secondary Mathematics	73	65.93	7.92	
	Guidance & Counselling	22	59.04	9.76	
	Primary Education	48	62.16	9.11	
	Teaching Literature	30	66.86	12.90	
	Certificate Programs	17	61.76	11.84	
	Sophomore	16	65.18	11.80	
	Junior	138	63.05	9.96	
	Senior (4th year)	102	67.51	7.71	
Class	Senior (5th year)	59	64.15	9.49	3.290*
	Master of Science	12	67.83	9.41	
	Certificate	17	61.76	11.84	
	1.00 – 1.99	9	61.33	10.67	
GPA	2.00 – 2.99	210	64.35	9.43	1.390
	3.00 - 4.00	125	65.72	9.77	
Frequency	Very low	15	61.66	11.55	1.763

of reading periodicals	Low	46	64.45	10.09	
	Moderate	174	64.05	9.38	
	High	82	65.93	8.58	
	Very high	27	68.07	11.29	
	Very low	3	62.33	11.06	
	Low	38	61.39	9.03	
Frequency of doing research for one's own sake	Moderate	141	63.67	9.37	3.331*
	High	119	66.21	8.46	
	Very high	43	67.53	12.34	
	No	63	62.12	10.53	
Career planning	Yes	152	66.38	9.80	4.827*
	Not decided	128	64.25	8.51	

*p<0,05

Post-hoc analyses were conducted in order to determine the nature of differences between the grade levels, the frequency of doing research for one's own sake and whether or not the pre-service teachers have academic career planning. The findings revealed that senior pre-service teachers' need for cognition was higher than the junior pre-service teachers' need for cognition. In terms of the frequency of doing research for one's own sake, pre-service teachers who frequently do research apart from their course requirements seem to have higher need for cognition compared to pre-service teachers who occasionally do research beyond the scope of their courses. Furthermore, pre-service teachers who were willing to pursue an academic career tend to have higher need for cognition with respect to those who were not.

Conclusions

The aim of the study was to determine the level of pre-service teachers' need for cognition and investigate whether it differs with respect to some variables. The need for cognition was found to be high but it only differed with respect to a few variables which were grade level, frequency of doing research for their own sake and career planning. Although these findings were acceptable some of the findings were unexpected.

In Turkey, teacher education programs are mostly 4-year programs (secondary education programs are 5 years) and during the freshman year pre-service teachers are given courses that do not require much more

reading or investigation. They may not be aware of what becoming a teacher entails, how teaching and learning are related and what their responsibilities are. Furthermore, they may not have an intrinsic motivation to think thoroughly about issues related with their profession or about life. Therefore, it is expected that senior pre-service teachers' need for cognition is higher than the earlier levels. During the senior years, pre-service teachers begin to pay much more attention educational issues such as how students learn or how to teach more effectively. They may begin to feel a concern about becoming a teacher which makes them to read or investigate more about teaching and learning. Thus, they may feel an intrinsic motivation to think about educational problems and possible solutions. The distinction between grade levels is partially supported in Tok's (2010) study. She administered Need for Cognition scale only to freshman students in the early childhood program and found that their need for cognition was low. Although she did not make a comparison between grade levels, her finding was expected because of the reasons discussed above.

As discussed in the literature, making research about a subject of interest is a characteristic of an individual with high need for cognition (Coutinho, Wiemer-Hastings, Skowronski, & Britt, 2005; Curşeu, 2011; Steinhart & Wyer, 2009). This fact is also supported in this study. A significant difference was found between the needs for cognition of pre-service teachers who frequently or occasionally do research for their own sake. It might be due to the fact that students who frequently do research in line with their own subject of interest will more likely to encounter with the opportunities that will increase their curiosity, motivation and awareness to learn further. Moreover, because pre-service teachers who plan for academic career need to think about what problem they will investigate or how to contribute to the field, their level of need for cognition was higher as expected. However, we did not find a significant difference between the need for cognition levels of pre-service teachers who follow periodicals like newspapers, academic or non-academic journals and who do not. This may be because of not asking whether they follow them or not but asking them to indicate how frequently they follow.

Although Sadowski and Gulgoz (1996) and Coutinho et al. (2005) found a positive relationship between academic performance and need for cognition, in this study it was not observed. It might be because of using GPA scores to represent achievement instead of using a common instrument to measure academic performance. Because the participants were from different universities, GPA scores were not standardized which leads a fallacy to interpret the students' academic performance.

Briefly, need for cognition is an intrinsic motivation to engage in activities require high cognitive effort. Because people with high need for cognition likes solving challenging puzzles and problems, making research about subject of interest, analyzing an issue from different perspectives and looking for justifications of arguments, it is likely be one of the qualifications of modern era citizen. Teachers should attempt to increase students' need for cognition level by being a good model for them. Therefore, teacher training programs should provide opportunities for pre-service teachers to be aware of their level of need for cognition and to increase it if it is low.

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PRE-SERVICE TEACHERS' PERCEPTIONS ABOUT RITUALS IN EDUCATION AND RITUALS' FUNCTIONS

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Abstract

Rituals are a part of everyday life (Quantz & Magolda, 1997) and they also appear in experiences in educational institutions. National holidays, pupil oaths, reading festivals, and flag-raising ceremonies are the rituals which appear in classrooms, schools, and educational environments can be taken into consideration. This paper aims to examine pre-service teachers' perceptions about ritual in education and rituals' functions. Rituals as national holidays and Independence March have been perceived as positive by pre-service teachers. On the other hand, rituals to control the outfit and taking teacher as an authority figure have been perceived as negative by pre-service teachers. In addition to these, according to pre-service teachers' perceptions, rituals have both positive and negative impacts.

Keywords: Rituals, rituals in education, rituals' functions, pre-service teachers

1. Introduction

According to Durkheim, ritual is a set of rules which determine people's behavioral attributes in the presence of sacred things (Meseci, 2007). Rituals are not separate from everyday life, have function to shape the social structure and to connect community members to each other from the most primitive society to the most modern society. Rituals, both in primitive societies and modern societies make people be a member of community and society (Quantz & Magolda, 1997; Meseci, 2007; Campbell & Moyers, 2010).

Ritology field (interdisciplinary ritual studies field) has stressed the meaning and the function of ritual so much. Is ritual a social function as some of the Durkheimians argue or is it a social process as the Turnerians suggest? Is it used to maintain the status quo or is it used to let transformation? Is it limited to sacred events or is it related to secular events as well? Is it related to only ceremonial, special events (e.g.: commencement day) or is it related to everyday events (e.g.: shaking hands, waving) (Quantz, 1999)? Beyond these questions ritual has defined in this study like this: Rituals are patterned symbolic demonstrations and a set of symbols which not only constitute institutional unity and cooperation but also manage the differences like hierarchy, position, function and power (Meseci, 2007).

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1. 1. Rituals in Education

Ritual as a variable in school's interaction primarily handled in Bernstein, Elvin and Peters' (1966) study. After this study, rituals started to densely focus on schools and the process of education (Warnick, 2010). Maloney (2000) has studied rituals of three preschool teachers in three preschool institutions, Göhlich and Wagner-Willi (2001) has studied rituals of everyday events in three preschool classes and meanings of these rituals, McCadden (1997) has studied rituals in kindergartens at North Carolina. Bushnell (1997) has examined the role of school rituals in parent involvement; Magolda (2000) has examined the function of campus tour ritual. Besides these, Meseci (2007) has studied rituals in Turkish educational system with the theoretical approach.

Bernstein, Elvin and Peters have mentioned that school transmits two cultures: Instrumental culture and expressive culture. Instrumental culture is related to academic and vocational skills. On the other hand, expressive culture is related to transmission of norms and values. Rituals are more related to expressive culture. Rituals can be divided into two groups according to their functions: Consensual rituals and differentiating rituals (Bernstein, Elvin & Peters, 1966).

Consensual Rituals

Consensual rituals are the ones function so as to bind together teachers, managers, staff members and pupils as a moral community, as a distinct collectivity. These rituals give the school permanence both in terms of time and place, recreate the past in the present, project it into the future, and create common ideals and identities. Consensual rituals help the integration of various school goals and socialization of parents into the school community. Hence, stakeholders internalize the values of the school and experience these values as a unity. Generally the consensual rituals consist of assemblies, ceremonies of various kinds to revivify historical contexts and other symbolic features. Beginning the school day with national anthems, oaths and songs; national holidays can be given as the examples of consensual rituals (Bernstein, Elvin & Peters, 1966; Meseci, 2007; Quantz & Magolda, 1997; Bushnell, 1997).

Differentiating Rituals

Differentiating rituals are the one which distinguish the groups in the school from one another usually in terms of age, sex, hierarchy or social function. While some of these rituals exclude some groups from school community and the others deepen the respect to the authority. Differentiating rituals deepen the boundary and the distance between unequal members of the school community. However, these rituals control of dual loyalties and the ambivalence, increase the commitment to the basic values. Standing up when the teacher comes in to the classroom, raising hand before talking about something during the course, the school uniforms, the classroom materials, like the chair of the teacher increase the distance between the teacher and pupils can be given as the examples of differentiating rituals (Bernstein, Elvin & Peters, 1966; Meseci, 2007).

2. Purpose of the Study

This study aims to examine pre-service teachers' *(who are educating at Kocaeli University Faculty of Education in Turkiye)* perceptions about rituals in education and rituals' functions.

3. Method

A descriptive model was used as the research model by researchers. Descriptive model is a research approach which aims to describe a situation in the past or in the present (Karasar, 2005). And also, in this research pre-service teachers' perceptions about rituals were described as it was by the researchers.

3.1. Study Group

Study group consists of senior students of Primary School Teaching Program and English Language Teaching Program at Kocaeli University in the Faculty of Education. Pre-service teachers who wanted to participate in the study voluntarily took place in the study group. Researchers gave form to 81 participants, and after checking them 74 forms were found appropriate and analyzed.

3.2. Instrumentation

Instrumentation consists of two parts. First part of instrumentation includes questions which are about demographics. The second part of it includes four open-ended questions to examine pre-service teachers' perceptions about rituals in education and rituals' functions. There is a ritual definition by Meseci (2007) at the beginning of second part of instrumentation (*Rituals are patterned symbolic demonstrations and a set of symbols which not only constitute institutional unity and cooperation but also manage the differences like hierarchy, position, function and power).* Researchers collected the data from the pre-service teachers via this instrumentation. While preparing the instrumentation, a draft form was reviewed by an expert who works at Educational Sciences Department, and some corrections were done based on the opinions of that expert.

3.3. Data Analysis

Data regarding pre-service teachers' perceptions about rituals in education and rituals' functions were analyzed and categorized qualitatively. First, researchers analyzed the data independently during coding. Then they came together to compare codes. They used consensus codes directly. Non-consensus codes were discussed, and they reached an agreement on the non-consensus codes. Data were read again via codes. Then it was classified according to the content similarities. At the end, the researchers named each classification, and they reached the main themes (Padgett, 2008). While findings based on open-ended questions are being presented frequencies of codes and themes are given. For this reason, the number of participants and the total frequency are not the same.

4. Findings

In this study, data were collected from 74 pre-service teachers *(women:58, men:16)*. These pre-service teachers were the senior students of Kocaeli University in the Faculty of Education, and 48 of them have studied English Language Teaching Program, 26 of them have studied Primary School Teaching Program.

The participants in this study got their education *(except higher education)* in all regions of Turkiye. 41 of them educated in Marmara Region, 11 of them educated in Black Sea Region, 6 of them educated in Southeast Anatolia Region, 6 of them educated in Central Anatolia Region, 3 of them educated in Aegean Region, 3 of them educated in Mediterranean Region, and 3 of them educated in East Anatolia Region. On the other hand, one participant educated *(except higher education)* outside Turkiye *(Central Asia)*. Based on this finding, it can be said that data were collected from the participants who educated in different regions of Turkiye.

Table.1 displays the answers of pre-service teachers to the first open-ended question: *"List the rituals which have affected you positively during your education processes except higher education."* Rituals which are shown on the Table.1 are the frequent answers in the data.

Table 1. Rituals which are perceived as positive by pre-service teachers

Ritual	Frequency (f)	(%)
Independence March	45	% 25.86
Andimiz (Pupil oath in Turkiye)	19	% 10.92
23rd of April	14	% 8.04
National holidays	13	% 7.47
Uniforms	10	% 5.74
The week of domestic goods	9	% 5.17
19th of May	9	% 5.17
Reading festival	7	% 4.02
Flag-raising ceremony	7	% 4.02

45 of pre-service teachers have stated that their perception to Independence March as positive. Another frequent ritual in the participants' answers is *"Andimiz"*. *Andimiz* is a pupil oath read by pupils in unison during primary schools' morning ceremony. Some of the other rituals perceived as positive by participants are 23rd of April *(National Sovereignty and Children's Day)*, national holidays *(23rd of April, 19th of May, 29th of November)*, the pupil's uniform, the week of domestic goods *(this is a week that people encouraged to consume domestics)*, 19th of May *(Commemoration of Ataturk, Youth and Sports Day)*, reading festival *(this is a holiday which organized for first classes of primary schools at the end academic year)* and flag-raising ceremony *(this ceremony is performed at the beginning of week and at the end of week)*. Table.2 shows the themes which are related to pre-service teachers' positive perceptions about rituals.

Table 2. The themes which are related to pre-service teachers' positive perceptions about rituals

Ritual	Frequency (f)	(%)
Marches & Oaths	64	% 36.79
National Holidays	41	% 23.56
Ceremonies & Carnivals & Entertainments	37	% 21.26
Formal Structure	17	% 9.78
Activities	10	% 5.74
Reinforcements	5	% 2.87
Total	174	% 100

As shown in Table.2, most of the pre-service teachers perceive marches (e.g.: Independence March), oaths (e.g.: Andimiz: a pupil oath which is read by pupils in unison during primary schools' morning ceremony), national holidays (e.g.: 19th of May), ceremonies (e.g.: commencement day, flag-raising ceremony), carnivals and entertainments as positive. In addition to these rituals; formal structure in schools (school rules, wearing uniform), activities in the schools and outside the schools (e.g.: school trips) and reinforcements from teachers to pupils (e.g.: giving red ribbon to successful students) perceive as positive by some of the pre-service teachers.

Table.3 presents the answers of pre-service teachers to the second open-ended question: *"Which features and which functions of these rituals affect you positively?"* Features and functions which are shown on the table.3 are the frequent answers in the data.

Table 3. Rituals' positive functions according to pre-service teachers' perceptions

Function	Frequency (f)	Quotation
Strengthening national consciousness	48	"Singing Independence March in unison has strengthened my national senses."
Socialization	13	"Activities during national holidays have socialized me."
Increasing self confidence	7	"Memorizing Andimiz and reading it in front of whole school community has increased self confidence."
Creating equality	7	"I can say that uniforms decrease the social gap between rich and poor."
Increasing motivation	6	"These activities have motivated me generally."

According to pre-service teachers' perceptions; rituals strengthen national consciousness of pupils, contribute to their socializing, and increase their self confidence. Furthermore, it can be said that rituals create social equality, increase pupils' motivation for educational processes. The themes related to perceptions of pre-service teachers about rituals' positive functions are given in Table.4.

Table 4. The themes which are related to perceptions of pre-service teachers about rituals' positive functions

Function	Frequency (f)	(%)
Providing unity, togetherness and equality	58	% 56.31
Positive impact on personality development	20	% 19.41
Socialization	15	% 14.57
Others	10	% 9.71
Total	103	% 100

Table.4 shows that according to pre-service teachers' perceptions; it can be mentioned that rituals contribute to unity and togetherness in societies. Rituals can also contribute common ideals and identities, too (Quantz & Magolda, 1997). Moreover, Deal and Key declare that during the rituals pieces combine with the whole, I unite with we(Sisman & Kucuk, 2011). Besides, it can be thought that rituals are the rites and symbols that contribute to the social equality, have positive impact on personality development of pupils, and their socializing.

Table.5 displays the answers of pre-service teachers to the third open-ended question: *"List the rituals which have affected you negatively during your education processes except higher education."* Rituals which are shown on the table.5 are the frequent answers in the data.

Table 5. Rituals which are perceived as negative by pre-service teachers

Ritual	Frequency (f)	(%)
Outfit control	15	% 15.95
Uniforms	14	% 14.89
School rules	13	% 13.82
Teacher as an authority figure	12	% 12.76

As displayed in Table.5, the pre-service teachers perceive the outfit control and the school rules such as wearing a uniform as negative. At the same time, teacher as an authority in educational environment is perceived as negative by the pre-service teachers.

Table.6 presents the themes which are related to pre-service teachers' negative perceptions about rituals.

Table 6. The themes which are related to pre-service teachers' negative perceptions about rituals

Ritual	Frequency (f)	(%)
Formal structure	54	% 57.45
National holidays	18	% 19.15
Ceremonies and activities	8	% 8.52
Marches and oaths	7	% 7.44
Others	7	% 7.44
Total	94	% 100

As presented in Table.6, most of the pre-service teachers perceive formal structure in schools *(school rules, uniform, outfit control, teacher as an authority figure)* as negative. However, it can be said that less than half of the pre-service teachers perceive some national holidays, some ceremonies and activities as negative.

Table.7 shows the answers of pre-service teachers to the fourth open-ended question: *"Which features and which functions of these rituals affect you negatively?"* Features and functions which are shown on the Table.7 are the frequent answers in the data.

Table 7. Rituals' negative functions according to pre-service teachers' perceptions

Function	Frequency (f)	Quotation
Physical fatigue	14	"Standing up with other pupils while principal's speech."
Uniformity	13	"I think that uniform makes pupils the same."
Scolionophobia	7	"Authoritative teachers cause phobia about schools."
To estranged from school	7	"Obligations have bored and estranged from school me."

As shown in Table.7, rituals may cause physical fatigue for students, uniform the pupils, create scolionophobia (Sisman & Kucuk, 2011), and estranged from school.

The themes which are related to perceptions of pre-service teachers about rituals' negative functions are given in Table.8.

Table 8. The themes which are related to perceptions of pre-service teachers about rituals' negative functions

Function	Frequency (f)	(%)
Contributing negative attitude towards school	20	% 30.31
Physical fatigue	14	% 21.21
Uniformity	13	% 19.7
Negative impact on personality development	8	% 12.12
Others	11	% 16.66
Total	66	% 100

As presented in Table.8, rituals can contribute negative attitude towards school and cause physical fatigue for students. Furthermore, it can be said that rituals uniform the pupils, affect them negatively because the pupils' creativity and freedom are limited by rituals.

5. Conclusion

According to pre-service teachers' perceptions, it may be said that rituals have both positive and negative impacts on pupils and their learning-teaching processes. Pre-service teachers have mentioned rituals' consensual and differentiating functions. This finding is similar to the finding of Bernstein, Elvin & Peters' (1966) study and Meseci's study, that is, two functions, in other words two categorization of rituals *(consensual, differentiating)*. Moreover, with regard to the pre-service teachers' perceptions, the same ritual *(e.g.: uniform)* can be both positive functioned ritual and negative functioned ritual. Thus, it can be said that rituals is related to both cooperation and disintegration (Meseci, 2007).

Pre-service teachers in study group perceive rituals as positive, for providing unity, togetherness and equality in societies; rituals' positive impact on pupils' personality development and socialization. However, rituals have been perceived as negative by some of the pre-service teachers. Since, some of the rituals have contributing negative attitude towards school, cause physical fatigue, uniform the pupils and affect negatively pupils' personality development.

In this study, rituals have been examined based on pre-service teachers' perceptions and the study is limited to the data that is gathered from them via a form. Rituals and rituals' functions can be examined in ethnographic researches that have study groups consist of pupils, teachers and administrators, too. Respective researches may be designed for each ritual as part of this study or other than this study.

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PROJECT-ORIENTED STUDY AT THE CZECH TECHNICAL UNIVERSITY IN PRAGUE, FACULTY OF TRANSPORTATION SCIENCES

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Abstract

The article discusses project-oriented study at the Czech Technical University in Prague, Faculty of Transportation Sciences. Study with project-oriented component prepares students of bachelor and master study programmes for their careers by exposing them to concrete problem-solving already during the course of their studies. Work on a project, i.e. on a real task commissioned by an external entity, requires students to apply acquired practical knowledge. Inseparable part of the practical problem-solving is team work with other students, academics and scientists. Project study reinforces preparation of students for solving expert problems in their future jobs and thus significantly increases their employment potential.

The article further discusses advantages and disadvantages of project-oriented study and statistical data from the last three project recruitments.

Keywords: project-oriented stud;, praxis; team work

Background

Transportation is a set of processes whereby persons, objects, energy and information are transferred in time and space. As an independent scientific and technical field, transportation studies are interconnected with other areas, such as technology of transportation routes and means, telecommunication systems and equipment, technological and economic aspects of management or maintenance of transportation routes and means, which can also be studied at the Czech Technical University. The basic methodology employed in the independent engineering field of transportation is a systemic approach, whereby general matters are related to the specifics in areas such as transportation routes, transportation means and mutually-interconnected operational or logistical systems.

Project-oriented study

Academic programme at the Faculty of Transportation Sciences (FTS) provides its students not only with the theoretical knowledge – indispensable for the future experts, but importantly also focuses on application of this knowledge into practical life. Students are exposed to this approach from the very beginning of their studies, ensuring the interface between theory and praxis. Project-oriented study provides the future graduates with an opportunity to take part in solving practical tasks already during the course of their studies. This prepares them for the challenges they will encounter in their professional lives.

Graduates with prior exposure to practical aspects of the field are better positioned to succeed on the job market. The ability to solve project-related tasks is an invaluable experience not only for managerial positions,

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but also for careers in the public or private sector. Work on a project gives students opportunity to acquire habits of team work, sense of responsibility for own work, as well as an appreciation of the fact that their work contributes to the overall output of the entire team. Ideally, students should work on long-term projects commissioned by external entities and in cooperation with doctoral students, academic and scientific staff.

At the FTS, project-oriented study takes a form of specialized courses for all full-time students in the bachelor or master programmes, with the exception of future professional pilots and majors in Technology of Aviation Maintenance). Offer of such courses at the FTS is broad, covering a wide spectrum of professional fields. Currently, project-oriented study courses in Czech are offered in the following areas:

Bachelor study programme:

- Automation and Informatics
- Transportation Systems and Technology
- Intelligent Transport Systems
- Air Transportation
- Management and Economics of Transportation and Telecommunications

Master study programme:

- Safety of Transportation Vehicles and Infrastructure
- Security of Information and Telecommunication Systems
- Engineering Informatics of Transportation and Communication
- Transportation Systems and Technology
- Management and Economics of Transportation and Telecommunications
- Logistics, Technology and Management in Transportation
- Air Traffic Control and Management

In addition, the master study programme offers two fields of study in English:

- Intelligent Transport Systems
- Transportation and Logistic Systems

In the bachelor study programme, which now comprises only three years, students choose projects within their specialization in the third semester. In the subsequent two-year master study program, students choose their projects already upon applying. Students need to pass an examination to participate in projects which are in great demand. Last year, FTS offered 121 projects in Prague and 15 projects in Děčín in the bachelor study program and 142 projects for the subsequent master study program.

Each project should be linked to an external entity in the public or private sector. Students are greatly interested, for example, in projects undertaken in cooperation with the automobile industry. Projects undertaken in cooperation with the Ministry of Transportation or the Road and Highways Authority also bring interesting results.

Work on a project is a good opportunity to take part in genuine problem-solving, tied directly to the work of the commissioning entity. Both students and the commissioning entities can profit from these arrangements. For example, companies can recognize the students´ abilities during their participation on a project. As a result, students can start to work in a company already while studying, hence securing their future professional position. In addition, project cooperation with external entities can be a source of important financial means for the FTS, which can further contribute to the development of the Faculty and the entire University.

SWOT analyses of project–oriented study

SWOT analysis is an effective method for recognizing the strengths (S), weaknesses (W), opportunities (O) and threats (T) of a given project-oriented study. Lessons-learned can be elaborated based on this analysis. FTS used this analysis with the following results:

S (Strengths)

1. Students acquire basics of the field based on the combination of procedural and theoretical approach.
2. Students master in depth a sub-field of their project, both on the level of theory and practical processes and skills.
3. Students acquire approaches necessary for engineering work, including ability to finalize a project.
4. Students learn to work and communicate in a team.
5. Students have an opportunity to familiarize themselves with the professional environment, in which they are likely to work after completion of their studies.
6. Knowledge acquired during participation in a project is advantageous for future doctoral students.
7. Project leader works with a young team.
8. Senior students share their experiences with their junior colleagues.

W (Weaknesses)

1. Time dedicated to a project is limited and may not provide space to penetrate the topic in sufficient depth.
2. Participation in a project prolongs the time necessary to complete the studies.
3. Project-oriented study is time-consuming for the project instructors, which need to work with the students individually.
4. Given points II and III, project-oriented study is resource-demanding.
5. Students are not sufficiently skilled or mature for this type of work, especially towards the beginning of their studies.
6. Projects, which are carried out at the university premises, put demands on the quality and on laboratory equipment.
7. Projects bring the expected results only when they are "multi-generational," that is when they involve participation of students from different grades with different level of knowledge and skills.
8. It is difficult to find motivation for working on a project without financial reward, especially with increases in livelihood costs and for students who work during their studies.

O (Opportunities)

1. For external entities involved in projects:
    1.1. Students´ project-related work can create synergies with research work of the school and economic activities. Cooperation contributes to deepening of mutual understanding of the differences between academic and corporate/organizational environments.
    1.2. Narrows down recruitment demands and desired profiles of job seekers.
    1.3. Ensures managed recruitment of graduates, which are familiar with the inner functioning and culture of corporations and organizations.
    1.4. Corporations and organizations can influence choice of topics and focus of projects.
    1.5. Adaptation of graduates to the new working environment is faster.
2. Students´ theses which are related to the project can be qualitatively enhanced and often directly usable beyond the academic sphere.
3. Students who work on a project experience the so-called "spontaneous self-learning effect" – natural study and self-education by following a good example, alternatively by avoiding a bad example by analyzing

lessons learned. This effect generally arises in teams of students at different levels and in motivating work environment with a vital element of creativity.

4. Financially rewarded work on a project is more interesting for a student.

T (Threats)

1. Project instructors are not motivated or their motivation decreases over the course of the project under the level required for this type of instruction.
2. Cooperation between the external entities and university is not obtained or disappears.
3. Lack of necessary resources.
4. External instructors engaged in the projects prefer their employers´ approaches and interests over the academic needs. This could compromise the "market neutrality" of the university.
5. Limits posed by infrastructure, for example by legislation.

SWOT is helpful in indicating not only the strengths of the project-oriented study, but also its weaknesses, which the FTS can transform into strengths. Identification of threats is instrumental for trying to avoid them.

Statistics related to competitions for student projects

The following tables show statistical data of the projects offered in different fields of study, the capacity offered to students, and numbers of actually admitted students. The tables are divided into bachelor and master studies. They also indicate the general interest of students in different fields offered by the FTS.

All tables should be numbered with Arabic numerals. Headings should be placed above tables, left justified. Leave one line space between the heading and the table. Only horizontal lines should be used within a table, to distinguish the column headings from the body of the table, and immediately above and below the table. Tables must be embedded into the text and not supplied separately. Below is an example which authors may find useful.

Table 1. Statistics of tenders for bachelor's projects in Prague

Study programme	Shortcut	Number of projects offered			Total capacity of projects offered			Number of students admitted		
		WS 2010/11	WS 2011/12	SS 2011/12	WS 2010/11	WS 2011/12	SS 2011/12	WS 2010/11	WS 2011/12	SS 2011/12
Automation and Informatics	AUT	41	41	30	125	93	43	9	15	23
Transportation Systems and Technology	DOS	36	44	41	131	135	80	51	62	69
Intelligent Transport Systems	ITS	-	-	13	-	-	39	-	-	18
Air Transport	LED	8	11	12	65	81	55	34	31	55
Management and Economics of Transportation and Telecommunications	MED	25	29	25	87	104	67	22	19	29

WS   -   winter semester
SS   -   summer semester

Number of students admitted - Prague, master

Study programme
Safety of Transportation Vehicles and Infrastructure
Security of Information and Telecomunication Systems
Transportation Systems and Technology
Engineering Informatics of Transport and Communication
Intelligent Transport Systems
Management and Economics of Transportation and Telecommunica...
Air Traffic Control and Management

Table 2. Statistics of tenders for master's projects in Prague

Table 3. Statistics students on projects on 23rd May 2012

Study programme	Shortcut	Minimum of students	Maximum of students	Average of students	Median of students	Sum of students	Number of projects
Automation and Informatics	AUT	1	4	1,8	2	43	24
Transportation Systems and Technology	DOS	1	19	5,6	3	214	38
Intelligent Transport Systems	ITS	1	4	2,3	2	16	7
Air Transport	LED	2	29	9,5	6	123	13
Management and Economics of Transportation and Telecommunications	MED	1	18	3,8	2,5	68	18
Security of Information and Telecomunication Systems	BI	1	3	1,7	1	5	3
Transportation Systems and Technology	DS	1	17	4,5	4	118	26
Engineering Informatics of Transportation and Communication	ID	1	5	1,7	1	25	15
Intelligent Transport Systems	IS	1	2	1,3	1	8	6
Management and Economics of Transportation and Telecommunications	ME	1	9	3,3	3	60	18
Air Traffic Control and Management	PL	2	34	12	7	156	13
Transportation and Logistic Systems	TR	7	7	7	7	7	1

1148

Statistics students on projects - bachelor study programme
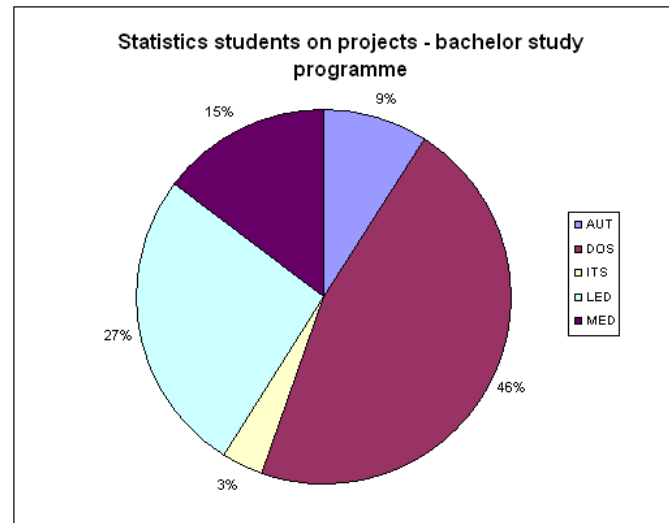
Study programme	Shortcut	Minimum of leaders	Maximum of leaders	Average of leaders	Median of leaders	Sum of leaders
Automation and Informatics	AUT	1	4	2,1	2	42
Transportation Systems and Technology	DOS	1	5	2,8	2	86
Intelligent Transport Systems	ITS	2	4	2,7	3	19
Air Transport	LED	2	5	3,6	5	37
Management and Economics of Transportation and Telecommunications	MED	1	4	2,3	2	35
Security of Information and Telecomunication Systems	BI	1	2	1,3	1	3
Transportation Systems and Technology	DS	1	5	2,8	2,5	59
Engineering Informatics of Transportation and Communication	ID	1	3	1,9	2	24
Intelligent Transport Systems	IS	1	5	2,2	2	13
Management and Economics of Transportation and Telecommunications	ME	1	4	2,2	2	36
Air Traffic Control and Management	PL	1	5	3,7	5	38
Transportation and Logistic Systems	TR	1	1	1	1	1

Table 4. Statistics on projects leading on 23rd May 2012

1149

Statistics students on projects - master study programme
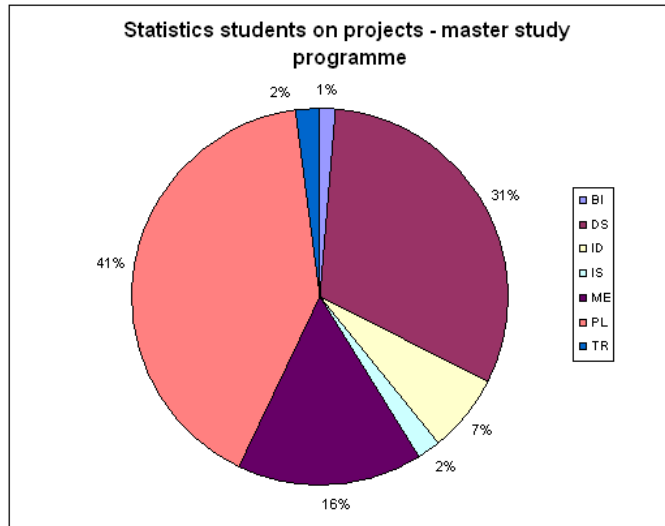
Conclusion

Project-oriented study at the FTS for bachelor and subsequent master study programmes is unequivocally beneficial and plays an irreplaceable role in education. It prepares students for successful careers, since it gives them an opportunity to engage in genuine problem-solving already during the course of their studies. Their work has a specific impact on the external commissioning entity. FTS graduates therefore possess not only the theoretical knowledge, but also have an experience in application of this knowledge. Such approach is vital especially today, when companies and organizations are interested in recruiting primarily experts with prior work experience. FTS answers these demands. It is therefore not surprising that according to studies carried out in 2011 [see references], FTS belonged to the five schools whose graduates did not face any difficulties when entering the job marked. Project-oriented has played a significant role in this.

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QUALIFY STUDENTS TO BECOME FAMILIAR WITH BEING A EUROPEAN EMPLOYEE EUROPEAN CITIZENSHIP AND THE FREE MOVEMENT OF EMPLOYEES

Mohammed Shamsul Arifin, Alexander Maschmann

From a juridical point of view "citizenship of the union" (European citizenship) means: "Any person who holds the nationality of an EU country is automatically also an EU citizen." (KOM 2010 a, p. 4). One of the greatest achievements for the citizens of the EU is to have the right to move and reside freely within the territory of the EU. National citizens enter the European stage as – cross boarder – tourists, costumers, consumers, employees, inhabitants, students etc. An increasing number of EU citizens took advantage of this freedom. Most of them changed their residence towards another EU country for employment purposes. Although people are well aware of their right to move and to reside freely within the territory of the EU, a lack of awareness and understanding is identifiable concerning that to be a European employee is an appearance of European citizenship. This chapter tends to give students a better sense of what it means to be an EU citizen according to this essential aspect.

The nature of the right to move freely

Fundamental for this development referring to European citizenship is "(…) the right to move freely around the European Union and settle anywhere within its territory" (KOM 2010 a, p. 4). Taking a closer look at this freedom, leads to a remarkable detail concerning the nature of this fundament of European citizenship. For workers and self-employed persons this freedom is valid without any conditions. In contrast, students have – among other conditions – to make sure that they "(…) have comprehensive sickness insurance cover (…)" and to proof "(…) that they have sufficient resources for their self and their family not to become a burden on the host EU country's social assistance system during their residence (…)" (KOM 2010 a, p. 4).

In its basic nature, the right to reside in another EU country is valid only for three month, for job-seekers the maximum period of stay is six weeks and actually unconditional only for employees or self-employed persons or citizens with sufficient resources. The right for workers to move and stay freely within the territory of Member States for the purpose of employment or application for employment, respectively, is founded in the union policy of establishing and ensuring the functioning of the EU Single Market (Internal Market) (cf. TFEU 2010, article 26 2. and 45 1.). Obviously, it is shaped as a right for every European working citizen but on the other hand it is formulated as a duty for the EU Member States and their authorities:

"Such freedom of movement shall entail the abolition of any discrimination based on nationality between workers of the Member States as regards employment, remuneration and other conditions of work and employment." (TFEU 2010, article 45 2.)

Notable at this point is that nationality or national citizenship, respectively, is something to be potentially discriminated against. The motive to enhance the free movement of professionals seems to be determined by economic reasons according to the realization of the Single Market. In this case the conclusion could be drawn that economical impacts have been more defining in the process of building a European community than the intention to advance the civil rights of EU citizens.

The first European community after the Second World War, quasi accepted as nucleus of the European unification, is the European Coal and Steel Community (ECSC) which was founded in 1951 by Belgium, France, Germany, Italy, Luxemburg and the Netherlands. Irrespective of the consideration about a European citizenship, there has already been a focus on the concept to interdict any discrimination based on nationality in case of employing workers from other Member States:

"Member States undertake to remove any restriction based on nationality upon the employment in the coal and steel industries of workers who are nationals of Member States and have recognised qualifications in a coalmining or steelmaking occupation (…)" (ECSC 1951, Art. 69 1.).

In the current treaty on the functioning of the European Union are both – the civil right and the discrimination interdiction – fundamental for being a European employee (cf. TFEU 2010, article 45, 1. and 2.). For the sake of completeness it has to be said that this provisions only apply to non-public service employment (ibid. 4.). Nevertheless, the free movement for workers could be seen as a great and actual improved achievement.

The awareness and utilization of free movement

The juridical point of view is a more technical aspect of European citizenship. For shaping a European community it is also important to take soft aspects into regard as for example the awareness of being an EU citizen. In every day life many people come in contact with evidences of European citizenship, e. g. European driving license, European currency and European product labels. But to which extent are people familiar with the

basic element "free movement" within the territory of the EU? The European Commission is regularly monitoring these kinds of soft aspects of European citizenship. As shown in figure 1, there is already a great awareness of it among the EU citizens. Compared to earlier numbers, the percentage of "citizens being well aware" is constantly increasing up to an even higher level.

To be aware of something is an important basis for a successful development, but is the possibility to move freely utilized at the same level?

Fig. 1: KOM 2010 b, p. 23 in excerpts

In fact, there are two groups of EU citizens which are using this freedom.

In first place those should be mentioned, who are migrating to another EU Member State. In 2009, already 11,937.22 EU citizens residing in another EU Member State (Eurostat 2011 a, Table 2.18) have been reported. Each year, about two million and the number is constantly increasing as well (Eurostat 2011 b, p. 4). It is worth it to take a closer look at the reasons that are given for moving to another EU state. Nearly half of the migrants are naming concrete work related reasons and about a quarter educational purposes (KOM 2010 c, p. 6). It could be assumed that after an education in another Member State, a significant number of students will stay as well with the intention to work. Among the remaining migrants, a significant group of those can be found who followed a family member that moved because of work-related purposes (ibid.). Identifiable in this context is that the majority of EU citizens migrating into another EU Member State have a direct or indirect employment purpose.

The second increasing group of EU citizens using the free movement are the so-called cross boarder commuters (cf. KOM 2009, p. 24). They take advantage of staying resided in their previous home country and working independently or being employed in a bordering EU country. It could be seen as a concurrence between two EU countries or even as a conflict about workforce resources but in most cases it is an advantage for both the countries as cross boarder commuting fosters the prosperity on both sides of the boarder. Furthermore, these so-called EU Regions are the fields of performance of European integration and thus also for European citizenship.

The migrations of employees and cross boarder commuting are achieving a contribution to harmonise the labour and living conditions of EU citizens. Simultaneously, a substantial area of conflict between the goal to develop a balanced European community and the existence of evolved national shaped systems – e. g. social insurances, family care, and qualification structures – is uncovered. For the single citizen this brings along a lot of challenges he has to cope with. Both kinds of utilization of the free movement are increasing but what is about the awareness of the challenges? Do EU citizens know what they should be prepared for when changing the home or working country? To illustrate the dimension of the difficulties that could be expected, some features about living and working in Germany are depicted exemplarily in the following chapter.

Living and working in Germany

Pupils who are planning to move from one EU Member State to another, almost all of them are aware of their right to reside and work in any Member State of the EU. This right is considered the fundamental right of EU citizens and one of the main advantages of EU membership. However, some questions may arise about the true nature of this right, particularly whether it applies equally to all EU members. This is because citizens of the newer EU Member States face work restrictions in certain countries. Nevertheless, before planning to move to Germany it is better to do a migration check**.** It will provide you a first orientation whether you will be able to obtain a work permit in Germany or not.

What needs to be known before move to Germany?

If you come from a country within the European Union, Switzerland, Liechtenstein, Norway or Iceland, you can live and work in Germany without any restrictions. However, Bulgarian and Romanian EU citizens may only have recourse to the basic European principle of free movement for workers after a transitional period. During this transitional period – up to 31 December 2013 at the latest – Bulgarian and Romanian workers may only engage in employment if they hold a permit from the Federal Employment Agency and likewise, employers may only hire those in possession of such a permit. The permit may be issued either as a full EU work permit or as a restricted EU work permit. Full EU work permit (*Arbeitsberechtigung-EU*) provides unrestricted access to the German labour market. An entitlement may be conferred, for example, after an uninterrupted twelve-month period of employment in Germany or to family members of a German citizen. Restricted EU work permit (Arbeitserlaubnis-EU), it is contrary to the full EU work permit, the duration and scope of a restricted EU work permit is limited.

When someone from a non-European country is planning to work in Germany, it is a big challenge for him/her. If he/she acquired a university degree at a German university, a work permit may be granted upon a specific employment contract. If he/she did not acquire a university degree in Germany, it is basically not possible to grant a work permit.

Before applying for work in Germany

If you have completed a course of study or a vocational course of training abroad and would like to work in Germany in the profession for which you have been trained, it is important to determine whether the qualification you have acquired abroad is recognised as equivalent to a German qualification or is professionally recognised. The portals *www.berufliche-anerkennung.de* and *www.enic-naric.net* will provide you information about the recognition procedures in Germany. The express purpose of the enic-naric.net website, a joint initiative of the European Commission, the Council of Europe and UNESCO/CEPES, is to help other interested organizations and individuals to easily find information on current issues of international academic and professional mobility and on procedures for the recognition of foreign qualifications.

Regulated profession: In Germany, there are about 60 regulated professions (e.g. physician, teacher and optician). They are listed on the website www.anabin.de under the key word "responsible offices in Germany".

Access to one of these professions and the right to practise are linked to the proof of a certain qualification by juridical and administrative prescriptions for regulated professions. Therefore, whoever would like to practise a regulated profession in Germany with a qualification gained abroad must have their qualification recognised by the responsible German authorities or the corresponding professional association (BA 2012, "Recognition of qualifications"). *Non-regulated profession:* Most professions in Germany are not regulated (e.g. mathematician, physicist, commercial professions). In reality, the employer provides the recognition. It therefore makes sense to apply for a certificate evaluation as it cannot absolutely be guaranteed that a German employer will be able to assess every foreign qualification for a course of study or professional competence. (ibid.)

How to find a work in Germany?

If you are living abroad, the International Placement Service (ZAV), (http://www.arbeitsamt.de/zav/index.html) can help you to find out which jobs are currently on offer and whether or not you could be suitable for them. If you are already resident in Germany, you can contact the local Federal Employment Agency office (www.arbeitsagentur.de > Partner vor Ort). However, do not just restrict your search to job offers advertised by the Federal Employment Agency. Many companies also publish their job vacancies on online job portals.

How do you find somewhere to live?

Local daily newspapers can help you find apartments, usually on the Friday- or Saturday-editions. Many apartments are rented out through an agent, which also involves an extra fee. The following links are useful when looking for accommodation: www.immoscout24.de, www.immowelt.de.

How much money for what? The major part of monthly living costs is for accommodation. Rent prices vary greatly from region to region; rents in cities are generally higher. The cost for living in Germany also depends on your lifestyle. The other living costs, e.g. foods are slightly cheaper. Here again, the price range varies depending on the area where you live in. In figure 2 the monthly expense for "International students" is shown.

If you bring your children with you

In Germany, often it is not very easy to organise the daily work with full satisfaction – particularly when both parents work or study. When one child is still in kindergarten but the other one already goes to school, the week needs to be planned very carefully. Who fetches whom and from where? And who looks after a sick child? Who does the shopping? Nevertheless, many parents manage this day after day. The Family Service has offices in a number of towns and cities in Germany which can help to find the best solution for your family circumstances. The web address is www.familienservice.de.

Monthly expenses for international students in 2009	
Rent (incl. additional charges)	281,- Euro
Food	159,- Euro
Clothing	51,- Euro
Transport (car/public transport)	76,- Euro
Health insurance	59,- Euro
Communication / Information	35,- Euro
Work/study materials	33,- Euro
Leisure activities	63,- Euro
Total	757,- Euro

Fig. 2: BMBF 2010, p. 23

Religion and holidays

Article 4 of the German Constitution guarantees freedom of belief. Anyone can freely have a religion, join a religious community, change or leave it, or decide to be non-denominational. In Germany, there is no state religion; this means that state and religious and philosophical communities may not enter into an institutional association with one another. Germany's main religion is Christianity, dominated by the two strands of Roman Catholicism and Protestantism. Islam is the largest minority religion in the country (cf. fig. 3). The large majority of Muslims in Germany are of Turkish origin. Holidays in Germany are based on Christian traditions. There are no holidays for pupils of other religious beliefs in Germany!

Religion in Germany (2008)	
No Religion	34.1%
Roman Catholicism	30.0%
Protestantism	29.9%
Islam	4.0%
Orthodox Christianity	1.6%
Judaism	0.2%
Buddhism	0.2%

Fig. 3: Wiki 2012, Statistics

What else you need to know?

Family and friends: The "Consumer Analysis 2010" study showed that Germans are very social & friendly but have no sense of humour. (MPG 2010, p. 48).

Punctuality: Germans put great emphasis on punctuality. It is therefore helpful to stick to the agreed time for meetings.

Greeting people: When greeting and taking leave of people, it is customary to shake hands and look at the person. It would be impolite not to make eye contact – this also applies to a direct conversation with someone. Hugging is only customary among close friends.

Formality: Unless you know someone well, do not use the "Du (you)" form, unless they have offered it to you; you should address people using the "Sie (you), but it's creating a sense of respect)" form.

Hierarchy: There are clear divisions between the different levels in the hierarchies. It is always advisable to be aware of the status of the people you are working with.

These shown aspects of "living and working in Germany" should help to give a good overview of the challenges that can be expected when moving to Germany or another EU Member State. There are quite a lot of them and the task is to promote students to become familiar with the European diversity and, as a result of it, to prepare them to be able to profit from the opportunity to be an EU citizen or employee, respectively. In the last chapter, successfully performed ways to reach this goal are presented.

Fit for Europe - promoting students to become a "European" citizen

To learn about the European diversity and to become familiar with being a European citizen is a task which should be integrated systematically in the curriculum of every educational programme – from pre-school, to primary, to secondary up to higher education, from general to vocational education and training as well as adult education. To facilitate this aim, the European Union has established effective instruments in the course of the Lifelong Learning Programme (LLP) that could be utilised by every teacher and also by everyone else involved in school education. The objective of LLP is to develop the European Community further by enhancing the "(…) *interchange, cooperation and mobility between education and training systems within the Community (…)*" (EU 2006, art. 2, 2.). Learning theoretically about the European Union, its institutions and its operating principles is one part of becoming a European citizen, but to become familiar with it requires competence promoting adoptable experiences. Exactly for this intended use, the LLP has been established. A closer look at the specific objectives of the Comenius programme clarifies that its purpose shall be:

"(…) to develop knowledge and understanding among young people and educational staff of the diversity of European cultures and languages and its value and (…) to help young people acquire the basic life-skills and competences necessary for their personal development, for future employment and for active European citizenship." (EU 2006, art. 17, 1.).

In every EU Member State a competent LLP National Agency that can be contacted by every interested actor involved in school education exists. A lot of reports and presentations of successfully executed projects are available via internet. The Comenius programme perfectly fits for "USING SCHOOL FOR DEVELOPING EUROPEAN CITIZENSHIP".

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QUALITY ASSURANCE IN HIGHER EDUCATION INSTITUTIONS USING STRATEGIC INFORMATION SYSTEMS

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Abstract

Quality assurance is a holistic approach covering all the processes in a higher education institution, in order to serve the students and other stakeholders in expected quality standards. The success of a quality assurance system depends on the support of the management. Hence, quality assurance should also cover the strategic management, process management and measuring-monitoring system which interact with each other for enabling the institutions to improve its processes. Furthermore, information systems should be implemented to integrate the quality assurance system with management processes for enhancing the overall success, and to produce assessable information about quality assurance system. In this study, a quality assurance framework supported by strategic information system is proposed for higher education institutions. The proposed strategic information system also integrates the strategic management, process management and monitoring-measuring systems as well as takes into consideration international, national and regional external factors.

Keywords: Strategic Information Systems; Quality Assurance; Strategic Management

Introduction

Quality assurance is an integrated approach covering all the processes in a higher education institution, which supports improvements in these processes. The success of a quality assurance system depends on the support of the management. Furthermore, information systems should be implemented to integrate the quality assurance system with management processes for enhancing the overall success, and to produce assessable information about quality assurance system.

The institution needs a common strategy and action plan to integrate its activities and create cost efficiency and competitive advantage. Each institution is responsible for its quality assurance system and therefore the quality maps are likely to have varying architectures (Kettunen, 2008).

In Turkey, the Commission for Academic Assessment and Quality Improvement in Higher Education (YÖDEK), which has also been an associate member of the European Association for Quality Assurance in Higher Education (ENQA) since 2007, has started operations to run, coordinate and stipulate procedures for internal and external assessment activities of the higher education institutions. YÖDEK has prepared some regulations by taking into account the developments in the world and especially in Bologna Process in Europe. The regulations provide general principles of assessment of education, training and research activities and administrative services, improvement of quality of higher education institutions. YÖDEK has also issued an academic evaluation and quality improvement guidebook for higher education institutions to use in their preparations of strategic plans (YÖDEK, 2007).

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As Penbek *et al.* (2011) stated Bologna Process is a complicated change process which aims to bring many opportunities and help to improve the university. Therefore an effective strategic management is necessary to lead this planned change in order to get beneficial outcomes. For this reason they investigated the interdependence of strategic management and planned organizational change for universities during the Bologna Process.

In this study, a quality assurance framework supported by strategic information system is proposed for higher education institutions. The proposed strategic information system also integrates the strategic management, process management and monitoring-measuring systems as well as takes into consideration international, national and regional external factors.

Literature Review

Quality assurance in terms of the higher education is defined in several ways. Quality assurance refers to the process of maintaining standards reliably and consistently by applying criteria of success in a course, program or institution. Quality Assurance can be defined in terms of its four components (NAAC and COL, 2007):

everyone in the enterprise has a responsibility for enhancing the quality of the product or services;

everyone in the enterprise has a responsibility for maintaining the quality of the product or services;

everyone in the enterprise understands, uses and feels ownership of the systems which are in place for maintaining and enhancing quality;

Management regularly checks the validity of the system for checking quality.

According to Brittingham (2009), Quality assurance is an articulation by the higher education community of what a college or university must do in order to deserve the public trust. On the other hand, quality improvement is a framework for institutional development and self-evaluation.

According to the definition of the Finnish Higher Education Evaluation Council quality assurance refers to the procedures, processes or systems used by the HEI to safeguard and improve the quality of its education and other activities (FINHEEC, 2008).

This is defined as all the planned and systematic work to guarantee that a higher education institution or an educational program fully applies quality/performance processes in accordance with the internal and external quality standards defined within Europe Quality Assurance Principles and Standards in Higher Education (YÖK, 2012).

Quality assurance is the core aim of the Bologna process. Rezić et al. (2010) stated that quality assurance should be recognized as an instrument for strategic management of higher education institutions. Planning means change of (a) the way in which the world, in which the University exists, changes and (b) the way in which the University will change. They also highlighted that more important fact is that planning also means preserving and, whenever it is possible, improvement of quality through entire process of change. Without correct planning,

governing with changes cannot be nothing more than "governing with crisis", and it is not possible to assure quality.

According to Kettunen (2008), quality assurance overlaps strategic planning, because strategic planning is an essential management activity where high quality can be expected. Therefore strategic planning, management process, internal processes and systems must be taken into account in the framework to evaluate quality assurance. Information about the achievement of the targets should be taken into consideration for improving the processes in the light of quality assurance. Hence, the management information system integration supports the continuous improvement and produces information to develop corrective actions plan for quality audits. If the quality assurance system is not integrated with the management system, it will remain isolated and will not yield the desired results of quality improvement.

Furthermore, information systems should be implemented to integrate the quality assurance system with management processes for enhancing the overall success, and to produce assessable information about quality assurance system. In fact, the use of technology in the assessment of quality assurance system still is an innovative application area for higher education institutions. Welsh and Dey (2002) stated that most institutions have not effectively integrated information systems with their quality assurance plans. They emphasize that quality measurement is not just an academic debate about how to best understand and measure program quality; it is an organizational problem about how to best organize information systems to respond to both internal and external demands for information about the performance of programs and services.

There are ERP system vendors for higher education in the world such as Oracle, SCT, PeopleSoft, SAP, Jenzabar and Datatel. Many higher education institutions try to take advantages of ERP systems. Nevertheless many higher education institutions do not implement integral information solutions ERP systems (Zornada & Velkavrh, 2005).

The institution-wide application of technology and information systems to quality assurance is a need and an opportunity for universities. In this study the proposed model is designed for generating and utilizing information about the performance of universities for both internal and external quality assurance and improvement.

Information Systems for Quality Assurance in Higher Education

Quality assurance framework proposed in this study includes strategic management, process management and measuring-monitoring modules. The Strategic Information Systems (SIS) has been designed to facilitate the management and measurement of quality assurance processes in HEIs.

The quality assurance system should consider the expectations of stakeholders, national and international trends in higher education and other related areas. Therefore, the interaction between the external factors and the quality assurance system is provided by SIS in the proposed model. The external factors are the quality approaches and the quality requirements at regional, national and international levels. The quality approaches such as EFQM and Bologna Process should be taken into account to identify the quality expectation at the international level in the higher education institutions. Likewise, the higher education institutions should take into consideration the regulations such as YÖDEK and fulfill the criteria of the quality assurance agencies such

as MÜDEK at the national level. At the same time, the higher education institutions should meet the expectations of the stakeholders at the regional level. The proposed quality assurance framework is designed according to these external factors and shown in the Fig. 1.
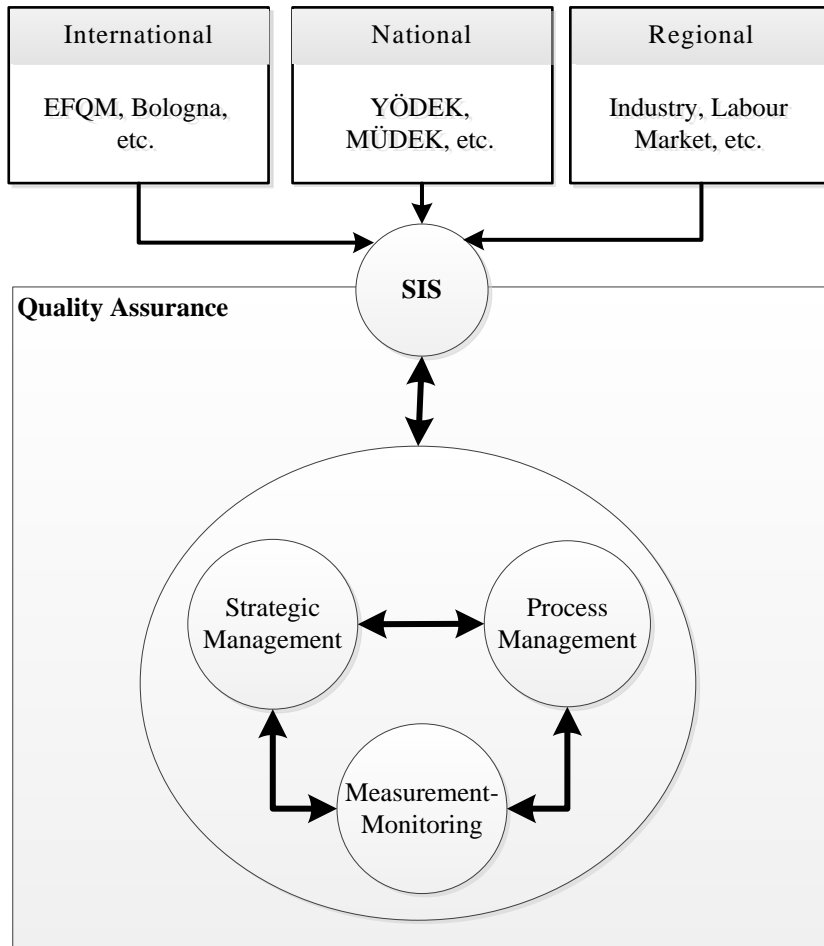
Fig. 1. Conceptual model for quality assurance using SIS.

YÖDEK was founded to fulfill the needs of the national quality assurance system which takes into consideration the international quality trends. The Strategic Management Module within the Quality Assurance framework is developed based on the strategic management approach proposed by YÖDEK. The proposed model also meets the requirements of MÜDEK, which is the agency for accrediting engineering departments of higher education institutions. At the same time, educational, research and development, and service processes in the scope of quality assurance system are designed in line with the stakeholder expectations.

EFQM provides the integration of the some management approaches such as the leadership, the student and people focus, management by processes, partnerships development, innovation and improvement into the quality assurance. In this way, the quality assurance is associated with the excellence concept from the holistic view.

Certainly, there are some other excellence models as EFQM and the quality assurance system can be improved according to these models.

Bologna process has been implemented to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange. The Bologna process has four main action fields such as recognition of degrees and diplomas, quality assurance, higher education qualifications framework, student participation and social dimension. In the proposed model, the implementation of quality assurance in higher education meets the requirements of the Bologna Process.

The Strategic Information System designed for managing the quality assurance in higher education institutions consists of three main components that are interrelated with each other.

- Strategic Management
- Process Management
- Measurement-Monitoring

Strategic Management Module of SIS

Strategic management aims adjusting the institution regarding the external environment. Although environmental change is unavoidable, it will always impact organizations eventually. Due to the legislation, as well as external pressures such as economic, social and international trends, strategic management process is a focal point for the successful management of higher education institutions. Therefore, strategic management activities should be supported by strategic information systems.

Strategic Management Module of the SIS enables the institution to define its mission, vision and core values. Functions which provide internal and external evaluation and analysis of the institution are also included in the module. SWOT (Strengths, Weaknesses, Opportunities and Threads) Analysis is implemented by using those functions. SWOT-Targets interrelation matrix can be developed by using analysis tools within the module. Several analysis tools facilitate defining strategic goals, targets, activities and projects, and monitoring procedures. Activities and projects should be compatible with the budget. Therefore budget allocation plan for activities and projects are conducted by related tools provided in Strategic Management Module.

Strategic Management Module is in interaction with other two modules. Performance Indicators of the processes addressed in Process Management Module are associated with the targets in Strategic Management Module. Moreover, targets can be clustered according to the related processes.

Process Management Module of SIS

Processes executed in a higher education institution can be defined within the Process Management Module of the SIS. Interrelations between the processes and the targets can be defined, and the matrix addressing the process and target interaction can be built by using the module.

The responsible of the processes, its inputs, sub-processes, interactions with other processes, performance indicators and outputs can also be defined in this module. A process model relevant to the YÖDEK, which

includes five main processes for higher education institutions, is utilized as a base for the Process Management Module.

The main processes are listed below:

- Education and Training Process
- Research and Development Process
- Application and Service Process
- Administrative and Support Process
- Managerial Process

Continuous improvement of the processes will positively affect the achievement of the targets defined in Strategic Management Module.

Measurement-Monitoring Module of SIS

Measurement-Monitoring Module is designed for measuring and monitoring the achievement of the strategic goals, targets, sub-targets, activities and projects identified in the Strategic Management Module. The module also can be used to monitor the achievement of the processes and sub-processes identified in the Process Management Module, based on the performance indicators.

In addition, several detailed reports can be taken for required time periods and for a specific department. These reports can be used for analyzing the variation of the targets and achievement values during a given time intervals for a specific department. The module provides a user friendly graphical user interface to facilitate the monitoring of the performance of the institutions and the processes visually.

Conclusion

During the implementation of quality assurance in a higher education institution, the main problems are to obtain accurate information from several sources, to work with huge information and documents, and analyze this information to generate knowledge. The reliable and useful information is also necessary for the success of the quality assurance system implementation. Therefore information systems should be implemented to overcome these problems.

Strategic Information System has been designed for the support of paperless implementation of quality assurance by means of collecting accurate and reliable data and accessing required information easily. Strategic information system also integrates the strategic management, process management and monitoring-measuring systems as well as takes into consideration international, national and regional external factors.

Strategic management module of the proposed system enables to define strategic goals, targets, sub-targets and activities-projects of the institution. Internal and external analysis of the institution can also be conducted using the module. Process management module of the system is designed for defining the processes of a higher education institution and associating the processes with the strategic goals. Measurement-Monitoring Module is designed for measuring and monitoring the achievement of the strategic goals, targets, sub-targets, activities and projects identified in the Strategic Management Module, as well as the achievement of the processes and sub-processes identified in the Process Management Module, based on the performance indicators.

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REFLECTIONS ON PERSONAL LEARNING ENVIRONMENTS: THEORY AND PRACTICE

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Abstract

The nature of higher education has changed irrevocably due sweeping changes brought about by e-learning. Such changes include the educational experience, the research process, institutional expenditure & academic work. Possibly the newest development is the personal learning environment. This paper explores the question: what might be the higher education effects of personal learning environments (PLEs) within the context of already embedded learning management systems? A short history is given & the theoretical underpinnings of PLEs are investigated. The paper briefly describes institutional practice in terms of widely established learning management systems. Finally, contemporary approaches to PLEs are critiqued & their possible effects upon higher education evaluated.

e-learning; personal learning environment; learning management systems

1. Introduction

The term "personal learning environment" or "space" or "network" (PLE) is a relatively new concept usually meaning a digital space in which the user has the ability to access, aggregate, create, store, & share learning materials. The materials comprise such artefacts as lectures, notes, assignments, blogs, wikis, forums, with most PLEs also enabling users to socially interact with others. The first recorded use of the term comes from a session title at the 2004 Joint Information Systems Committee/ Centre for Educational Technology & Interoperability Standards conference in the UK. Since that time there has been a continual development of PLEs in contrast to an institutional backdrop that has been quick to erect learning management systems (LMSs) such as Blackboard, .LRN, Sakai & Moodle.

A significant difference between the PLEs & LMSs seems to be one of power – the institution traditionally owns pedagogical property rights, & so controls a large proportion of the content on the LMS, whereas with a PLE, the user has the ability to customise the interface, to add functionality & ultimately populate the interface with individually selected content. It remains to be seen if institutions & their IT departments will be able to bequeath their power & control by transferring their professional *raison d'etre* to their students.

2. Educational theory & PLEs

A perennial academic exercise is to examine new educational innovation under the spotlight of previous educational theory (Fiedler & Väljataga, 2011).

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2.1. Instructivism

The oldest & most traditional educational theory is that of *Instructivism* which has its roots in early 20th century behavioural psychology. Instructivism depicts the learner as assimilating knowledge from expert teachers who impart their wisdom & skills to a largely passive audience. Instructivism has two major tenets at its core. First, the aim of instruction is to have the learner understand a particular syllabus, &, second, learners should be directly taught by instructors, who determine the content & sequence of the learning. The instructivist approach is to totally plan a curriculum by breaking down a subject area into its component parts, & then to sequence these parts into a progression, ranging from the simplest to the more complex. This approach is much like a Maths textbook, which starts with the simple principles & builds upon these in order to deal with the most difficult concepts. Coincidentally, textbooks are often a feature of the Instructivist method.

For students, there is little chance for self-discovery, & little time for exploration or discussion, with real-world examples usually subordinate to hypothetical models & often arcane exercises. The lecture is the main medium of the tertiary instructivist teacher & evaluation is usually performed by means of quizzes & examinations, with reproduction of ideal answers the way for students to excel (Diaz & Bontenbal, 2000). Employing the instructivist method is probably still the most popular way of designing & implementing tertiary-level courses, especially in disciplines such as Business, Science, Medicine, & Health.

In the e-learning context, LMSs would seem to be the closest thing to instructivist methodology. By encouraging teachers to place their lectures & teaching resources online, & insisting that students access these resources or fail, most educational institutions can be seen to be simply perpetuating the instructivist pedagogy of the early 20th century. PLEs however, are simply not found in instructivist methods. Student-centred learning is antithetical to behaviorist ideas since it removes control of the learning from the teacher & allows the student to be responsible for their own learning. With Instructivism tacitly underlying much of what passes for e-learning in many higher education facilities, the introduction of PLEs must be seen as an undertaking fraught with risks for many institutions.

2.2. Constructivism

Typically viewed as the opposite of Instructivism is the theory of *Constructivism,* which considers that all new knowledge & learning is based on previous knowledge & past learning, & that we construct our concepts gradually from experience with the world. There are three main constructivist principles: 1. learning & understanding comes from interactions with our environment; 2. the learner encounters cognitive conflict which in turn stimulates learning; 3. new knowledge develops through social interaction (Savery & Duffy, 1995). Other main beliefs of constructivism are that it emphasises learning & not teaching, encourages learner individuality, conceives of learning as a process, & nurtures natural curiosity. Constructivist learning experiences incorporate authentic tasks in meaningful contexts, it employs real-world learning situations (Jonassen, 1994) & minimises assessment in the learning process.

The two main schools of Constructivism are social constructivism & cognitive constructivism. Social constructivism is most often associated with Russian psychologist Vygotsky & his followers, who believed that the teacher plays an active role in facilitating the learner to develop their mental ability through discovery. Social constructivists believe that leaning is a social & collaborative activity that is not taught by a teacher, but rather constructed by the learner. Cognitive Constructivism, whose forefather was Jean Piaget, sees learning as being achieved through various developmental stages that are built upon stage by stage. The learner develops through these necessary stages by processes of assimilation, accommodation & equilibrium.

As attractive as Constructivism appears, much criticism has been directed at the constructivist method. The main problem is that constructivists tend to minimise the curriculum compared to the needs of the learner. A decade & a half ago, the "child-centered" version of progressive education from which so much of constructivism flows was reported to be hostile to standards, assessments & accountability. In the child-centered

classroom, teachers are supposed to "facilitate," not teach. Teaching is scorned as being too didactic, representing an almost authoritarian act (Finn & Ravich, 1996).

The advent of e-learning over the last 20 years, including LMSs & blended learning models, has encouraged teachers to use constructivist principles to employ a variety of "scaffolding" techniques within online environments. Such techniques include: activating previous knowledge, breaking complex tasks into more manageable chunks, modeling processes of a task by explicating the steps involved, using notated images to simplify complex processes, & modeling activities before students are asked to undertake similar tasks. Online scaffolding has been shown to be highly effective when students are first introduced to a new concept (Dabbagh, 2003). It facilitates student attention & engenders motivation, which is essential to learning new concepts & tasks.

The best exponents of e-learning have embraced interactive scaffolding (see Sharma & Hannefin, 2007; Stewart, et al, 2007) as a primary method of teaching new ideas, but such pioneers are usually dependant upon innovative technology. Implementing scaffolding techniques on websites/LMSs (or even in traditional face-to-face situations) has never been a simple task, thus as the Internet has matured into its highly socialised incarnation (the Web 2.0), new software & Internet applications have allowed more & more departures from traditional chalk & talk, strictly one-way, instructivist sites in favour of novel constructivist scaffolded sites, which encourage dialogue with fellow students & teachers.

2.3. Connectivism

Connectivism (Siemens, 2005; Downes, 2005) is one of the newest theoretical frameworks for understanding learning & is particularly relevant to online learning & social networks. Connectivist learning occurs through the process of a learner connecting to & transferring information into a learning community. The learning community can be aggregated into a cluster of similar areas of interest, which allows for interaction, sharing, dialoguing, & thinking together (Siemens, 2005). A learning community also forms a node, which arise out of the junction points found on networks (two or more nodes). Nodes may be large or small, strong or weak, depending on the concentration of information & the number of individuals who are using a particular node (Downes, 2005). Knowledge is the basic currency of the node & it may be stored in any number of digital formats.

In real life, the reliability & accuracy of knowledge usually changes over time, depending on new discoveries & research. Similarly, an individual's understanding of a concept, & their ability to learn about this concept, can also change over time. Connectivism stresses that two most important skills contributing to learning are the ability to seek out current information, & the ability to filter out extraneous information. The connectivist process is cyclical - learners may connect to a network to share & find new information, modify their beliefs on the basis of new learning, & then re-connect to other networks to share their beliefs with others. Learners ideally inhabit multiple networks & multiple knowledge spheres allowing many interdisciplinary connections to be made.

The Connectivist metaphor is obviously contextualised by Web-based experiences & behaviours. The network analogy owes huge debt to then-current professional & social networking sites, & generic user behaviour found on the Internet, & mobile telephony networks. A significant difference between Connectivism & all other major learning theories is that the individual is highly dependant on the learning network or node, without which all learning seemingly stops. Without the connectivity to other nodes or groups, an individual is lost, floundering in isolation & inactivity.

There are many similarities of the connectivist model to current PLEs. The shared facilities & social networking components of PLEs would thus conform to the connectivist nodes. In setting up their learning space, student users of PLEs would have access to several different networks - conceivably institutional groups, various class groups, & extra-mural groups such as friendship, professional & social clusters. Information can be stored on PLEs in a range of different formats. Daily use of the PLE would lead to aggregation of text, pictures,

videos & sound files, & allows students to filter the most important information for later re-use in assignments. Team-based learning is facilitated by the shared filespaces, & the student is motivated through engagement & the social networking possibilities.

3. Current personal learning environments

According to Johnson & Liber (2008) the PLE movement came about in the UK & USA as a label which recognised the application of the social communication technologies of Web 2.0 to education. In particular, the word "personal" has been a source of conflict & ambiguity. Personalisation has two distinct meaning in PLEs. The first meaning embodies the desire to create learner-centred, but management-driven education; the second meaning is the view that learning is essentially a learner-driven model of education, with the traditional instructivist role of the institution subordinated to the individual student (Johnson & Liber, 2008). There is yet a third view, which sees personalisation as an individual undertaking usually by sophisticated users who are already harnessing a variety of online tools to create informal networks.

The background for the last two views is given by the popularity of personal technologies such as personal blogs, Facebook, MySpace, LinkedIn, & Twitter, which are assuredly more advanced than most of the technology provided by institutions. Extra-mural online services are faster, more efficient, more reliable & have a critical mass of users far in excess of any one institution. Many communication technological practices enjoyed by students off-campus are unavailable within the institution. There is fierce competition for student attention, & the off-campus services are winning if one peruses most student computer screens. Multiple network communities (or Connectivist nodes) are established, much informal learning occurs; real relationships are forged in these communities, but commitment to any one particular site is limited & transitory (O'Brien, 2007).

To date, the reluctance of academic community to pursue research into PLEs is probably related to the newness of the technology & the fact that institutions have the most to lose from decentralised learning systems. Thus, the majority of the debate for the past five years has occurred, not in traditional academic circles, but in the blogosphere of professional & educational exchange. Sclater (2008) reports that advocates of PLEs take one of three approaches to the implementation of a PLE system: 1. client-side local software programs, 2. server-side Web browser services, which combine a set of social networking tools with LMS-type access; & 3. hybrid approaches which use existing software & Web-based tools.

The first approach argues that new locally-based client software needs to be developed to allow users to connect to the already existing resources on the Internet. The main reason for producing locally-based software is one of ideology. If students are truly to take control of their learning then they need to own the software & it needs to be on their computers not on a remote, controlled server, which can change or disappear at the end of term. Users also need the opportunity to utilise mobile devices such as cellular phones & personal digital assistants in order to take charge of their learning without being tethered to the Internet at all times. One alternative is a system, which utilises client software together with server-side technologies in order to download a range of tools/content, which the user can then possess on the their hard drive.

As yet there are few, if any, client-side PLEs, but the argument is that third-party vendors will emerge, & that these programs will enable users to download content & services from a variety of institutions & organizations. One scenario is for a user to not only connect with a university LMS on a regular basis, but also be able to automatically connect to workplaces, newspapers, magazines, & user-chosen sites providing a single familiar interface. The metaphor here is that of Windows software updates which are currently commonplace in the home & office.

The second approach, already begun, uses ordinary familiar browsers to connect to sophisticated Web servers & applications. An example of this approach is the ELGG community, which bears some resemblance to Facebook coupled with a LMS. The argument here is that there is already a number of evolved PLE-like environments & that educators can select the best aspects of each site for use in their courses. Students could select from various blogs, wikis, forums, podcasts, email, chat & archiving sites (see Chatti, *et al*, 2010). If an

institution was to lose its LMS access due to hardware or network problems, then the system could continue to work, without disruption to student access. One of the major problems to this system would be the multiple usernames/passwords & interfaces that students would need to accustom themselves to. Such a collection of websites are not scalable across large institutions especially where assessment depends on reliable & transparent access.

Finally, some argue that the PLE is already here in the form of portable laptops, which many students now carry to & from home, work & institution (see Tu, *et al*, 2012). The laptops have large hard disks & contain all the necessary software to access libraries, databases, LMSs & social networks. Many use the Google desktop, which allows searching, & retrieving using the familiar Google interface. All manner of files, media, & content can be downloaded using Google alone. Sophisticated users know how to make very efficient use of Internet services & may not embrace new client or local software.

4. Faustian effects upon higher education

While research into the considerable effects of LMSs on higher education is its infancy (see Coates, James & Baldwin, 2005), the possible consequences of PLEs have not been imagined by most higher education administrators. It is most probable however, that many of the effects of LMSs are equally applicable to PLEs. It is heretical but necessary to say that all technology has both good & bad effects. The development of the automobile, television, the Internet, even the printing press are all examples of technologies which have caused widespread & permanent changes – both positive & negative - to society as a whole. One view is that all technological change is a Faustian bargain where we gain some benefits over previous methods, but where we always lose something in the process (Postman, 1995; Sclove & Scheuer, 1995).

4.1. The Educational Experience

Ostensibly most students attend higher education institutions in order to learn, but anecdotal experience describes student attendance more in terms of personal interest & motivation (Moore, Armstrong & Pearson, 2008) & that engagement is a major component of ratings of teaching effectiveness (Beran & Violato, 2009). Students also regard attendance in class as a crucial factor in passing a course & obtaining good grades (Burns & Ludlow, 2005). Since the majority of undergraduate students come straight from a highly structured & didactic secondary school system, the vast majority are not prepared for the independent learning celebrated by some higher education optimists. In reality, most undergraduate tertiary students prefer an educational experience that is somewhat similar in structure to secondary school but contextualised in a more relaxed environment without uniforms, bells or disruptions.

Several years ago, the author gave Communication students at the University of Western Sydney, the option of predominantly attending the unit, 'Electronic Research Methods' via the dedicated website, which contained exactly the same content as the traditional face-to-face sessions. Most students were overjoyed at this freedom & commented on the forward thinking nature of the unit. Attendance at lectures & tutorials was not compulsory so many students took the opportunity to cut classes. Over 34 per cent of students failed in that particular year mainly due to missing deadlines or failing to submit compulsory assessment items. When attendance was made compulsory again, a year later, the failure rate dropped to normal levels (around 10 per cent).

The utilisation of a PLE as the main method of learning would markedly change the educational experience from one of familiar & ordered structure to an amorphous virtual experience. Having to use a PLE would oblige students to forge their own networks, to make unique connections & become overnight autonomous learners. Students would have to forsake their previously safe & protective timetable of units & attendance & embrace

unfamiliar territory, replete with a range of online distractions, which are completely alien in a traditional classroom. It is a mistake to think that all our students are computer literate, & an even larger mistake to think that the computer literate ones all currently inhabit Facebook or use Twitter. While there are compelling figures for social networking usage, the statistics do not tell the entire story with many students (especially males) eschewing social networking sites (see http://www.insidefacebook.com/2010/01/04/december-data-on-facebook%E2%80%99s-us-growth-by-age-&-gender-beyond-100-million/).

One analogy is that of health & fitness gyms. People visit gyms in order to focus on their fitness & perform exercises, to be inspired by trainers or partners, & not to be distracted by family/friends or a range of other domestic diversions. When people visit the gym, they generally concentrate on nothing else but exercise, & they usually accomplish their goals. Many people are incapable of exercising at home in the same manner as at the gym, even if they own professional equipment (Rigby, 1993). The separation of home & gym leads to separate behaviours & expectations of the two locations. The problem with allowing students to study using a PLE is that the location of study is loosely defined. University work can be studied anywhere there is an Internet connection. Thus, study becomes something that can be done at any time of the day, & is not given sufficient priority by students who are often juggling work, family, personal lives & study.

4.2. The Teaching Experience

A widespread PLE with a critical mass of users has the potential to radically change higher education teaching in similar way to LMSs. For example, due to considerable financial pressures five years ago, many Australian universities reduced face-to-face contact hours by removing expensive tutorials &/or lectures, & transformed the teaching role from that of leading discussion, to uploading readings to Web pages. The LMS was the fallback mechanism, by which the higher education institution maintained quality control in the face of diminishing contact hours & possible student dissatisfaction. However, LMSs have encouraged mainly one-way communication albeit with copious quantities of online resources placed online in the hope that students will eventually consume them. Although there are exact records of class attendance, no such records are taken of students' consumption of these materials. Moreover, what interactivity exists is usually in the form of discussion forums, which place undue emphasis on the teacher/facilitator to inspire & lead.

The LMS experience has been very successful from the institutional point of view. The LMS creates a sense of order & tidiness to units & courses that often had evolved over the years, by independent teachers working in isolation. By controlling the main access point to online resources, the administration centralizes all its course material resources under one roof, & appears to capably manage its teaching staff, & cater for its students at the same time. The LMS also becomes the repository of academic intellectual property, which it owns & has copyright control over. While many problems of LMSs are now acknowledged, most higher education administrators will not easily give up the comfort that LMSs have afforded them for the past decade.

The addition of PLEs will certainly change this situation. A PLE is a high risk gambit on the part of institutional management because it places the student at the centre of what passes for learning. That is, the institution will no longer be in charge of the exact content a student studies. PLEs are revolutionary insofar as they treat students as self-motivated, self-determining, fully functioning adults. What then is the role of the institution, & the teacher? The teaching role will eventually become one of facilitation, with teachers having to locate, disseminate & manage online resources such as readings, wikis, forums, & chats. Staff-student ratios will most probably increase with teaching staff being responsible for less face-to-face hours, but more consultation,

mentoring & leading of virtual discussions. There are signs this is happening already with the large emphasis placed upon e-learning in terms of audits, training courses & student demand.

4.3. Loss of Employment in Higher Education

There is some debate over whether technological change is evolutionary or revolutionary (Mark, 1987). Advocates of the former view are optimists & argue that technology is ultimately beneficial for all of society & that it creates more jobs than it displaces. The pessimistic view is that much technological change is disruptive of the normal evolutionary upgrading of industrial & clerical processes & that today, change is proceeding at a faster rate than previous periods in time resulting in many thousands of jobs being lost, never to be replaced. There is a third view, which ignores the increase-decrease argument & focuses solely on statistics. This view concludes that lower-skilled jobs (e.g. factory, rural) are declining, & that higher-skilled, more professional jobs are on the rise mainly due to the requirements of using new technologies. Whether new technology produces a beneficent effect is usually best decided on a job by job basis (Weaver, 1987).

One of the major casualties of the advent of desktop publishing was the printing industry. Computers & software made working with metal type totally unnecessary & this led to the demise of a range of employment positions which have simply disappeared from the employment landscape. A whole industry is now outdated, with many of the manual typesetting skills being still highly valued by computer-based typesetters.

At several Australian universities, as with other institutions, the entire internal reprographics sections have been axed because of supposedly low demand for printed materials. Previously, every student needed to receive a paper-based copy of the subject outline, & often, printed notes & readings. Students now receive only the Web address of the subject outlines & learning guides on the LMS. The printing of notes & readings has been tendered out to commercial printing houses, & the net result is greater expense for students, who must pay commercial rates for their educational materials, & poorer quality readers in terms of paper & print quality. With the advent of PLEs, the contribution of printed notes & readings will most probably diminish even further making surviving in-house printing departments within higher education institutions completely redundant.

Libraries are another area of concern due to falling demand for access to printed books & journals. Under successive Australian Liberal government budgets from 1996 to 2007, higher education library staff & funding for books in many institutions decreased although student enrolments expanded. More recently, under a Labor government, the popularity of online databases & low demand for books has led to more redundancies. At one Sydney university, one of the campus libraries has installed dozens of computers & removed its bookshelves almost completely from the ground floor of the building. The Internet-enabled computers can access the library catalogues, electronic databases, & the LMS, but most students use the computers to access Facebook, email & chat systems.

This networking experiment has resulted in increased usage of the library, & ensured job stability. However, the facility no longer resembles a place of study with students inhabiting the computers & holding group discussions, both real & virtual, with their friends. The environment more resembles a "shopping mall" than a library, one student remarked. The attraction of dozens of free computers in the one location has apparently turned the library into the community meeting place for the institution, & this in turn has generated mass social interaction & accompanying noise. Security staff now patrol the library on a regular basis, in order to remove

loud, & raucous groups who seem to be enjoying themselves too much. Could this also be the fate of students using socially networked PLEs in close proximity?

5. The mistaken Facebook analogy

PLE advocates frequently point to the incredible popularity of MySpace & Facebook applications with young people over the last seven years. The number of users of these social networking sites can now be counted in the hundreds of millions worldwide with no sign of abating. Organisations, advertisers, public relations bureaus & educational institutions have jumped on the bandwagon – having a Facebook presence is almost as essential as having a website. The question is whether a popular form of social networking is really the best analogy for people studying & learning.

Scholarly study of social networking services such as Facebook & MySpace is a relatively new area of research, given the newness of the technology & changing tastes in the userbase. Selwyn (2009) presents an interesting, if unremarkable analysis of 612 students' usage of Facebook at a UK university. Selwyn concluded that educational & university related message were a small minority (4%) of the 68,000 postings during an 18-week period. The majority of the postings concerned ordinary day-to-day themes such as leisure, entertainment, paid employment, interpersonal relationships & home life. Educational issues do not warrant much discussion, even in passing, in students' social lives. This surely is to be expected - one's social life is not the same as one's student life. Why would anyone expect students to use Facebook for discussing educational issues?

The underlying assumptions of this study highlight a serious error of judgment on the part of Facebook advocates. Such advocates who regard Facebook as a pedagogical model are technological determinists who view the popularity of social networking in terms of the program itself. Advocates fail to understand that the popularity of social networking comes about through human needs being satisfied in a timely, efficient & convenient manner. Needing to stay in touch, curiosity, friendship, humour, affiliation, self-esteem & many other social needs are being satisfied on a regular basis by using social networking services. However, fulfilling educational needs are not easily accomplished through Facebook. These needs are usually best fulfilled by finding mentors or colleagues, who motivate & support in one to one, real life situations. Displaying one's ineptitude by seeking educational advice on Facebook is likely to lead to low self-esteem & possible public ridicule.

Despite its popularity, Facebook has been the subject of continual controversy since its inception. The Wikipedia site (http://en.wikipedia.org/wiki/Criticism_of_Facebook) lists countless issues critical of the social networking giant. Especially problematic are privacy concerns, member safety, the use of advertising scripts, data mining, & censorship issues. Many of the user pages have been criticized because of highly controversial content such as holocaust denial, pro-anorexia, & obscene materials. Facebook itself has been successfully sued on a number of occasions for violations of intellectual property rights.

One of the most significant risks for users is that of being bullied, stalked or even killed. There have been numerous incidents showcased in the media where individuals have been bullied online using Facebook, or where groups have formed Facebook profiles on order to attack & abuse other people. On 21 Aug, 2009, an 18

yr old English girl was sentenced to 3 months after being found guilty of bullying one of her classmates on Facebook. Some have claimed that Facebook's lax privacy settings & the copious amounts of personal data can lead to cyberstalking. Burglars have used Facebook profiles to ascertain when people are going on holidays & so easily gain entry to their homes. Such stalking incidents are not uncommon - the author once taught a student who had posted personal details on a Web page, only to have received anonymous telephone calls from someone who had viewed her profile, & wanted to meet up in secret. There have also been several cases where people have been murdered after meeting first on Facebook.

6. Conclusion

All of the problems (perhaps more) associated with social networking sites, are equally possible on an officially endorsed PLE. The sheer volume of potential data would certainly inhibit student material being checked or moderated. One contentious issue specific to higher education is determining what an institution does with the PLE data from a graduating student? Is it deleted or left accessible? One argument is that it needs to be kept for the sake of the student's lifelong educational career, or when the student returns as a graduate student. By establishing a PLE, the institution might possibly provide the means by which students can criticize & defame courses, other students, & teaching staff, ultimately damaging its reputation. LMSs entail no such ability to publish material, & must regarded as a much safer e-learning medium for this reason.

Freeware, shareware & commercial PLEs are beginning to enter the marketplace vying for a place in the lucrative e-learning industry. The question is whether institutions are choosing this new technology because of real & measured needs of students, or because PLEs are seen as keeping up to date & a useful tool to attract new students. Higher education must become more critical of its technological choices since once a PLE becomes the chosen medium of e-learning, then the institution will certainly have to bear the consequences.

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RELATIONSHIP BETWEEN 5TH GRADE STUDENTS' ATTITUDES TOWARDS SCIENCE AND TECHNOLOGY COURSE AND MISCONCEPTIONS

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Abstract

The purpose of this study is to determine the attitudes of the 5th grade students towards Science and Technology course, their level of misconceptions on the subject of "Heat and Temperature", and the connection between the attitudes and misconceptions in terms of several variables. The tools used for data collection were "Attitude towards Science and Technology Course Scale" and "Concept Test". According to the results, attitudes of unsuccessful students are higher than attitudes of middle level and successful students. It is found that misconceptions of students who take extra courses are lower than those who learn only in lessons.

Keywords: Science and Technology, attitude, misconception [63]

Introduction

The aim of the modern science education is to gain required scientific attitude and cognitive process skills which are necessary for problem solving related to science that students encounter throughout their lives, rather than memorizing scientific knowledge about sciences (Bayrak ve Erden, 2007). Accordingly, in order to realize an effective science teaching; making them learn concepts that constitute the knowledge and also keystones of that knowledge meaningfully is needed rather than transferring available knowledge about sciences to the students (Gençer, 2006; Koray ve Tatar, 2003).

Students start their education having different experiences, ideas, and beliefs about scientific concepts. These ideas and beliefs which are far from being scientific and mostly gained by means of students' own experiences are called as misconception (Tekkaya, Özkan ve Balcı, 2002). Especially for the science and technology curriculum, due to its spiral nature, the misconceptions held in previous years are transferred to the years ahead and students continue to use these misconceptions increasingly (Yurd ve Oğlun, 2008). Among the subjects in Science and Technology course, "Heat and Temperature" is a topic where misconceptions are encountered the most. One of the greatest reasons of this situation is that the concepts of heat and temperature are used as substitutes for each other (Turgut ve Gürbüz 2011).

In recent years, research in science education has concentrated on revealing of various conceptual understandings of students who have different levels of learning capacity. These studies have mostly been conducted for the purpose of creating a solution with respect to determining the difficulties that students encounter on understanding of scientific concepts, revealing and explaining misconceptions, and also how to correct them (Özcan, 2006; Yurd ve Oğlun, 2008; Adıgüzel, 2006; Köse, Ayas ve Uşak, 2006; Koray ve Tatar, 2003; Ayvacı ve Çoruhlu, 2009; Yahşi, 2006; Palut, 2006; Yürümezoğlu, Ayaz ve Çökelez, 2009; Yıldırım, Yalçın, Şensoy ve Akçay, 2008; Bayrakçı, 2007).

There is no enough study encountered neither about the variables which affect these misconceptions nor about the relations between the attitude towards science and technology course and misconception in this field. In this term, this study is thought to contribute the body of literature.

In this research, determining the relationship between attitudes towards science and technology course and misconceptions about "Heat and Temperature" of 5th grade students is aimed. Moreover, it is aimed to determine the variables that affect both attitudes towards science and technology course and misconceptions about "Heat and Temperature". For this purpose five basic research questions have been asked:

For students who study at fifth grade;

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1. What are the attitudes of students towards science and technology course?

2. What is the level of misconceptions about the topic of "Heat and Temperature" in science and technology course?

3. Is there a significant difference between their attitudes towards science and technology course and their gender, extracurricular learning, and final exam marks of the science and technology course?

4. Is there a significant difference between their misconceptions about the topic of "Heat and Temperature" and their gender, extracurricular learning, and final exam marks of the science course?

5. Is there a significant relationship between the students' attitudes towards science and technology course and their misconceptions?

Methods

2.1. Participants

Research was carried out at three different elementary schools which were selected randomly in City of Denizli on the second term of 2010-2011 academic years. A total of 90 fifth grade students have participated as a study group for this research. Some qualities of the participants are summarized in the Table 1:

Table 1. Some Qualities of the Participants

Variables	Category	N	%
Gender	Male	40	44,4
	Female	50	55,6
Extra-curricular education	Custom Classroom	0	0
	Extra School Course	67	74,4
	Private Lesson	0	0
	None	23	25,6
Final exam grades	Lower than 58,18	16	17,8
	Between 58,18 and 89,02	56	62,2
	Higher than 89,02	18	20,0
Total		90	100,0

As can be seen in Table 1, the participants consist of 40 (44, 4%) male and 50 (55, 6%) female students. The groups for the variable of extra-curricular education were coded as extra school courses (n=67; %74,4) and none (n=23; %25,6) because no students chose the options of custom classroom and private lesson.

Moreover, the final exam marks of the students in Science and Technology course are divided into three groups in terms of ranges which are determined as to sum or subtract the standard deviation value (sd= 15, 417) from the general average. According to this grouping, it is deduced that the final marks of the 56 participants (62, 2%) in Science and Technology course were in a range of "$\bar{x}$= 58,183 and 89,017".

2.2. Instruments

The data were collected through two different scales which were "*Attitude towards Science and Technology Course Scale*" and "*Concept Test*".

"*Attitude towards Science and Technology Course Scale*" was developed by Işık (2007) and consists of 23 items (eight of them is negative and fifteen of them is positive). The content validity of the scale was calculated as 0.93. According to 5 likert-type attitude scale, the lowest score that the students can get is 23 and the highest score is 115. Internal reliability of the scale is determined as 0.91 (Işık, 2007).

For this study, in accordance with the aim of the study, three items were added to the scale in order to reach the students' personal information such as their gender, whether there are other areas that they take the Science and Technology course such as custom classroom, extra school course, or private lessons; and their final exam marks of Science and Technology course.

Developed by Seloni (2005) "*Concept Test*" consists of 10 questions. Questions are composed of one right answer and two distracters and students are asked to write down the reasons of the answers due to measure the conceptual understanding of

them. 10 questions in "*Concept Test*" were evaluated (Cited in Seloni, 2005) according to an evaluation technique conducted by Abraham et al, (1992), and research technique called "Determination of Levels of Understanding Basic Science Concepts" developed by Bayram et al, (1997). Comprehension levels of students were evaluated by point scoring (ranging from 1 to 4) out of 40 points as a numerical data. It was deduced that the higher point that the students get, the less misconceptions they have.

2.3. Data Collection and Analysis

Research was conducted at the end of the spring semester 2010-2011. The data collection tools were applied throughout two different lessons by the researcher and teachers in the schools of application.

Dependent variables of this study are points that students get from "Attitude towards Science and Technology Course Scale", and points that students get from "Concept Test" in relation to "Heat and Temperature". Independent variables of this study are gender, extra-curricular education, and students' final marks of Science and Technology course. The data were analyzed by SPSS (Statistical Package for Social Sciences, Version 11,5).

First of all One Sample Kolmogorov-Smirnov (K-S) Test was used in order to test whether the data distributed normally (Baştürk, 2010). According to the results of the analyses, it is determined that both variables show a normal distribution [(K-S(Z) concept test = 0.708; p > 0,05 and (K-S(Z) attitude scale = 0.935; p > 0,05)]. The relationship between students' attitudes towards Science and Technology course and their misconceptions about the topic of Heat and Temperature is investigated by calculating the Pearson Correlation Coefficient. Descriptive statistical methods, independent samples t-test, and One – way ANOVA were utilized for data analysis, as well. One-sample t-test was used in order to determine whether the average attitude score of the sample is different from the expected value. The significance level was taken as 0.05.

Findings

In this section, findings related to sub-problems are described in the tables.

Research question 1. What are the attitudes of students towards science and technology course?

Findings of students' attitudes towards Science and Technology course are given in Table 2.

Table 2. Analysis of students' attitudes towards Science and Technology course

	N	Min	Max	M	sd
The Attitude Score	90	62,00	105,00	74,41	7,33

Table 2 shows that the minimum and maximum scores of the attitude scale are 62,00 and 105.00. In this study, the mean of the attitude scores of 90 participants is 74, 41. Expected value for the mean of the attitude scores in the population, considering the highest and lowest values that can be taken from the attitude scale, is

$\dfrac{23+115}{2}$ = 69. In order to determine whether the average attitude score of the sample is different from the expected value, One-sample t-test was used and the results of the analysis are shown in Table 3:

Table 3. Analysis of students' attitude scores according to the expected value

	Test Value=69				
	N	M	t	df	p
The Attitude Score	90	74,41	7,01	89	,00*

* p<.05

As can be seen in Table 3, the difference between the students attitudes scores and the expected value is significant at 0.05 alpha level (t = 7,01; p < 0,05). Also, sample mean (M= 74, 41) is significantly higher than the expected mean of population (M= 69). Thus, it can be said that students' attitudes are closer to be in a positive manner.

Research question 2. What is the level of misconceptions about the topic of "Heat and Temperature" in science and technology course?

Findings of students' misconceptions about the topic of "Heat and Temperature" are given in Table4.

Table 4. Analysis of students' misconceptions about the topic of "Heat and Temperature"

	N	Min	Max	M	sd
Misconceptions Scores	90	2	34	18,82	6,551

When Table 4 is examined, it is seen that students get minimum 2 and maximum 34 points from the Concept Test. The mean score of 90 students participated in the survey was calculated as 18.82. Descriptive statistics are presented in Table 5 for items belonging to the Concept Test:

Table 5. Descriptive statistics of Concept Test substances

Items' Content	N	Min.	Max.	M	sd
1. The effect of heat on matter	90	0	3	1,30	,76
2. Heat and temperature measurement	90	0	4	1,44	1,08
3. Heat conduction	90	0	4	2,28	1,02
4. The effect of heat on matter	90	0	4	2,02	1,32
5. Heat transfer	90	0	4	2,47	1,13
6. The effect of heat on matter	90	0	4	2,03	1,19
7. Thermal insulation	90	0	4	1,94	1,17
8. Heat conduction and isolation	90	0	4	1,58	1,16
9. The effect of heat on matter and expansion	90	0	4	1,80	1,38
10. Thermal insulation	90	0	4	1,96	1,45
Total	90				

When Table 5 is examined, it is seen that the most common misconception that the students have is "The effect of heat on matter" with an average of 1.30, which is the first question of Concept Test. It is striking that according to the analysis, none of the students could get a full score of 4 from the first question. In this case, it shows that all of the students participating in the survey have misconceptions about the effects of heat on matter. On the other hand, the least common misconception that the students have is "Heat transfer" with an average of 2.47, which is the fifth question of Concept Test.

Research question 3. Is there a significant difference between the students' attitudes towards science and technology course and their gender, extracurricular learning, and final exam marks of the science and technology course?

To examine whether the gender and the extra-curricular education areas (custom classroom, extra school course, private lessons, or none) affect the students' attitudes towards Science and Technology course, Independent Samples T-test was used in this study. The results of the analysis are shown in Table 6.

Table 6. Students' attitudes towards Science and Technology course analysis by gender and extra-curricular education areas variables

Variables	Category	N	M	sd	t	p
Gender	Male	40	73,08	5,46	-1,559	0,122*
	Female	50	75,48	8,44		
Extra-curricular education	Extra School Course	67	74,33	6,51	-0,182	0,856*
	None	23	74,65	9,48		
	Total	90				

*p>.05

As a result of the Independent Samples T-test analysis, the difference between attitudes scales scores of male and female students is not significant at 0.05 alpha level (t = -1,559; p > 0.05). In other words, as shown in Table 8, both male (M= 73,08) and female (M= 75,48) students' attitudes towards Science and Technology courses are similar to each other.

Also, the difference between attitudes scales scores of students who attend extra school course and of students who study only in course is not significant at 0.05 alpha level, (t= -0,182; p>0.05). In other words, as shown in Table 8, both the students who attend extra school course (M= 74,33) and the students who study only in course (M= 74,652) are similar to each other.

To determine whether there is a significant difference between students' attitudes towards Science and Technology course and students' final exam mark of the science and technology course, One -way ANOVA Test was used and the results of this test are presented in Table 7.

Table 7. Students' attitudes towards Science and Technology course analysis by final exam mark in Science and Technology course

Source of Variance	Sum of Squares	df	Sum of Squares	F	Sig.
Between-groups	438,42	2	219,21	4,393	0,015*
Within-groups	4341,37	87	49,90		
Total	4779,79	89			

* p<.05

According to the results of One-way ANOVA, there is a significant difference between the attitudes towards Science and Technology course of students who are in different ranges of the final exam marks (unsuccessful,

average, or successful) in Science and Technology course (F = 4,393; p < 0.05). Descriptive analysis of students' final exam marks in Science and Technology course is described in Table 8.

Table 8. The students' marks range's mean and standard deviations

Variable	Category	N	M	sd
Range of students final exam marks	Unsuccessful	16	79,13	11,79
	Average	56	73,55	5,74
	Successful	18	72,89	5,12
Total		90	74,41	7,33

Tukey's Post Hoc Test was conducted to determine the source of the difference. The mean of attitude scores of unsuccessful students (M_U = 79,13) is lower than the mean of attitude scores of average students (M_A = 73,55) and the mean of attitude scores of successful students (M_S = 72,89).

Research question 4. Is there a significant difference between the students' misconceptions about the topic of "Heat and Temperature" and their gender, extracurricular learning, and final exam marks of the science course?

To examine whether the gender and the extra-curricular education areas (custom classroom, extra school course, private lessons, or none) affect the students' misconceptions about the topic of "Heat and Temperature", independent samples t-test was used in this study. The results of the analysis are shown in Table 9:

Table 9. Students' misconceptions about the topic of "Heat and Temperature" analysis by gender and extra-curricular education areas variables

Variables	Category	N	M	sd	t	p
Gender	Male	40	19,80	6,54	1,271	0,207*
	Female	50	18,04	6,52		
Extra-curricular education	Extra School Course	67	20,27	5,642	3,842	0,00*
	None	23	14,61	7,291		
Total		90				

As a result of the Independent Samples T-Test analysis, there is not a significant difference between between the misconceptions of male and female students about the topic of "Heat and Temperature" (t = 1,271; p > 0.05). In other words, as shown in Table 9, both male (M = 19,80) and female (M = 18,04) students' misconceptions about the topic of "Heat and Temperature" are similar to each other.

As a result of the independent samples t-test analysis, there is a significant difference at 0.05 alpha level between the misconceptions of students who attend extra school course and who learn only in lessons (t = 1,271; p > 0.05) about the topic of "Heat and Temperature". In order to understand the reason of difference mean scores of groups was investigated. As shown in Table 9, the mean square of students who attend extra school is higher than (M = 20,27) the students' who learn only in lessons (M = 14,61). Students who attend extra school course can be said to have less misconceptions about the related topic.

One - way ANOVA Test was conducted to determine whether there is a significant difference between students' misconceptions about the topic of "Heat and Temperature" and students' the final exam points of the science course. The results of this test are presented in Table 10.

Table 10. Students' misconceptions analysis by final exam mark in Science and Technology course

Source of Variance	Sum of Squares	df	Sum of Squares	F	Sig.
Between-groups	77,56	2	38,78	,902	,410
Within-groups	3741,60	87	43,01		
Total	3819,16	89			

p >.05

According to the results there is no significant difference between the students' misconceptions about the topic of "Heat and Temperature" and their final exam marks of the science course (F = 0,902; p> 0.05). Descriptive statistics of students' final exam marks of the science course are presented in Table 11:

Table 11. Descriptive statistics of students' note range

Variable	Category	N	M	sd
	Unsuccessful	16	17,06	4,65

Note Range	Average	56	18,93	6,61
	Successful	18	20,06	7,73
Total		90	18,82	6,55

Although the mean square of the final exam marks of the successful students is higher than the unsuccessful and average students', the difference is not statistically significant.

Research question 5. Is there a significant relationship between the students' attitudes towards science and technology course and their misconceptions?

To determine the relationship between students' attitudes towards Science and Technology course and their misconceptions about the topic of "Heat and Temperature", the Pearson Correlation Coefficient was used and the results are presented in Table 12.

Table 12. The relationship between students' attitudes towards Science and Technology course and their misconceptions about the topic of "Heat and Temperature"

Variables	N	M	sd	r	p
Attitude	90	19,80	6,54	-0,133	0,212*
Misconception	90	18,00	6,62		
Total	90				

* p > 0,05

As seen in Table 12, there isn't a significant relationship between students' attitudes towards Science and Technology course and their misconceptions about the topic of "Heat and Temperature" (r = - 0,133; p>0.05). In other words, there is no positive or negative effect of misconceptions on the attitudes of students towards science and technology course.

4. Results and Discussion

According to the findings, students' attitudes towards science and technology courses are positive. However, any significant difference could not be found according to gender and extra-curricular education variables for the students' attitudes. It is surprising that attitudes of unsuccessful students are more positive than the attitudes of average and successful students. It is not necessary for a student to be successful in this course for having a

positive attitude towards it. However, any research is encountered in the body of literature which supports this result.

When students' misconceptions about the topic of "Heat and Temperature" are examined, there seem to have common misconceptions about the effect of heat on matters. Moreover, students could not differentiate the concepts of heat and temperature. Although they know the units of heat and temperature and how to measure them, they could not transfer the same knowledge to the various situations on different items. Here are some examples they gave; "The heat of thermometer was found to be ºC 39" or "Only body heat can be measured by thermometer". In their research, Kırıkkaya and Güllü (2008), and Aydoğan and et.al. (2003) found a similar misconception such as "Weather heat is measured by ºC". The least common misconception of the students is the heat-exchange.

There is no significant relationship between misconceptions of students according to gender and final exam grades on the other hand students who take extra school courses have less misconceptions than those who learn only in lessons. In this case, it is possible to say that misconceptions can be reduced when students have more opportunities for extra learning.

A reasonable relation could not be identified between students' attitudes towards science and technology course and misconceptions about the topic of "Heat and Temperature". In other words, students' attitudes toward Science and Technology course do not affect the misconceptions as positive or negative way.

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SAKARYA İLİ ÖĞRETMENLERİNİN EĞİTİM TEKNOLOJİLERİ YÖNÜNDEKİ YETERLİLİKLERİNİN 2001 İLE 2011 VERİLERİNİN KARŞILAŞTIRILMASI.

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Öz

Eğitim teknolojisi, öğrenme-öğretme ortamlarını etkili bir şekilde tasarımlayan, öğrenme ve öğretme de meydana gelen sorunları çözen, öğrenme ürününün kalitesini ve kalıcılığını arttıran bir akademik sistemler bütünüdür. Tanımdan da anlaşıldığı gibi, eğitim teknolojisinin temel amacı, öğrenmeyi etkili ve kalıcı bir biçimde sağlamaktır. Günümüz eğitim sistemi içinde eğitim teknolojilerinin kullanılması kaçınılmaz bir hal almıştır. Aksi takdirde, eğitim teknolojisi kullanmayan okullarımız akıl almaz bir hızla gelişen teknolojiye ayak uyduramaz. Ancak, okullarımızdan eğitim teknolojilerini kullanma istekleri tam olarak yaygınlaşmamıştır. Bazı okullarımız ise eğitim teknolojilerini etkin olarak kullanmaya başlamışlardır.

Bu çalışmada, Sakarya ili merkezindeki öğretmenlerin eğitim teknolojilerini kullanımlarına göre yeterliliklerinin çeşitli değişkenler açısından incelenip 2001 yılında Aynı evrende yapılan çalışmayla karşılaştırılması amaçlanmıştır. Araştırmanın evrenini, 2010–2011 eğitim-öğretim yılında Sakarya ili Milli Eğitim Müdürlüğü`ne bağlı Merkez okullarda görev yapan öğretmenleri oluşturmaktadır.

Anahtar Sözcükler: Teknoloji, teknoloji eğitimi, teknoloji kullanım ölçeği.

1.GİRİŞ

Hızla gelişen teknoloji okullardaki öğretim alternatiflerini artırmakta ve paralelinde öğretim programlarında değişikliklerin yapılmasını zorunlu kılmaktadır. Okullarda öğrenmeyi ve öğretmeyi hızlandırabilmek için eğitimcileri farklı materyallere yönelmek zorunda bırakmıştır. Eğitim kurumlarının, öğrenci, öğretmen ve yöneticileri, bu yeni öğrenme yöntemlerini bireysel, toplumsal ve ekonomik yönden hayatlarına adapte edebilmek için mutlaka zamana ihtiyaç duyacaklardır. Teknolojinin eğitimde büyüyen etkisi, teknolojinin bir öğretim aracı olarak kullanılabilmesi için öğretmenlere yeni bilgi ve yetenekler oluşturma ihtiyacı duymaktadır. Öğretmenlerin teknolojiyi yeterince etkili kullanamaması ve teknoloji paralelinde eğitim sistemlerinde oluşan değişimlere uyum sağlayamaması eğitim sisteminin ana unsuru olan öğretmenin etkinliğini azaltmakta ve eğitim

kalitesini düşürmektedir (Haddad ve urich). Öğretmenlerin gelişen Eğitim Teknolojileri paralelinde halen kullanmakta oldukları öğretim yaklaşımlarını değiştirmeleri gerekeceği için, teknolojinin derslerde kullanılması öğretmenler açısından oldukça zor olmaktadır (OTA, 1995;Sheingold ve Hadley, 1990).

Öğretmenlerin teknolojiyi yeterince kullanamaması altında yatan bir gerçekte, öğretmenlerin hizmet içi eğitimleri için yeterli vakit ayıramamasıdır. Özellikle ülkemizde yapılan araştırmalara göre hizmet içi eğitimlerin öğretmenler tarafından iyi algılanmaması sonucu eğitimcileri gelişen teknolojilerden uzaklaştırmıştır. Eğitimcilerin hizmet süreleri arttıkça gelişen teknolojiye dirençlerinin de arttıkları gözlenmiştir. Eğitim fakültelerinde yapılan program değişiklerinden yeni mezunlar yararlanmakta bundan dolayı çalışma süresi 1-10 yıl arasında olan eğitimcilerin bilgisayar teknolojilerini daha iyi kullandıkları gözlenmektedir. Çalışma süreleri 10 yılın üzerinde olan öğretmenlerin iyi tasarlanmış hizmet içi eğitimlere özendirilmeleri ve bu eğitimlere katılmaları sağlanmalıdır. Charp (1996), teknolojinin eğitime entegrasyonunun yavaş ilerlediğini ve birçok faktör tarafından etkilendiğini belirtip, yönetim

desteğinin olmaması, eğitim eksikliği, teknolojinin yeterince desteklenmeyişi ve yeterince ödenek ayrılmamasından kaynaklanan sorunların öğretmenlerin eğitimde teknoloji altyapısına sahip olarak yetiştirilememesine neden olduğunu belirtmektedir.

Eğitim teknolojileri her ne kadar belirtilen bu fırsatları sağlasa da burada en önemli rolü öğretmenler üstlenmektedir. Öğretmenler, eğitim teknolojilerini etkili bir biçimde kullanabilir düzeye gelmelidir. Fakat küresel dünyanın bir gerçeği de, öğretmenlerimizin eğitim teknolojilerini öğrenme-öğretme ortamlarında kullanmamasıdır. Yapılan bir çok araştırma bu sonucu destekler niteliktedir. Bunun yanında, ülkemizde de sonucun hemen hemen aynı olduğu söylenebilir. Türk eğitim sisteminde de eğitim teknolojileri okullarımızda bulunmasına rağmen, öğretmenler tarafından kullanımı istenilen düzeyde değildir. Bu çalışmanın amacı, 2001 yılında A. İşman tarafından yapılan bir araştırmanın aynı ölçek kullanılarak 2011 yılında, aynı evrende tekrarlanarak 10 yılda öğretmenlerin teknoloji kullanımındaki yönelimlerinin nasıl değiştiğini tespit etmek ve iki çalışmayı karşılaştırmaktır.

Araştırmanın Amacı

Gelişen teknolojilere bağlı olarak eğitim sistemlerinin yeniden yapılandırılması ihtiyacı ortaya çıkmaktadır. Bu yeniden yapılanma çalışmalarında öğretmenlerin eğitim teknolojilerini etkili olarak kullanmaları önemli bir rol oynamaktadır. Bu araştırmada, eğitim-öğretim faaliyetlerini gerçekleştiren öğretmenlerimizin eğitim teknolojilerini öğrenme-öğretme faaliyetlerinde kullanma düzeylerini tespit etmek ve bu olgunun cinsiyete, yaşa, deneyime, görev yaptığı yere ve eğitim durumlarına göre farklılaşıp farklılaşmadığını ortaya çıkarmak amaçlanmıştır. Ayrıca aynı evrende 2001 yılında yapılan çalışmayı aynı ölçekle 2011 yılında tekrarlayarak 10 yılda meydan gelen değişikleri ortaya çıkarmaktır.

Araştırmanın Evreni

Bu araştırmanın evreni, Sakarya ili merkezinde bulunan ilköğretim okullarında görev yapan öğretmenleri kapsamaktadır. Bu öğretmenler arasından okullarına göre rasgele araştırma yöntemi kullanılarak seçim yapılmıştır. Bu öğretmenlere, çeşitli araştırmalar ile geliştirilen eğitim teknolojisi anketi uygulanmıştır.

Araştırma Anketi

Bu araştırma da kullanılan anket Amerika da bulunan Ohio Üniversitesinin Toplumsal Öğrenme Projesinden alınarak Türk Eğitim sistemine uyarlanmıştır. Bu anketin geçerliği ve güvenirliği sağlanmıştır. Uygulanan bu anketin ilk beş sorusu katılan öğretmenlerin bireysel durumları, diğer altı sorusu ise eğitim

teknolojileri ile ilgilidir. Bu altı sorunun alt soruları bulunmaktadır. Bu sorular, genel olarak gruplara ayrılmıştır:

1.　　　Düz yapıya sahip teknolojiler (Toplam 7 soru: yazı tahtası, grafikler, büyük boy resim, kitap, ilan panosu, karikatür ve şema).

2.　　　Bilgisayar teknolojileri (13 soru: IBM yada Mac, windows, Dos, word, powerpoint, excel, tarayıcı, digital kamera, datashow, lcd panel, multimedya, yazıcı ve laptop).

3.　　　Görsel-işitsel teknolojiler (10 soru: televizyon, video, laserdisc, film, film şeridi, video kamerası, radyo, teyp, ses kaseti, ve tepegöz).

4.　　　İnternet temelli teknolojiler (6 soru: internet, www sayfaları, modem, internet kamerası, internet sistemi ve araştırma makineleri).

5.　　　Öğrenme-öğretme yöntemleri (21 soru: düz anlatım, tartışma, örnek olay, gösterip yapma, problem çözme, grup çalışması, bireysel çalışma, bilgisayar lab, fen lab, araştırma, buluş, pekiştireç, ödül, ipucu, dönüt, beyin fırtınası, soru-cevap, rol yapma, benzetişim, eğitsel oyunlar, ve pratik).

6.　　　Kuramsal boyut (3 soru: davranışçı yaklaşım, bilişsel yaklaşım ve yapısalcı yaklaşım).

Anket içinde toplam olarak 60 soru bulunmaktadır.

Araştırma Verileri

Bu araştırmada kullanılan veriler öğretmenlere uygulanan anketten elde etmiştir. Araştırma anketi toplam olarak 2010-2011 öğretim yılında 365 öğretmene uygulanmıştır. Bu anket ile, eğitim teknolojilerini kullanma durumlarının cinsiyet, yaş, deneyim, eğitim, ve görev yerleri bakımından farklılık olup olmadığı araştırılmıştır. Buna ek olarak, öğretmenlerin hangi eğitim teknolojilerini sık olarak kullandıkları ortaya çıkarılmıştır.

Araştırmanın İstatistiksel Yöntemi

Bu araştırmadaki anketten elde edilen verilerden, yüzdelikler (frekans), ve cinsiyet farklılığına bakmak için t-testi diğerleri içinde one-way anova yöntemleri SPSS hazır istatistik paket programı kullanılmıştır. One-way anova ve t-testi ile, eğitim teknolojilerinin kullanım durumları cinsiyet, yaş, deneyime, görev yeri, ve mezun olduğu okula göre farklılıkların olup olmadığı ortaya çıkarılmıştır.

Araştırmaya Katılanların Demografik Yapısı öğretmenlerin cinsiyet dağılımı: Aşağıdaki tabloda öğretmenlerin cinsiyet dağılımları verilmiştir. Tablodan, öğretmenlerin cinsiyet dağılımında 2001 ve 20011 yılları arasında önemli bir değişiklik olmadığı gözlenmektedir. Ancak, azda olsa yıllar arasında bayan öğretmen sayısında bir miktar artışın olduğu tespit edilmiştir. Bu farklılaşmadan bayanların öğretmenlik mesleğine yönelimlerinde bir miktar artış olduğu sonucu çıkarılmıştır.

2001	2011
Yüzde 59.9 erkek (82 kişi).	Yüzde 56.9 erkek (208 kişi).
Yüzde 39.4　bayan (54 kişi).	Yüzde 43.1　bayan (157 kişi).

Araştırmaya katılan öğretmenlerin yaş durumları: Aşağıdaki tablodan, her iki yılda ankete cevap veren öğretmenlerin yarıdan fazlasının orta yaş civarında olduğu anlaşılmaktadır. Tablodaki verilere daha detaylı bakıldığında 2001 yılında 40 yaş üstü öğretmenlerin sayısı %57 iken bu sayı 2011 yılında %35 'e düştüğü anlaşılmaktadır. Bu sonuç genç öğretmenlerin şehir merkezlerine atanma eğiliminin arttığını göstermektedir.

2001	2011
Yüzde 15.3 ü 30 yaş ve altında (21 kişi).	Yüzde 10.9 u 30 yaş ve altında (40 kişi).
Yüzde 10.2 si 31-34 yaş arası (14 kişi).	Yüzde 30.1 i 31-34 yaş arası (110 kişi).
Yüzde 16.8 i 35-39 yaş arası (23 kişi).	Yüzde 23.2 si 35-39 yaş arası (85 kişi).
Yüzde 57.7 si 40 yaş ve üzeri (79 kişi).	Yüzde 35.8 i 40 yaş ve üzeri (130 kişi).

Araştırmaya katılan öğretmenlerin deneyim durumları: Aşağıdaki tablodan 20 yıl deneyime sahip öğretmenlerin oranının 2001 yılında %60.6 iken 2011 yılında %30.4 'e düştüğü görülmektedir. Bu sonuç genç öğretmenlerin şehir merkezlerinde çalışma yüzdelerinin arttığını göstermektedir.

2001	2011
Yüzde 14.6 sı 0-5 yıl arası deneyimli (20 kişi).	Yüzde 13.4 ü 0-5 yıl arası deneyimli (49 kişi).
Yüzde 10.2 si 6-10 yıl arası deneyimli (14 kişi).	Yüzde 33.1 i 6-10 yıl arası deneyimli (121 kişi).
Yüzde 14.6 sı 16-20 yıl arası deneyimli (20 kişi).	Yüzde 23 ü 16-20 yıl arası deneyimli (84 kişi).
Yüzde 60.6 sı 20 ve üzeri yıl deneyimli (83 kişi).	Yüzde 30.4 sı 20 ve üzeri yıl deneyimli (111 kişi).

Araştırmaya katılan öğretmenlerin eğitim durumları: Bu tablodan fakülte mezunu olan öğretmenlerin sayısının 2011 yılında yükselmiş olduğu ve yüksek lisans yapan öğretmen oranının %1.5 den %15'e çıktığı görülmektedir.

2001	2011
Yüzde 13.1 i iki yıllık yüksek okullardan mezun (18kişi).	Yüzde 14.6 i iki yıllık yüksek okullardan mezun (53kişi).

Yüzde 65.0 ı üç yıllık okullardan mezun (89 kişi).	Yüzde 16.4 ı üç yıllık okullardan mezun (60 kişi).
Yüzde 20.4 ü fakülte mezunu (28 kişi).	Yüzde 55.3 ü fakülte mezunu (202 kişi).
Yüzde 1.5 i yüksek lisans mezunu (2 kişi).	Yüzde 13.7 i yüksek lisans mezunu (50 kişi).

Araştırma Sonuçları

Araştırma anketinden elde edilen veriler üç farklı istatistiksel yöntem kullanılarak analiz edilmiştir. Birinci yöntem, sorulara verilen cevapların yüzdelikleridir. Burada, teknolojileri kullanan öğretmenlerin yüzdelikleri ortaya çıkarılmıştır. İkinci yöntem ise t-testidir. Erkek ve bayan olan öğretmenlerin cevaplarının arasındaki farkı ortaya çıkarmak için t-testi kullanılmıştır. Üçüncü yöntem, yaş, deneyim, görev yeri ve eğitim durumlarının özellikleri dört ana grupta toplandığından, sorulara verilen cevapların farklılığını ortaya çıkarmak için one-way anova testi kullanılmıştır. Ankette dörtlü likert ölçeği kullanılmıştır. Bunlar aşağıdaki gibidir:

1.   Hiç Kullanmadım

2.   Çok Seyrek Kullandım

3.   Sık Kullandım

4.   Çok Sık Kullandım.

Cevapların Yüzdelikleri

Araştırmada elde edilen anket sonuçları, eğitim teknolojilerini eğitim-öğretim faaliyetlerinde istenilen düzeyde kullanılmadığını ortaya çıkarmıştır. Öğretmenlerimiz, yazı tahtası gibi klasik eğitim araçlarını çok sık kullandıklarını ortaya koyarken bilişim teknolojilerini kullanmadıklarını göstermiştir. Ankette sorularına verilen cevapların yüzdelikleri aşağıdaki gibidir:

Yazı tahtası

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	2	1.5	0	0
Çok seyrek kullandım	2	1.5	20	0.05
Sık kullandım	29	21.2	150	41

	2001		2011	
Çok sık kullandım	104	75.9	195	58.5
Toplam	137	100	365	100

Tablodan da anlaşıldığı gibi öğretmenlerimiz yazı tahtasını eğitim-öğretim faaliyetlerinde çok kullandıkları ortaya çıkmıştır. Yazı tahtasını çok az öğretmenimiz sınıf ortamında kullanmıyor. Bilindiği gibi yazı tahtası çok klasik bir araçtır. Hemen hemen her eğitim-öğretim yapılan ortamda bulunur. Yazı tahtası kullanım açısından 2001 ve 2011 yıllarında yapılan çalışmalara bakıldığında çok önemli bir farkın olmadığı, öğretmenlerin hala ağırlıklı olarak yazı tahtasını kullanmaya devam ettikleri gözlenmiştir.

Grafikler

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	24	17.5	110	30
Çok seyrek kullandım	61	44.5	155	42
Sık kullandım	35	25.5	70	19
Çok sık kullandım	17	12.4	30	9
Toplam	137	100	365	100

Öğretmenlerimizin derslerinde grafik kullanma durumlarında herhangi bir artışın olmadığı hatta grafik kullanımın azaldığı ortaya çıkmıştır.

Apple-Macintosh yada Bilgisayarlar

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik

Cevaplar	137	100	80	22
Hiç kullanmadım	137	100	80	22
Çok seyrek kullandım	0	0	120	33
Sık kullandım	0	0	100	27
Çok sık kullandım	0	0	65	18
Toplam	137	100	365	100

Bilgisayar kullanımı açısından iki çalışmaya bakıldığında çok önemli değişiklerin olduğu gözlenmiştir. 2001 hiç kullanmadım oranı %100 iken bu oran 2011 'de %20'ye düşmüştür.

Word Programı

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	130	94.9	0	0
Çok seyrek kullandım	3	2.2	50	13
Sık kullandım	4	2.9	155	43
Çok sık kullandım	0	0	160	44
Toplam	137	100	365	100

Öğretmenlerimizin yaklaşık olarak 2001 %95 i word kullanımını bilmiyorlarken bu oran 2011 de %0 düşmüştür. Buradan 2001-20011 yılları arasında öğretmelerin bilgisayar teknolojilerini kullanma oranlarında çok büyük değişiklik olduğu söylenebilir.

Powerpoint

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik

Hiç kullanmadım	132	96.4	10	3
Çok seyrek kullandım	2	1.5	40	10
Sık kullandım	1	0.7	185	51
Çok sık kullandım	2	1.5	130	38
Toplam	137	100	365	100

PowerPoint kullanma oranlarında da Word kullanım oranındaki artışa paralel olarak artış gözlenmiştir.

Tarayıcı

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	137	100	10	3
Çok seyrek kullandım	0	0	50	13
Sık kullandım	0	0	187	51
Çok sık kullandım	0	0	118	33
Toplam	137	100	365	100

Araştırmaya katılan öğretmenlerin 2001 de hiçbiri tarayıcı kullanmamışken 2011 hiç kullanmadım oranı %3'e düşmüştür.

Dijital Kamera

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	137	100	100	27
Çok seyrek kullandım	0	0	120	33
Sık kullandım	0	0	80	22
Çok sık kullandım	0	0	65	18
Toplam	137	100	365	100

Araştırmaya katılan öğretmenlerin 2001 de hiçbiri dijital kamera kullanmamışken 2011 hiç kullanmadım oranı %27'ye düşmüştür.

Datashow

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	137	100	40	11
Çok seyrek kullandım	0	0	70	15
Sık kullandım	0	0	125	35
Çok sık kullandım	0	0	130	39
Toplam	137	100	365	100

Araştırma yapılan okullardaki öğretmenlerin 2001 hiç biri datashow ile tanışmazken 2011 neredeyse %75 derslerinde datashowdan yararlandıkları söylemektedir.

Yazıcı

Cevaplar	2000		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	126	92.0	0	0
Çok seyrek kullandım	6	4.4	95	26
Sık kullandım	5	3.6	180	50
Çok sık kullandım	0	0	90	24
Toplam	137	100	365	100

2001 yılında öğretmenlerin yazıcı kullanma oranı çok düşükken 2011'de bu oran dramatik olarak artmıştır.

Laptop

Cevaplar	2000		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	134	97.8	55	15
Çok seyrek kullandım	3	2.2	85	23
Sık kullandım	0	0	120	32
Çok sık kullandım	0	0	105	30
Toplam	137	100	365	100

2001 yılında öğretmenlerin laptop kullanma oranı çok düşükken 2011'de bu oran belirgin şekilde artmıştır.

Video

Cevaplar	2000		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	47	34.3	100	27
Çok seyrek kullandım	58	42.3	105	28
Sık kullandım	25	18.2	85	23
Çok sık kullandım	7	5.1	75	22
Toplam	137	100	365	100

Öğretmenlerimizin derslerinde video kullanma oranlarında çok önemli değişiklik olmadığı gözlenmiştir.

Film

Cevaplar	2000		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	73	53.3	120	32
Çok seyrek kullandım	56	40.9	130	34
Sık kullandım	6	4.4	100	27
Çok sık kullandım	2	1.5	15	7
Toplam	137	100	365	100

Anketimize cevap veren öğretmenler her iki çalışmada da film tekniği, eğitim-öğretim ortamlarında etkili olarak kullanmadıkları gözlenmiştir.

Tepegöz

Cevaplar	2000		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	89	65.0	85	23
Çok seyrek kullandım	40	29.2	95	26
Sık kullandım	6	4.4	147	40
Çok sık kullandım	2	1.5	38	11
Toplam	137	100	365	100

Tepegöz kullanımında önemli bir değişiklik olmuştur. 2011 deki çalışmaya göre öğretmenlerin büyük bölümünün derslerde bu araçtan yararlandıkları gözlenmiştir.

İnternet, WWW Sayfaları, Modem, İnternet Kamerası, İnternet Sistemleri ve Araştırma Makineleri

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	137	100	10	2
Çok seyrek kullandım	0	0	65	17
Sık kullandım	0	0	140	38
Çok sık kullandım	0	0	150	43
Toplam	137	100	365	100

İnternet kullanımında 2001 ile 2011 arasındaki cevaplar arasında çok önemli değişiklik olduğu gözlenmiştir. 2001'de öğretmenler tarafından hiç kullanılmayan

İnternet, 2011'de   neredeyse %100 oranında kullanmaya başlamıştır.

Bu metot her iki çalışmadan da görüldüğü gibi en çok kullanılan metottur.

Tartışma

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	14	10.2	18	13
Çok seyrek kullandım	42	30.7	90	19
Sık kullandım	55	40.1	148	40
Çok sık kullandım	26	19.0	109	28
Toplam	137	100	365	100

Tartışma yönteminin derslerde kullanımda önemli bir değişiklik olmamıştır.

Örnek Olay

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	18	13.1	38	17
Çok seyrek kullandım	35	25.5	97	20
Sık kullandım	53	38.7	128	33
Çok sık kullandım	31	22.6	102	30
Toplam	137	100	365	100

Örnek olay yönteminin derslerde kullanımda önemli bir değişiklik olmamıştır.

Gösterip Yapma

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	14	10.2	45	12
Çok seyrek kullandım	34	24.8	79	21
Sık kullandım	57	41.6	145	39
Çok sık kullandım	32	23.4	96	28
Toplam	137	100	365	100

Gösterip Yapma yönteminin derslerde kullanımda önemli bir değişiklik olmamıştır.

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Problem Çözme

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	18	13.1	12	2
Çok seyrek kullandım	14	10.2	78	21
Sık kullandım	44	32.1	150	40
Çok sık kullandım	61	44.5	125	37
Toplam	137	100	365	100

Problem Çözme yöntemi her iki çalışmada da en çok kullanılan yöntem olduğu gözlenmiştir.

Grup Çalışması

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	23	16.8	45	8
Çok seyrek kullandım	43	31.4	124	34
Sık kullandım	46	33.6	99	29
Çok sık kullandım	25	18.2	97	29
Toplam	137	100	365	100

Grup çalışması yöntemi, öğretmenlerin her iki çalışmada da yaklaşık olarak %50 si tarafından öğretim faaliyetlerinde kullanılmaktadır.

Bireysel Çalışma

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	15	10.9	58	10
Çok seyrek kullandım	27	19.7	92	27
Sık kullandım	51	37.2	152	42
Çok sık kullandım	44	32.1	63	21
Toplam	137	100	365	100

Bireysel Çalışma yönteminin derslerde kullanımda önemli bir değişiklik olmamıştır.

Bilgisayar Laboratuvarı

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	126	92.0	98	28
Çok seyrek kullandım	5	3.6	100	29
Sık kullandım	1	0.7	124	33
Çok sık kullandım	5	3.6	43	10
Toplam	137	100	365	100

2001 yılında öğretmenlerin bilgisayar laboratuvarı kullanma oranı çok düşükken 2011'de bu oran dramatik olarak artmıştır.

Fen Laboratuvarı

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	44	32.1	145	42
Çok seyrek kullandım	55	40.1	125	32
Sık kullandım	24	17.5	85	19
Çok sık kullandım	14	10.2	10	5
Toplam	137	100	365	100

Fen Laboratuvarı kullanımın gittikçe azıldığı gözlenmiştir.

Ödül

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	21	15.3	42	8
Çok seyrek kullandım	38	27.7	45	9
Sık kullandım	60	43.8	147	44
Çok sık kullandım	18	13.1	131	39
Toplam	137	100	365	100

Ödül yönteminde olumlu yönde değişikler olduğu gözlenmiştir.

Beyin Fırtınası

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	90	65.7	72	17
Çok seyrek kullandım	26	19	125	34
Sık kullandım	13	9.5	145	41
Çok sık kullandım	8	5.8	23	8
Toplam	137	100	365	100

Beyin Fırtınası yönteminde çok önemli değişikler olduğu gözlenmiştir

Soru Cevap

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	7	5.1	0	0
Çok seyrek kullandım	1	0.7	0	0
Sık kullandım	33	24.1	45	12
Çok sık kullandım	96	70.1	320	88
Toplam	137	100	365	100

Soru cevap yöntemi, her iki çalışmada öğretmenlerin hemen hemen bütünü tarafından öğretim faaliyetlerinde etkili olarak kullanılmaktadır.

Eğitsel Oyun

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
Hiç kullanmadım	18	13.1	45	10
Çok seyrek kullandım	27	19.7	65	16
Sık kullandım	61	44.5	140	38
Çok sık kullandım	31	22.6	115	36
Toplam	137	100	365	100

Eğitsel Oyun yöntemin derslerde kullanımda önemli bir değişiklik olmamıştır

İstatistik Analizleri

Eğitim teknolojilerinin kullanım yüzdelikleri belirlendikten sonra cinsiyete, yaşa, deneyime, görev yerine ve eğitim durumuna göre teknoloji kullanımında farklılığın olup olmadığının ortaya çıkarılması için farklı istatistiksel yöntemler kullanılmıştır. Cinsiyete göre farklılaşmaları ortaya çıkarmak için t-testi, diğerleri için de one-way anova yöntemi kullanılmıştır. Burada alfa (α) değerinin 0.05 altında olması guruplar arasında farklılığın olduğunu gösterir. Alfa (α) 0.05 üstünde olması ise guruplar arasında farklılığın olmadığını gösterir. Karşılaştırmalı analizler bu değere göre yapılmıştır.

Cinsiyet T-testi : :(α) değerine göre soruların dağılımları ve yüzdelikleri

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
alfa (α)<0.005	13	16	23	29
alfa (α)>0.005	65	84	55	71

Cinsiyet bakımından T-testi değerlendirmesi sonuçları incelendiğinde 2001 yılında yapılan çalışmada alfa (α)<0.005 anlamlı olan faktör sorusu sayısı 13 iken bu sayı 2011'de 23 yükselmiştir.

Anlamlı olmayan faktör sorusu sayısı da 65'ten 55'e düşmüştür. Bu sonuç, bayanların bilgisayar teknolojileri kullanma oranları arasında farklılık gösterdiklerini ortaya koymaktadır.

Yaş One way Anova :(α) değerine göre soruların dağılımları ve yüzdelikleri

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
alfa (α)<0.005	20	25	30	38
alfa (α)>0.005	58	75	48	62

Yaş bakımından One way Anova testi değerlendirmesi sonuçları incelendiğinde 2001 yılında yapılan çalışmada alfa (α)<0.005 anlamlı olan faktör sorusu sayısı 20 iken bu sayı 30'a yükselmiştir. Anlamlı olmayan faktör sorusu sayısı da 65 ten 48 e düşmüştür. Öğretmenlerin yaşları arttıkça bilgisayar teknolojilerini kullanma oranlarında azalma olduğu gözlenmiştir. Bu verilerin analizi, 40 yaşın altında olan öğretmenlerin teknoloji kullanmaya karşı meyilli eğilimlerinin daha fazla olduğunu göstermektedir.

Deneyim One way Anova: (α) değerine göre soruların dağılımları ve yüzdelikleri

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
alfa (α)<0.005	10	12	24	30
alfa (α)>0.005	68	88	54	70

Deneyim bakımından One way Anova testi değerlendirmesi sonuçları incelendiğinde 2001 yılında yapılan çalışmada alfa (α)<0.005 anlamlı olan faktör sorusu sayısı 10 iken bu sayı 2011'de 24'e yükselmiştir. Anlamlı olmayan faktör sorusu sayısı da 68 den 54e düşmüştür. İlan tahtası, şema, mac ya da ibm, tarayıcı, dijital kamera, datashow, multimedya, televizyon, video, film şeridi, radyo, modem, internet kamerası, internet sistemleri, araştırma yöntemleri gibi araçları, deneyimi 15 yılın altında olan öğretmenlerin daha yoğun olarak kullandıkları gözlenmiştir.

Eğitim One way Anova göre (α) değerine göre soruların dağılımları ve yüzdelikleri

Cevaplar	2001		2011	
	Sayı	Yüzdelik	Sayı	Yüzdelik
alfa (α)<0.005	22	28	32	41
alfa (α)>0.005	56	72	46	59

Eğitim bakımından One way Anova testi değerlendirmesi sonuçları incelendiğinde 2001 yılında yapılan çalışmada alfa (α)<0.005 anlamlı olan faktör soru sayısı 22 iken bu sayı 32 yükselmiştir. Anlamlı olmayan faktör sorusu sayısı da 56'dan 46'ya düşmüştür. Eğitim düzeyleri bakıldığında lisans ve yüksek lisans mezunu öğretmenlerin özellikle bilgisayar teknolojilerini kullanma oranları yüksek olduğu gözlenmiştir. Bu analiz verileri, öğretmenlerin eğitim düzeyi yükseldikçe eğitim teknolojilerini kullanma yoğunluklarının arttığını ortaya koymaktadır.

Sonuçlar

Araştırma sonuçlarına bakıldığında 2001 yılında yapılan çalışmayla 2011 yılında yapılan çalışma arasında özellikle bilgisayar ve internet teknolojilerini kullanma oranları arasında oldukça farklılıklar gözlenmiştir. Bunun sebebi olarak Milli Eğitim Bakanlığının okullarda Bilgisayar teknolojilerine ağırlık vermesi gösterilebilir. Öğretmenlerin yaş ve deneyimleri arttıkça teknolojiyi kullanma oranlarının düştüğü gözlenmiştir. Bu durumun yeteri kadar hizmet içi eğitim yapılmadığından kaynaklandığı düşünülmektedir. Öğretmenlerin öğrenmeleri güdüleyen ve artıran eğitim teknolojilerini eğitim-öğretim ortamlarında yeteri kadar kullanmadıklarını her iki çalışmada ortaya çıkarmıştır. Bu sorunun ortadan kalkması için, Milli Eğitim Bakanlığı, İl Milli Eğitim Müdürlükleri ve İlçe Milli Eğitim Müdürlükleri üniversitelerin ilgili bölümleri ile irtibata geçerek planlı ve etkili olabilecek hizmet içi eğitim seminerlerini ortaklaşa düzenlemeleri yararlı olabilir.

Gelişen ve değişen teknolojilerin eğitim süreçlerini yoğun biçimde etkilediği ve teknolojilerin süreç içerisinde araç olarak önemli biçimde yer tuttuğu ve bu durumun zaman içiresinde artarak devam edeceği görülmektedir. Eğitim sürecinde, eğitici olarak rol alan öğretmenlerin bu teknolojileri daha etkin kullanması için tedbirler alınmalıdır. Türkiye'de Milli Eğitim Bakanlığı FATIH projesi ile eğitim teknolojilerini eğitim sürecinin içene daha fazla katmak için önemli bir çaba başlatmıştır. Bu ve benzeri projelerin başarıya ulaşması için öğretmenlerin eğitim teknolojilerini etkin biçimde kullanacak düzeyde bilgi ve beceriye sahip olması kaçınılmazdır.

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INTERNATIONAL CONFERENCE ON NEW HORIZONS IN EDUCATION SCHOOL PROTECTION SYSTEM: PROTECTING WHO, FROM WHOM?

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Abstract

The main objective of this article is to analyze the policy implanted in the schools in the State of São Paulo, Brazil, with a view to the prevention and intervention in the violence that occurs in the schools. The importance of such discussion is related to the analysis of the principles that are present and of the possible effectiveness of such a program in the prevention of school violence. This research is qualitative and the research methodology used was documentary analysis. The documents analyzed were those related to the policy of preventing violence in schools in the state of São Paulo / Brazil, called Protection System School.

school violence; educational policy;prevention policy in schools.

Introduction

The main objective of this article is to analyze the policy implanted in the schools in the State of São Paulo, Brazil, with a view to the prevention and intervention in the violence that occurs in the schools.

This research is qualitative and the research methodology used was documentary analysis. The documents analyzed were those related to the policy of preventing violence in schools in the state of São Paulo / Brazil, called Protection System School.

It is a study that analyzes the documents referring to the "School Protection System" and its focal point will be the legal and punitive or pedagogical perspective which pervades this prevention policy. The importance of such discussion is related to the analysis of the principles that are present and of the possible effectiveness of such a program in the prevention of school violence.

The discussion about school violence and conflicts should be understood within a deeper context which is that of the violence which has been disseminated in the social tissue as something normal and natural and that Tavares dos Santos (2004) calls diffused violence. This diffused violence, according to the author, is prior to crime, not coded as crime in the penal code and is legitimized by the collective conscience, instituting itself as a social norm, even if controversial and polemic. The phenomenon of diffused violence permeates the relationships in the twenty-first century promoting an unexpected result in terms of the advance of civilization:

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The social production of insecurity and the fear of crime with the weakening of social ties as well as the job insecurity and together with the fear of failure are characteristic factors of what can be called post-modernity, pointed out by different authors (Sennett, 2006; Taylor, 2006; Bauman, 1998). In this context of the diffused violence and of the feeling of social insecurity, Tavares do Santos, citing Bauman(1998) and Wacquant, (2000), points out the growth in the last twenty-five years of the population of prison inmates and of all who live off the penal industry – the police, lawyers, suppliers of prison equipment.

The relationships in the schools reflect these insecurities and through diffused violence in the everyday dealings not only in the relationships between students, but also between the former and other school professionals such as teachers, directors and employees. The insecurity felt by the school cause the punitive and judicial policies to be more frequently implemented, therefore seeking legal measures rather than pedagogical measures for the school conflicts.

School Protection System: protecting who, from whom?

The State of São Paulo government policy that is the subject of the analysis in this article is the "Sistema de Proteção Escolar" (School Protection System), an initiative by the Education Secretariat (SEE) in partnership with the Foundation for the Development of Education (FDE) and the Secretariat of Public Safety.

Basing itself on the assumption that the multiple socio-cultural variables can interfere in the school's pedagogical work and at the same time stimulate transformation, in 2009, the SEE made the "Manual of School Protection and Promotion of Citizenship" and the "General Norms for Conduct in School" available to all the schools that are part of the state education network.

The presentation text of the "Manual of School Protection and Promotion of Citizenship" refers to the pedagogical character of the school procedures that should not be subjected exclusively to an administrative/juridical position and highlights the necessity of strengthening the interpersonal relationships in conflict management as a fundamental role for school administrators and educational supervisors. Furthermore, the presentation of the Manual refers to building a "culture of peace" in pursuit of a less conflict filled and contradictory reality. With the "General Norms for Conduct in School", SEE has the intention of providing a "support tool to the procedures in the state educational network, becoming an indispensible reference for all schools" (SEE, 2009a, p. 5).

However, upon analyzing these references, we see that the pedagogical character is only an additional element, superficially explored. We clearly notice that the project's intention is based on the strict control and punishment of students that do not fit into the norms and standards established by the school. In the same manner, its objective is to disseminate the best ways of punishing and gives the legal details of the possible procedures for each infraction occurring in the school, demonstrating new forms of control by the State apparatus. In the meantime, the "institutional violence" is totally ignored, demonstrating that the understanding of the definition of violence is unilateral, marked only by the students' violence towards the institution.

Though in its presentation, the "Manual of School Protection and Promotion of Citizenship" approaches the educational character as an essential element for the daily living relationship in the school environment, this referential is lost in the sequence.

The first section of the Manual, "What is what" (SEE, 2009a, p.9-18), defines the concepts of citizenship, violence (gender, family, and domestic), conflict, abuse, sexual exploitation, crime, misdemeanor, infraction, theft, burglary, verbal aggression, bullying, prejudice, discrimination, racism, drugs, addiction, peace, the Culture of Peace, the Rights of Children and Adolescents. These concepts are based more on the knowledge of the Law, rather than in fact educational.

In the second section (SEE, 2009a, p.19-22), the Manual defines "Who is who", as the title indicates, informing the institutions responsible for the various referrals, for example the Vara da Infância e da Juventude (Infant and Youth Court), the Conselho Tutelar (Guardian Council), Defensoria Pública (Public Defense Office), amongst others.

In the immediately following section, the Manual answers any doubts that may come up in the schools, (SEE, 2009a, p.23-32). "About the School" is the title of this third section that deals with topics such as urban area, the school's responsibility to the students while on the premises or on the way from home to school. It also deals with the dispensation of students, unjustified absenteeism, the student's representatives in the absence of parents, and permission to the parents or guardians to have access to the school. It discusses issues on defamation caused by a student, parent, or guardian against a colleague, teacher or the school, about the knowledge of the parents or guardians of the school rules and the disciplinary measures adopted by the school. It goes on to give the reasons for the school staff to mandatorily register the school occurrences in the appropriate systems; how to receive the convicted students, who in abidance socio-educational measures, are on probation, in semi freedom or rendering service to the community, and whether they can have their identity revealed. It gives the guidelines on the entrance of the police and journalists into the school, bomb threats, and surveillance and monitoring. The majority of the answers to these doubts are based on the current legislation, mainly the Estatuto da Criança e do Adolescente (ECA, 1990). However, some of the statements, as for example the permission for the police to enter the school, do not present the legal base to support the text. Actions that are in fact educational are not discussed, only the applicable legal procedures for each situation.

In the sequence, the Manual brings in its fourth section, "About the students", the actions that should be taken when verbal or physical aggression on the part of the student occurs, the use and sale of drugs and alcohol on the school premises, the carrying of weapons, bullying, racism, vandalism, theft or burglary. The attitudes the professionals should have when identifying children and adolescents that have suffered sexual abuse or ill-treatment, when there is sexual harassment by the student against a member of the staff and finally, when there is a sexual relation between students. In most part, the actions cited in the material foresee the calling in of the Guardianship Council and of the Military Police, giving little or no space to the real pedagogical action within this context.

In the fifth section, "About the staff", the Manual brings up the actions to be taken with members of the staff in cases of domestic or family violence, verbal or physical aggression against colleagues or students, the use of tobacco, drugs and alcohol on the school premises, manifestation of racist attitudes, in the case of theft, burglary, carrying of weapons, sexual and moral harassment of students and sexual relations with students under the age of 18.

"Sexual violence against children and adolescents?", the sixth section of the Manual (SEE, 2009b, p.44-47), brings the guidelines of how to proceed in the cases of sexual violence and homophobia in the school. This is

the first part of the Manual that discusses the educational actions and approaches that are not juridical, in order to deal with the subject matter in such a way as to prioritize human relationships within the school, in favor of living with the differences.

In "Notification and Referrals", the seventh section of the Manual, there is an intensification of the requirement that permeates the whole reference: to register an Occurrence Bulletin with the Police when illegal acts are practiced in the school. This section determines that a Police Occurrence Bulletin should be registered in an attempt for the authorities to investigate the illegal acts, contraventions or crimes. Additionally, it explains the significance of the notification, how to proceed with notifications of abuse, where to send them, the situations in which the Military Police should be sought out, the Mobile Emergency Service, the Fire Brigade, the phoned denouncement and the Police District. In the last part of this section, there is an explanation of the reasons that lead educators to be remiss, even when they know that it is a legal obligation to notify the occurrence of violence.

Finally, and in the last section of the Manual, there is a mention to "Some school actions for the prevention of violence and the promotion of the "Culture of Peace". These actions are based on the idea of the Culture of Peace, with the belief that in the future there will be the "construction of a social structure and of social relationships characterized by the presence of justice, equality, respect, liberty and by the absence of any type of violence". (SEE, 2009a, p.9).

On giving definitions for the concepts of what are crimes, contraventions and infractions, The Manual of School Protection and Promotion of Citizenship, points out that "contraventions and crimes committed by persons under the age of 18", are infractions (SEE, 2009a, p. 14). However, when dealing with misdemeanors that occur within the school, the text repeatedly utilizes the term 'crime', and also presents a list of "the most common crimes in school" (p.15) that go from acts of damage, graffiti, threats, to carrying of weapons, drug dealing and rape; dealing with all of them with the same severity. Furthermore, it uses legal terms to qualify the students, such as "convicted" for adolescents in conflict with the law and who are carrying out socio-educational penalties. It presents simplistic solutions such as the suggestion for dealing with bullying at school; recommending that the aggressor be *referred* to therapeutic treatment and that the Guardianship Council give *warning* to the aggressive student to "cut down" on this undesirable behavior. (p. 34)

The pedagogical superficiality and the hardening of the legal and police measures are clear to us, as evidenced by the above examples.

Another relevant aspect, that we highlight in the material, with regard to the treatment given to the students that commit the so-called "contraventions", is the difference established between similar acts carried out by the students and by the members of the staff. We use as an example a person under the influence of drugs or alcohol on the school grounds. When the problem occurs with a staff member, after immediate measures taken by the school director, such as the sending the staff member home, the material presents a list of guidelines that may be followed in order to avoid future problems and help the staff member to re-adapt to the work environment. Amongst the eleven suggestions (p.77) there are those which have to do with explanations about the ills of using drugs, the permanent observation of the performance and behavior of the staff member and the referral to health and support services.

When referring to the student, in relation to drugs the material guides that "regardless of the student's age, the Military Police (190) should be called, in order for the applicable actions be taken (SEE, 2009a, p.33)." Following this there are no detailed suggestions, as there are for the staff members, to guide the school staff on how to abide with and addicted student. It only suggests that the student be sent to the Guardianship Council, who in turn, will send him to the proper Social Service office.

Conclusion

As a **conclusion,** we highlight the punitive and legal referral at different moments present in the principles of the "School Protection System", releasing the school of any pedagogical and educational action with regards to the conflicts that are as much results of external issues such as the violence in society, poverty and the presence of organized crime, as they are results of the internal organization of the school that is not prepared to work with the idea of a democratic, inclusive school for everyone.

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SECURE AND INTEROPERABLE E-LEARNING PLATFORMS BASED ON WEB SERVICES

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Abstract

Distance education's popularity is increasing day by day and has become one of the most preferred methods for obtaining information. It provides great facilities in many aspects according to traditional education. With these improvements, many requirements have appeared in this area. First of all, keeping to one electronic platform began to be insufficient for users and they need to access other platforms for obtaining more information. This means that e-learning platforms of universities may work together. In this study, through advantages of web service technology, security problems of interoperable e-learning platforms could be solved with the designed framework.

Keywords: Distance Education; Security; Interoperability; Web Services

Introduction

Electronic learning is defined such as a concept that independent-time, student-centered. It is provided to benefit knowledge of a person anywhere in world. Its training cost is very low according to traditional education and feedback can do very fast. Through many positive properties, electronic learning has been become impossible to stay away from it, nowadays (Wikipedia, 2012).

With increasing the benefits and acceptability of e-learning, many educational institutes have created e-learning system according to their own requirements. Thus, redundant heterogeneous e-learning platforms have appeared that are nonflexible, high cost and can't work together. However, in distance education, users need different e-learning platforms for accessing information in anywhere at any time. So, with spread and growth of e-learning system, data exchange with other e-learning systems and other applications have become more needs (Lursinsup and Sophatsathit, 2005). Therefore, using advantages of web service technology that is indispensable element for distributed processes during the heterogeneous systems has become homogeneous, is inevitable. Thus, a service oriented and distributed architecture for e-learning systems that is based on web services, is presented (Kuru, 2006). Usually, service oriented architecture is composed of many web services that work at different conditions and under different security management systems, are developed by different organizations in different platforms.

If thinking that e-learning systems are developed by each institution depending on their requirements and platforms they use, each of them will use their own security methods. As a result, heterogeneous systems will occur. In here, one of the main problems is security that arises during the integration of heterogeneous systems (Rodriguez, Anido and Fernandez, 2003).

This study is based the combining different e-learning systems that is necessary for distance education. And then, a solution is proposed to find about the security problems that occur while combining these systems, with

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XML web services. In study, needed security for all of the systems is provided via designed architecture. Users can login with a single entry. Also, if a service is wanted to add or delete, the system can be configured without making more modifications through designed framework. In this way, more flexible, easier configurable, distributable, more secure service oriented architecture is intended.

E-Learning and Web Services

E-Learning

Electronic learning concept can be defined that authors, students, teachers and education designators work together to how student groups learns more effectively. In e-learning systems, generally the course materials appear such as a web page to the students. But a learning network provides an opportunity for students to learn much more. Most important advantage of online learning is that to be accessible at everywhere on every time. Users can access to e-learning network from anywhere of the world and can benefit from advantages of individualized learning. Online learning can be used at education of employees in industries and can provide them to increase their skills. Also, it is very useful for universities and provides to meet educational requirements of students quickly, who want to benefit e-learning services.

E-learning is student-centered and students can study until they have learned a subject exactly. Required resources can be accessed very short time. Educational cost is very low according to traditional education. Materials can be updated quickly based on changing conditions. Feedbacks can be taken quickly and all activities of users can be reported (Wikipedia, 2012).

Besides of all of these advantages, e-learning can allow the personalization, education forums, digital libraries, virtual classes etc. Not only students; teachers and authors can benefit from these advantages while they are preparing courses contents or are using them as reference material (Hussain and Khan, 2005).

Web services

The reason of success of the web service technology is using HTTP and XML that are the standard communication protocols. Additionally, there are standard protocols that a web service needs to. First one of them is SOAP (World Wide Web Consortium [W3C], 2007) that has been developed for integrating applications, formatted with XML. This protocol provides communications of information and can work with any operating systems, programming languages and platforms. Second one is WSDL (W3C, 2007) that defines information like description of web service, processes, input-output message formats in XML format. Last standard is UDDI that provides the definition of institutions by publishing their services and then this information can be accessed by other institutions (Advancing Open Standards for Information Society [OASIS], 2012).

Concordance of web services that is used for bringing together heterogeneous systems, becomes very easy through to widely usage of web services. (Nordbotten, 2009) Having characteristics XML-based makes web services are usable between service provider and service requester, no matter how background systems are different. This property makes web services XML-based technology. In other words, all of basic components of web services such as SOAP, WSDL, BPEL, are XML-based. Therefore, when we mentioned about web service security, XML security comes to mind. XML-Signature and XML-Encryption that are presented by W3C (World Wide Web Consortium) in 2002, are main parts of XML standards (Mirtalebi and Khayyambashi, 2011). A lot of

languages are developed for same purpose. One of them is WS-Security and it provides XML digital signature and XML-Encryption elements to be used in SOAP. It is used for message integrity and confidentiality.

Other languages which are expanded version of XML;

- XML Signature: (W3C, 2008) It provides cryptographic protection to XML documentation. Integrity, authentication and non-repudiation are provided through this specification. (Buchmann and Jecan, 2008)
- XML Encryption: (W3C, 2002), It provides supporting about encryption of XML documents and sending them in same security level.
- XKMS: (Sun and Li, 2008) It is used for management of used public keys along with the XML-Signature and XML-Encryption.
- XACML: (OASIS, 2011), (Extensible Access Control Markup Language) It is defined as a standard that provide to decide complex authorization policies by specifying a set of rules.

2.3. Web services in e-learning

Using web services in e-learning management systems makes e-learning is stronger and more functional because web services provide processes for independence. This situation prevents expanding e-learning systems depend on a single system and makes it possible to communication of each of them and other applications.

Many people are using e-learning environments. Therefore, these systems must to provide information security for users. So security is basic requirement in these systems. Providing systems security for users is very important whatever contents of learning. Main task of e-learning is that providing end-to-end security between users and environment about security issue. While system is being designed, important notions as authentication, non-repudiation, confidentially, integrity must be thought for security (Gualberto and Zorzo, 2010) (Basha and Dhavachelvan, 2010).

The Challenges and Proposed Architecture

Distance education's users need to access to different e-learning platforms for getting more information. Universities may want to obtain different courses they have not in their own e-learning system or provide variety of courses to their students. Therefore, many problems and requirements occur during accessing to the systems in an environment where multiple systems are. One of these problems is about providing security of users' information. When the user makes a request to an e-learning platform, integrity of generated message must not be failed during the transmission end-to-end and confidentially of identification as users name and password must be provided.

Another problem is that users have to remember different id and password for every platform. E-learning platforms constitute several systems to themselves for authentication and authorization. Number of users id and passwords increase with increasing number of e-learning platforms. Therefore, keeping in mind the different information becomes difficult for every platform (Alkouz, and El-Seoud, 2007).

For challenges mentioned above, the proposed architecture is shown as in Fig 1.
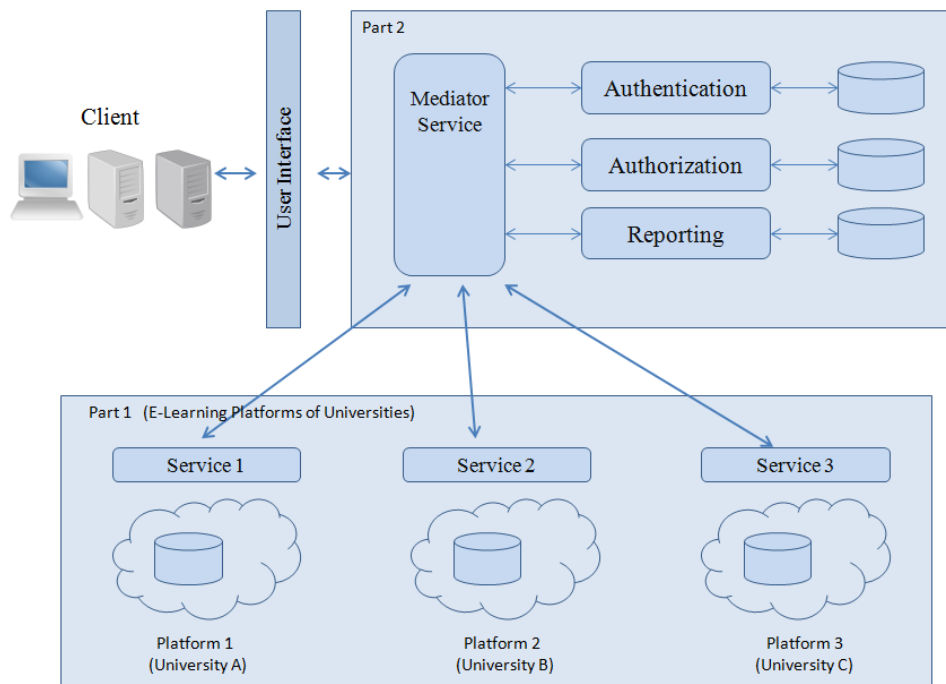
Fig.1. Proposed Architecture

According to the proposed model, users can access to different e-learning platforms with a single entry. The model consists of 2 parts. First one consists of three databases and three web services. Databases belong to three different universities and three web services are used for exchanging data from these databases. Second part of the model is used to prevent security problems while accessing to e-learning systems in first part. And second part includes some security definitions the user must success to connect to web services that are in the first part.

In second part, the functions of web service security as authentication, authorization and logging are designed in form of a separate web services. There is no communication between these designed three services. The reason is to enhance security, separating services that the information will be controlled in, from each other. A web service that is called Mediator Service exists for communication of three separation services. So, every services in system or added new services to system are users of Mediator Service. The reason is that gathering the management to one place and increasing the safety by creating independent and unaware services of each other. So a new web service is requested to add into model, only a small configuration is enough in Mediator Service. There will be no need to change the entire system.

The processing of the designed model is determined in this sequence. A student who is registered to distance learning of one of universities in the model, wants to login with his number and password. While this request is transmitting to Mediator Service, identification, time stamp and validity are added to this SOAP request message primarily. Then adding the certificate information, message is encrypted and is sent to Authentication Service via Mediator Service.

In the Authentication Service, the received message is controlled from database whether there is a valid login or not. After the control, with adding the valid/invalid information, firstly the message is sent to the Mediator Service and is sent to Authorization Service from Mediator Service.

In the Authorization Service, the received message is resolved and is controlled from the database for learning what the user has authorities. This info is obtained and added to the messages' end. And then this combined message is transmitted to the Reporting Service via Mediator Service.

In the Reporting Service, the received message is resolved again and which platforms the user can access to, is determined according to all of the answers from Authentication and Authorization Services.

During the communication between three services, SSL protocol is used for security. In briefly, during accessing to different e-learning platforms, instead of accessing to the platforms directly, user accesses to the databases via two-tier architecture that is shown in fig.1. and so there is more secure environment against to possible attacks.

Conclusion

This study helps to provide security of language-independent and combined e-learning platforms through web service technology. Also, a model that has more secure infrastructure is constituted using basic standards of web services security. In this model, authentication, authorization and reporting functions that having to be important issues in security, are defined as a separate web service for building secured web services. Also these services have no connection between them. Therefore, a Mediator Service is developed that have direct communication with every service. Thus, the model's configurations and management is to be easier, management is collected in a one place and services that are independent and unaware of each other are created. Finally, the security is tried to be increased. If a new service is wanted to add to the model, a small configuration is will be enough on the Mediator Service. There is no need to change anything in whole of the system. When users wanted to connect to the services that are defined on local or internet, they must provide the system's security conditions.

Consequently, designed architecture is flexible, distributable, extensible, easy configurable, more secure and a service oriented structure. In this system, e-learning platforms of three different universities are used. But adding new platforms and increasing this number become easy because of the architecture has flexible structure. Through this increase, using different e-learning platforms, access to different resources is always needed in distance education is provided. A solution is proposed to security problems during communication between web services.

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SMART, INNOVATIVE AND PLAGIARISM-DETERRENT ASSESSMENTS

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Abstract

Designing creative and effective Learning and Teaching material is always a challenge. To prepare innovative assessments, which at the same time deter students from plagiarism, may not always be an easy task to the instructors. This paper highlights the importance of smart assessments whose format can be adapted to all modes and forms of learning & teaching, and which would discourage students from indulging in plagiarism. The paper also presents a model assignment which can have numerous case-based solutions, any two of which would never be the same unless in case of blatant plagiarism. An added advantage of our assignment format is that it can be effectively administered both in interactive as well as distance learning environments. The format presented in this paper can be adopted in any discipline; however our implementation is carried out to an introductory Database Systems course. The assignment presented in this paper, on the basis of student feedback, is regarded to be very effective, detrimental to plagiarism and was liked and appreciated by the students who returned a higher approval rate.

Keywords: Innovative, plegiarism-deterrent, database, feedback

Introduction

For most subjects and courses, designing innovative assessments is an important part of successful Leaning & Teaching. There are a number of issues associated with design of student assessments (e.g. Carroll 2002), which focus on relevance and plagiarism. According to Melissa (2007), instructional design does play a significant role in the deterrence of plagiarism in online courses. Many researchers e.g. Handley & Williams (2011), Olt (2007, 2009) and Gibbs, & Simpson (2004-05) have contributed to the study of plagiarism According to Johnson (2004), plagiarism is a major area of concern to all educators, and in view of Ross (2003), its prevention takes precedence over its cure.. In view of Carroll (2002), there is not one single approach that will deter plagiarism but a raft of strategies that can be adopted and reinforced. These range from course and assessment design through to how you inform students what is acceptable / unacceptable and then, only finally, through to detection. According to Leong (2005), instructors want the students to successfully complete a course that stimulates their interest in learning. Students' successful learning in an information science course heavily depends on the kind of assignments they complete. Poorly designed assignments are likely to create many problems to both students and educators. For example, some students may find it hard to comprehend how the assignments are linked to the overall learning outcomes of the subject, and how the different assignments are integrated with each other. Assignments, which do not provide a framework on how to attempt and successfully complete them, might encourage some students to indulge in cheating and plagiarising. In view of Born (2003), making students aware as to how plagiarism affects their learning goals is very important. Designing assessments which have significantly less chances of plagiarism can be very challenging.

From my teaching experience of last twenty five years, I have found that inadequate information about an assignment would normally prompt students to seek more and more clarifications from the instructor. Normally, seeking more information would be considered as a sign of learning but the lack of it might lead to waste of time

both to the students and the instructor. Seeking clarification, which should otherwise be part of the assignment, may consume a significant portion of students' consultation time, which could perhaps be invested for better learning ideas. In addition, some students, due to lack of opportunities, may not opt to seek additional information and hence may end up with poor quality submissions. While teaching Database and Management Information System units for several years, I have learned the kind of problems that students face in summative assessments. In such traditional assessments, I have found some cases of plagiarism. This has provided me with an incentive to design assignments which

1. are innovative and promote creative learning by way of building blocks of case studies,
2. provide an example of a solution and other relevant information as part of and in the text of the assignment,
3. minimize the possibility of cheating and plagiarism,
4. are equally effective for online environments, and
5. are appreciated by the students.

Having these objectives in mind, I had designed some assignments for a Database Systems unit that I taught at the University of Canberra during 2001-2009 and at the Australian National University in 2011. These assignments deviate from a traditional assignments with tunnel vision and hence do not lead to a single solution. It can be challenging and time consuming but not too difficult for instructors to design assignments with numerous possibilities of solutions. In my assignments, I had provided students with an example of a model solution for every question that I asked. An added advantage of providing model solutions is that the assignments may be adapted to suit non-traditional learning environments, such as blended and online modes of learning. In the rest of this paper, a framework for designing and implementation of an assignment to an introductory undergraduate course in Database Systems is discussed. The framework is backed up with examples of solutions in a format upon which students can visualize and build their cases independently.

A new approach to database course assignment

Traditional or summative approach

In view of Baron and Keller (2004), the assessment should be part of the learning process, which is an emphasis on formative rather than summative assessment. In view of Harlen, (2005), the traditional or summative approach for students' assessments can be very useful in some cases. However, in some other cases, students may be required to understand descriptions of contextual problems along with a range of required tasks. Such assignments assume that students can gain enough information from the text of the assignment and be able to fully understand the set of academic requirements. In some cases, it is highly probable that the majority of students would not understand all the requirements. This would lead them to seek more and more clarifications, resulting in usage a significant portion of students' consultation or lecture time. Such assignments are prone to plagiarism and are not suitable to an online mode of study. Such assignments may also not promote creative learning environment.

A new approach

According to Leong (2005), if the students are approached in a way that they care and understand the experience, learning occurs. Moreover, cases help stimulate critical thinking and discussion. While teaching a first year undergraduate database systems unit at the University of Canberra during 2001 - 2009, and a similar unit at the Australian national University during 2011, I was led to develop and design an assignment, which, unlike traditional or summative approach, has infinite number of possibilities of solutions. This achieves a number of desirable objectives:

1. If any student resorts to copying or plagiarism, the design guarantees that such an occurrence will be easily detected

2. The manner in which the concepts are combined makes it almost impossible to find a complete solution for this assignment in the texts. Hence, students cannot lift a solution from the textbooks or internet as it would be very difficult to solution even to match half of the scenario of my design

3. Students having different levels of understanding can choose cases of their solutions commensurate to their capabilities and understanding.

4. With the help of the model solutions, understanding of the requirements of assignments is made easy.

5. The design is simple and every student can attempt it without requiring any external assistance. The assignment promotes reading of the subject matter and provides an opportunity and challenge to students with varying degrees of understanding.

The other features of my design are guided by the well-established principles. For example, its style follows from the "building blocks methodology". In this way the assignment is comprehensive yet simple, and is made easier to understand with the help model solutions. According to Leong (2005), creativity helps to stimulate an interest in learning. According to Sweeney (2003), a climate of creativity should be appropriately included in all IT topic areas. According to Evans (1995), creativity is the ability to form new combinations from two or more concepts. This assignment combines a number of concepts in a logical manner and aims to inculcate the targeted skills amongst the students. This assignment can also be extended to another advanced assignment on normalization of relations for the same or different subject on database systems. I used my assignment from 2005 – 2009 at the University of Canberra and discovered that

1. Student enquires and clarifications related to the assignment were resulted only to a few in number.

2. Occurrence of plagiarism was not found.

3. Most of the students demonstrated better learning of the concepts

During the last decade or so, many institutions and instructors, in order to detect internet related plagiarism, have resorted to plagiarism tracking software like Turnitin, which can be found at http://www.turnitin.com/static/index.php and other software tools like CopyCatch, which can be found at http://www.universityaffairs.ca/turn-it-in-for-a-learning-opportunity.aspx. A lot of studies, e.g. Adam Chapnick (2008), can be found about the benefits and concerns in using such plagiarism-detecting tools. While the benefits of such tools can hardly be denied, there are widespread moral and ethical apprehensions and concerns about the usage of such software tools. Sally Savage (2004) concludes that "some students hold objections to Turnitin that relate to legal issues concerning privacy, copyright and ownership of labour". My experience of using Turnitin was also met with some objections from the students as in their view it breached or compromised ethical and privacy guidelines. In addition, as it turned out, to analyse the results of Turnitin was very laborious and time consuming. It is worth emphasizing that during three consecutive semesters, my assignment resulted in a drastic reduction in plagiarism. Even in the cases when the plagiarism had occurred, it was easily identified without the help of any software like Turnitin. This was made possible because my design made it very easy to detect identical or similar submissions.

I conducted surveys to measure the effectiveness and appropriateness of this assignment with my students at the Australian National University in 2011 and at the University of Canberra during 2008 and 2009. I also received informal feedback from my colleagues at the University of Canberra, the Australian National University, the Australian Defence Force Academy, the Management and Science University of Malaysia and the King Abdulaziz University of Saudi Arabia. Apart from routine questions, I was very curious to find out whether providing an example of model solutions as part of the assignment, which I did, was relevant and justified. Informal and formal feedback resulted in the following outcomes:

A unique assignment design

Unlike the traditional approach of database assignments, my approach can theoretically have a variety of solutions. It also takes care of students having different levels of understanding. It builds concepts in a gradual manner. In this way the assignment is comprehensive but very simple to begin with the help of model solutions. The manner in which the concepts are combined makes it almost impossible to find a complete solution for this assignment in the texts. The assignment promotes reading of the subject matter and provides a challenge for all

students irrespective of their degrees of understanding. With an assignment like mine, instances of plagiarism are likely to be reduced drastically, and if not, plagiarism would be easily identified without having to use software tools like Turnitin, which is primarily for the reason that any two or more submissions cannot be the same or similar. My assignment also demonstrates that the model solution form an interesting case can be used to create a new assignment

The assignment questions with model solutions

Contents of the Assignment

The following assignment was designed for Database Systems, a first year undergraduate unit which I taught at the University of Canberra. This assignment aims to provide an understanding of introductory database concepts. For each task of the assignment, included is a model solution based on a case study. These solutions are intended to provide a better understanding to learning the concepts, and to help students produce high quality results. The relations or tables of these examples are combined to an advanced assignment on normalization of relations.

Task (a): "Give a short description of two relational database systems, real or hypothetical. Your description should include the details of data stored by the system, and three important functions that the system would perform."

Model Solution for Task (a):

Name of Database System: Timetable Management Information System

Description: The Dream University is trialing a database system known as Timetable Management Information System (TIMS) to store and manage information of lectures given at the main campus. This database is used by students, teachers and administrators. It stores data about subjects, teachers and classes. Data about subjects include subject Code (subCode), a three letter abbreviation of the subject name (subName) and a single digit number for the credit value (Credit) of the subjects. Data about the lecturers includes lecturers' identification number (staffNo), initials of the first and last names (staffName), and office contact address (Address). The data stored about classes apart from subject and lecturer details include day (classDay), time (classTime), room (classRoom) and year-semester (yearSem) of the class.

Details of Functions:

1. Find the details of lecturers or details of all classes.
2. Find out details about various subjects.
3. Find out details of classes for a particular subject.
4. Enter details of new classes.

Task (b): "Write at least three relations or tables for each of the two database systems which are sufficient to resolve your queries, and identify primary and foreign keys for each of these relations. Include all business rules relevant to your relations/tables."

Model Solution for Task (b):

The relations shown as Table 1 Subject, table 2 Lecturer, Table 3 as SubLect (subject and lecturer) and Table 4 SubClass (subject and class) given below, are chosen to meet the requirements of the queries in the above example.

Business Rules:

1. A lecture for a subject is meant for all the students enrolled in that subject in a particular semester.
2. A lecturer may teach more than one subject in a semester but a subject in a semester will be taught by only one lecturer.
3. A subject can have two lectures on the same day but at different times.
4. One subject is taught by only one lecturer during one semester.
5. Different lectures may teach the same subject in different semesters.
6. Subject Name (three letters) of the subject name may not be unique for the same subject.
7. Two lecturers may share the same office.

subCode	subName	Credit
5915	DBD	3
6672	DBD	3
9999	CPP	6

Table 1 Subject

staffNo	staffName	Address
650011	MY	11A013
659999	DJ	06C022

Table 2 Staff

subCode	yearSem	staffNo
6672	2011S1	650011
5915	2011S1	650011
5915	2011S2	650011
9999	2011S2	659999

Table 3 SubLect

subCode	classDay	classTime	YearSem	classRoom
6672	WED	1130-1930	2011S1	05A052
5915	TUE	0930-1100	2011S1	02B009
5915	TUE	1730-1900	2011S1	02B007
5915	WED	1530-1630	2011S2	09A001
5915	FRI	1030-1200	2011S2	02B011
9999	MON	1030-1230	2011S2	07A033

Table 4 SubClass

Task (c): "Write primary and alternate keys for all relations or tables."

Model Solution for Task (c):

Subject

Primary Key: subCode, Alternate Key: None (why)

Lecturer

Primary Key: staffNo, Alternate Key: None (why)

SubLect

Primary Key: subCode, yearSem, Alternate Key: None

SubClass

Primary Key: subCode, classDay, classTime, yearSem,

Alternate Key: classDay, classTime, classRoom, yearSem

Task (d): "Write two queries in English for each of the database systems (at least one of them should refer to the data from two or more tables)."

Model Solution for Task (d):

1. List subject codes of all subjects taught by the lecturer whose staffNo is 650011.
2. List staff number, name and the address of the lecturer who taught the subject having code 6672 in the first semester of 2011.

Task (e): "Write the resolution of the queries in (d) in relational algebra using the relations / tables in (c) (at least one of them should contain a join operation on two or three tables."

Model Solution for Task (e):

1. ΠsubCode(σstaffNo= 650011(SubLect))
2. [ΠstfflNo,staffName,address(Staff)] χ Staff.staffNo=Subject.staffNo
   [ΠstaffNo(σsubcode=6672 ^ yearSem (SubLect))]

   (Here χ is an equijoin)

Task (f): "Write the resolution of the queries in (d) in SQL using the relations / tables in (c)."

Model Solution for Task (f):

1. SELECT subCode
     FROM SubLect

     WHERE staffNo = 650011.

2. SELECT staffNo, staffName, address
     FROM Lecturer

     WHERE staffNo = (SELECT staffNo FROM SubLect WHERE subCode = 6672 AND

     YearSem ='2011S1')

Task (g): "Write a table which results from the Cartesian product of any two tables (or part of) that you have presented."

Model Solution for Task (g): Table is the Cartesian product of the first two columns of Guest and Booking tables:

subCode	subName	Credit	staffNo	staffName	Address
5915	DBD	3	650011	MY	11A013
5915	DBD	3	659999	DJ	06C022
6672	DBD	3	650011	MY	11A013
6672	DBD	3	659999	DJ	06C022
9999	CPP	6	650011	MY	11A013
9999	CPP	6	659999	DJ	06C022

Table 5 Cartesian Product

Task (h): "Write the table obtained from the Natural Join of any two tables in one of your database systems using the common attribute."

Model Solution for Task (h): Table 6 is the Natural Join of Lecturer and SubLect on staffNo

subCode	subName	Credit	subCode	yearSem
650011	MY	11A013	6672	2011S1
650011	MY	11A013	5915	2011S1
650011	MY	11A013	6672	2011S1
659999	DJ	06C022	9999	2011S2

Table 6 Natural Join

Building yet another assignment

The above assignment can be extended to an advanced assignment as follows. Suppose we are given the relation as in Table 7, whose attributes and business rules are described in our model example above. The students' task would be to normalize the above relation into 1st, 2nd, 3rd normal forms as well as into the Boyce Code Normal Form (BCNF). A close examination of the problem would suggest that the four relations/tables presented as Table 1, table 2, Table 3 and table 4 in our model example in (b) are actually the BCNF form of our relation in Table 7. There are absolutely no issues even if students are able to sense the solution even before attempting to normalise the relation because they would still have to describe the entire normalization process in detail. To describe and sketch the normalisation process is hardly impacted by knowing the solution. In fact the beauty of such an assignment as this one is that it emphasises on learning rather than a solution. However, these

kinds of assignments require more time to evaluate them as virtually all of the submissions, unless plagiarised, would be significantly different.

subCode	subName	staffNo	sName	Address	classDay	classTime	YearSem	classRoom	Cr
6672	DBD	650011	MY	11A013	WED	1730-1930	2011S1	06A052	3
5915	DBD	650011	MY	11A013	TUE	0930-1100	2011S1	02B009	3
5915	DBD	650011	MY	11A013	TUE	1730-1900	2011S1	02B007	3
5915	DBD	650011	MY	11A013	WED	1530-1630	2011S2	09A001	3
5915	DBD	650011	MY	11A013	FRI	1030-1200	2011S2	02B011	3
9999	CPP	659999	DJ	06C022	MON	1030-1230	2011S2	07A033	6

Table 7 Un-normalized Relation

Conclusions

When this assignment was used, it was highly endorsed by students, perhaps due to the reason that it included model solutions. This assignment aroused creativity and contributed to better learning of the concepts. These results were evident from the end of semester evaluation forms returned by students.

Key Performance Indicator	Score on a scale of 5
Because of its design, I understood the assignment questions easily	3.7
Because the sample solutions were provided, I had a clear idea of what was required of the assignment	3.9
Because of the clarity of the design and a set of sample solutions, I was able to do the assignment on my own without any external help	3.8
The design of this assignment was better than a conventional theoretical assignment	4.0

Table 8 Survey Results

Because of the open ended format of the assignment, students presented a diverse range of interesting examples/. When the same assignment without model solutions was administered to about one hundred students in semester two of 2004 and about fifty students in the first semester of 2005, it resulted in some cases of plagiarism. Whereas in the first and second semesters of 2006, when the assignment was administered in its present form to about the same number of students, only one case of plagiarism was detected. The results of 47 student feedback survey returned the following ratings:

Acknowledgements

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SPECIAL EDUCATIONAL ASPECTS OF THE QUALITY OF LIFE OF CHILDREN WITH RETINOPATHY OF PREMATURITY

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Abstract

Quality of life has become a very topical scientific phenomenon over the recent two decades and it is reflected in many fields of research. In the context of special pedagogy a very highlighted issue is the assessment of the quality of life of specific client groups in order to establish an adequate level of the provided support and to optimise the complex intervention. This is why there was designed a concept focusing on the research of the quality of life of children with retinopathy of prematurity, which is one of the main causes of blindness in advanced and medium developed countries of the world. This study focuses on the description of the research concept. The whole issue is studied in the context of the theoretical background and practical applications.

Keywords: Retinopathy of Prematurity, Quality of Life, health related quality of life, visual impairment, special education, children

1 Introduction – theoretical base

Retinopathy of prematurely born children - Retinopathy of Prematurity, Retinopathiapraematurorum ("ROP") is at present on the top of the list of causes of blindness of children in developed countries of the world. ROP was the cause of eyesight loss for ca 70% of the blind children (Rozsíval, 2005). This vasoproliferative disease of the retina affects especially prematurely born children with low birth weight. The ROP incidence grows due to the increasing number of extremely premature children, who manage to survive. In the Czech Republic every year 80% of children with less than 1000 g birth weight survive (Štembera, 2004). Every year in the Czech Republic there are registered ca sixty children with serious damage of vision due to ROP (Kuchynka et al. 2007). The contemporary advances in ophthalmology have significantly improved the prognosis of vision functions of children with ROP, yet its impact can have fatal consequences of total loss of visual perception, which confirms its dominant position among the child blindness causes.

The presented data clearly show, that ROP remains, in spite of the significant scientific and technical advances in neonatology and ophthalmology care, a very pressing medical, social, economic, social-pedagogic and ethical problem. Depending from the level of retained eyesight functions, which range from weak eyesight up to total blindness and in connection with other accompanying complications arising from the degree of immaturity, there was prepared a concept focusing on the quality of life of children, who suffer from retinopathy of prematurity.

The most frequent effect of ROP is serious eyesight impairment, or even blindness. Due to the technical advances in the neonatology and perinatology fields we can expect rising incidence in the category of extremely immature newborns at the very limit of viability, which will mean a rising incidence of retinopathy of prematurity, especially its atypical forms. The lost of vision affects the whole personality of an individual and his/her quality of life.

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The QOL (Quality of Life) phenomenon is an issue, which is currently highly discussed and widely understood and many fields of science study it (philosophy, sociology, psychology, medicine, economy, ecology, pedagogy, special pedagogy etc.). The wide options of application are reflected in the multi dimensional nature of this problematic. The assessment of QOL of children has become the focus of interest of experts only during the last ten years. A wide range of research is dedicated to the quality of life of the adult population, however the category of children and adolescents is slowly gaining in importance and it becomes an "emerging field of study". In the past there were developed various theories describing the quality of life of children. Mostly the theories focused on only one dominant aspect of a child's world. According to the present view of many authors, the development theories focusing on the psychological aspect (e.g. Limber, Hashima, 1999), or physical aspect (such as Ruštin, Greenberg, 1999), social (e.g. Flakkoy, Hevener, 1997), moral or spiritual growth (such as Thompson, Randal, 1999) do not provide sufficiently complex basis for creation of tools to monitor QOL of children" (Dostálek, Troneček, Hejcmanová, Petriščáková in Mareš et al., 2006, p. 209). Currently even in this area of interest there dominate the quantitative methods of QOL assessment in the form of questionnaires, which may not be sufficiently sensitive to the specifics of certain groups of children, especially ill children. The questionnaires are also designed for an "average" child, which does not exist. This is why there is a worldwide increase of interest in a qualitative approach and specific instruments of qualitative nature (Mareš, Marešová in Koukola, Mareš, 2007).

From another perspective, the aforesaid authors speak about other problematic aspects of measuring the quality of life of children – we, the adults, ask children from our point of view, using our methods and our words. Vaďurová (2006) notes the attention span and points out, that in reasonable cases there is no other alternative than "proxy rating", when the quality of life is assessed by a parent, doctor or other relative. This brings us to the question of the evaluator of the quality of life. Vaďurová (2006) considers the assessment of the source of information as a very important aspect of the QOL assessment. The source of information may be the patients (clients), nurses, medical staff. Each of the groups clearly provides a different point of view about the quality of life of a child and interprets the situation from its own perspective. One of the variants is the "proxy rating" – assessment done by the parent or nurse. The parent's opinion about the quality of life of a child may not be quite relevant, it may be distorted for instance due to different perception of the present situation of the child and anticipation of its future and it can be significantly determined by emotional influences. In this context Salajka (2006, p. 68, 69) notes, that the "tools assessing the HRQOL of children have until recently almost always been based on data from the relatives, usually the mother."

Measurement of the quality of life of handicapped children may be even more complicated. QOL of specific client groups must be assessed so we could improve the quality and optimise the complex individualised intervention in order to achieve the maximum possible social integration of a handicapped person into the intact society. Even in this context the total QOL cannot be described only by health indicators. An illustration of this is the definition of health created by the National Institute on Disability and Rehabilitation Research – "Being handicapped does not equal being ill." The international classification of functioning, handicap and health according to WHO on the other hand emphasises the social dimension of a handicap and the limitations arising from that (Vaďurová, Mühlpachr, 2005). "In the recent decades there has been spreading an attitude, that the handicapped people themselves identify the elements of the "disabling environment" instead of the axiom, that the organic damage is the primary source of their problems. This has led to a significant change of paradigm, when the functional limitation was replaced with a model of a minority group, which faces basically the same problems as other disadvantaged groups (Hahn in Vaďurová, 2006, p. 88).

Underlying ideas of the research

The quality of life issues can be defined by several attributes, which illustrate the contemporary state of scientific research in this area – wide applicability, multi-dimensional nature, vague terminology, strong interdisciplinary overlaps, differing interpretations, fragmented concepts and multifactor conditionality. In spite of a great diversity in the theoretical background, models, approaches and terminology, the unifying element is the attempt to present a complex view of a person on various levels, which reflect the overall quality of life with

an accent on the subjective feelings and the person's preferences instead of objectively measurable attributes. From what has been said above, from the fragmentation of the whole concept up to the subjective specifics of the quality of life, it leads us to the key question – Why should we study the quality of life anyway? Spilker (1990) notes that on the individual level the answer is self evident - the purpose is to optimise the intervention directed to a specific individual. This is the context, in which the concept of QOL assessment of children with ROP originated. Finková (2004, p. 33) points out that "children with the ROP syndrome suffer from multifactor influence on their motoric development. These children often have combined disabilities, but also the nature of their early experiences plays a role." Some characteristics of the eyesight disability may be an obstacle in the path towards life satisfaction, well-being, and can significantly affect the key pillars of the quality of life in the widest sense.

Depending from the extent of the retained eyesight functions and in relation to other accompanying complications arising from the degree of immaturity, there came an idea to assess the quality of life of children with this specific eyesight impairment. In this sense it is required to identify and fully analyse the specifics of the given target group and perform its thorough description in order to optimise the complex intervention process, which might, in an ideal case, lead to an improvement of the quality of life. The main goal of the research was subjective evaluation of the ROP impact on the quality of life of individuals, with the focus on child population. One of the partial objectives was to identify relevant QOL indicators specific for children with this type of eyesight impairment.

Survey design

Though the present dominant trend is to use quantitative methods to measure QOL, such as generic and specific questionnaires, the presented research is conceived as qualitative. So far the experts have not clearly solved the question, how can quality of life be assessed quantitatively and to what extent the used questionnaires are suitable for this purpose. In the context of the target group of our survey there is also the specific and so far not scientifically preferred field of QOL measurement of children, modified for children with health disability, often combined with other disabilities. Not only due to the aforesaid factors, the worldwide interest in the qualitative methods and qualitative approach as such is rising. We decided to reflect this trend and conceive a qualitative design for our survey. Due to the character of the researched subset we consider qualitative methods as the most relevant.

Mareš (in Mareš et al., 2006) characterises qualitative approach to QOL assessment as an approach, which does not attempt precision and generalisation. Qualitative methods in general enrich our view of the examined problem and allow us to generate new hypotheses." Svatoš, Švarcová (in Mareš et al., 2006, p. 174) point out to methodological difficulty, when a child subjectively assesses the quality of its own life – "Unlike adults here it is methodologically more difficult to get reliable data about quality of life from a self assessment – especially in case of little children, in general it can be said, that with falling age our diagnostic options decrease." This is one of the reasons for combining a subjective self- assessment performed by children with ROP and proxy rating provided by parents or nurses.

Due to the problematic aspects connected with the assessment of QOL of children with visual impairment, the chosen data acquisition method is semi-structured interview, which should reflect the aforesaid problematic nuances so the interpretation imprecision is as reduced as possible. At the same time this method should contribute to a truly subjective assessment of the child's life quality and it should allow for identification of the subjectively important elements of the child's every day life.

Interpretation of the research outcomes

Our survey should help as a primary research about the development of children with ROP. The result is an integrative description based on authentic opinions and statements of the respondents, so we could paint a maximally complex picture about the life experiences of children with ROP in the context of their quality of life. During the realisation of the surveywe chose the following research questions, whereas some of them emerged spontaneously from the data only during the very research:

- What are the characteristics of the quality of life with retinopathy of prematurity?
- In what way does retinopathy of prematurity affect the quality of life of children?
- What is the subjective perception of the quality of life of children with retinopathy of prematurity?
- Is retinopathy of prematurity subjectively viewed as something connected with worse quality of life?
- What areas of quality of life are considered by children with retinopathy of prematurity as subjectively problematic, or which are the most determined by eyesight impairment?
- How do children with retinopathy of prematurity view their quality of life and how does their view differ from the one of their parents?
- What is the role of the overall health condition in the assessment of the quality of life of children with retinopathy of prematurity?

Concerning the first of the research questions (What are the characteristics of the quality of life with retinopathy of prematurity?) our objective was to define the individually specific and subjectively assessed level of the quality of life. At the same time we wanted to define the specific predictors of QOL improvement based on identification of any specific indicators.

Though we used general measurement instruments to create the concept of the assessed QOL areas, the tool we designed can be considered as adequately sensitive. The spectrum of indicators corresponds to the empirically verified areas of QOL of the intact population, so we can expect that it captures all the relevant attributes. Schalock (2009, p. 5) confirms our approach on a more general level: "Individual quality of life is a multidimensional phenomenon consisting of key areas affected by both personality and environment. These key areas are the same for all humans, though they may differ individually according to the relative value and importance." The general measurement instruments thus reflect even specific indicators for the category of people with visual impairment, who however have different individually specific characteristics. Due to a relatively wide range of the used indicators, they can be expected to cover all the subjectively important aspects of the quality of life. At the same time the assessed indicators are identical with the determining factors of the quality of life of each individual, regardless the existence of any health problems. However the resulting profile of the quality of life bears the specific characteristics of a disability, in this case a visual disability.

The second of the presented research questions (In what way does retinopathy of prematurity affect the quality of life of children?) has a very wide scope – from individually specific characteristics of health condition – concerning the retained vision functions there are two extreme positions, when comparing the case studies and authentic interviews - through other anamnesis data confirming the aforesaid variability of the overall health condition; up to the characteristics of mental and social dimension related to the visual or even combined disability. Authentic statements, or individual QOL profiles allowed us to capture and describe all the differences in the individually specific quality of life indicators.

These aspects can be further connected with the interpretation of results related to the third and fourth question (What is the subjective perception of the quality of life of children with retinopathy of prematurity? Is

retinopathy of prematurity subjectively assessed as something connected with worse quality of life?). It is clear, that ROP and complications connected with prematurity affect the quality of life. On the individual level, the question is, how to determine the subjectively perceived well-being. International research concerning the quality of life of people with disabilities examined a representative sample and proved specific features identified by a wide range of disabled people – a communication and information barrier between the intact population and the community of the disabled, which has implications for social integration, acceptance and non-acceptance by the intact society and also identification with the community of the disabled. These characteristics are, due to the age range of the respondents, especially in the casuistic studies made by us.

Though it is not possible to reach a truly relevant generalisation, there is no denying, that ROP significantly determines the quality of visual perception and secondarily even the whole development of an individual concerning the possible strong vision impairment with all the described negative impacts and limitations. Another complication is the etiology factor of the ROP formation – prematurity implying a number of health complications, often life endangering, and late polymorbidity. The above mentioned attributes certainly contribute to the personal well-being and in the general sense they affect the quality of life of each individual.

The generally accepted view is that health disability implies a lower quality of life, however regardless the resulting health condition, which may or may not be affected by these factors, we would like to highlight an empirical confirmation of the "disability paradox" which brings also one of answers to the fourth research question (Is retinopathy of prematurity subjectively viewed as something connected with worse quality of life?) – it is a disparity between the objectively documented serious diagnosis and its expected serious impact as viewed by the exterior evaluators on one side and the subjectively positive evaluation of quality of life by the persons, who lives with health problems (Mareš, Marešová in Řehulka, Řehulková, Blatný, Mareš et al., 2008). Mareš, Marešová (in Řehulka, Řehulková, Blatný, Mareš et al., 2008) call it a paradox of the beneficial influence of health problems.

The research of this phenomenon has shown, that people with various types of health problems claim to have the same or even higher quality of life than people, who are healthy or "intact". So we cannot a priori anticipate a lowered quality of life, even though serious scientific studies (Silva, Oliveira, Ferreira, Pereira, 2005) proved a significant impact of health impairment on the quality of life of an individual – as we have emphasised several times, in case of QOL it is a multifactor conditioned concept, which needs not necessarily be affected by health condition, or the limits arising from it. The authors also present an explanation for this divergence, as shown by Albrecht and Devlieger (in Řehulková, Řehulka, Blatný, Mareš et al., 2008, p. 11) using the theory of balance: "Many people with a serious disease can find a balance among the physical, mental and spiritual segment of their lives. They are helped also by the positive influence of their environment, whether it is social or nature environment." This explanation can be applied also to the problem of health or visual disability. Our findings are more optimistic, than we had anticipated originally, not only concerning the retained visual functions, but also concerning the assessment of the overall development and the related social factors. In this context Salajka (2006) points to a very careful and reasonable interpretation of the data acquired from the QOL assessment. Also, considering the disability paradox, he warns about the possibility of data distortion due to the prejudice, which automatically expects the health problems to have a negative impact on the quality of life. In this sense he highlights the individual hierarchy of life values, the level of adaptability to changed conditions and the ability to "perceive various aspects, which form the rich tapestry of everyday life, to what extent this influence will manifest, how much it is perceived by the ill person" (Salajka, 2006, p. 105). On the level of the third research question (What is the subjective perception of the quality of life of children with retinopathy of prematurity?), apart from the aforesaid disability paradox we can only highlight the individually specific profiles of the quality of life of each respondent.

Of all the proposed indicators of the quality of life, the most highlighted one – not only by our respondents – is the psycho-social dimension, which is – in compliance with the outcomes of the international handicapped person QOL assessment projects – the main troublesome dimension of a disability – which opens the question of the attitude of the intact population to disabled persons, the question of social integration, influence of the disability on the process of socialisation of an individual, the level of acceptance and non-acceptance of the handicap and identification with the community of the handicapped people and a number of other long term

topical all-society issues – the influence of family and the upbringing attitudes of parents, social determinants (wider environment, other members of the same age group, contact with the community of the disabled) and other nuances. On this level we have actually answered the fifth question (What areas of quality of life are considered by children with retinopathy of prematurity as subjectively problematic, or which are the most determined by eyesight impairment?).

Concerning the sixth research question (How do children with retinopathy of prematurity view their quality of life and how does their view differ from the one of their parents?), there was assessed the hypothetically different viewing angle of the parent and the child about the ROP impact and the related QOL aspects. From the view of the researcher the parents were able to adequately and relative rationally assess the impact of the health problems and the disability on the life of the child. The realised interview also allowed them to reflect on the development of the child and to get a feedback. Schalock (2009) points out, that except providing the feedback there are also other ways, how the data can be useful for the parents – it can create their expectation that change is possible and it can occur on several levels. At the same time it confirms functionality of organisations in the sense of a holistic attitude to the client and comparison of the subjective and objective dimension. In this context it also clarifies the importance of the use of personal data, either in the form of individual or summary information on the organisational level – it highlights the need to allow sharing of information about the client's outcomes and changes on various levels of support, to incorporate the information about the outcomes and the findings arising from that to the theory of scientific disciplines, and last but not least, to define the individual, organisational and community factors, which may indicate the prospective development.

The specific features of the health care of the surveyed group usually have the attributes of a combined disability in the ROP context and also complications connected with prematurity, however some of the contacted respondents feel only minimum negative impact of the aforesaid factors. The level of retained visual functions seems relatively positive in this respondent group, compared with the anamnesis data from the case studies. In the sense of the last research question (What is the role of the overall health condition in the assessment of the quality of life of children with retinopathy of prematurity?) we can, again, only point to the individually variable influence on the quality of life.

Concerning the visual impairment and its negative impacts on the independent and his/Her well-being, the answer to the last question is clear – if the outcomes of ROP reach the dimension of visual impairment, the psycho-social indicators of QOL are modified in the above presented way.

As part of a specific module intended only for the parents, there was assessed not only QOL of their children in the sense of proxy rating, but we were also interested in the attitudes, feelings and knowledge of the parents concerning the options for the optimal development of the child. Again, we cannot reach a relevant conclusion with an adequate value, but in a number of specific examples we noted very rational democratic approach of the upbringing. However talking about the acceptance of the disability by the parents or by their children, proved to be embarrassing for the parents, as well as the topic of the options to identify with a group of disabled people in order to form an adequate identity of a disabled person. This issue of course has implication for the area of personal self-perception, but in a wider dimension also to the social integration area. From the interviews and the casuistic studies we can see an emphasised role of the family and family influence towards adequate socialisation, or social integration and the overall psycho-social dimension of the disability.

In general, our research aimed to become the first survey of a "new or complex area" and initiated a quantitative research while "proposing measurement procedures or acquiring a deeper insight into the specifics" (Hendl, www.kpg.zcu.cz/capv/HTML/5/5.pdf, p. 5). Our objective was not to create a generalising theory, but to provide a relatively complex picture of the quality of life of children with ROP so as to allow subsequent deep analysis of a quantitative nature.

Conclusion

What was the premise of our work, from what idea did the research design originated? These questions have been answered in the previous text, however, several characteristics will serve here for final balancing:

- Quality of life – multidimensional, broadly interpreted, multifactiorially conditioned scientific concept attracting in the last three decades attention of expert public within the intentions of social disciplines.
- Retinopathy of the premature babies (ROP) – one of the main causes of sightlessness of children in the economically developed world, a specific disease characteristic for premature babies with low birth weight, which may and, at the same time, due to technological advance in the field of interventional procedures, does not have to lead to fatal consequences in the form of meaning loss of sight perception, respectively to sight disability.
- Extreme prematurity of a new born baby – factor carrying along a very wide spectrum of life threatening complications and late consequences, situations evoking a number of ethical dilemmas, key etiological factor of origin of ROP.
- Sight disability – attribute determining overall development of an individual, factor conditioning the socialization process and social integration process, one of key determinants of quality of life and the life satisfaction.

We decided to reflect these phenomena of contemporary scientific research on various levels of knowledge – the result is a concept of evaluation of quality of life of infant population with ROP with accent on subjective evaluation of impact of above presented factors, mutual interaction of which and determination of complexly understood quality of life in the sense of well-being – personal well being integrating in itself indicators of psychical and social health.

The objective of the research has been to formulate subjective influence and impacts of ROP onto the sphere of regular everyday life and the rate which determines its quality. We tried to evaluate to which extent ROP, and its consequences and other related aspects, influence the quality of life – physical and psychical state, way of life and the feeling of life satisfaction. Respectively we wanted to confirm empirically correlations between its consequences and altered quality of life. A partial objection was in this matter to find subjective importance and meaning of proposed indicators of quality of life for target group, while, at the same time, identifying other subjectively important factors. In this sense an analysis of the statements of children was a premise. The subject to measurement of quantitative nature was a category of children with ROP, whose current quality of life was evaluated.

The proposed indicators are, according to our opinion, relevant in relation to studied issues and, at the same time, these are identical with the determinants of quality of life of each individual despite the presence of the health disability. However, the resulting profile of quality of life carries just the specific features of health disability, in our case sight disability in particular. Despite it is not possible to reach really relevant evaluation, it is evident   that ROP significantly determines quality of sight perception and secondary the entire development of an individual in the sense of potential severe sight disability with all described negative consequences and limitations. As another complication factor comes to the front line the etiological factor of occurrence of ROP – prematurity implicating a number of health, often life threatening, complications and late polymorbidity. The outlined features are undoubtedly taking part in the feeling of personal well-being, in the most general sense of the word these influence quality of life of every individual. However, without taking into account the health state, which may or may not be influenced by these described factors, we would like to stress the empiric proof of, so called, disability paradox – illustrating case may be case study of Lukas, on the basis of which we may predict his positive future development towards self-reliant, independent and satisfactory life. Of all the proposed indicators of quality of life psychosocial dimension is accented, not only by our respondents. It is in line with the conclusions of international projects evaluating quality of life of persons with disability, the main acrid dimension of disability – here comes a question of the approach of intact population towards the persons with disabilities, The area of social integration, influence of disability on the socializing process of socialization

of an individual, level of acceptance and not acceptance of disability and identifying with a community of persons with disability and a number of others long term topical society-wide topics.

The results of empiric research would, in ideal case, be reflected in optimizing of special pedagogy intervention process with the observed category of individuals with sight disability - both on individual levels, towards improved quality of the approach of professionals, and on the level of organizations in the sense of interdisciplinary cooperation. An integral part of this requisite represents enrichment of theoretical base of special pedagogy of person with sight disability by the phenomenon of the quality of life and especially by the problems of ROP, to which adequate, and from the point of view increasing incidence ever more accenting, attention has not been paid so far. We expect that applicable potential of the research output may be found not only in the field of social pedagogy, but also in medicine, respectively in neonatology and ophthalmology practice. The presented proposals for practice aim also to this conclusion. At the same time the resulting findings may project into the process of creating of a standardized specific tool for measuring the quality of life for the category of persons with ROP. In association to this was one of partial objections checking the extent of proposed concept of evaluating of quality of life of children with this specific disease on a relatively small group and its viability and its use for further applied research.

In general approach our research sought primary acknowledgement "with a new and complicated field of science" and initiation of quantitative research "with proposal of measuring procedures or reaching of deeper insight into peculiarities" (Hendl, www.kpg.zcu.cz/capv/HTML/5/5.pdf, p. 5). Our objection was not to establish a generalizing theory, but rather to present a relatively complex picture of life of children with ROP.

The key objection of this work was to broaden theoretical base of special pedagogy for persons with sight disability on the basis of longitudinal quality oriented research by, so far never reflected, issues of quality of life of persons with ROP and to open space for related applied research. Secondarily, these efforts should lead to optimizing of complexly understood intervention towards the given target group.

On individual level our objection was not only to present particular life histories, but, at the same time, using this self-evaluation secondarily provide to respondents, respectively to their parents, a feedback, opportunity for self-reflection. On the level of cooperation with professionals should these features, related from distribution of information, to adequacy of approach of experts, and the level of empathy, via interdisciplinary cooperation as far as optimized accessibility of services on various levels, illustrate a very real picture of used services, which should be a premise for further applied research aiming towards saturation of specific needs of individuals with sight disability resulting from ROP and towards increased quality of their everyday life. The pivot point of this idea is achievement of independent, self-reliant and satisfied life on various levels in the sense of well-being.

Conclusion of this work is not based on rough scores or statistical data, not even on generalized theory – it is based on description of images of particular authentic life histories of children with ROP.

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STATISTICAL SCORING ALGORITHM FOR LEARNING AND STUDY SKILLS

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Abstract

This study examines the study skills and the learning styles of university students by using scoring method. The study investigates whether the study skills can be summarized in a single universal score that measures how hard a student works. The sample consists of 418 undergraduate students of an international university. The presented scoring was method adapted from the domain of risk management. The proposed method computes an overall score that represents the study skills, using a linear weighted summation scheme. From among 50 questions regarding to learning and study skills, the 30 highest weighted questions are suggested to be used in the future studies as a learning and study skills inventor. The proposed scoring method and study yield results and insights that can guide educators regarding how they can improve their students' study skills. The main point drawn from this study is that the students greatly value opportunities for interaction with instructors and peers, cooperative learning and active engagement in lectures.

Introduction

There are several factors that affect the students' ability to complete a college degree successfully. While college admissions officers' consider mainly the predictors of academic success by looking high school GPA and standardized test scores, many researchers are interested in identifying variables that affect the college retention and dropout (Proctor et al., 2006). Examples of these variables include student motivation, self-concept, beliefs regarding success, learning styles, and study skills (Goldfinch & Hughes, 2007; Marriott and Marriott, 2003; Proctor et al., 2006).

Study skills characterize the students' capability in acquiring, recording, and using information and ideas (Harvey & Goudvis, 2000). Study skills include different types of activities, such as time management, students' information processing skills, setting appropriate goals, selecting an appropriate study environment, applying suitable note-taking strategies, concentrating, selecting main ideas, self-testing, organization, and managing anxiety (Coughlan & Swift, 2011). Students do not bring class not only their general ability that can affect their academic success but also bring demographic variables such as gender, age, culture, and race; psychological variables such as academic self-efficacy; and motivation and behavioral variables such as time management skills (Nonis & Hudson, 2010). In addition to these, there is one more important asset: study skills or strategies that students use to learn, such as paying attention in class, taking good notes, and reading the study material before a lecture (Nonis & Hudson, 2010).

The strategies students adopt in their study are influenced by a number of social-cognitive factors and have an impact upon their academic performance (Prat-Sala & Redford, 2010). The study of Prat-Sala and Redford (2010) indicates that both intrinsic and extrinsic motivation orientations were correlated with approaches to studying. In addition, research on student learning in higher education has identified clear associations between variations in students' perceptions of their academic environment and variations in their study behavior (Richardson, 2006). Furthermore, both achievement goals and study processing strategies theories have been shown to contribute to the prediction of students' academic performance (Phan, 2011). There are several empirical evidences showing how study habits impact academic performance (e.g., Coughlan & Swift, 2011; Nonis & Hudson, 2010). Lack of study skills influences drop-outs from higher education (Byrne & Flood, 2005). In the first year, strategies to improve retention and preparation between the student and the institution are required (Tinto, 2006). For this purpose, study skill courses have come out as suitable interventions to bolster academic skill development and increase the liability of student retention and satisfaction and success in higher education (Coughlan & Swift, 2011; Enfait & Turley, 2009; Fergy et al. 2008). Various inventories have been identified in literature (e.g. Jones, 1992; Tomes, Wasylkiw, & Mockler, 2011; Weinstein & Palmer, 2002), yet a fundamental question that remains unanswered is whether the learning and study skills can be summarized in a single universal score that measures how hard a student works.

Scoring literature

A major novelty of this paper is the adoption of the scoring approach from the field of financial management into the field of education sciences. Scoring is a popular approach in the management of service industries, and especially in financial management (Ertek et al., 2011). Financial institutions such as banks, investment funds and insurance companies are known to use surveys to characterize their customers along a dimension of interest, such as the propensity to take financial risk. This enables them to integrate the survey results into their Customer Relations Management (CRM) systems, and to offer customized financial services to their customers. For example, the institution can emphasize safety and predictability of investments for customers who are categorized as risk-averse, while emphasizing potential gains to customers who are categorized as risk-seeking.

Ertek et al. (2011) offer a methodology to determine weights for the questions of a given survey, applying a regression-based algorithm. As applied to the domain of finance, their methodology enables the calculation of a risk score for each survey respondent, which can then be used for customizing the offerings made to each respondent. The problem of appropriately combining the values for different questions in a survey into an overall metric is also encountered in education sciences. To this end, this paper adopts the methodology developed by Ertek et al. (2011) for the scoring of study skills of university students.

Methodology

Participants and Data collection

Participants were the undergraduate students of an international university in Istanbul, Turkey. The sample size was 3500 students. From 512 voluntary participants, 418 students' responses were analyzed, as 94 students did not respond to all items in the survey. Forty-three per cent of the participants were (n = 181) female and 57% were male (n = 237). The survey was administrated to students from three different faculties: (1) Faculty of Engineering and Natural Sciences (FENS); (2) Faculty of Arts and Social Sciences (FASS), and (3) Faculty of Management (FMAN). Sixty two per cent of the students (n = 260) were participated from FENS and 37.8% (n = 158) were participated from FASS and FMAN. Students from FENS were overrepresented, since they form the majority of university population.

The survey instrument, the aim of the research and the consent form were mentioned to undergraduate students via e-mail and also by means of students who took the introductory project course PROJ 102 in the 2009-2010 Spring semester. There were 50 questions as learning and study skills. Each survey application lasted approximately half an hour. 50 items, called *perception attributes*, were developed and participants were instructed to indicate how frequently they used each study skill on a scale ranging from 1 (*never*) to 5 (*always*) (Gogus & Gunes, 2011).

Scoring algorithm

The scoring algorithm starts with the survey data, which consists of the answers given by *I* respondent students to *J* questions on study skills. The algorithm returns an overall study skill score for each respondent, as well as weights for questions. The survey data is fed into the risk scoring algorithm as a matrix, with *I* rows corresponding to the *I* respondents and *J* columns corresponding to the *J* attributes. The algorithm determines which attributes are to be used in scoring; the weights for each attribute, and based on these, the scores for each respondent. The detailed mathematical notation and the pseudo code of the scoring algorithm are given in Appendix B of Ertek et al. (2012). Here, we will briefly describe how the algorithm operates. The initialization step in the algorithm transforms multiple choice data into numeric values between 0 and 3. In the collected survey data the numerical values corresponding to choices (a, b, c, d, e) would be (0.00, 0.75, 1.50, 2.25, 3.00). One important condition in here is that for all the questions, the choices should be ordered in the same order. In our case, this is choice "1" corresponding to the least level of a skill, and choice "5" corresponding to the highest level.

Following the initialization phase, the attribute values are fed into a regression based algorithm. The algorithm operates iteratively, until scores converge. The stopping criterion is satisfied when the average absolute change in scores in the final iterations is less than the threshold provided by the analyst. At each iteration of the algorithm, a linear regression model is constructed for each attribute, and the response in the incumbent score vector. Based on the regression, weights for the attributes are updated at the beginning of each iteration. One characteristic of the algorithm is that it allows for change in the direction of signs when the choices for an attribute should take decreasing -rather than increasing- values from choice "1" to the final choice "5". Hence, the algorithm not only eliminates irrelevant attributes, but also suggests the real direction of study skills for the choices of a given attribute, given the presence of other attributes. The algorithm is a self-organizing algorithm (Ashby, 1962), since the scores it computes converge at a desired error threshold.

Results

The weights were obtained for each of the 50 questions. The study skills with the highest weights are (S27, S24, S26, S03), referring to the following study skills: (S27) answering questions of the instructor during the class, (S24) seeking help from the instructor outside the lecture hours, (S26) asking questions during class, and (S03) learning by listening during class. This is a fundamental insight into what really counts with regards to the overall study skills.

Six of the 50 questions (S09, S32, S08, S14, S19, S40) are assigned a weight of 0 by the algorithm. That is, the algorithm removes these six questions from the risk score computations, because they fail to impact the overall scores in a statistically significant way, given the presence of the other 44 attributes, observed in the range (0.29, 1.65). The hypothesized directions of choice ranks are found to be correct for all the questions, except S33, S15, S47. For these three questions, selecting choice "1" translates into a *higher* value of overall study skill compared to selecting choice "2", and same for (2, 3), (3,4), (4, 5), *opposite* of all the other questions. The first 30 questions in the weight range (0.85, 1.65) can be selected to observe study skills and effective learning habits of university students. Figure 1 shows the distribution of overall (standardized) study skill scores.
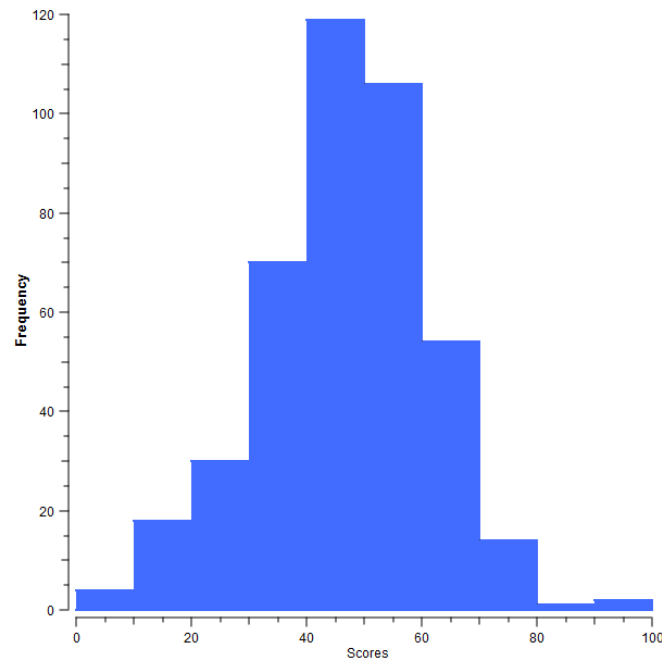
Figure 1. Distribution of overall (standardized) study skill scores.

Conclusions

This paper presents a scoring method adapted from the domain of risk management. The proposed method computes an overall score that represents the study skills, using a linear weighted summation scheme. The highest ranking questions in the weight range (0.85, 1.65) can be enough to observe study skills and effective learning habits of university students. Instead of using 50 questions, the researchers can use much fewer questions in the future studies. The proposed method and study yield results and insights that can guide educators regarding how they can improve their students' study habits. The top four questions have the highest scoring indicate that variables related to students' interactions with their instructors and active participations have significant impact on the overall study skill levels. This data implies that students want to be active learners. Students appreciate if the instructors integrate active learning techniques into instruction (Gogus, 2012).

The contributions of this study are:

1) Using a scoring approach to represent the study skills of students in a single dimension.

2) Adopting a technical method developed in the domain of risk management to the field of educational sciences, and implementing it with real data.

3) Ranking the importance of study skills, with regards to how much they contribute to the overall study skills, and thus improving the understanding of the importance of study skills in the overall picture.

Contributions 1 and 2 are, to the best of our knowledge, unique in the educational sciences field. Instead of simple arithmetic calculations such as addition, subtraction, or multiplication, we introduced a technical method that automatically computes the weights for the involved factors. This method can identify study skills that do not contribute to the overall "study skills score" of students by assigning a weight of zero. The method can also identify whether a particular study skill, which is believed to be positively related to a student's overall skill, may in fact be negatively related.

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STITCH BY STITCH THE SCIENCE FILLS THE SPACE

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Abstract

The trend of population aging led European institutions to choose 2012 as the European Year for Active Ageing and Solidarity between Generations. Taking advantage of this fact and aware of the potential of socio-economic contribution of elderly for society development, the importance of creating opportunities towards an active ageing and the significance of occupational therapy (including crochet) as a way to reconstruct healthy behaviours, we engaged senior citizens in an activity held on behalf of Festa da Ciência. More specifically, they participated in the construction of a coral reef made of crochet hyperbolic models combining Biology, Mathematics, colour and fun.

Non-Euclidean Geometry; Hyperbolic Geometry; Biological Growth; Occupational Therapy; Crochet; Society Engagement; Active Ageing

1. Science and Society Engagement in the Scope of EY 2012

According to the World Health Organization (WHO), active ageing is the "process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age" (http://www.who.int/en/). Active ageing means better education and lifelong learning, age-friendly working conditions, and supporting the role of older people in family life and society as a whole. With active ageing elderly people can realize their potential for physical, mental and social well being (as expressed in the WHO definition of health) throughout life, while participating in society. On the other hand, ageing takes place within the context of family, friends and work making interdependence as well as intergenerational solidarity important principles of active ageing. In order to foster a sustainable active ageing culture it is mandatory to make a true impact in lifestyle, trying to engage senior citizens – who are retired, ill or living with disabilities – and making them active participants and contributors to their families and communities.

Strongly supported by the basic idea of European Year for Active Ageing and Solidarity between Generations (YE 2012) and wishing to promote actions towards the engagement of elderly citizens, the STOL – Science Through Our Lives team decided to promote an initiative targeting this type of public during its annual activities. The opportunity to engage such citizens, making them active contributors to an idea/project, arose while programming activities to the annual Science Festival 2012 (Festa da Ciência 2012), promoted by the School of Sciences of the University of Minho (ECUM). On behalf of this event, the group decided to invite a

colleague from Mathematics Department to explore and explain other kind of geometries, different from the Euclidean geometry, such as the designated hyperbolic plane geometry, while simultaneously showing its occurrence in the biological world and using crocheted 3D-models to illustrate such hyperbolic planes. For this, some local institutions for the elderly were invited to contribute to the creation of a coral reef made with crochet. The whole activity, designed for society in general was named "Stitch by Stitch the Science Fills the Space" and it is described in the present work.

2. Joining All The Pieces Together

2.1. Getting older – Threats and opportunities

People are living longer and healthier lives today than ever before. This almost worldwide lengthening of life expectancy, attained mainly due to science and technology progresses during the last century, has been creating new challenges. The paradigm is changing and societies must adapt to a new whole scenario, organizing and searching for solutions towards the maximization of health and functional abilities of elder adults and to the promotion of their participation and security. As an old age is often associated with some degree of illness and/or dependence, senior citizens can easily feel loneliness and depression or can become excluded from job, family and society. The great challenge is to strength the conditions that provide citizens' active aging, namely in areas such as employment, health care, social services, adult education, volunteering, housing, information technology and transport (Walker, 2008). Maintaining the vitality of older people, enhancing their involvement in society and removing barriers between generations should be the main aim of the EY 2012 believes the European Parliament Employment Committee (EMPL Employment policy 17-03-2011). This initiative aims to make society conscious and aware of the socio-economic contribution of older persons, and promotes actions aimed at creating more and better opportunities towards an active ageing, maintaining the vitality of senior citizens and enhancing their involvement in society (http://www.europarl.europa.eu/news/en/search?q=european+year).

Along with global aging, age related diseases such as cognitive impairment and dementia would increase dramatically in the coming years. Dementia is one of the most common diseases among elderly people. It is a leading cause of disability, institutionalization, and mortality; therefore it has a tremendous impact on both, the individual and the society. As limited effective treatment alternatives for dementia are currently available, identification of risk or protective factors, especially modifiable factors, could provide potential for preventing the disorder.

Everyday leisure activities in adulthood and old age have been investigated with respect to constructs such as successful aging, an engaged lifestyle, and prevention of age-related cognitive decline. They also relate to mental health and have clinical value as they can inform diagnosis and interventions. The recent resurgence of knitting and other craft activities such as crochet and modelling is an ambiguous social phenomenon because it has pre-industrial connotations in late modern society (Parkins, 2004). *Crocheters* across the world say it's simply the best therapy mainly due to the fact that experiences of particular feelings and emotional states that constitute the characteristics of crocheting practice are closely related to *crocheters*' corporeal engagements with the practice (Shin & Ha, 2011). Moreover crocheting is also an embodied and materially mediated practice formed around the close relationship between the physical, mental and emotional dimensions of the involved person, who are deeply entrenched in the material environments of the practice (Warde, 2005).

The evidence to-date indicates that leisure activities, especially mental and physical activities may protect against cognitive decline and dementia (Wang *et al*, 2012). The precise mechanism through which leisure activities such knitting and crochet impact cognition is still unclear, but there are a number of proposed hypotheses. One of them is cognitive reserve, where the life experience, such as leisure activities, may influence neural processing and synaptic organization by permitting neurological processes to become more efficient, adaptive, and plastic thus allowing some people to cope with progressing dementia pathology better than others (Stern, 2002; Kramer *et al*, 2004). Leisure activities may also have beneficial effects through psychological and

behavioural pathways by lowering stress (Crowe *et al*, 2003). Many knitters/ *crocheters* point out that a high level of concentration on the ongoing projects helps ease the tensions and stresses encountered in daily life. Often, performing these craft activities is compared to having a meditative function, described as an alternative form of religion and spirituality (Murphy, 2002; Parkins, 2004).

2.2. Crochet and unexpected applications

Crochet is the art of pulling loops of yarn through other loops, in the first times using only the fingers and latter on with the aid of a crochet hook. Worked in rows or rounds, this handwork ultimately results in the creation of a fabric, most of the times with stunning results. Unlike other forms of handwork with wool or cotton thread, nobody knows for sure where or when crochet first originated - places such as Arabia, South America or even China were pointed out as probable origins by different theories. However, according to the American crochet expert Ann Potter (1990), it seems the word crochet appeared somewhere in the 16th century and comes from the Middle French words *croc* or *croche*, meaning hook.

In the early days crochet was considered a hobby of the rich ladies and later, especially in times of war or generalized diseases, it became common for people to join in groups in order to crochet clothing for soldiers, hospitals and homeless shelters. More recently crochet has found other applications which range from mathematics, first used by the mathematician Daina Taimina (2009) with the intention to create 3D-models of the hyperbolic plane geometry, to urban art, the modification and decoration of outdoor surroundings using knitted or crocheted cloth, a practice called yarn bombing which appeared in the US a few years ago and spread worldwide rapidly.

2.2.1. The Hyperbolic Geometry

The world we have built is chock-full of rectilinear impressions, our houses, doors and windows, the skyscrapers we work in, our streets, many of our gardens, we are always cruise on our daily life's straight lines. We have learned to play by Euclidean rules, which have two thousand years. In the early 19th century mathematicians became working in the constructing of new kinds of geometries, and surprisingly new spaces in which lines cavorted have aberrant formations were discovered suggesting the existence of news geometries, such as spheres geometry and hyperbolic geometry. Since then, one of the most difficult tasks was to find real models (in our Euclidian space), made with some kind of material, where these curves could be visualized and ideally, touched. The attempts to demonstrate the fifth Euclides' postulate, the parallel postulate (*given a line r and a point not on the line, there is one and only one line which contains the point, and it is parallel to line r)* originated the largest and most dreaded discovery for the Euclidean geometry of the 19th century. In this geometry the fifth postulate is not valid, and if we consider a line and a point not belonging to it, there are an infinite number of lines that pass through the single point and never intersect the original line, as they are parallel to the first line. All other postulates are valid to the line given. Application of the craft of crochet in the construction of 3D-models of the hyperbolic plane geometry was first realized and used by the mathematician Daina Taimina in 1997 (Buescu, 2011). Each hyperbolic model advances by increasing crochet stitches according to a primitive algorithm (Herderson & Taimina, 2001). And with these models, the task of demonstrating the consistency of non-Euclidean geometry, in particular the not valid parallel postulate, in the hyperbolic space was much facilitated (Taimina, 2009; Buescu, 2011). As we can see, if we observe the Figure 1A, which represents a hyperbolic model, there are lines through the same point and not intersecting another line in the same hyperbolic model. The surprise is that we can have this 3-D model of hyperbolic geometry in our hands (actually it could have been constructed by us!) that corresponds to doing geometry on a surface of constant negative curvature.

Another property that can be explored, and in particular explained to children at schools, using this crochets models, is the value of the sum of the interior angles of a triangle. As we have learned, for any rectilinear triangle this sum is always 180^0. This propriety is not valid in hyperbolic geometry. If we try to make a triangle in a crochet model, using lines with different colours from the model (Fig. 1B), we can observe that the sum of

the interior angles is less than 180^0. And the bigger the triangle the more this sum approaches zero. The largest triangle is called the *ideal triangle*. This can be a hands-on experience made by people of all ages.
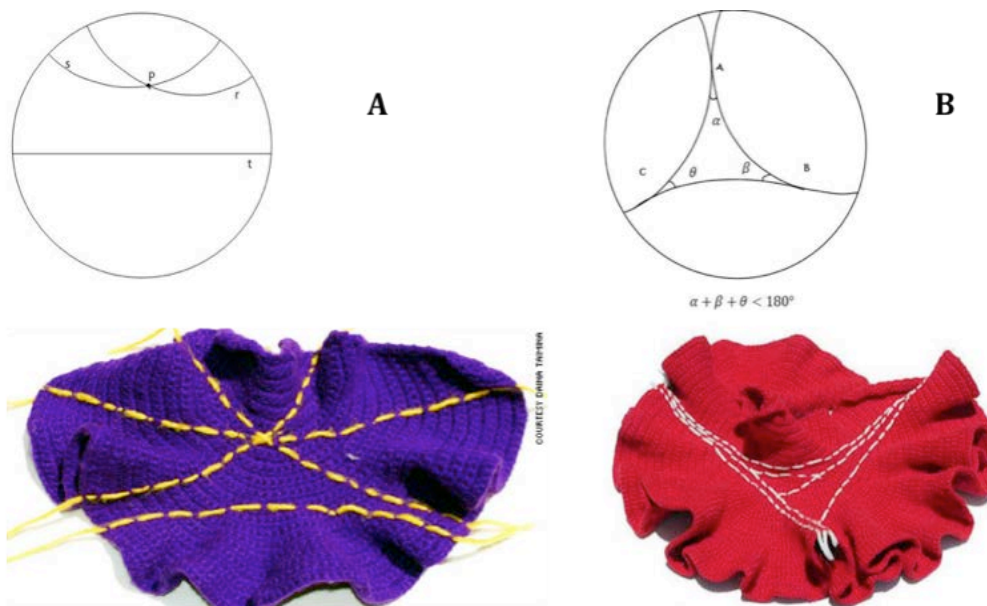
Figure 1. Hyperbolic Geometry (A) Lines passing through the same point and not intersecting another line in the hyperbolic plane. (B) Triangle where the sum of interior angles amounts less than 180 degrees, in fact this sum approaches zero. (3D-crochet models from Daina Taimina. (Taimina, 2009)

2.2.1.1. Hyperbolic Geometry in the Biological World

The hyperbolic laws, roughly speaking, require that the division makes the organisms grow in all directions and allow that some areas increase faster than others. Hyperbolic geometry in allowing surface area maximization turns out to be the underlying geometry of many living things (Fig. 2) from corals to kelps, sponges and land plants just to mention a few (Firmo, 2003). Specifically for sessile filter feeders like corals it is a very beneficial form of space conquest because it increases surface area in a limited volume and makes the uptake of nutrients much more efficient.

In 2005 Taimina's ideas about crochet and hyperbolic geometry inspired the Hyperbolic Crochet Coral Reef Project, created by The Institute For Figuring in Los Angeles (www.theiff.org) and since then dozens of crocheted reefs have been created worldwide. Corals are dying due to many conditions largely caused by humans: overfishing, pollution, climate change, ocean acidification and sedimentation (Babbemeier *et al*, 2004). Simultaneously to the playful aspect of crocheting, these yarn corals reefs have given the opportunity to alert and make aware of the danger these ecosystems are facing, making the ideal scenario to multiply large scale environmental awareness campaigns. All approaches and efforts in order to rehabilitate corals reefs in particular and wild life in general are more than welcome.

Figure 2. The hyperbolic geometry in the biological world.

2.3. Stitch by Stitch the Science fills the Space

The Science Festival is an initiative of the School of Sciences of the University of Minho (ECUM) that takes place in a yearly basis on the second week of May and that lasts for nearly ten days. The event takes place in the university *campus* in Braga, with extensions in Guimarães and Viana do Castelo, and joins more than 1,800 students from pre-school, primary and secondary schools, teachers and general public. The program has several activities sweeping all natural/ exact Science (Biology, Chemistry, Mathematics, Physics and Geology) and includes diverse outreach Science activities like workshops, hands-on sessions, lectures, competitions and exhibitions aimed at the general population, especially to students of pre-school, primary and secondary.

"Stitch by Stitch the Science fills the Space" was an activity idealized by STOL – Science Through Our Lives team, together with a colleague from the Mathematical Department and it was implemented in the scope of the Science Festival. Its main objective was to involve and surprise all the visiting public under the central motto "The hyperbolic forms that are observed in nature." The target audience was as broad as possible, ranging from students and teachers from all school grades who visited the Science Festival to the involved elderly institutions and public in general.

The stand could be visited during three days from 15 to 17 of May and comprised several components: (i) a "coral reef" constructed with crochet models, (ii) posters with the mathematical fundaments of the three geometries as well as examples of the widespread influence of hyperbolic forms in nature, (iii) a small exhibition of real coral forms, (iv) a repeat-mode slideshow comprising snapshots of the work in progress as well as parallel details of both, real and yarn coral reefs and, last but not the least, (v) a "hands-on" corner where all the visitants could try a crocheting experience and collaborate in the growth of a big everybody's coral (Fig. 3).

Figure 3. "Stitch by Stitch the Science fills the Space" stand at Science Festival (details).

2.3.1. Elderly people involvement and their testimonies

Leisure activity can be defined as the voluntary use of free time for activities outside the daily routine and is one of the major components of a healthy lifestyle. After retirement, leisure time constitutes a relatively larger part of the daily life and leisure time activities have emerged as the most important target for lifestyle changes among older adults because of the potential beneficial effect on various health outcomes. With this in mind STOL visited two institutions for elderly (Bogalha in Braga and Centro Social de Durrães in a small village in the countryside) in order to personally invite/challenge/engage them in joining this project/experience. Both institutions accepted the invitation although informing that the great majority of their users would not be capable of joining the project due to their deep disablement. To make the idea easily understood, an one-page tutorial with three images and a small and simple explanation text corresponding to the also three basic 3D-forms of non-Euclidian geometry (namely hyperbolic simple plan, hyperbolic double plan and pseudo-sphere) was prepared and distributed. Altogether we succeeded in co-opting five ladies ranging from 70 to 92 years old and 3 professionals who take care of them, being also engaged in the task.

Beyond the invitation to institutions for the elderly, we were interested in knowing how the participants in the crocheting of the coral reef felt about contributing actively to such task, having with them informal conversations. The participants of one of the institutions (Bogalha) referred that they appreciated to be involved in such initiative and were particularly happy seeing the final result, although not imagining the impact of their work during the crocheting work-in-progress.

From the conversation with the participants from Social Centre of Durrães we may conclude that there is the general opinion that the crochet is addictive. All the ladies were extremely satisfied with the outcome of their handicraft and when asked if they were interested in keeping on with this project, their answer was an energetic yes. In what concerns to the difficulties eventually faced, some of them told that from time to time their eyes were not very cooperative or that after some time their hands began to ache. Nevertheless, a lady with only one functional eye told, in a glance, that there wasn't any problem as this activity was a good distraction/ recreation for her and the others, who have no longer good vision, referred "If we make an error, we rebuilt the work and there is no problem at all". Another lady that had stop crocheting over forty years ago confessed that it still took

a while to remember and start but with a little help from another lady from the institution she got the hand and could not stop anymore. Now, she is knitting a sweater for her three years old granddaughter and feeling very proud about it.

After visiting the stand "Stitch by stitch the science fills the space" at Science Festival the reactions and their testimonials concerning to the disposition of the crochet pieces in the coral reef were also collected and from them it was evident that the coral reef was very appreciated by the elderly who felt very happy with their commitment and participations. One of recurrent actions was their eager urgency in finding their own crocheted models among all the other tens that altogether build the total coral reef. One of the visitor ladies also crocheted at the exhibition stand, adding some stitches to the ongoing big coral model that could be tried by all visitors interested (Fig. 4).

2.3.2 Visitors opinions and testimonies about the stand

In an attempt to evaluate public receptiveness and some impacts of the initiative, a questionnaire was designed and addressed to some visitants that filled it *in loco*.

All of the 33 persons (23 women and 10 men) (Fig. 5) with ages from twelve to eighty four were invited to fill in the questionnaire: globally they referred they liked the stand and were very curious about it. All of them, women and men, also, were unanimous saying that they have learned something new and their interest in Science was encouraged. Relatively to be question about the quickly understand of what was represented (Fig. 5 - question 3) 78% of the women said yes, and the men were equally divided, 50% saying yes and 50% saying no. We also observed that 76% of all the persons (74% women and 80% men) agreed that the subjects represented in the stand are related with the ones they learn, or have learned, at school (Fig. 5 - question 5). In what concerns doing that experience with crochet models at home, 65% of the women would say yes and 79% of the men would say they will not (Fig 5 - question 6) .

We were nicely surprise that all of the 33 persons that fill the questions, more or less the double number of women (23) than men (10), have liked and were curious about the stand. This may be related with the new subject, or with the way of explaining it. May be the new and quite different way of presenting things that they said are taught at school, (65% women and 70% of the men) (Fig. 5 - question 6) is the key for so unanimous good opinion about the stand. Nevertheless only 65% of the women said they were going to try to do it at home and worst opinion becomes from men, as only 30% have intention to try the crochet at home.
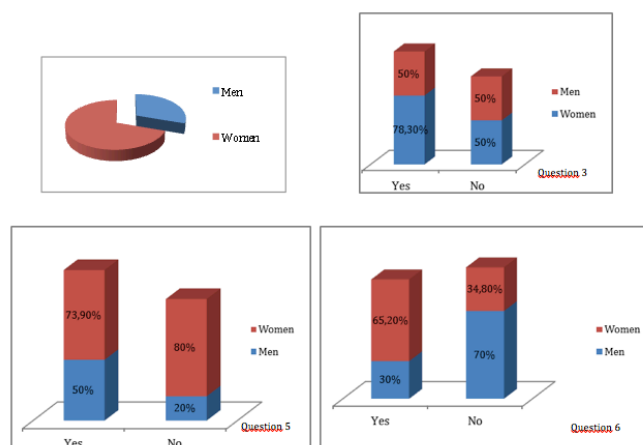
3. Final Remarks

By and large we should say that this was an extremely gratifying experiment in all senses: from the engagement of the old ladies, colleagues and ourselves in the crocheting activity; to the wow factor inherent to the stand; the notorious surprise of all the visitors in their words and, mostly, the complete astonishment in their wide-opened eyes about the existence of other kind of geometries and its properties, the positive critics in the local newspapers and, finally, to the consecutive invitations received from public institutions, in Braga, interested in hosting the coral reef for defined time periods, as well as in contributing to its growth to an even more striking scale.

Speaking for ourselves, we feel this was a groundbreaking experiment in joining generations, narrowing the gap between them, and simultaneously showed to be a very successful way of communicating science in an effective, appealing and integrated way to a non-specific heterogeneous public. Indubitably is a strategy to carry on.

The authors declare that they have no conflict of interest.

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STRESS FACTORS IN THE PROFESSIONAL ACTIVITIES OF ROMANIAN TEACHERS

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Abstract

Stress manifests itself through different degrees of intensity and frequency. It has been noticed that the burnout occurs more and more often with people that work in fields involving human relationships. It affected people who become emotionally involved and invest a great deal of psychological and physical effort into their work and consider that the results of their labour are not at the expected level.

It is known that professional stress also occurs in teaching.

Researching the problem of professional stress in the education system is very important for mitigating the negative effects that stressors have on the quality of teaches' activities and their health.

The conditions in which teachers conduct their professional activity are one of overburden generated by the countless roles that they have to assume, the great number of pupils in a classroom, the less than desirable behaviour of some pupils, the school atmosphere etc. These are some of the stress-generating factors.

Key-words: stress, burnout.

Research objectives

Our research objectives were to identify the stress-generating factor that teachers encounter in their professional activity.

The general hypothesis

1.   The low salary, the lack of social recognition towards their profession, the difficulties in teaching a curriculum that is too busy as well as the pupils' reprehensible behavior are some of the major stressors for all teachers in the pre-university education in Romania.

2.   Female teachers have a higher registered stress level than male teachers.

3.   There is a strong correlation between the perceived stress level and the burnout experienced by the majority of teachers. Female teachers are more prone to emotional burnout when the perceived stress level is above average.

The approach

The research took place in two stages. First, during the 2010-2011 school year we asked 175 primary, secondary and high school teachers to fill in a list of the main stress factors in their professional activity.

The teachers mentioned approximately 40 stressors, which were included in 12 categories of stress sources (Table 1). Based on these, we drew up a questionnaire which included questions referring to the 12 categories. In order to determine the frequency and the intensity of these factors, as they are felt by the teachers, we employed a Likert scale on five levels: 1 – never, 2 – rarely, 3 – relatively frequently, 4 – frequently and 5 – very frequently.

Table 1: The categories of stress sources as identified by Romanian teachers (arranged alphabetically)

Nr. crt.	Sources of stress
	The school environment
	The autocratic leadership of the school
	The difficulties of teaching an overly busy curriculum
	The difficulties of managing the time allocated to teaching activities
	Evaluating pupils' results / scholastic performances
	Pupils' lack of discipline (including verbal and physical violence)
	Not achieving one's professional expectations / aspirations
	The (large) number of pupils in the classroom
	The inconstant educational policies and regulations
	The parent-teacher relationship
	Financial restrictions regarding the material, financial resources of the school
	The salary

The questionnaire was distributed to a number of 675 teachers in the second stage of our research (the 2011-2012 school year). The questionnaires were filled in at the schools, at home or during professional training and development courses.

A number of 472 teachers replied to the questionnaire (69.92%). The socio-demographic characteristics of the sample are presented in Table 2.

Table 2: The socio-demographic characteristics of the sample (N=472)

Table of participants (N=37)	Women	Men
	310	162
Distribution according to age groups		
23 – 30	76	30
31 – 40	90	52
41 – 50	84	50
51 – 57/60	60	30
Age: average / standard deviation	38,6 (12,4)	42,5 (9,5)
Seniority in education: standard deviation	19,5 (11,4)	23,6 (10,8)
The type/level of the school		
Primary	80	42
Secondary	100	60
High School	130	60

The data obtained after processing the questionnaire underscores the fact that for the majority of teachers in Romanian, pre-university education, who work in primary, secondary and high school levels, the main sources of stress (the answers being valued as 4 or above, namely frequently and very frequently) are: the low salary, the difficulties of teaching an overly busy curriculum, the lack of social recognition for their work, reprehensible pupil behaviour (table 3). For teachers working in secondary and high school education, the sources of stress mentioned above are compounded by the changeable educational policies, as well as by some other difficulties concerning the management of time allotted to teaching activities and class discipline. The obtained results confirm the first hypothesis.

Table 3: The stress sources of the teachers from primary, secondary and high school education, in the order of their impact, evaluated on a scale from 1 to 5

STRESS FACTORS	CHARACTERSTICS OF STRESS FACTORS	THE AVERAGE LEVEL OF THE STRESSORS' NEGATIVE IMPACT		
		PRIMARY N=122	SECONDARY N = 160	HIGH SCHOOL N=190
Poor salary	Insufficient financial resources for a decent life	5	4,80	4,60
Curricular overburdening	Difficulties in teaching an overly busy curriculum	4,75	4,60	4,50
Educational policies	Inconstant regulations, changeable educational policies	4,50	4,50	4,35
Lack of social recognition	Not attaining one's professional aspirations	4,25	4,40	4,25
The pupils' undisciplined behavior	Pupils' lack of discipline, including verbal and physical violence. Raucous, noisy and aggressive pupils	3,80	4,25	4,15
Managing time and discipline	Difficulties in managing the time allotted to teaching activities. Difficulties in maintaining discipline in the classroom	3,75	4	4
Financial restrictions	The lack of technical (IT) and didactic materials. The poor endowment of school libraries	3	3,25	3
The number of pupils in the classroom	Too many pupils per classroom	2,75	2,75	2,80
Teacher – parents relations	Conflictual teacher – parents relations	2,50	2,50	2,50
Pupil evaluation	The evaluation of the pupils' scholastic performance	2	2,25	2,25
The school management	The autocratic school management	1,75	2	2

The school atmosphere	Inadequate physical and psycho-social atmosphere	1,50	1,75	1,75

In order to verify the second hypothesis we applied the stress self-evaluation questionnaire (borrowed and adapted from P. Légeron). This questionnaire has 12 entries referring to the frequency and the intensity of the perceived stress. The respondents need to self-evaluate themselves on a four-level scale: 0 – never, 1 – rarely, 2 – sometimes, 3 – always. The interpretation of the score is the following: a overall score between 0 and 5 signifies the lack of stress, between 6 and 12, a low stress level, between 13 and 20, an average stress level and a score equal to or greater than 21 indicates an elevated or highly elevated stress level.

The data were processed statistically with the help of SPSS 13.

The distribution of teachers in accordance with the perceived level of stress is presented in Table

Table 4: The distribution of teachers (%) according to the perceived stress level

Stress level	Subaverage stress level, score between 6 and 12	Average stress level, score between 13 and 20	Above average stress level, score over 20
Women (N=310)	28,06% (N=87)	9,35% (N=29)	62,58% (N=194)
Men (N=162)	42,58% (N=69)	23,45% (N=38)	33,95% (N=55)
Total:	156	67	249

The relationship between the perceived level of stress and the burnout level

In order to verify hypothesis number 3, we used the Maslach Burnout Inventary (M.B.I.) scale of burnout self-evaluation. It is a questionnaire consisting of 22 items distributed in three groups that assess three dimensions, on a scale of 7 intensity and / or frequency levels, namely:

- burnout (9 items)

- the depersonalization / dehumanization of interpersonal relations (5 items)

- the personal professional involvement / development (the fulfillment of tasks – 8 items).

In our research, we were interested only in the results of the burnout subscale. The relationship between the stress level and the burnout level of female teachers is presented in Table 5, and the degree of association between stress and burnout (as revealed by the Chi- Squared test) in Tables 6 and 7.

Table 5: The relationship between the stress level and the burnout level of female teachers

			Burnout			
			High	Average	Low	Total
Stress	Lower than average	Count	1	24	36	61
		Expected count	20.9	25.6	16.6	61.0
		% within stress	1.6%	39.3%	59.0%	100.0%
		% within burnout	1.9%	36.9%	97.3%	39.4%
	Higher than average	Count	52	41	1	94
		Expected count	32.1	39.4	22.4	94.0
		% within stress	55.3%	43.6%	1.1%	100.0%
		% within burnout	98.1%	63.1%	2.7%	60.6%
TOTAL		Count	53	65	37	155
		Expected count	53.0	65.0	37.0	155.0
		% within stress	34.2%	41.9%	23.9%	100.0%
		% within burnout	100.0%	100.0%	100.0%	100.0%

Table 6: The degree of association between stress and burnout for female teachers. The significance of the frequency difference as revealed by the Chi-Square test (λ 2)

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson's Chi-Square	83.384 a	2	.000
Likelihood Ratio	103.069	2	.000
Linear by linear association	80.358	1	.000
N of Valid Cases	310		

Table 7: The degree of association between stress and burnout for female teachers.

Symmetric measures

		Value	Asymp. Std. error a	Approx. Tb	Approx. Sig.
Ordinal by ordinal	Kendall´s tau-b	-.677	.034	-15.627	.000
	Kendall´s tau-c	-.754	.048	-15.627	.000
	Gamma	-.972	.021	-15.627	.000
N of Valid Cases		310			

a. Not assuming the null hypothesis

b. Using the asymptotic standard error assuming the null hypothesis

By applying the Chi-Square Test (λ 2) we notice significant differences (p < 0,0001) in the stress level perceived as influencing burnout in the case of female teachers with a stress level lower than the average and those with a stress level above average.

For female teachers with a stress level higher than average, burnout is more frequent and higher than average. Thus, the hypothesis that there is strong connection between stress and burnout is confirmed.

In the case of male teachers, the relationship between the stress level and burnout is presented in Tables 8, 9 and 10.

Table 8: The relationships between the stress level and burnout for male teachers

			Burnout			
			High	Average	Low	Total
Stress	Lower than average	Count	0	31	15	46
		Expected count	8.5	25.6	11.9	46.0
		% within stress	.0%	67.4%	32.6%	100.0%
		% within burnout	.0%	68.9%	71.4%	58.8%
	Higher than average	Count	15	14	6	35
		Expected count	6.5	19.4	9.1	35.0
		% within stress	42.9%	40.0%	17.1%	100.0%
		% within burnout	100.0%	31.1%	28.6%	43.2%
TOTAL		Count	15	45	21	81
		Expected count	15.0	45.0	21.0	81.0
		% within stress	18.5%	55.6%	25.9%	100.0%
		% within burnout	100.0%	100.0%	100.0%	100.0%

Table 9: The degree of association between stress and burnout for male teachers. The significance of the frequency difference as revealed by the Chi-Square test (λ 2)

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.232 a	2	.000
Likelihood Ratio	29.865	2	.000
Linear by linear association	15.213	1	.000
N of Valid Cases	162		

a. = cells (.0%) have expected count less than 5. The minimum expected count is 6.48.

Table 10: The degree of association between stress and burnout for male teachers.

Symmetric measures

		Value	Asymp. Std. error a	Approx. Tb	Approx. Sig.
Ordinal by ordinal	Kendall´s tau-b	-.405	.094	-4.081	.000
	Kendall´s tau-c	-.435	.107	-4.081	.000
	Gamma	-.657	.137	-4.081	.000
N of Valid Cases		162			

a. Not assuming the null hypothesis

b. Using the asymptotic standard error assuming the null hypothesis

What ensues is the existence of a strong association between the frequency and intensity of the perceived stress and the degree of burnout, which confirms the third hypothesis.

Conclusions

For the teachers in pre-university education that we surveyed, the main sources of stress are the poor salaries, the difficulties in teaching an overburdened curriculum, the fluctuating educational policies of the Education Ministry, some students' bad behaviour and the difficulties in managing the time allotted for various teaching activities.

Our research has shown that there is a strong connection between the perceived level of stress and the teachers' burnout. For female teachers with a higher than average stress level, emotional burnout is more frequent and more intense than in the case of male teachers.

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STRESS, PROACTIVE COPING AND SELF- EFFICACY OF TEACHERS

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Abstract

In this paper we point to mutual relations of experienced teacher's stress (in all areas – cognitive, emotional, physical and social) with coping strategies (Proactive coping, Reflective coping, Strategic planning, Preventive coping, Instrumental support seeking, Emotional support seeking, Avoidance coping) and with self-efficacy of teachers. Based on professional resources, we assumed and discovered a considerable positive relation between proactive coping and self-efficacy by 291 teachers from Slovak republic. In the context of teachers experiencing stress we assumed and discovered that the more teachers prefer proactive coping with load, the smaller is their level of experienced stress (this is valid also for individual areas of experienced stress – cognitive, emotional, physical and social). We also assumed and discovered considerable negative correlation between self-efficacy of teachers and experiencing stress (in all observed areas). Above mentioned fact shows the significant coherence of personal characteristics and features (proactive approach and perceived self-efficacy) connected with effective stress coping in all its levels – cognitive, emotional, physical and social.

Keywords: Teacher's Stress; Coping Strategies; Proactive Coping; Teachers Self-Efficacy.

1. Introduction

Teacher's profession as a component of coadjutant professions belongs to those that impose significant requirements on the person performing them from emotional, cognitive, social and also physical side. In the context stated by Kyriacou (1996), he used the term "teacher's stress", which he further defines as situations, in which teachers feel angry, aggrieved, nervous, disappointed, when they feel tension or anxiety as a result of some fact, which is related to their pedagogical activity. Kyriacou (2001) states that teacher's stress represents a complex of interactions between coping mechanisms, personal features and environment, which are in a mutual relationship. Based on works of Kyriacou (1996, 2001), Kyriacou & Sutclife (1977), Židková & Martinková (2003), Kačmárová & Kravcová (2011), Mrozek (2010), Miškolciová (1997), to most significant stressors within teacher's profession belong: inappropriate conditions in the classroom and lack of proper material equipment in school; low teacher's salary; frequent reorganization in school and change of school programs; violation of education process and bad conduct of pupils; time stress; various teacher's roles: teacher, mother/father, trainer, advisor; absence of relaxation as a result of intensive work load and work at home related to school; responsibility towards students, parents, school administrative/school management; conflicts with colleagues, with the management, with parents; problems in career (lack of perspective, little possibilities for personal development and professional growth, insufficient evaluation of teacher's work by society.

Jennet et al. (2003, in Skaalvik & Skaalvik, 2010) states, that the majority of teachers copes with stress successfully. Nevertheless, long-time influence of stressors in connection with non-effective coping strategies

can lead to burnout. Burnout is often described as the syndrome of emotional exhaustion, depersonalization and reduction of personal success. (Maslach et al., 1996). Maslach et al. (1996) identified emotional exhaustion as the key aspect of burnout, while Pines and Aronson (1998) included physical exhaustion characterized by low energy and chronic exhaustion.

Authors Hennig and Keller (1996) divide strategies for coping with stress to professional area, private relationships, life attitude and health. According to authors, there are three bases for stress prevention: 1) decrease of stress situations throughout the work day; 2) reduction of emotional excitement appearing together with stress and 3) change of way of dealing with stress situations, which the individual can't influence. In the context of above mentioned an effective method for coping with stress load in teacher's profession can be considered the proactive coping. Proactive coping is oriented to achieving targets and includes future requirements, which can lead to self-development. (Greenglass, 2002, Šolcová, Lukavský & Greenglass, 2006). Swarzer et al. (1999) describes proactive individual as ingenious, responsible, scrupulous, who bears responsibility for his/her own results and applies the vision of success. Proactive coping includes target environment and persistent heading towards set goal. Proactive individual accumulates resources, he/she is able to mobilize all resources if necessary, he/she consecutively avoids the sources of exhaustion, owns highly developed social skills of how to mobilize resources.

Next to proactive coping, an important personal resource of coping with stress and load can be considered also self-efficacy of an individual, which according to Schwarzer (1992) is focused on broad and settled sense of personal competences to deal effectively with various stress situations. Pajares (2005) describes self-efficacy as the expression of will, energy and self-resolution. Self-efficacy of a teacher is described as a factor of personal resource, which probably protects teachers from experience with tension at work as well as from gradation of burnout. Teacher self-efficacy is studied as a personal resource factor that may protect from the experience of job strain and, thus, make the escalation of burnout less likely (Schwarzer & Hallum, 2008). A teacher's self-efficacy is therefore a major source of motivation and commitment in all aspects of teaching (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, in Moé et al., 2010), affecting student achievement and motivation (Bandura, 1993, 1997; Ross, 1998, in Moé et al., 2010), student self-efficacy (Ashton & Webb, 1986; Ross, 1998, in Moé et al., 2010), and the teacher's own job satisfaction (Caprara, Barbaranelli, Borgogni, & Steca, 2003; Caprara, Barbaranelli, Steca, & Malone, 2006, in Moé et al., 2010). Nevertheless, in reality the teachers can become easily unsatisfied with their job if they don't believe that they are able to face difficult tasks, which they might encounter during performing their occupation. Instead, the teachers who have a high level of self-efficacy show a high level of elation in their occupation (Allinder, 1994). Self-efficacy influences the effort that was entered into teaching: high self-efficacy is consistent with better planning and organization, a higher tendency to try out new approaches (Guskey, 1998; Stein & Wang, 1998, in Moé et al., 2010). Teacher burnout has been shown to be moderately strong related to teacher self-efficacy (Skaalvik & Skaalvik, 2010).

Aim of our research is to analyse the coherences of experienced teacher's stress (in all areas – cognitive, emotional, physical and social), strategies of dealing with stress load (Proactive coping, Reflective coping, Strategic planning, Preventive coping, Instrumental support seeking, Emotional support seeking, Avoidance coping) and self-efficacy. We assume a significant positive relation between proactive coping and self-efficacy of teachers. In the context of teacher's experiencing of stress we assume, that the more the teachers prefer proactive coping with stress load, the significantly lower is the level of experienced stress by them (valid also for individual areas of experiencing stress – cognitive, emotional, physical and social). We also assume significant negative correlation between self-efficacy of teachers and experiencing stress (in all areas – cognitive, emotional, physical and social).

2. Methodology

2.1. Measures

To identify the level of stress and burnout syndrome by teachers, we used Questionnaire for identification of stress levels and burnout syndrome from Henning and Keller (1996). The questionnaire is dedicated to define the level of stress influence on central psycho-physical functions and how strong is the general inclination to stress and burnout syndrome. Henning and Keller (1996) specify four levels of reaction on stress: 1) Cognitive level: negative picture of own abilities, loss of self-confidence, a negative up to cynic attitude towards pupils or their parents; loss of interest for happening in own occupation field; problems with concentration and escape from reality. 2) Emotional level: Irritation and impulsive behaviour; nervousness; and internal tension; affective exhaustion; anxiety, feeling of helplessness; self-remorse, feeling of hopelessness; loss of joy from work and feeling of non-appreciation. 3) Physical level: quick exhaustion; increased tendency to diseases; vegetative problems (heart, breathing, digestion); headaches, sleep disorders; high blood pressure; muscle tension (stiff neck, shoulders, back muscles pain); vertigo and nausea; appetite disorders. 4) Social level: decrease of educational commitment; limitation of contacts with colleagues and friends; problems in family and personal life; neglecting own hobbies and indulgences. Every area is measured by 6 questions, while the respondent answers on a scale: always (4 points), often (3 points), sometimes (2 points), rarely (1 point) and never (0 points). Level of inclination to stress and burnout syndrome is moving from 0 to 96 points, the higher the number of points, the higher the level of experienced stress.

To identify the strategies of coping with stress load, we used Proactive Coping Inventory (PCI) from authors Greenglass at al. (1999). PCI questionnaire consists from 7 scales: Proactive coping – 14 items, Reflective coping - 11 items, Strategic planning, Preventive coping, Instrumental support seeking, Emotional support seeking, Avoidance coping), it is created altogether from 55 statements to which the respondent gives answers on a scale: (1) not at all true, (2) barely true, (3) somewhat true, (4) completely true.

To find out the self-efficacy of teachers, we used Teacher Self-Efficacy Scale (Schwarzer et al., 1999). The scale consists of 10 statements to which the respondent gives answers on a scale: (1) not at all true, (2) barely true, (3) moderately true, (4) exactly true.

2.2. Participants

The research sample was created from 291 teachers from Slovak republic. 146 teachers acted on the second level of primary education, 145 teachers on high schools. From the total number, 79% were females (N=230) a 21% males (N=61). Average age of research sample was 41,66 years; age scope was 24 to 68 years. Average length of teaching practice was 16,8 years (minimum 1 year, maximum 41 years of teaching practice).

We didn't discover differences by teachers in observed variables (Proactive coping, Reflective coping, Strategic planning, Preventive coping, Instrumental support seeking, Emotional support seeking, Avoidance coping, Teacher self-efficacy, Stress, Cognitive level of stress, Emotional level of stress, Physical level of stress, Social level of stress) or from the aspect of sex, or the duration of teaching practice.

3. Results

Descriptive indicators (Table 1) are the representation of gross score (minimum, maximum, average and standard deviation) in observed variables. In the area of stress experiencing and burnout by teachers, we discovered that in average are teachers in the light stress level. Most intensive reaction to stress is visible in teachers' physical symptoms, but average values also in this area show only mild level of stress experiencing. In the level of burnout (score over 73 points) appeared 3 teachers (females).

Table 1 Descriptive Statistic of Variables

	Minimum	Maximum	Mean	Std. Deviation
Proactive coping	28,00	56,00	41,73	4,27
Reflective coping	18,00	44,00	33,92	4,74
Strategic planning	5,00	16,00	11,73	2,07
Preventive coping	17,00	40,00	30,20	4,28
Instrumental support seeking	10,00	32,00	23,84	3,85
Emotional support seeking	5,00	20,00	15,43	2,92
Avoidance coping	3,00	12,00	7,24	1,99
Teacher Self-Efficacy	16,00	40,00	30,48	3,71
Stress level	1,00	80,00	28,55	11,99
Cognitive level of stress	1,00	18,00	6,55	3,19
Emotional level of stress	1,00	20,00	7,93	3,57
Physical level of stress	1,00	21,00	8,24	3,72
Social level of stress	1,00	22,00	5,77	3,51

Table 2 Correlation Analysis of Teachers Self-Efficacy and Coping Strategies

N=291		1.	2.	3.	4.	5.	6.	7.	8.
1.Proactive coping	Pearson Correlation	1	,608**	,440**	,446**	,223**	,281**	-,011	,403**
	Sig.(2-tailed)		,000	,000	,000	,000	,000	,847	,000
2.Reflective coping	Pearson Correlation	,608**	1	,415**	,432**	,371**	,324**	,061	,303**
	Sig.(2-tailed)	,000		,000	,000	,000	,000	,300	,000
3.Strategic planning	Pearson Correlation	,440**	,415**	1	,410**	,334**	,194**	,119*	,160**
	Sig.(2-tailed)	,000	,000		,000	,000	,001	,042	,006
4.Preventive coping	Pearson Correlation	,446**	,432**	,410**	1	,377**	,273**	,103	,168**
	Sig.(2-tailed)	,000	,000	,000		,000	,000	,079	,004
5.Instrumental support seeking	Pearson Correlation	,223**	,371**	,334**	,377**	1	,618**	,053	,010
	Sig.(2-tailed)	,000	,000	,000	,000		,000	,366	,863
6.Emotional support seeking	Pearson Correlation	,281**	,324**	,194**	,273**	,618**	1	-,009	,135*
	Sig.(2-tailed)	,000	,000	,001	,000	,000		,876	,022
7.Avoidance coping	Pearson Correlation	-,011	,061	,119*	,103	,053	-,009	1	-,306**
	Sig.(2-tailed)	,847	,300	,042	,079	,366	,876		,000
8.Teachers Self-Efficacy	Pearson Correlation	,403**	,303**	,160**	,168**	,010	,135*	-,306**	1
	Sig.(2-tailed)	,000	,000	,006	,004	,863	,022	,000	

Table 3 Correlation Analysis of Proactive Coping, Teachers Self-Efficacy and Stress of Teachers

N=291		1.	2.	3.	4.	5.	6.	7.
1.Proactive coping	Pearson Correlation	1	-,286[**]	-,283[**]	-,286[**]	-,124[*]	-,302[**]	,403[**]
	Sig.(2-tailed)		,000	,000	,000	,035	,000	,000
2.Stress level	Pearson Correlation	-,286[**]	1	,863[**]	,907[**]	,805[**]	,869[**]	-,264[**]
	Sig.(2-tailed)	,000		,000	,000	,000	,000	,000
3.Cognitive level of stress	Pearson Correlation	-,283[**]	,863[**]	1	,717[**]	,527[**]	,762[**]	-,306[**]
	Sig.(2-tailed)	,000	,000		,000	,000	,000	,000
4.Emotional level of stress	Pearson Correlation	-,286[**]	,907[**]	,717[**]	1	,684[**]	,717[**]	-,212[**]
	Sig.(2-tailed)	,000	,000	,000		,000	,000	,000
5.Physical level of stress	Pearson Correlation	-,124[*]	,805[**]	,527[**]	,684[**]	1	,525[**]	-,086
	Sig.(2-tailed)	,035	,000	,000	,000		,000	,144
6.Social level of stress	Pearson Correlation	-,302[**]	,869[**]	,762[**]	,717[**]	,525[**]	1	-,314[**]
	Sig.(2-tailed)	,000	,000	,000	,000	,000		,000
7. Teachers Self-Efficacy	Pearson Correlation	,403[**]	-,264[**]	-,306[**]	-,212[**]	-,086	-,314[**]	1
	Sig.(2-tailed)	,000	,000	,000	,000	,144	,000	

In the area of analysis of relation between proactive coping and self-efficacy of teachers (Table 2), we observed highly significant positive correlation (r = ,403), which means that teachers which are proactive have also high self-efficacy. Self-efficacy of teachers significantly correlates with some other coping strategies: reflective coping (r = ,303); preventive coping (r = ,168); emotional support seeking (r = ,135); strategic planning (r = ,106).

In the area of analysing the relation between proactive coping and stress experiencing (Table 3) we discovered significant negative correlation (r = -,286), which shows that the more the teacher is proactive, the significantly lower is his/her experienced stress. Likewise, we noticed a significant negative correlation between proactive coping and individual areas of reaction to stress - cognitive (r = -,283), emotional (r = - ,286), physical (r = -,124) a social (r = - ,302).

In the area of analysing the relation between self-efficacy of teachers and experiencing stress (on all areas – cognitive, emotional, physical and social- Table 3), we discovered significant negative correlation (r = -,264), which shows that the higher is the teacher's self-efficacy, the lower is his/her experienced stress. Likewise we noticed significant negative correlation between self-efficacy of teachers and three areas of reaction to stress - cognitive (r = -,306), emotional (r = - ,212) a social (r = - ,314). We haven't noticed a significant correlation with self-efficacy in the physical area, although the direction of this correlation is negative.

4. Discussion and Conclusion

Our performed research had the ambition to contribute to clarification of relations between teacher's stress and teacher's personal features related to coping with load – proactive coping and self-efficacy of teachers. Lazarus (1991, in Schwarzer & Schulz, 2001) considers stress as active, developing process, created by causal precursors, mediating processes and direct effects. He assigns to causal precursors personal variables and environmental variables. Mediated processes deal with coping and evaluation of requirements and resources.

Experienced stress and coping bring direct effects related to psychological state of well-being, somatic health and social interaction.

In our research we verified the causal connection of experienced stress of teachers with self-efficacy as personal variable. We discovered, that the stronger is teacher's sense of self-efficacy, the more he/she believes that he/she is able to positively influence his/her students and accepts also the responsibility for motivation of students and makes also necessary progress for this kind of behaviour, the weaker is his/her reaction to stressors in physical, emotional, cognitive and social form, and so his/her psychic as well as his/her physical functions are not significantly influenced by the affection of stress.

Our research has shown also mediating processes of stress reaction while we primarily focused on analysis of relation between proactive coping and levels of stress by teachers. Proactive coping is described as highly effective strategy from the aspect of health support, while at the same time it integrates processes of individual management of life quality (Greenglass, 2002). As Greenglass (2002) points out, Greenglass, Schwarzer & Taubert (1999) or Ruiselová (2009) traditional conceptions and understanding of stress show a more reactive coping of stress. While reactive coping strategies are focused on experienced stress situations or stress in the past, to decrease the risk of unsuccessful solution of a situation, proactive coping on the other hand focuses on future, on own internal sources, which enable the enforcement of personal aims and plans, enable to understand the problem situation as a challenge, while risks and at the same time requirements are compared to aims which are to be achieved. In general it is possible to state a significant positive direction and motivation of a person which is connected with the term proactive. In our research we also found out, that the more the teachers are internally psychically motivated to pass obstacles, perceive problems as challenges and try to analyze the risks and demands in connection with aims, to which they are systematically heading, the weaker is their reaction to stressors in physical, emotional, cognitive and social form, and so their psychical cognitive and also emotional processes and conditions, as well as their physical function and social characteristics (decrease of education commitment; limitation of contacts with colleagues and friends; problems in family and private life, neglecting own hobbies and past times) are not significantly related to stress effect.

Like Schwarzer (1992) describes the self-efficacy of human in the effect of broad and stable sense of personal competences to deal and act effectively with various stress situations, so we also decided to connect it on the level of self-efficacy of teacher with his/her proactive coping as effective coping strategy. We found out, that the higher is the self-efficacy of teachers, the higher is their proactive coping. Proactive teacher is also the field and source of motivation and success of his/her students.

The construct of self-efficacy suggests a protective effect when coping with adversity. An optimistic belief in one's competence to deal with daily challenges enhances the motivation to engage in constructive ways of coping. Thus, self-efficacious teachers would perceive the objective demands of daily teaching as being less threatening than those teachers do who harbour self-doubts about their professional performance. Successful adaptation to stressful demands, in turn, would prevent the emergence of job burnout. (Schwarzer & Hallum, 2008).

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STUDENTS' OPINIONS ON THEIR COMPETENCES FOR REACHING LIFE SUCCESS

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Abstract

Life success is an equivocal and a highly subjective notion. Nevertheless, for a lot of people it constitutes an important parameter which they rely on when assessing their life achievements, experiences and decisions. It is a parameter which they use to define their life strategies, aspirations and objectives. Higher education gives students an opportunity to enhance their competences for reaching professional success. However, professional success is only a component of a holistically-defined life success. This is why the author has decided to determine if students of education studies have their definitions of life success, and if they assess their chances of reaching it, and if so, under what conditions. Research results show that the subjects define life success as a multicomponent concept: life success means to them reaching their private and professional objectives in a balanced way. Students admit being apprehensive of failing to reach professional success. The criteria that influence reaching life success include – in the students' opinion – their own actions and external factors. They also believe that education studies do not give them sufficient opportunities to develop their competences for reaching life success, despite the considerable amount of knowledge that the academic courses offer. The students point out to their low level of self-esteem as the most vital hindrance on their way to success. Unfortunately, in their opinion, their academic studies do not help them develop in this respect.

Keywords: *life success, professional success, personal success, competences, students*

Introduction

Success is extremely important in people's life and has therefore long been the subject of various studies. The interest in success is evident: there are numerous scientific publications regarding the subject, as well as a number of popular books and handbooks that aim to present ways of achieving success and of developing personality features necessary to attain it.

From the scholarly perspective, success is an equivocal notion. The literature on the subject defines it as luck or achievement (Krupski 1997, 21), fame, prestige, wealth (Bartkowiak 2000, 15), positive outcome (Penc 1997, 428), or a goal-oriented activity (Belitz 1999, 29). The researchers emphasize that the difficulties in providing an unambiguous definition stem from the fact that success is directly connected with the individual's outlook on life and the values one appreciates (Firkowska-Mankiewicz 1999, 17). Moreover, literature more and more often mentions professional success (cf. Kmiecik-Baran 1996, Kranas 1995, Tyszka 1997, Kasprzak 2006), which seems to be more easily defined as it refers to people's professional activity, as this activity can be more precisely assessed with the use of objective criteria.

G. Bartkowiak, discussing professional success, states that it is "defined by objective and subjective determinants – the conditions that should be met so that individuals can consider themselves successful" (Kupczyk 2006, 11 after Barktowiak 2004, 43). This approach can also be applied to life success and a person can measure their life success in reference to some determinants defined internally or externally. The researchers dealing with the conditions of success claim that to be successful, a person has to possess certain competences – they should know how to act, which of their personality traits to employ in a given situation, and which skills to develop.

The research into social studies students' perception of life success is fully justified. First of all, to achieve success an individual should have a clear vision of their future life and life success. It facilitates making decisions compliant with one's objectives, as well as evaluating stages and dimensions of success. Secondly, caring professions involve close relations with wards, clients, and students, so they are full of difficult situations, disappointments and frustrations. They are also time-consuming and charged with emotions, which often leads to transferring professional discomforts to private life. The results of the empirical analyses conducted among different social groups indicate that life success is often understood as achieving proper balance between one's professional career and family life and finding fulfillment in both areas (Kupczyk 2002, 2006, *Menadżerka sukcesu* 2011). Therefore, competences needed for achieving success in the case of people working in educational and vocational professions oftentimes overlap with professional competences. The author uses the definition of competence offered by Furmanek (2007,16), who emphasizes that "the mature psyche is based on certain competences (competence syndrome) that allow people to define their identity and the directions of further development and self-development. The catalogue of competences includes some important ones - the ones which point a person towards mastering the ability to communicate with others, the ability to find one's bearings and the ability to evaluate and transform one's surroundings."

Research

The aim of the research was:

to determine how success is defined by pedagogy students

to find out how they assess their chances of reaching it

to define conditions necessary to reach success

to determine students' competences for reaching success.

The research was conducted among 138 first and second years students of full-time undergraduate studies in pedagogy and social work at Maria Curie-Skłodowska University in Lublin. Since the majority of pedagogy students are women, only seven men participated in the research. The age of the students was 21-23 years old.

The research material was collected in a poll using an author's questionnaire about the students' life success.

Results

The first aim of the research was to determine how people who are about to start work in educational and caring professions define life success.

Table 1. Students' definitions of life success

What is success?	N	%
Reaching goals and finalizing plans	37	26.81
Successful family life	25	18.11

	N	%
Good financial status	21	15.22
Balance between professional and family life	38	27.54
Realization of dreams	11	7.97
I don't know	6	4.35
Total	138	100.0

The data presented above shows that most people pointed to two categories of success; almost equal numbers of the subjects defined life success as the *balance between professional and family life* (27.54%) or *reaching goals and finalizing plans* (26.81%). Although, semantically, the two categories differ from each other, it can be assumed that some respondents for whom life success means achieving goals treated the balance between private and family life as one of such goals. The same can be concluded from the research into the hierarchy of values conducted by various researchers (Klimkowska 2010). The results revealed that people regard family life and professional career as the most appreciated values.

The question concerning the students' assessment of their chances of achieving success in life was the direct consequence of the first researched problem. The students' answers to the question are presented in Table 2.

Table 2. Chances of achieving the life success

What are your chances of achieving life success?	N	%
High	16	11.59
Rather high	41	29.71
I don't know	47	34.06
Rather low	22	15.95
Very low	12	8.69
Total	138	100.0

The data presented in the table above indicate that slightly over one-third of the respondents (41.30%) assessed their chances of success as high, and only 16 respondents as very high. One in three people (34.06%) were unable to assess their chances of success, and this result is alarming.

There are certain developmental expectations - concerning both the private and the social sphere - that one has of young adults (for instance the developmental tasks theory by R. Harvighurst); this group is therefore supposed to have a clear vision of their adult life. In order to finalize plans, the adult has to possess a specific disposition and a set of skills - in other words, a set of competences necessary to achieve success. What is more, one should also be conscious of them. Hence, it may be suspected that students who had difficulties with assessing their chances of success may face significant obstacles on their way to achieve it. It may stem from the low self-awareness and self-reflectivity. However, to determine the real cause of the respondents' indecisiveness and to predict the probable consequences, one would have to carry out a more in-depth analysis.

Another issue explored in the research was the determinants of life success determined by pedagogy and social work students (Table 3).

Table 3. Determinants of life success

What conditions your achieving life success ?	N	%
Luck, chance	38	27.35
Ambition	27	19.56
God's will	7	5.07
Hard work, engagement, determination	62	44.93
Knowledge, qualifications, skills	60	43.48
Connections, support	47	34.06
Health	14	10.14
Situation on the local job market	69	50,00
Country's economy	49	35.51
Talents and gifts	51	36.95
Parents' social position (social class)	6	4.35
Appearance, clothes, presence	25	18.11

The data does not sum up to 100 per cent since the questionnaire allowed multiple answers for each question.

The data presented in the table above shows that students believed their success depended on both internal and external factors. On the one hand many of them chose factors such as *hard work, engagement in the work and determination* (44.93%), *knowledge, qualifications and skills* (43.48%) and *talents and gifts* (36.95%). This selection is quite optimistic since it can be expected that respondents who made such choices have highly developed competences for achieving life success. On the other hand, however, 50.00% of the respondents linked their success with the *situation on the local job market*, and one in three respondents - with *the country's economy*. It can be observed that a numerous group of the respondents associate life success with financial and professional success. If one assumes that this reflect the subjects' tendency to remain passive on the job market, the results may be rather alarming. It should be also remembered that the situation on the Polish job market as far as educational and caring professions are concerned is really difficult. A relatively small percentage of the graduates find jobs in their studies-related professions (Klimkowska, Dudak 2012). This, in turn, leads to frustration among young employees and affects their perception of the quality of life and success.

Another issue that requires a closer analysis is the frequency of answers such as *connections, support* (34.06%) and *luck and chance* (27.35%). The fact that one in three respondents consider connections and support as a factor necessary for achieving success indicates that the society still believes that achieving various elements of success (good job, high position, attractive salary, prestige) depends on connections and favoritism. Also surprising is the fact that one-fourth of the respondents linked their success with *luck and chance*.

Another aim of the research was to determine how students see their competences for reaching success and if they consider studies to be helpful in developing these competences (Table 4).

Table 4. Assessment of competences for reaching life success

How do you assess your own competences for reaching life success?	N	%
Very high	10	7.25
Rather high	46	33.33
I don't know	51	36.95
Rather low	29	21.03
Very low	2	1.44
Total	138	100.0

As far as students' own competences for reaching life success are concerned, the research revealed that 40.83% of subjects assessed their competence as high, and 33.33% of the study group - as rather high. The result could invite rather optimistic conclusions – the majority of the respondents had a high opinion of themselves, and only one in five respondents – a low one. Still, also the negative answers could be interpreted in a positive way, since any change begins with the awareness of one's own resources. The respondents who claimed they lacked competences for achieving life success may treat this situation as an inspiration for self-development. What requires some analysis is the fact that 36.95% of students were unable to decide if they had any competences. The adults' inability to determine their own disposition and skills is really alarming as far as their

development is concerned. Referring to the earlier analysis, one may expect young adults to be aware of their own competences, especially since they are prepared to work in educational and caring professions. As it was mentioned in the introduction, these professions are perceived as demanding and stressful. They therefore require certain competences that comprise: personal qualities, knowledge, ability to deal with stress, responsibility, task management, and establishing close relation with pupils and students. Many of the competences required in educational and caring professions, are key competences for realization of personal goals and plans.

The final issue analyzed is the opinions of students concerning whether pedagogical studies develop their competences for reaching life success (Table 5).

Table 5. Pedagogical studies and the development of competences for achieving life success.

Does your university program develop competences for achieving life success?	N	%
Definitely yes	5	3,62
Rather yes	40	28.98
It's hard to say	64	46.38
Rather not	23	16.67
Definitely not	6	4.35
Total	138	100.0

The collected data presents a rather unsatisfying and alarming picture. Nearly half of the respondents indicated that their studies do not help them to achieve success. The subjects admitted that their studies prepare them for professional work and help them develop their skills and become more mature, however they do not help them become more self-confident or have more faith in their abilities. Many respondents stressed that a person who starts university education with a low self-esteem, is usually equally self-conscious after graduation.

Conclusions

Summing up, it can be observed that the majority of subjects had a clear vision of their success and many of them expected to accomplish it.

However, the research also revealed that many study subjects had difficulties assessing their chances of success. A significant group of respondents had problems with evaluating their chances of attaining life success as well as their competences for achieving it. Also, the members of the group pointed to the internal factors determining success as often as to the external ones.

It should also be emphasized that the study subjects – pedagogy and social work students – oftentimes did not perceive any direct relation between their studies and the development of success-oriented competences.

Therefore, a question arises whether the students of social studies are likely to graduate as potentially successful people. Success is not limited only to spectacular achievements, but it also concerns the ability to lead a satisfying life. It may be expected that curricula full of courses in pedagogy, psychology, philosophy and sociology – both theoretical and practical – will encourage students to develop personal competence, and to perceive themselves as successful.

The research, although fragmentary and encouraging further, more in-depth analyses, revealed the need to introduce the issues concerning success-related competences into the list of objectives of higher education. It is clear that teachers do need to make students more aware of how useful the knowledge and skills they acquire are for achieving personal goals, dreams, and therefore attaining life success.

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STUDENT OPINIONS ON TEACHING BASED ON MATHEMATICAL MODELLING[70]

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Abstract

This study aimed at determining student opinions about teaching based on mathematical modelling were taken. Study was designed according to descriptive research model. Prospective mathematics teachers carried out the teaching based on mathematical modelling which was included in teacher practices class in elementary mathematics undergraduate program. Before the practice, prospective teachers had a 3 months length education process about learning-teaching applications based on modelling. They prepared classroom practices which include modelling tasks in order to ensure the acquisitions that are included in 6th, 7th and 8th grade mathematics curriculum based on mathematical modelling. During modelling process, the class was divided into groups made of 4-5 people and a homogenous distribution between groups was ensured. 14 voluntary students were chosen from these groups and semi-structured, modelling based interviews were made with them. Data analyzed with descriptive analysis method. When student views were analyzed, it was determined that most of the students have positive thoughts about the teaching. Students stated that they experienced a different class environment, and the study made a positive effect on them in terms of effective learning of mathematics. While some students expressed that the study was enjoyable and applicable, some others stated some negative ideas because of the test anxiety.

Keywords: Teacher education; mathematics education; mathematical modelling; prospective mathematics teacher.

Introduction

Mathematics is a systematical way of thinking that creates solutions to real world events with modelling. Modelling can be defined as converting an existing problem to mathematical notations and representations (Burkhardt & Pollak, 2006; Niss, 1987; Kaiser; Blomhøj & Sriraman,2006). Mathematical modelling is meant to help students' better understand the world, support mathematics learning (motivation, concept formation, comprehension, retaining), contribute to develop various mathematical competencies and proper attitudes, contribute to create an adequate picture of mathematics, namely using enough mathematics. In this context, purposes of mathematical modelling are; enable students make predictions, explain problems, describe and understand different situations in the real world (Galbraith & Catworthy, 1990).

Mathematical modelling is an important component of professional training, which is similar in all areas, particularly in mathematics education. The incorporation of mathematical modelling in mathematics education provides a learning environment (D'Ambrosio, 2009). There are many characterizations or modelling cycles of modelling process (Hirstein, 1995; Berry&Houston,1995; Borromeo, Ferri, 2006; Galbraith & Stillman, 2006; Verschaffel, Greer & De Corte, 2000). A cognitive analysis of modelling process gives a model of the modelling cycle. Modelling cycle can look like algorithmic process, but indeed it is not. Especially the construction process of modelling is challenging as it include formulating a problematic situation. The process requires selection of appropriate variables, determining connections between these variables, developing a mathematical model related to these variables and connections, and testing the model and its applications. The

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basic purpose of involving mathematical modelling in secondary school curriculums is to encourage students make connections between mathematics and the real world (Blum & Niss, 1991).

One of the process models to describe modelling activities is the modelling cycle proposed by Blum & Leiss (2007). In an idealised form, the solution process for a modelling problem can be characterized by a seven-step sequence of activities: (1) understanding the problem and constructing an individual "situation model"; (2) simplifying and structuring the situation model and thus constructing a "real model"; (3) mathematising, i.e. translating the real model into a mathematical model; (4) applying mathematical procedures in order to derive a result; (5) interpreting this mathematical result with regard to reality and thus attaining a real result; (6) validating this result with reference to the original situation; if the result is unsatisfactory, the process may start again with step 2; (7) exposing the whole solution process. From this point of view, the modelling process is made up of seven steps. Distinguishing between these steps is helpful for reconstructing the modelling processes used by students when solving mathematical problems. However, students' actual processes are typically not linear but rather jump back and forth several times between mathematics and reality (Borromeo Ferri, 2007; Leiss, 2007).

According to the mathematics educators, students have opportunities to use and apply mathematics through mathematical modelling (Blum & Niss, 1991). Mathematics classes that are designed in the form of using mathematical modelling, give students chance to use mathematics actively. Students with mathematical modelling competencies learn and develop mathematical concepts very well which makes important contribution to their mathematical experiences outside school (Aydın, 2008).

If this phenomenon can be learnt as early as secondary school, high school will be able to evaluate everything mathematically in their lives and will be more successful in mathematics classes. PISA 2006 results revealed that students all over the world have some problems with modelling tasks (EARGED, 2010). At the end of PISA professional mathematicians' analyses, difficulty of modelling tasks were able to be explained by the cognitive complexity.

In this context, in order to improve present conditions, it is very important to increase the education activities based on mathematical modelling and their effective practices in classes. In this study, which aims at determining students' views in present situation, students' ideas on the issue of mathematical modelling were taken.

Method

The study was designed according to the qualitative research and was carried out on the second semester of 2010-2011 academic years. Prospective mathematics teachers carried out the teaching based on mathematical modelling which was included in teaching practices class in elementary mathematics undergraduate program in Balıkesir University. Before the practice, prospective teachers had a 3 months length education process about learning-teaching applications based on modelling. In this process, they prepared lesson plans which include modelling tasks appropriate for the acquisitions that were included in the 6th, 7th and 8th grade mathematics curriculum; these modelling tasks were evaluated by researchers and took their last shape. Prospective teachers implemented teaching applications according to their lesson plans. Before the teaching applications, students were divided into groups made of 4-5 people. Mathematics class teacher's and students' opinions were taken in deciding the group members and a homogenous distribution was ensured. 14 voluntary students were chosen from these groups and semi-structured, modelling based interviews were made with them. Data were gathered with an interview form prepared by researchers and analyzed with descriptive analysis method (Yıldırım & Şimşek, 2005).

Findings

When student views were analyzed 7 sub-themes were seen. These sub-themes are: contributions of group studies, contributions of class discussions, views on modelling tasks, views on teachers' role, and contributions to learning mathematics, anxiety and enjoyment. Descriptive findings of the data are given in Table1.

Table 1. Descriptive findings of the data .

Main Theme	Sub Themes	Codes	Quotations from Student Views
Views on Mathematical Modelling based teaching	Contributions of Group Studies	• The effort to prove oneself • Attendance of general class • Collaboration • Active participation • Creating common ideas • Homogenous distribution of groups	S1. It wouldn't be this much beneficial if we'd study together. In this method, everybody said something to prove himself/herself. S12. I was satisfied with the group study. There were some conflicts sometimes, but these were the joy of the study. S2. Groups were proportional, equal in terms of information. If we would arrange the group, it wouldn't be better. The others would look while one or two were studying. All of the class participated in the study in this way. S8. We saw that our ideas agreed. We gave decisions in here as a group, it was easier. S13. As there were group studies in that, we had the chance to work together more. S14. There are some successful and unsuccessful students in our class. If we would determine group members, we would be better than the other groups. Teachers' gave more fair decisions; almost all of the groups were equal. If we'd work individually, everyone would find something different; we wouldn't come to an agreement. We worked together, collaborated; so all ideas were gathered in one place, it was better. S1. There were no groups in mathematics classes, this is better. We can ask our friends if we can not do something. It wouldn't be this much effective if we did this individually.
	Contributions of class discussions	• Defending group's solution • Seeing different solutions • Realizing mistakes • Desire to win • Competition	S6. It was better for groups that made mistakes. They realized that they made mistakes on the paper, and corrected their mistakes on the board. They won't forget what they learnt. S11. When we solved questions on the board as separate groups, we saw one another's mistakes. For example I was sure that we found the right solution; when I saw that we gave wrong decision I was shocked. S13. Discussion environment was useful for us as we were able to see our mistakes. S10. Class discussions were very well, we saw our friends as competitors. We tried to beat them and became ambitious. This enabled us become more effective in defending our solutions. Namely, discussions were good. S14. As we discussed solutions in class, we had the chance to see our mistakes. We became more ambitious as there were groups. S4. We agreed on the solutions we made in groups. Although there were debates in class discussions, we saw our mistake, which was better. Some of us saw his/her mistakes before it was too late. S2. I think class discussion was very effective. Because I was absolutely sure that our answer was correct. We checked it a few times. But something changed when we came to the board. We thought that their answer was more sensible. I was shocked when I saw that we did wrong.
	Views on modelling tasks	• Interesting • Increasing curiosity • Not easy • Not difficult • Thought provoking • Necessary • From daily life • Appreciation • Valuable • Entertaining	S3. Making calculations were interesting. We were curious about the solution while dealing with the problem. S4. Problems weren't difficult, but they weren't easy either. S5. Applications were enjoyable, and more thought provoking. S14. Activity wasn't that much easy, there were especially a lot of operations. S1. Questions in the activity weren't easy or difficult. They were all necessary. S5. Everybody liked the activities; they were reflecting the parts of our lives S6. It was very valuable for us, it made us feel valuable, we were being thought. That was why we liked them.

Views on teacher's role	• Guidance • Supporter • Encouraging to thinking • Questioning	S7. Teacher in this class was better. He/She was more interested. He/she gave very clear answers to our questions in a way that we can understand. S10. He was sympathetic. If we would make individual studies, he couldn't answer all of our questions. He gave answers to most of the questions. S1. I was anxious at the beginning, I didn't know if I could answer; it was easier when the teacher came and explained. S2. The teacher was like a supporter, he/she was our second way. He/she was like a guide and eased our studies. S4. The teacher wanted us to decide which method to use. He/she only asked questions like "how would it be if you used this way?" and made some suggestions. S1. Teacher guided and encouraged us to think, said that I didn't give this in this question, find it on your own.
Contributions to mathematics learning	• Arousing interest • Focusing on the task • Seeing different activities • Realizing mistakes. • Seeing friends' situation. • Permanent learning • Effective learning • Learning from one another • Learning and enjoying • Endearing mathematics • Looking from a different perspective	S12. As everybody focused on the class, they did something. Everybody was interested. Some people wouldn't be interested if we studies individually. S10. Generally everybody liked the activity; these kinds of studies are very attractive. Everybody focused on that at the same time. I am picturing the situation now, everybody is thinking about the same thing, which one is the right answer, who is right who is wrong… S13. We become more ambitious if we are taught in this way, our interest in mathematics increase. S10. If mathematics is taught by this way, I think everybody would become more interested, it would be enjoyable. S1. We always thought about formulas. We don't do such activities in mathematics. S5. Everybody in group study firstly wrote their opinions on papers, and then we combined them in a paper. For instance I found a solution but it was false. I realized my mistakes. S11. In our group studies, we saw that some of our friends were better than us –we are successful in mathematics-. I didn't realize that before as they hadn't told us. We are in the class for years; I had never seen that before. It was very well for this. S7. I liked the application very much. We reached a cone in a way with stars and we rearranged the formula we know according to the data. We arranged them in order to reach solution. This was a very good example for us to see that only memorizing the formula isn't enough. S6. When the activity is individually made, different answers are given. We weren't able to see our own and our friends mistakes clearly in that way. S9. Our learning was more permanent with this method. If we do such applications in order to repeat an issue, it becomes permanent and we don't forget. S10. We both enjoyed the process and learnt. It was very good. S4. We learnt a lot from one another both in groups and on the board. S11. Mathematics learning becomes more permanent, solutions become well if we take classes in this way. S7. I think that these practices are more effective in our learning. S5. I gained something in this lesson. For example with the help of group study, I saw where and why I made mistakes. I saw from a different perspective which method should we use. It was a good activity for me. S4. If I see a similar question in secondary education entrance exam, I will be able to answer consciously. We didn't know what and how to do; this is why this application was very useful for us.
Anxiety	• Irritated • Stressed • Being afraid of getting reaction • Being relaxed	S13. When we heard that there will be groups, we first thought that there were going to be a competition. I became agitated as I didn't know if I could be successful. S1. I was a little stressed as we were being recorded on video. S9. We relaxed as we spent more time with teacher. S8. The students who weren't convinced with the class discussions said "what we did is right", I think that they didn't want to draw reaction from their group friends.

Enjoyment	• Enjoyable • Nice • Good • Pleasure	S11. In my opinion, the lesson was enjoyable. We also solve problems in the class but they aren't as difficult as this. We also don't study with groups, we study on our own. This is why these applications were better. S1. Generally everybody said that they enjoyed and took pleasure from mathematics lesson. S10. Activities were good; enjoyable and nice; generally everybody said that they enjoyed. S5. The lesson was good, I enjoyed it very much. S6. I got happy because we had never done these kinds of stuff in my previous school. It is easier for us to learn something while enjoying. This is why this method is better.	

We see the views on mathematical modelling based teaching as the main theme in Table 1. As modelling process continued in this teaching, views on modelling process can be taken as the main theme. Kyleve & Williams (1995) identified that students' abilities have some effects on their attitudes. According to this finding, it can be said that students' modelling abilities affect their attitudes. Because sub-themes that were determined according to the data put forward the experiences and feelings in the process. Lim, Tso & Lin (2009), analyzed the attitudes of students towards mathematics in 4 dimensions: beliefs, usefulness, enjoyment and anxiety. Beliefs are the judgments that students make for the application and they are based on knowledge and previous experiences of students. Usefulness is defined by the researchers to be what is useful for and in favor of students, practical and what makes the project worth being applied. While enjoyment is defined to be satisfaction and not feeling any pressure, anxiety is feeling pressure and anxiety about the project.

When these definitions are analyzed, it is seen that the sub-theme of "contributions to mathematic learning" that we determined in our study (*focusing on the class, arousing interest, seeing different solutions, seeing friends' situation, realizing mistakes, permanent learning, learning from one another, learning and enjoying, endearing mathematics, effective learning*) includes beliefs and usefulness. Lester Jr (1987) stated that beliefs are made of the subjective knowledge developed by a students in order to interpret events. Galbraith et al(2003), mentioned that beliefs in mathematical modelling which affect judgments and views are very important in terms of putting model's variables forward. In this context, students emphasized that modelling process is a useful device in learning mathematics and they will see the possible advantages in their future career.

Most of the students stated that the education was enjoyable and good, they enjoyed the process and they were satisfied. These views are grouped under the theme of enjoyment. Galbraith, Izard & Christopher (2003) stated that enjoyment is an instinctive or intuitive feeling that students show in their mathematical experiences. In this context, another important side of the study was revealed with the fact that students had positive feelings about teaching, and they said that they both enjoyed the process and learnt at the same time, they had the chance to study more effectively in a more comfortable environment.

Study group who were preparing for secondary education entrance exam participated in this study. There are fewer questions in modelling tasks. Very few of the students stated this feature to be a negative feature of teaching based on mathematical modelling.This was expected as students had test anxiety; students attended the application stated that their knowledge will be useful in future, they were enjoying the process while learning and they didn't have learning anxiety while studying on modelling tasks.

Kaino & Salani (2004) determined similarly in their studies that students related the usefulness of their study with their future professional lives; but on the contrary to our study, as the negative side of teaching, they expressed that they didn't enjoy the process and they related this with learning anxiety instead of test anxiety.

Conclusions

When students' views on mathematical modelling were analyzed, it was determined that most of the students in this study had positive views on the mathematical modelling based teaching. Students experienced a different application in mathematics class and the study positively contributed to them in terms of learning mathematics.

Increasing students' mathematical success on international level, ensuring effective and permanent learning of mathematics can be done and students' anxieties can be relieved with education situations that are prepared according to mathematical modelling.

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STUDY ON ACTION-ORIENTED LEARNING WITH A LEARNING FACTORY APPROACH

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Abstract

An important prerequisite for prospective competitive factories is an effective and enduring development of production-related competencies in today's universities for manufacturing engineering. Learning Factories are an action-oriented approach for developing these competencies. They are highly authentic learning environments in which genuine products are manufactured in a simulated but life-like production setting. The study aims at investigating the learning success of engineering students in a Learning Factory. Results of a conducted experiment are presented and discussed giving proof to the hypotheses that students have a greater application-performance and a higher degree of action-substantiating knowledge after having attended an action-oriented learning event within the Learning Factory than after receiving a conventional treatment.

Learning Factories; action orientation; competencies; manufacturing engineering

Introduction

In order to withstand international pressure of competition manufacturing companies must continuously develop their manufacturing processes, their production equipment as well as their operational and organizational processes. An equally important prerequisite for prospective competitive factories is an effective development of production-related competencies and the capability of adapting and evolving these competencies independently (Abele, Tenberg, Wennemer & Cachay, 2010). The exponential increase of production-oriented knowledge accompanied by shorter employees' dwell times in certain positions thus requires new effective production learning approaches. In addition, the ongoing effects of knowledge aging make a rethinking necessary (Abele & Reinhart, 2011).

These trends can only be countered by new learning approaches that contribute to the development of staff's competencies. It is beginning to show that the association with competencies of employees from all hierarchical levels is a key success factor for production engineering (Abele et. al., 2010). Often, the lack of staff's competencies complicates the implementation of sustainable productions that are able to react to unknown future developments.

In addition to a high knowledge degree, companies expect their employees therefore to utilize their knowledge but also to operationalize this knowledge in unimaginable situations (competency). Therefore, production-related academic education as well as advanced training requires new approaches that allow future and actual employees to act independently in real problem situations. The Learning Factory CiP (Center for industrial Productivity) maintained by the PTW at the TU Darmstadt could be considered as such an action-oriented learning approach. In the following, a scientific discourse on learning factories is documented. Additionally, an empirical test approach aiming at assessing action-oriented learning in the Learning Factory CiP and the discussion of the results are presented.

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State of the art: competency development in manufacturing

Developing competencies for manufacturing engineering

Around the world, engineering education predominantly takes place in universities. In the wake of the European 'Bologna Process' first steps to competency-based studying have been initiated, but as yet it still has to be assumed that engineering study courses remain relatively science-oriented and highly abstract. This equally refers to contents as well as methods (Tenberg, 2011). The situation in the highly application-oriented German vocational training proves to be very different, as curricula with a consistent competency-orientation have been implemented. Here, educational objectives have been worded not in a knowledge-oriented but in an action-oriented manner.

Competency orientation

Erpenbeck and Rosenstiel (2007, p. XIX) define competencies briefly as "dispositions to act independently" and in doing so refer to the linguistic approach of Chomsky (1962) and the psychological approach of White (1959). They are seen as context-specific cognitive dispositions that enable individual independent actions and are due considerably to knowledge (Klieme & Leutner, 2006; Weinert, 2001). The single action is referred to as 'performance' (Chomsky, 1962) and emphasizes the difference between what enables, presupposes and determines independent actions and the virtual action. This means that a single action cannot uncover all the underlying competencies. Several independent actions in a variety of situations are required (Tenberg, 2011). Erpenbeck and Rosenstiel's (2007) approach distinguishes between two competency-classes and four competency-categories: Competency-classes describe two typical kinds of problem solving competencies which can be acquired by executing either 'gradient strategies' or 'evolutionary strategies'. Gradient strategies, on the one hand, follow an algorithmic approach, evolutionary strategies, on the other hand, predominantly follow a heuristic approach. In daily work characterized by a small variety of working situations gradient strategies are applied. If different problem contexts or complex or new demanding situations occur usually evolutionary strategies are executed (Tenberg, 2011). Competency-categories describe four particular but systemic-linked competencies: personal, activity- and application-oriented, specialist and methodological, social-communicative (Erpenbeck & Rosenstiel, 2007).

In linking the gradient and evolutionary strategies with the four key competencies defined by E&R the competency model by Tenberg is derived (Figure 1). In order to perform successfully in unknown constellations (competencies) companies expect their employees to be able to apply certain knowledge (qualification). Thus, the key to competency development is the ability to master knowledge; this comprises cognition and comprehension of knowledge.
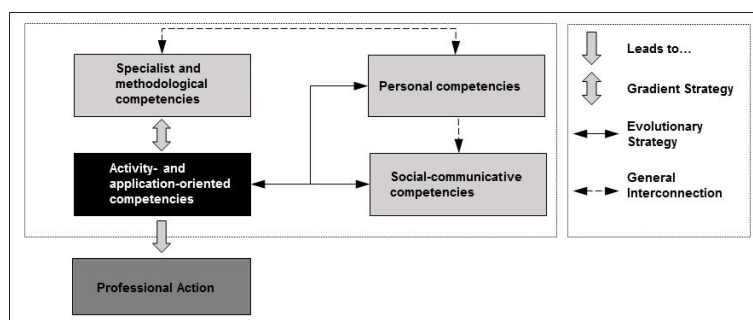
Figure 12. Competency model by Tenberg (on the basis of Tenberg, 2011)

Action-substantiating and action-independent knowledge

Due to their ambiguity and terminological fuzziness Tenberg (2011) published a theory about the relationship between competencies and knowledge avoiding the hitherto used terms of declarative knowledge and procedural knowledge. He restricted his basic model to three knowledge concepts: technical knowledge, process knowledge and conceptual knowledge.

In order to obtain flexibility of action, conceptual knowledge is needed in addition to technical and process knowledge. Conceptual knowledge can be subdivided into two distinct categories: 'action-substantiating knowledge' and an 'action-independent knowledge base'. Action-substantiating knowledge is generally required for the understanding of entities and their handling. Without this kind of knowledge, factors would unthinkingly be taken for granted and actions would be regarded as unalterable and definite. The understanding of knowledge is a central feature of expertise (Tenberg, 2011).

According to Ebner, Oertel and Schumm (2001), it is neither required nor possible to distinguish definitely between technical and process knowledge. So, in this model, it can be summarized as professional knowledge. Conceptual knowledge is linked with technical and process knowledge since it represents the referential background of each knowledge type. Solely, a person with conceptual knowledge has insight into the underlying causal coherences that can be made available in problem solving situations (Pittich, 2011). Not the more but the higher value (meaning action-relevant) conceptual knowledge enables the individual to determine a changed context adequately and to vary familiar actions in a reasonable way.

Theory of action-oriented learning

Academia and industry concur that by means of vocational education and competency development in universities comprehensive job-related competencies and thereby a capacity to act in terms of planning, implementing and evaluating must be generated (Dehnbostel, 2003). Action-oriented learning is a prerequisite for obtaining such a professional competency as it is always tied to specific working situations.

Therefore, an action-oriented learning process must be designed in a way that self-organizing competencies can be developed enabling learners to act independently, focused and performance-oriented. This means that students have to configure their own learning processes by handling complex problem statements as complete tasks. During these tasks they deliver independent judgments and make own decisions, thus, stimulating responsible actions. Teachers should stay in the background and rather assume a moderating role.

The teaching and learning settings must be modeled as closely as possible to the actual working context and process (Bader, 2003). Naturally, these must have to have a high degree of realism and clarity. Typical supporting media are computer simulations and role play, but also multimedia applications such as virtual reality (Weidenmann, 1993). However, this approach has not been pursued extensively at university level in the German engineering education. Although, in the meantime so-called learning factories have been used in this context.

Learning Factories as an approach for developing competencies

In research literature various definitions are provided for learning factories (Barton & Delbridge 2001; Pullin, 2009; Roth, Marucheck, Kemp, & Trimble, 1994, Siqueira, Barbarán & Becerra, 2008; Tian, 2011).

Usually, these approaches are to be found in the field of software development and are regarded as learning factories in German-speaking areas: an industrial environment that simulates realistic production processes while enabling practical training in various topics and at various professional levels. However, in terms of the product

to be manufactured as well as the equipment- and organization-related environment a lot more objective approaches are required in production engineering. Therefore, modern learning factories represent one or more complete complex production lines in which far-reaching interventions into the manufacturing, assembly and logistics processes are possible for the trainees. However, as opposed to real production sites these interventions can be undertaken risk-free and without cost pressure (Cachay & Abele, 2012). As of today, mainly automobile-OEM operate learning factories in this sense (Reiner, 2009).

Furthermore, in the past learning factories have been established in varying extent, under different learning contexts (e.g. lean manufacturing, process optimization, energy efficiency) and with differing target groups (e.g. students, skilled workers, managers) at research institutions throughout German-speaking countries (Abele & Cachay, 2011). For a comparative investigation on existing learning Factories see Wagner (2012). A pioneer in this field is the existing Process Learning Factory CiP at the TU Darmstadt, inaugurated in 2007 (Lehm, 2011).

Research aim and methodology

Research aim

The study's research aim is to determine whether the action-oriented Learning Factory approach has advantages over conventional teaching methods. It is assumed that the Learning Factory as a teaching and learning approach enables manufacturing engineering students to cope better with real problem situations and to successfully apply learnt techniques. Consequently, it has to be reviewed by how much the Learning Factory approach exceeds the conveying potential of a conventional (not action-orientated) lecture. Thereby it has to be differed between the acting capacity of the learner and the corresponding knowledge. This means that the corresponding knowledge as well as the students' capacity of acting in practical problem statements have to be determined. The research hypothesis is: Students have a greater application-performance and a higher degree of action-substantiating knowledge after having attended an action-oriented learning event within the Learning Factory than after receiving a conventional treatment.

Study design and structure

The experiment is based on methods of empirical social research with partially open proportions of non-participatory observation. This study design allows the testing of prefabricated hypotheses and the explorative exposure of structures in the research field itself at the same time. The study can be assigned to the field of real experimental designs and therefore offers a structured research field that allows comparisons between different cohorts as well as comparisons between investigative and comparison groups (Schnell, Hill, & Esser, 2008).

In order to verify the effectiveness of the action-learning approach in the Learning Factory in comparison to conventional learning methods two randomly composed groups of probands receive two different types of treatments dealing with the analysis of production processes. During the first day of the study the comparison group consisting of 9 students receives a conventional tuition. On the second day the 16 students accumulating the investigative group are trained by means of the new action-learning approach developed in the Learning Factory.

To begin with, both groups are subjected to take a short preliminary test in order to determine their initial knowledge level on lean production in general and process analysis at the start of the study. The questions aim at addressing the probands' expertise and thematic comprehension. These tests are important in order to pinpoint the exact individual learning progress effected by the respective treatments. For this purpose, the students are asked to give certain information concerning their person so that individuals can be traced throughout the study (control variables).

Following the preliminary tests, both groups are provided with the same theoretical knowledge concerning their task of analyzing a production process. During these circa 30 minutes of lecture the most important facts about process analysis (PA) and lean production in general are illustrated such as signification, purpose and procedure of PA. In the following 60 minutes the comparison group and the investigative group receive their respective treatments. The comparison group is instructed in form of a conventional teaching tuition in accordance with Schelten (2005).

The lean method of process analysis is thus demonstrated to the probands on the basis of an example. In this case, the process example is the assembly of a simple shaft-hub joint. The complete lack of action-oriented learning methods is characteristic for this kind of treatment. Tuitions as a learning form have great resemblance with conventional learning methods at university.
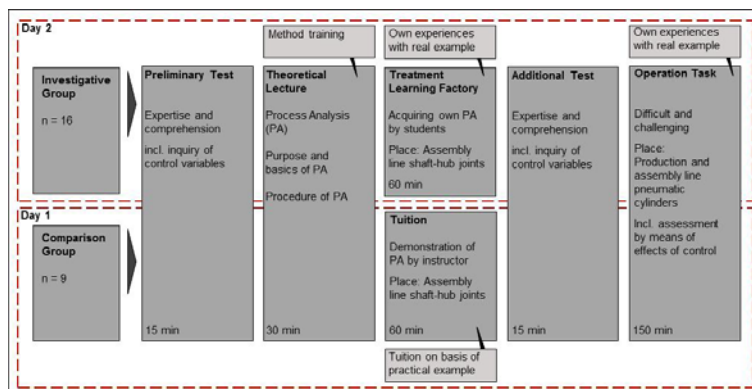
Figure 13. Overview over study on action-oriented learning in the Learning Factory CiP

The investigative group, on the other hand, is trained by an action-learning approach in the immediate vicinity of the Learning Factory. In the same 60 minutes these probands, divided into three groups, are able to experience the procedure of process analysis on the real shaft-hub joint example. They are allowed to make mistakes and experience the consequences. Very importantly, the supervisors accompanying the study do not interfere in the treatment enabling the probands to make their own experiences.

After their particular treatments the probands of both groups are asked to take a second additional test with the exact same questions as in the preliminary test. By comparing the control variables the individual answers can be associated with the answers given in the first exam. But in order to really be able to evaluate the learning progress it is not sufficient to only test the accessory knowledge gained throughout the learning treatment. The action-learning approach additionally addresses comprehension and the ability to actually apply the learning content in a real problem situation.

Thus, as a last test both groups are asked to solve the same more realistic and more challenging task (operations task). The investigative group is divided into three groups, the comparison group into two groups. The corresponding processes are real assembly processes extracted from the assembly of pneumatic cylinders in the Learning Factory CiP. The degree of complexity is very high making the process analysis more complicated as in the shaft-hub joint example. Supervisors accompanying the groups during the period of 150 minutes qualitatively assess the probands' courses of action, their behavior and the results with the help of previously determined effects of control.

At the end of the study short interviews are conducted with the probands. The objective of these interviews is to find out how the probands have experienced their respective treatment and what suggestions for improvement they may have. The idea is to get an overall judgment of the learning approach.

Surveying method

Control variables

During the preliminary and additional tests variables of control are imposed. This has two major reasons: On the one hand, for the study to be valid it is important that the investigative and comparison groups are similar. This can be ascertained by imposed variables of control (personal information on the probands). It is important that overall all probands of both groups have had similar life experiences and have similar previous knowledge rates. On the other hand, in order to make a statement on the learning progress of every individual it is important to impose certain personal information so as to be able to keep trace of the probands throughout the study. This is not problematic as all results are kept anonymous.

Comprehension tests

13 questions are posed in the tests, 8 of which address theoretical knowledge. The remaining 5 questions can only be answered if the probands have the respective comprehensive knowledge. The goal is to see how much of the learning contents the students have really understood. Table 1 lists these 13 questions.

Table 3. Overview over theoretical and comprehensive questions in preliminary and additional tests

Theoretical Questions	Comprehensive Questions
What are the goals of Lean Production?	Why is a one-piece-flow production organization desirable?
What are the different types of waste in Lean Production?	Name the reasons why production figures alone do not suffice to judge an actual production state?
What are the steps of a process analysis?	Why is the customer takt time important?
How can the customer takt time be calculated?	For what is an A3-sheet used in the context of Lean Production?
What is meant by a cycle time?	What obstacles may arise in the procedure of process optimization?
What does the acronym PDCA mean?	
Name the steps involved in process improvement in Lean Production.	
What points are listed in an A3-sheet?	

Between 1 and 5 points are awarded depending on the amount of correct answers per question. If no answer or no correct answer is given 1 point is awarded. 2 points correspond with 'predominantly wrong', 3 points with 'partly correct', 4 points with 'predominantly correct' and 5 points with 'correct'. By using this scheme it is possible to evaluate the two tests within the scope of the study. Every proband achieves a certain score in the preliminary test and naturally a better score in the additional test. By comparing these two scores of all probands the respective learning progress of the investigative and the comparison group in respect of gained expertise can be accounted for.

Criteria of effect control

In the context of the operations task the groups are asked to carry out a process analysis on a complex assembly process. By observing their activities a qualitative assessment is possible. The five steps of the process analysis to be undertaken by the probands are:

- Determination of customer requirements such as customer takt time.
- Plotting of process steps: the assembly process consists of several executions known as process steps.
- Recording of inventory: all stocks directly related to the process are to be identified.
- Recording of information and material flow: material and information movements help understand the process.
- Recording of process data: the most important data is in this case the cycle time – the time necessary for assembling one workpiece.

Having a chronologic order, the evaluation sheet orientates on the respective steps of the process analysis. But also comprehensive effects of control can be found aiming at describing the overall behavior and achievements of the probands. Within the scope of this study it is notably important to evaluate the problem solving manner and the more or less structured modus operandi of the two groups.

In order to facilitate and standardize the qualitative assessment several effects of control are defined. Only by these means it is possible to characterize the probands' learning progress in terms of comprehension and applicability of learning contents. The effects of control constituting the evaluation sheet orientate on the steps of the PA:

1. Customer requirements have been determined (completely, partially, not at all): The groups are provided with information from which the customer requirements are to be derived. Main focus is on the customer takt time assuming the time in seconds that a customer demands a product.
2. Process steps have been plotted (completely, partially, not at all): In order to fully understand the process the proband has to analyze every process step. Every step has to be plotted visually to facilitate the exposure of optimization potential.
3. Inventories, material and information flows have been recorded (completely, partially, not at all): Before the actual analysis of the process can take place the process has to be described as a whole.
4. Process data, especially cycle times, have been recorded (completely, partially, not at all): A production process cannot be fully described without production figures. The most important figure is the cycle time. In this stage of the PA the probands have to use a stop watch and stop the times of several assembly cycles.
5. Realized analysis has been evaluated (completely, partially, not at all): The groups must show their ability to evaluate their hitherto work. Whether they have completely understood the process with all its strengths and weaknesses will show during the evaluation process of criterion 5.
6. Process analysis has been presented to and discussed with the group (completely, partially, not at all): In presenting and discussing their results the groups show their team working skills.
7. Further comments: This criterion enables the supervisors to mark any further points of interest that effect the evaluation of the probands in their respective groups. Mostly, comments on teamwork, general behavior and conduct, structured course of action as well as results are stated here.

Results

Study quality and validity

An important factor concerning the validity of a laboratory study is the composition of the two groups being analyzed. In this case, the probands of both groups should have an identical initial knowledge rate concerning the topic 'Lean Production'. As Table 2 shows, both groups are virtually identical in reference to the surveyed variables of control. Both control samples are large enough to enable a scientific predication. The average age and the female quotient are similar between the groups. The female quotient is a bit lower than the male quotient as the TU Darmstadt is a technical university and the female quotient is thus traditionally lower. All probands are students of either mechanical or industrial engineering having no vocational precognition. As both groups have similar average grades and consider themselves rather uninformed about lean production it can be expected that all probands have similar engineering skills. In summary, it can be determined that the investigative and the comparison groups are sufficiently similar and thus the validity of the study can be ascertained.

Results of the preliminary and additional tests

Tables 3, 4 and 5 show the results of the two tests conducted during the study. The preliminary test took place first thus giving an impression of every probands' degree of initial knowledge at the beginning of the study. The results show that the probands all have an identical initial situation. The comparison group was able to answer 32,0%, the investigative group 29,2% of the questions correctly. Concerning the knowledge and comprehension questions the allocation was similar.

Table 4. Composition of investigative and comparison groups (none = 1; middle = 2; high = 3).

Attribute	Investigative group	Comparison group
Number of	16	9
Average age	22,8	22,2
Share of womankind	31%	22%
Course of studies	engineer, industrial engineer	engineer, industrial engineer
Grade point average	2,0	2,1
Work experience	0	0
Assess their own knowledge	1,4	1,6

Table 5. Results of overall analysis.

Total analysis				
Comparison group				
Pretest	Posttest	Absolute increase	Relative increase	Absolute difference
32,0%	56,8%	24,8%	77,5%	
Investigative group				24,8%
Pretest	Posttest			
29,2%	59,1%	29,9%	102,3%	

Table 6. Results of the analysis on the action-independent knowledge.

Analysis of the action-independent knowledge				
Comparison group				
Pretest	Posttest	Absolute increase	Relative increase	Absolute difference
31,1%	54,7%	23,6%	75,9%	
Investigative group				27,5%
Pretest	Posttest			
28,0%	56,9%	28,9%	103,4%	

Table 7. Results of the analysis on the action-substantiating knowledge.

Analysis of the action-substantiating knowledge				
Comparison group				
Pretest	Posttest	Absolute increase	Relative increase	Absolute difference
33,3%	51,1%	17,8%	53,3%	
Investigative group				47,5%
Pretest	Posttest			
31,3%	62,8%	31,5%	100,8%	

The results concerning the additional test which occurred after the respective treatments show that the probands did have different learning progresses. Overall, the comparison group was able to ameliorate their score by 77,5% up to 56,8%. The investigative group on the other hand was able to more than double their score (+ 102,3%) reaching a score of 59,1%. In total, the results of the investigative group improved by 24,8%-points in comparison to the comparison group.

Although the investigative group did better concerning the knowledge questions (absolute increase to the amount of 28,9% versus 23,6%) their main gain versus the comparison group can be explained by the performance concerning the comprehension questions. The absolute increase was almost double as the investigative group relished an absolute increase to the amount of 31,5% versus 17,8%. The results of the investigative group improved by 47,5%-points in comparison to the comparison group.

Evaluation of the operations task

Overall, the emphasis of the evaluation of the operations task lies on two basic declarations. Firstly, the study allows comments on the effectiveness of the learning method 'Learning Factory' compared to traditional learning methods such as tuitions. The results of the comparison group can be compared directly with the results of the investigative group. Table 6 shows the different results of the two groups (the investigative group consisted of three smaller groups working on three assembly places, the comparison group was divided into two groups working on two respective assembly places) in respect to overall behavior, structured course of action and outcomes as described in the mentioned criteria catalog.

Table 8. Results of the operations task maintained by investigative and comparison groups

Criterion	Investigative Group	Comparison Group
Plotting of process steps	Plotting occurs successfully and completely – few minor questions	Plotting occurs merely partially – significant need of inquiries: Neither the process steps nor the symbolism seem to have been understood.
Recording of inventories, material and information flows	One group: complete recording, no problems. The two other groups forgot to inscribe the names and amount of stock in their plots.	No recording of the information flow. Partial recording of the material flow in one group. Inventories are locally determined but only partially quantified.
Recording of process data	Complete recording in all groups	Cycle times have been recorded completely. Although no coordination or division of work distinguishable: Some probands are actually already working on subsequent steps.
Evaluation of realized process analysis (PA)	One group successfully and completely evaluates the analysis independently. The other two groups manage after a short inquiry about the next steps in the PA. Nonetheless, peaks in the cycle times are not in the center of interest, their causes are not investigated.	Realized analysis is only partially evaluated. Oscillations in the recorded cycle times are noticed, but the existence of different product variants is not recognized (no reflection). There is confusion and disorientation regarding the further course of action.
Presentation of process analysis	The PA is presented only in part because the evaluation results of the analysis are not used.	The PA is presented in part and only after repeated prompting. The evaluation results of the cycle times are not of key interest.
Further comments	Duration in one group: 10 minutes. Duration in the other two groups: less than 30 minutes	Instead of commencing with the PA the groups start optimizing the process without further reflection (not part of the task!). Duration: ca. 60 minutes

Interpretation of the results

All in all, both groups entered the study having an identical background and knowledge rate. Thus, it is not surprising that the results in the preliminary test differ merely by 3% (29,2% versus 32,0%). As expected, both groups were able to increase their knowledge and comprehension levels significantly after their respective treatments. But the investigative group's learning progress was significantly better than in the comparison group. The degree of amelioration in the investigative group is with 102,3% much stronger than the comparison group's 77,5%. As the learning progress remains similar on the knowledge basis the investigative group did much better

in answering the comprehension questions (100,8% versus 53,3%). It is evident that the action-learning treatment in the Learning Factory CiP in contrast to the conventional treatment by tuition had a much greater impact on the investigative group's comprehension skills. Certainly, these conclusions still have to be acknowledged by a longitudinal study with statistical significance. Anyhow, the interpretation of the operations task's results affirms this conclusion as two basic theories can be upheld:

In the operations task the investigative group performed better than the comparison group.

The investigative group's learning progress was exceptional.

The investigative group did very well during the operations task showing a structured approach along the 5 steps of the process analysis. There were only minor points of criticism to be addressed and there was practically no need for supervisors to interfere. The comparison group, on the other hand, was only able to solve the task partially and many supervisor interferences were necessary to put them back on the right track. Neither the steps of the process analysis nor the symbolism seem to have been understood. A structured approach along the steps of the process analysis was not to be observed. The needed times for solving the task make this point very clear. One group amidst the investigative group required 10 minutes, the other two groups circa 30 minutes. The comparison group needed circa 60 minutes relying on considerable assistance from the supervisors along the way.

The investigative group's learning progress could be nicely observed by comparing their performance during the treatment with their performance in the operations task. As they were allowed to make mistakes and experience the consequences during their action-learning treatment they understood well why it is best to follow the steps of the process analysis in a very structured manner. The same mistakes were not repeated in the operations task.

These interpretations were underlined by the probands' statements made during the interviews conducted at the end of the study. The probands were asked to comment on four main topics: Reflection on the own learning progress, course structure, practical orientation and hints on how to deal with the learning approach. Table 7 shows some of the answers given by the students.

It is interesting that even the probands recognize that their learning progress augments when they themselves are allowed to try and solve the problem statement hands-on. Quite often during the study the probands of both groups spoke of light bulb moments when working hands-on. The results of the interviews allow several conclusions:

- Both the comparison and investigative groups expressed positive opinions towards the Learning Factory concept. Especially, the action-oriented learning approach with hands-on activities and the predominant practical orientation are emphasized.
- The proposals made by the comparison group concerning the course structure resemble the actual investigative group's Learning Factory treatment. Practical exercises would have been better than the tuition.
- Both groups rated the operations task as very positive. Although, one should keep in mind that the comparison group perceived the operations task as part of the training and not as it was intended as a test.

Table 9. Selected quotes from the interviews with the probands.

Investigative Group	Comparison Group
Reflection on own learning progress:	Reflection on own learning progress:
"Not until the first practical example I understood how important it is to comply with the order of the analysis process and how important a structured approach is for success."	"After the tuition I hadn't understood what the process analysis is about. This only became clear to me after having the opportunity to perform the task by myself. Only then did I understand what difficulties can arise in the course of the application."
Course structure:	Course structure:
"The mixture of theory and practice was very well-balanced." "The sequence from simple to complex examples made it very easy to understand the problem statement."	I liked the practical examples in the lecture." "Instead of a tuition the training should have been like the operations task."
Practical orientation:	Practical orientation:
"I thought that the practical orientation was great. I could really imagine how this problem statement can occur in real life."	"I found the tuition quite abstract. Therefore, I was happy to work on the realistic assembly working places during the operations task."
Hints on how to deal with the learning approach:	Hints on how to deal with the learning approach:
"You should provide this training for all students. The training principle should be adopted by other university departments."	"At the end of the operations task a best practice solution should be presented or handed out."

Conclusion

In this paper, a study is presented with the goal of verifying a certain hypothesis that students have a greater application-performance and a higher degree of action-substantiating knowledge after having attended an action-oriented learning event within the Learning Factory than after receiving a conventional treatment. At this, a comparison and an investigative group of probands received different treatments, subsequently having to solve an identical operations task independently. The former group was instructed by means of tuition, the latter group attended an action-oriented training in the Learning factory. Within the limits of the study, the hypothesis has been verified and confirmed comprehensively.

The results indicate that participants of action-oriented trainings in the Learning Factory have significant advantages over participants attending traditional schooling. This is the case because the former are much more capable of grasping problems and validating as well as implementing solution hypotheses so as to improve and stabilize the status quo of a production line. Without a doubt, it can be noted that the investigative group showed a better performance than the comparison group in the operations task. Moreover, the investigative group's learning progress was exceptional.

Due to practical implementation reasons the conducted experiment reverts to a relatively small cohort (n <20). Therefore, the generality of the results cannot be ascertained, however the results can be regarded as a first indication of the validity of the underlying basic assumptions.

In order to confirm these results, further identical studies are currently being carried out with different cohorts. In order to allow both regression analysis and variance explanations cross-sectional and longitudinal studies with cohorts larger than 150 probands will be conducted. The goal is not only to generally confirm the effectiveness of the approach but also to differentiate the causes and control variables contained in the studies.

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TARIH VE SOSYAL BILGILER ÖĞRETMENLERI MÜZE VE TARIHI MEKÂNLARDAN EĞITIMDE NASIL YARARLANABILIR? MODEL BIR PROJE

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Özet

Çalışmanın amacı müze ve tarihi mekânların bir eğitim mekanı olarak, öğretmen eğitiminde kullanılmasının önemini vurgulamaktır. Günümüz eğitim anlayışı bağlamında müze ve tarihi mekânlardan eğitimde yararlanılmasına yönelik oluşturulacak bir modelin, öğretmen eğitiminde kullanılmasının yararlı olacağı kuşkusuzdur. Bu çerçevede ortaya konulan bir eğitim modeli, proje olarak uygulanmıştır. Söz konusu proje, Türkiye'de TÜBİTAK* tarafından desteklenen alanındaki ilk proje olma önemine haizdir. Bu çalışmada, projede kullanılan içeriğe yer verilmiş, bunun yanında çalışma süresince öğretmenlerden elde edilen gözlemler ve veriler yorumlanmıştır. Böylece bu eğitim modelinin öğretmenlere katkısı ortaya konulmaya çalışılmıştır. Araştırmada hem nicel, hem nitel veri toplama yöntemlerinden yararlanılmıştır. Uygulanan ölçekler sonucunda verilen eğitimin öğretmenlere dikkate değer bir ölçüde olumlu katkısı olduğu tespit edilmiştir. Elde edilen sonuçların ileride konuyla ilgili uygulanacak benzer içerikteki hizmetiçi eğitim programlarının başarılı olmasına katkıda bulunacağı düşünülmektedir.

Anahtar Kelimeler: sosyal bilgiler; tarih; müze; tarihi mekan; eğitim.

How Can History and Social Studies Teachers Benefit From Museums and Historical Places in Education? A Model Project

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Abstract

The objective of this study is to emphasize the importance of using museums and historical places as a place of education in teacher education. It is surely beyond doubt that using in teacher education a model to be created for the purpose of benefiting from museums and historical places in education in the context of today's sense of education shall be useful. An education model introduced within this framework was implemented as a project. The project in question is important in terms of being the first project in its field supported by TÜBİTAK* in Turkey. In this study, the content used in the project is given and, in addition, the observations and data obtained

from teachers during the study are interpreted. Thus, the contribution of this education model to teachers is revealed. Both quantitative and qualitative data collection methods were employed in the research. As a result of the scales applied, it was ascertained that the education offered made a considerable positive contribution to teachers. It is thought that the results obtained shall contribute to the success of inservice training programs that will be implemented in relation to this matter and have a similar content.

Giriş

Farklı amaçlar için kullanılabilecek olan müze ve tarihi mekânlar, eğitim ve öğretim sürecinin etkinleştirilmesi ve zenginleştirilmesi açısından çok önemli bir konuma sahiptir (Tosun, 2009:1). Müze ve tarihi mekânlardan yararlanılarak yapılan eğitim, okuldaki eğitimi zenginleştirici, destekleyici ve tamamlayıcı bir potansiyele sahiptir. Müze eğitimi zihinsel kavrayış yanında empatik bağlar kurmayı, merak etmeyi, eleştirel bakmayı ve pratik beceriler kazanmayı da sağlayabilmektedir (Seidel ve Hudson, 1999:9). Okulda veya okul dışında yapılacak müze aktiviteleri, çocukların sorgulama özelliklerini, zihinlerini ve hislerini geliştirebilir (Hein, 2004:3; Murphey, 1970; Akt.; Buyurgan ve Mercin, 2005:91). Bir çok açıdan öğrencilere kazanım sağlayan müze ve tarihi mekânların eğitimde bir araç olarak yer alması önemli görülmektedir.

Bu bağlamda müze ve tarihi mekanlar ile yapılacak eğitim önemli görülmekte, çok yönlü öğrenmeye dayalı etkin katılımı içermesi gibi bir çok yönden bu mekânların eğitim ve öğretim etkinlikleri için araç olarak kullanılması önerilmektedir (Buyurgan ve Mercin, 2005:24; Çıldır; 2007:16; Tosun, 2009:45; Demircioğlu, 2010:75). Müze ve tarihi mekânla ilgili yapılacak eğitim çalışması öğrencilerin alternatif öğrenme yolları ile karşılaşma ve maddi kanıt ile aktif biçimde çalışma fırsatı da verir (Hooper - Greenhiil, 1999:175). Son zamanlarda eğitimde önemi vurgulanan, öğretim programların hazırlanmasında göz önünde bulundurulan aktif öğrenme yöntemleri açısından da bu mekanlardan yararlanılması kaçınılmazdır.

Müzeler, pasif öğretim yerine aktif öğretim yöntemlerini kullanabilmeyi sağlaması açısından eğitim için önemli bir kaynaktır (Abacı, 1996). Müzede geçmiş uygarlıklarda yaratılan eserlerle ve yaşam biçimleri ile ilişki kurma, sorgulama, yorumlama, oyun ya da canlandırma ile o anı yaşama, sınıfa göre aktif bir eğitim ortamı oluşturmaktadır (Maccario, 2002:276). Aynı şekilde müze ve tarihi mekanlar ile sınıf ortamında da yapılacak etkinliklerin öğrencileri aktif kılması, belli başlı düşünme becerilerinin geliştirilmesinin sağlanması açısında da önemli bir yeri vardır. Bu etkinlikler öğrenci merkezli çalışmalara da fırsat verebilir.

Dünyada kültürel ve tarihi varlıkların korunup sergilendiği müzeler, uzun yıllar boyunca çeşitli objelerin kısa notlar eşliğinde cam vitrinlerde sergilendiği sıkıcı mekânlar olarak algılanmıştı (Fairley, 1977; Akt; Aktekin, 2010:270). Müzelerin bu olumsuz imajı son yıllarda müzelerdeki eğitim bölümlerinin gelişmesi ve ileri sunum tekniklerinin kullanılmasıyla değişmeye başlamıştır (Buyurgan ve Mercin, 2005:24; Ata, 2010b:195). Bugün müzeler, gelişmiş birçok ülkede daha çok eğitim amaçlı yaygın eğitim kurumları gibi kullanılmaktadır (Buyurgan ve Mercin, 2005:9). Modern müzelerin çoğunda eğitimin amaçlandığı özel dershaneler ve atölyeler bulunmaktadır (Hooper-Greenhill, 1999:140; Şahan, 2005:489).

Müzeler geçen yüzyılın olduğu gibi, bilgi ve iletişim çağı olarak nitelenen yirmi birinci yüzyılın da en önemli eğitim alanlarından biri olmaya devam edecektir (Özsoy, 2003:15). Günümüzdeki eğitim sisteminde bireyde kalıcı öğrenmenin gerçekleşebilmesi için sözel ve sembolik ağırlıklı öğretimin yerini, görsel ve yaşantılara dayalı öğretim ve aktif öğrenme almıştır. Bunun yanında müze ve tarihi mekânlar, öğretmen merkezli öğretim yapma yerine, öğrenci merkezli ve daha zevkli bir öğretim yapma imkânını sağlarlar (Buyurgan ve Mercin, 2005:109; Tosun, 2009:45). Gün geçtikçe eğitimdeki önemi ve yeri artan bu mekanlardan gerektiği şekilde yararlanılması gerekmektedir. Bu konuda gerek öğretim programlarında gerekse öğretmen eğitimlerinde üzerinde durulmalı, yaşanan gelişmeler, yenilikler takip edilmelidir.

Tarih ve sosyal bilgiler dersleri öğretim programlarında yer alan konuların birçoğunu müze ve tarihi mekânlar ile ilişkilendirilerek işlenebilir. Bu nedenle öğrencilerin mümkün olduğunca sınıf içinde ve dışında bu

çalışmaları yapmasına fırsat verilmelidir. Böylece konular daha heyecan verici ve kalıcı kılınabilir. Bu nedenle de müze ve tarihi mekânların uygulama amaçlı yararlanılmasında bir araç ya da ortam olarak kullanılmalıdır. Bu konu hiç şüphesiz öğretmen yeterlikleri ile de yakından ilişkilidir. Öğretmenlerin müze ve tarihi mekânlarda ne tür öğretim yöntem, teknik ve etkinliklerinin kullanılabileceğini bilmeleri önemlidir.

Günümüzde geleneksel anlayışla yapılan müze ziyaretlerinde öğrenciler, fiziki olarak müzelerde bulunmakta ve izleyici olmaktan öteye gidememektedirler. Öğretmenlerin ziyaret esnasında kullanılabilecek yöntem ve teknikler hakkında yeterli bilgi sahibi olmaması, bu konuda eğitim alamaması bu durumun ortaya çıkmasındaki en önemli sebeplerin başında gelmektedir (Shabbar, 2001:69, Buyurgan ve Mercin, 2005:154; Demircioğlu, 2010:75). Öğrenciler ile müzeye gidilip, kapısından girilip, sadece düz anlatım yöntemi ile koridorlarından hızlı bir şekilde geçilip çıkılması beklentileri karşılamamaktadır. Çocukların dokunmaları, görmeleri, duymaları, çizmeleri, tartışmaları, sorgulamaları yani aktif katılımda bulunmaları gereklidir. Bu eğitim süreci hem eğlenceli, hem faydalı, hem de hoş bir şekilde çocukların öğrenimine, hayal güçlerini geliştirmeye yardım edecektir (Shabbar, 2001:69; Çıldır, 2007:20). Bu konuda çağdaş gelişmeler ile birçok etkinliğin, yaklaşımın bilinmesi ve uygulanmasının önemi büyüktür. Öğretmenlerin müze ve tarihi mekânlarda eğitim yapma konusunda programlar yapabilme, yapılabilecek öğretim teknik ve yöntemlerini kullanabilme yeterliliklerine sahip olmaları gerekmektedir.

2008 yılında Milli Eğitim Bakanlığı Talim ve Terbiye Kurulu Başkanlığı tarafından sosyal bilgiler öğretmenlerini de ilgilendiren "Müze ile Eğitim" başlıklı bir genelge yayınlanmıştır (TTKB, 2008). Bu genelgede müzelerin yanında tarihi mekânlara da vurgu yapılmaktadır. Konuyla ilgili kazanımlar, ilköğretimde birçok ders ile ilişkilendirilmiş fakat ağırlıklı olarak sosyal bilgiler öğretim programının kazanımları ile ilişkilendirme yapılmıştır (TTKB, 2008). Bu çerçevede sosyal bilgiler öğretmenlerinin müze ve tarihi mekanların eğitimde kullanılması ile ilgili yeterlilikleri, daha önce aldıkları eğitim gibi konular gündeme gelmiştir. Aynı şekilde ortaöğretim tarih derslerinin 2007 yılından sonra yenilenen öğretim programlarında müze ve tarihi mekânların eğitimde kullanılmasına yönelik direktiflere, kazanımlara ve etkinliklere yer verildiği görülmektedir (TTKB, 2007). Bu durum konuyla ilgili ülkemizde çağdaş yaklaşımların ışığında yapılması gereken çalışmaların önemini ve gerekliliğini ortaya çıkarmaktadır. Bugün çağdaş anlamda müze ve tarihi mekânlar ile eğitim konusunda; yaratıcı drama, tarihsel canlandırma, nesne inceleme, sanal müze gezileri, müze rehberi hazırlama, çalışma yaprakları, örnek kazı çalışması, okul müzelerinin inşa edilmesi, kültür yolu, müze-okul işbirliği gibi birçok konu öne çıkmaktadır.

Müze ve tarihi mekânların eğitimde kullanımının ve yeniden yapılandırılan sosyal bilgiler ve tarih dersleri öğretim programlarının dayandığı temeller, yaklaşımlar, öğrencilere kazandıracağı noktalar açısından önemi görülmelidir. Bu konularda istenilen amaca ulaşılmasında da sosyal bilgiler ve tarih öğretmenlerinin yeterliliklerinin geliştirilmesi göz ardı edilmemelidir.

2. Yöntem

Bu bölümde çalışmanın modeline, çalışma grubuna, müze ve tarihi mekânlar ile eğitim kapsamında geçekleştirilen etkinliklere, veri toplama araçlarına ve verilerin analizine yer verilmiştir.

2.1. Çalışmanın modeli:

Araştırmada hem nicel, hem nitel veri toplama yöntemlerinden yararlanılmıştır. Nicel veriler için "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Tutum Ölçeği" ve "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Öz-yeterlilik Ölçeği" nitel veriler için ise "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Görüşme Formu" uygulanmıştır.

2.2. Çalışmanın grubu:

Çalışma gurubu, TÜBİTAK tarafından desteklenen 27 Haziran – 1 Temmuz 2011 tarihinde gerçekleştirilen "Sosyal Bilgiler ve Tarih Öğretmenlerine Yönelik Müze ve Tarihi Mekânlar ile Eğitim" başlıklı projeye katılan Aksaray ilinde görevli toplamda 25 tarih ve sosyal bilgiler öğretmeninden oluşmaktadır. Çalışma gurubu 10'u bayan, 15'i erkek; 11'i tarih, 14'ü de sosyal bilgiler öğretmeninden oluşmaktadır.

Projenin desteklenmeye uygun bulunmasının ardından Aksaray Milli Eğitim Müdürlüğü'ne resmi yolla başvuru yapılmış, ilgili projeye başvuru için afişler bütün ilköğretim ve ortaöğretim okullarına gönderilmiştir. Ayrıca Aksaray'da görevli bütün sosyal bilgiler ve tarih öğretmenlerinin e-posta adreslerine projenin duyurusu iletilmiş, katılmak isteyenlerin projenin web sitesi üzerinden başvuru formu doldurmaları gerektiği bildirilmiştir. Katılımcılar, online başvuru yapan 87 aday arasından seçilmiştir. Başvurular değerlendirilirken; hizmet süresi az olanlar, lisansüstü eğitim almış ya da almakta olanlar, proje konusu ile ilgili daha önce eğitim almamış olanlara öncelik verilmiştir.

2.3. Müze ve tarihi mekânlar ile eğitim projesi kapsamında gerçekleştirilen etkinlikler:

Projenin kapsamı, İlköğretim Sosyal Bilgiler Öğretim Programları ve Ortaöğretim Tarih Öğretim Programları kapsamında yeni yaklaşımlar da göz önüne alınarak hazırlanmıştır. Projede 5 adet uygulamaya yer verilmiştir. Bunlardan ilki bilgisayar laboratuarında, ikincisi bir kervansaray olan Sultanhanı'nda, üçüncüsü Acemhöyük Arkeolojik kazı alanında, dördüncüsü ise Aksaray Kültür evinde; sonuncusu da Aksaray Müzesi'nde yapılmıştır. "Müze ve Tarihî Mekânlar ile Eğitim" çerçevesinde; dünyada ve ülkemizdeki son gelişmelerin, yeni uygulama yaklaşımlarının, yeni eğitim tekniklerinin, bilgi iletişim tekniklerinin kullanılması ile ilgili teorik bilgiler sunulmuş ve daha sonra konular ile ilgili uygulamalı eğitimler yapılmıştır.

Projenin temel amacı öğretmenlerin müze ve tarihi mekânları eğitimde etkili kullanmalarına ve sınıf içinkide uygulamalarına katkıda bulunmaktır. Bu nedenle yapılan çalışmaların birçoğunun uygulamalı olmasına dikkat edilmiştir. Dersler teorik ve uygulamalı olarak iki aşamada planlanmış, teorik dersler de yapılacak uygulamalara hazırlık olarak tasarlanmıştır.

Müze ve tarihi mekânlarda yapılacak eğitimler ile ilgili çağdaş yaklaşımların kullanıldığı bu projede ilk gün; projenin amaç ve içeriğine ilişkin bilgi verilmiş, sosyal bilgiler ve tarih dersi öğretim programlarında müze ve tarihi mekânlar ile ilgili direktifler ve kazanımlar katılımcılarla paylaşılmıştır. Daha sonra "Okul Müzeleri İnşa Etmek" konulu ders teorik olarak devam etmiştir. Bu ders kapsamında daha çok okul müzeleri hazırlamak için öğretmenlerle örnekler üzerinden bilgi paylaşımında bulunulmuştur. İlk gün ayrıca drama uzmanı tarafından projenin üçüncü günü Aksaray Kültür Evi'nde yapılacak yaratıcı drama etkinliğinin hazırlığı için kursiyerlere ön bilgi verilmiş ve etkinlik gününün hazırlığı bağlamında kursiyerlere görev paylaşımı yapılmıştır. İlk günün son çalışması olarak da sanal müze, sanal alan uygulama örnekleri üzerinde durmuştur. Sanal müze ve sanal alan konusunda bilgisayar laboratuarında kursiyerler ile uygulamalı etkinlikler yapılmıştır. Sanal müze ve alan çalışmaları özellikle çeşitli nedenlerle öğrenciler tarafından ziyaret edilmesi mümkün olmayan mekânların ders ortamında etkin olarak kullanılması açısından oldukça önemlidir. Sanal Müze ve alan çalışmaları geniş bir sahayı kapsayan Türk tarihinin çeşitli dönemlerindeki eserlerin sosyal bilgiler ve tarih derslerinde kullanılması açısından yeni fırsatlar sunmaktadır. Örneğin dünyanın en önemli müzelerinin arasında yer alan Ermitaj gibi müzelerin sayfaları kullanılarak öğrencilerin konuları daha kolay kavramaları sağlanabilceği gibi yakından görme ihtimalleri çok düşük olan Türk tarihine ait eserleri de tanıma imkanına sahip olabileceklerdir. Ayrıca Google Earth gibi çeşitli programlar kullanılarak tarih ve sosyal bilgiler derslerinin mekândan soyutlanmış bir şekilde işlenmesinden kurtarmak mümkündür. Projede, öğretmenlerle bunlara yönelik çalışmalar yapılmış,

internet ve bilgisayara meraklı olan öğrencilerin bu ilgilerinin tarih derslerinde nasıl kullanılabileceğine ilişkin uygulamalara yer verilmiştir.

Etkinliğin ikinci gününde ise alan uzmanı tarafından, Avrupa ülkeleri, Amerika örnekleri üzerinden "Çağdaş Ülkelerde Müze ve Eğitim İlişkisi," konusunda paylaşımda bulunulmuş, yapılan örnek etkinliklerden bahsedilmiştir. İkinci gün öğleden sonra ise "Kervansaray Örneğinde Tarihi Coğrafya Uygulaması" için Sultanhanı Kervansarayı'nda uygulamalı bir eğitim yapılmıştır.

Etkinliğin üçüncü gününde de alan uzmanı ile uygulamalı olarak "Müzede Yaratıcı Drama" konusunda etkinlikler yapılmış, katılımcılar fiilen etkinliklerde rol almış, katılımcıların yaratıcı drama etkinlikleri üretmeleri ve sergilemeleri sağlanmıştır. Aynı günün öğleden sonrasında ise Arkeoloji uzmanı tarafından "Tarih ve Sosyal Bilgiler Öğretiminde Arkeolojik Alanların Yeri ve Önemi" konulu öncelikle sınıf ortamında teorik bir ders yapılmış ardından Aksaray Üniversitesi Eğitim Fakültesi'nin bahçesinde hazırlanan kum yığınının başında önceden gömülmüş bir vazo çeşitli araç gereç yardımı ve belli arkeolojik teknik ve yöntemler ile kursiyerler tarafından çıkarılmıştır. Bu etkinliğin ardından arkeolojik çalışma alanı olan Acemhöyük'e gidilmiş, Acemhöyük kazı başkanı tarafından kursiyerler bilgilendirilmiştir. Daha sonra alan uzmanı nezaretinde arkeolojik kazı alanı incelenmiş, nereden ne tür eserler çıkarıldığı, ne tür çalışma yapıldığı ile ilgili bilgi verilmiştir. Son olarak da alan uzmanının önceden hazırladığı dokümanlar kursiyerlere dağıtılarak, tarihi bir mekânda kursiyerlerin de katılımı ile etkinlikler yapılmıştır.

Projenin dördüncü gününde ise "Sorumluluk Bilincinin Geliştirilmesi Açısından Vakıflar " başlıklı teorik ders işlenmiş, "Sorumluluk Bilincinin Geliştirilmesi Açısından Vakıf Eserleri Örnekleri" başlığı altında örnek etkinlik çalışmasında bulunmuştur. Daha sonra sanat eğitimi alan uzmanı tarafından "Disiplinler arası Sanat Yaklaşımı ile Müzelerde Eğitim" başlıklı teorik derse geçilmiş böylece öğleden sonra yapılacak olan müze gezisi öncesi ön hazırlık yapılmıştır. Öğleden sonra Aksaray Müzesi'ne gidilmiş inceleme amacı ile müze görevlisi rehberliğinde müze gezilmiştir. Müzenin sergi salonunda bir çalışma ile kursiyerlerin müze önünde yapacakları kolaj (kesyap) çalışmasının hazırlığı yapılmıştır. Daha sonra müzenin önünde yer alan Roma dönemine ait bir kartal heykeli incelenmiş ve bu heykele dönük kursiyerlere kolaj çalışması yaptırılmıştır. Bunun yanında alan uzmanı tarafından müze girişinde "Tarihi Mekânı ve Kendini Algılama" başlıklı bir çalışma yapılmış son olarak da "Bir müze rehberi öğrencilere nasıl hazırlatılmalı?" başlıklı bir çalışmanın nasıl yapılması gerektiği konusunda kursiyerler bilgilendirilmiş ve bir gün sonrası için adı geçen çalışma ödev olarak verilmiştir.

Etkinliğin son gününde ilk olarak bir gün önce kursiyerlere ev ödevi olarak verilen"Bir müze rehberi öğrencilere nasıl hazırlatılmalı?" başlıklı kursiyerlerin çalışmaları incelenerek sınıf ortamında değerlendirilip, önerilerde bulunulmuştur. Bu değerlendirmenin ardından "Müze ve Tarihi Mekânlar ile Tarihsel Düşünme Becerileri Kazandırma" konulu ders işlenmiştir. Daha sonra "Müze ve Tarihi Mekânlarla ilgili Etkinlik Tasarlama" başlıklı konu çerçevesin de kursiyerlerinde katılımı ile etkinlik yapılmıştır. Son olarak "İnceleme Gezilerinde İzlenecek Yol" üzerinde durulmuş ve çalışma bitirilmiştir. Çalışmanın sonunda ise; kursiyerler proje süresince hazırladıkları çalışmaları bir sergi halinde sunmuşlardır. Sonuç olarak bu proje kapsamında; müze ve tarihi mekânların eğitimde kullanımı konusunda son gelişmelerin uygulamalı olarak alan öğretmenlerine aktarılmasına çalışılmıştır.

Proje kapsamında uygulamalı olarak yapılan etkinlikler hazırlanırken yapılandırmacı öğrenme yaklaşımının gerektirdiği ön koşul olan öğrenci merkezli öğretim tarzı benimsenmiş, katılımcılara eğitim uzmanları tarafından rehberlik yapılması ve aynı zamanda katılımcıların sürekli etkinliklerde aktif rol almasının sağlamasına önem verilmiştir.

2.4. Veri toplama araçları:

Araştırmada hem nicel, hem nitel veri toplama yöntemlerinden yararlanılmıştır. Araştırmanın nicel verilerinin bulguları için müze ve tarihi mekânlar ile eğitiminin katılımcılara etkisini ölçmek amacıyla 20

maddeden oluşan "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Tutum Ölçeği" eğitimin ilk gününde ön-test, son gününde son-test olarak uygulanmıştır. Bunun yanında proje öncesi konuyla ilgili öğretmen yeterliliklerinin belirlenmesi; proje sonrasında ise verilen eğitim içeriğinin öğretmen yeterliliklerine etkisini belirlemek amacı ile 7 maddeden oluşan "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Öz-yeterlilik Ölçeği" kullanılmıştır. Ayrıca öğretmen görüşlerinin alınması için 6 adet açık uçlu soru ifadesinden oluşan "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Görüş Ölçeği" proje sonunda uygulanmıştır.

2.4.1. Müze ve tarihi mekânlar ile eğitime yönelik öğretmen tutum ölçeği:

Ata'nın (2002) "Tarih Öğretmenlerinin Müze Eğitimine İlişkin Görüşleri" ve Çıldır'ın (2007) "Öğretmenlerle Müzede Yetişkin Eğitimi" başlıklı çalışmalarında kullandıkları anket sorularından proje içeriği ile ilgili olan 25 madde seçilmiş, daha sonra bu maddeler araştırmacı tarafından geliştirilmiştir. 5 seçenekli Likert tipi olan ölçek, konu ile ilgili uzman görüşleri ve önerileri doğrultusunda gerekli düzenlemeler yapıldıktan sonra 20 maddeye indirilmiştir. Ölçek maddeleri güvenilirlik ve geçerliliğini tespit etmek için projeye katılmayan 30 tarih ve sosyal bilgiler öğretmenine uygulanmıştır. Uygulama sonucunda ölçeğe en uygun görülen maddeler uzman görüşü de alınarak seçilmiştir. 20 maddeden oluşan anket ön-test ve son-test olarak kullanılmıştır. Çalışma, ön-test son-test desenine uygun olarak yürütülmüştür. Ölçeğin katılımcılara uygulanması ile elde edilen Cronbach Alpha güvenilirlik katsayısı α=.91 olarak bulunmuştur.

2.4.2. Müze ve tarihi mekânlar ile eğitime yönelik öğretmen öz-yeterlilik ölçeği:

Proje öncesi ve sonrasında katılımcıların konu ile ilgili öz-yeterliliklerinin belirlenebilmesi amacı ile araştırmacı tarafından geliştirilen 7 maddeden oluşan "Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Öz-yeterlilik Ölçeği" uygulanmıştır.

Bireylerin bir işi başarıyla yapabilmelerinde etkili olan faktörlerden biri bireylerin o işi yapabilmeyle ilgili sahip oldukları öz-yeterlik düzeyleridir (Ekici, 2005: 85). Bandura (1997, Akt.; Ekici, 2005:85)'ya göre, öz-yeterlik kavramı, davranışların oluşmasında etkili olan bir nitelik ve bireyin, belli bir performansı göstermek için gerekli etkinlikleri organize edip, başarılı olarak yapma kapasitesi hakkında kendine ilişkin yargısıdır. Yapılan araştırmalar öz-yeterliği etkileyen faktörlerden birinin de deneyimler olduğunu, yeterlik algısının zaman içinde deneyimlere ve buna bağlı olarak becerilerin yavaş yavaş artması ile öz-yeterliğin geliştiğini göstermektedir (Bandura, 1986; Akt: Ekici, 2005: 86). Sonuç olarak bireylerin yaşadıkları olumlu yöndeki tecrübeleri onların öz-yeterliğinin de gelişmesini sağlamaktadır (Ekici, 2005: 85). Bu çerçevede yapılan projede katılımcıların öz yeterliliklerindeki gelişmelerin belirlenmesi amaçlanmıştır.

Araştırmada kullanılan ölçeğin ifadeleri, sosyal bilgiler ve tarih derslerinin öğretim programları incelenerek konu ile ilgili öğretmenlerden beklenen yeterlilik göz önüne alınarak hazırlanan ölçek 10 maddeden oluşmaktadır. Ölçekte öğretmenlere "müze ve tarihi mekânlar ile ilgili etkinliklerin gerçekleştirmede alana yönelik kendi yeterliliklerinizi nasıl değerlendiriyorsunuz?" sorusu yöneltilmiş ve bu soru altında ifadelere yer verilmiştir. Ölçeğin hazırlanması aşamasında iki farklı uzmanın görüşüne başvurulmuştur. Uzman incelemeleri sonunda son haline gelen görüşme sorularının ön denemesi için projeye katılmayan 10 öğretmen ile pilot görüşme gerçekleştirilmiştir. Pilot görüşmeler sonucunda elde edilen bilgiler, araştırma kapsamı dışında tutulmuştur. Pilot görüşmeler sonucunda elde edilen verilerin analizi yapılarak, uzman görüşü alındıktan sonra teste en uygun maddeler seçilerek ölçek 7 maddeye indirilmiştir. Ölçekte öğretmenlerin konu ile ilgili kendi yeterliliklerini karşılayan 7 ifadeden ilgili olanları işaretlemeleri istenmiştir. Bulgular öğretmenlerin verdikleri cevapların frekansları ile belirtilmiştir. Çalışma, ön-test son-test desenine uygun olarak yürütülmüştür. Ölçeğin elde edilen Cronbach Alpha güvenilirlik katsayısı α=.79 olarak bulunmuştur.

2.4.3. Müze ve tarihi mekânlar ile eğitime yönelik öğretmen görüşme formu:

Araştırmada kullanılan bir diğer veri toplama yöntemi ise görüşmedir. Araştırmanın nitel bulguları için katılımcıların aldıkları eğitime ilişkin görüşlerinin alınması için proje sonunda araştırmacı tarafından geliştirilen 6 maddelik açık uclu sorudan oluşan öğretmen görüşme formu uygulanmıştır. Görüşme formu, proje kapsamı ile ilgili literatür taraması (tez, makale, bildiri vs.) sonucunda araştırmacının kendisi tarafından hazırlanmıştır. Görüşme formunun oluşturulması aşamasında iki farklı uzmanın görüşüne başvurulmuş ve görüşme formunun projenin amaçlarına uygun olarak hazırlanmasına gayret edilmiştir. Uzman incelemeleri sonunda son haline gelen görüşme sorularının ön denemesi için projeye katılmayan 10 öğretmen ile pilot görüşme gerçekleştirilmiştir. Pilot görüşmeler sonucunda elde edilen bilgiler, araştırma kapsamı dışında tutulmuştur. Araştırmanın güvenirlik çalışması için alandan iki uzmana, öğretmenlerin görüşme dökümleri incelettirilmiştir. Gerekli düzeltmeler yapılarak görüşme formuna son şekli verilmiştir.

2.5. Verilerin analizi:

"Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Tutum Ölçeği" ön ve son test olarak uygulanarak değerlendirilmiştir. Bu ölçekten elde edilen verilerin istatistiksel analizinde SPSS 15.0 programı kullanılmıştır. Tutum ölçeği puanları hesaplanırken, cevaplara göre 5 (Tam katılıyorum) ile 1 (Hiç katılmıyorum) arasında değerler verilip her katılımcıya ait konuyla ilgili bir puan elde edilmiştir. Öğretmenlerin tutumunun projeye bağlı olarak anlamlı bir farklılık gösterip göstermediği bağımlı gruplar için t-testi ile analiz edilmiştir.

"Müze ve Tarihi Mekanlar ile Eğitime Yönelik Öğretmen Öz-yeterlilik Ölçeği" proje öncesinde ve sonrasında uygulanmıştır. ""Müze ve tarihi mekânlar ile ilgili etkinlikleri gerçekleştirmede alana yönelik kendi yeterliliklerinizi nasıl değerlendiriyorsunuz?" sorusuna yönelik 7 ifadeden hangilerini işaretledikleri incelenmiş, bulgular öğretmenlerin verdikleri cevapların frekansları ile belirtilmiştir.

"Müze ve Tarihi Mekânlar ile Eğitime Yönelik Öğretmen Görüşme Formu" ise proje sonunda kullanılmıştır. Elde edilen bulguların analizi öğretmenlerin görüşme formundaki sorulara yönelik verdikleri yanıtların incelenmesi, alıntılar yapılması ve yorumlanması şeklinde olmuştur. Bu tür bir yaklaşım nitel araştırmada "betimsel analiz" yaklaşımı olarak kabul edilmektedir.

3. Bulgular Ve Yorumlar

Bu bölümde, veri toplama araçları ile elde edilen bulgulara ve bulgulara ilişkin yorumlara yer verilmiştir. İlk olarak ön-test son-test puanları arasında istatistiksel olarak anlamlı bir farklılığın olup olmadığı test edilerek aşağıda sunulmuştur.

3.1. Katılımcıların müze ve tarihi mekânlar ile eğitim ön-test ve son-test puanlarının değerlendirilmesi

Tablo 1'den de anlaşılabileceği gibi, uygulanan 5 günlük "Müze ve Tarihi Mekânlar ile Eğitim" programına bağlı olarak, katılımcıların ön-test ($\overline{X}$=67.68) ve son-test puanları ($\overline{X}$=85.60) arasında, son-test puanları lehine, 17.92 puanlık bir fark oluşmuştur. Söz konusu fark, yapılan t-testi sonucunda istatistiksel olarak anlamlı bulunmuştur (t(24)=-7.418; p<0.001). Dolayısıyla, bu sonuçlara dayanarak, uygulanan "Müze ve Tarihi

Mekânlar ile Eğitim" programının bireylerin müze ve tarihi mekânlar ile eğitim konusundaki tutumlarına önemli ölçüde katkı sağladığını söylemek mümkündür.

Tablo 1. Katılımcıların Müze ve Tarihi Mekânlar İle Eğitim Ön-test ve Son-test Puanlarının Bağımlı Gruplar İçin t-testi İle Karşılaştırılması

Değişken		N	$\overline{X}$	SS	Sd	T	P
Müze ve Tarihi Mekanlar İle Eğitim Puanları	**Öntest**	25	67,68	9,370	24	-7,418	,000(*)
	Sontest	25	85,60	7,331			

*p<0.001

Müze ve tarihi mekânlar ile eğitime yönelik öğretmen tutum ölçeğinden elde edilen sonuçlar genel olarak değerlendirildiğinde, gerçekleştirilen 5 günlük "Müze ve Tarihi Mekânlar ile Eğitim" programının, katılımcıların hem müze ile eğitim hem de tarihi mekânlar ile eğitim konusundaki tutumuna önemli düzeyde katkı sağladığını söylemek mümkündür. Bu da program içeriğinin son derece etkili ve verimli olduğunu göstermektedir.

3.2. Katılımcıların müze ve tarihi mekânlar ile eğitim konusunda öz-yeterliliklerinin karşılaştırılması

Katılımcıların, müze ve tarihi mekanlar ile eğitim verme konusunda öz-yeterliliklerinin belirlenmesi amacıyla hazırlanmış olan " Müze ve tarihi mekânlar ile ilgili etkinlikleri gerçekleştirmede alana yönelik kendi yeterliliklerinizi nasıl değerlendiriyorsunuz?" sorusuna ilişkin yanıtlar ve frekans dağılımları Tablo 2'de verilmiştir. Proje öncesinde katılımcıların konuyla ilgili öz-yeterliliklerinin belirlenmesi; proje sonunda verilen eğitimin ve yaşanılan deneyimlerin katılımcıların öz-yeterliliklerine etkisinin karşılaştırması amacıyla uygulanan ölçeğin verileri aşağıda yer alan tablo 2'de sunulmuştur.

Tablo 2. Katılımcıların Müze ve Tarihi Mekânlar İle Eğitim Konusunda Öz-yeterliliklerinin Karşılaştırılması

Müze ve tarihi mekânlar ile ilgili etkinlikleri gerçekleştirmede alana yönelik kendi yeterliliklerinizi nasıl değerlendiriyorsunuz?	Uygulama öncesi (f)	Uygulama sonrası (f)
a. Öğretim programlarında konu ile ilgili kazanımları tam olarak yerine getirebilirim.	7	15
b.Konuyla ilgili yeterli olduğumu düşünmüyorum	14	4
c.Müzeler ve tarihi mekânlar ile ilgili sadece gezdiğim, gördüğüm kadarıyla bilgi sahibiyim.	15	7
d.Müze ve tarihi mekânları kullanarak farklı türde etkinlik yapma konusunda yeterli bilgiye sahip değilim .	14	4
e. Müze ve tarihi mekânlar ile eğitim yapmak için teknolojik araçlardan (Bilgisayar, internet vb.) nasıl yararlanacağı konusunda yeterli değilim.	20	9
f. Müze ve tarihi mekânların eğitimde kullanılmasına yönelik kılavuz kitap gibi ek bir kaynağa gereksinim duyuyorum	13	7
g. Müze ve tarihi mekanlar ile eğitim konusunda hizmet içi eğitim kursuna ihtiyaç duyuyorum.	23	6

Tablo 2'ye bakıldığında 5 gün süre ile özellikle uygulamalı olarak müze ve tarihi mekânlar ile ilgili verilen eğitimin katılımcıların öz-yeterliliklerine olumlu anlamda katkısı olduğu görülmektedir. Birinci maddede yer alan "Öğretim programlarında konu ile ilgili kazanımları tam olarak yerine getirebilirim" ifadesini eğitim öncesinde 7 katılımcı işaretler iken; verilen eğitimin sonucunda bu sayının 15 çıktığı görülmektedir. Bu artışın önemli olduğu değerlendirilebilir. Özellikle de son yıllarda sosyal bilgiler ve tarih öğretim programlarının yeniden yapılandırılması sonucunda müze ve tarihi mekânların eğitimde kullanılmasına önem verildiği görüldüğünde bu ifadede katılımcılarını öz-yeterliliklerinin arttığını düşünmeleri önemlidir. Öğretim programlarında konuyla ilgili olan kazanımlar; öğretmenlerden müze ve tarihi mekânları öğrencilere verdikleri eğitimde kullanmalarını istemektedir. Öğretim programlarında yer alan ilgili kazanımların öğrencilere kazandırılmasında hiç şüphesiz öğretmen yeterliliklerinin önemli bir yeri vardır. Bu nedenle proje kapsamında verilen eğitimin önemi bu açıdan da değerlendirilebilir.

Ölçeğin ikinci maddesinde yer alan "Konuyla ilgili yeterli olduğumu düşünmüyorum" maddesini 14 katılımcı işaretlerken bu sayının eğitim sonucunda 4'e düştüğü görülmektedir (Tablo 2). Bu maddedeki verinin azalması katılımcıların ilgili yeterliliklerine önemli ölçüde katkı sağlandığı sonucuna varılabilir.

Tablo 2'de yer alan üçüncü maddedeki "Müzeler ve tarihi mekanlar ile ilgili sadece gezdiğim, gördüğüm kadarıyla bilgi sahibiyim." ifadesini ise 15 katılımcının işaretlediği görülmektedir (Tablo 2). Bu ifadeden elde edilen veriler ikinci maddeden elde edilen verileri destekler nitelikte sonuçlar olduğu söylenebilir.

"Müze ve tarihi mekanları kullanarak, farklı türde etkinlik yapma konusunda yeterli bilgiye sahip değilim" ifadesini de 14 katılımcı işaretlerken bu sayının eğitim sonucunda 4'e düştüğü görülmektedir (Tablo 2). Elde edilen bu verinin ikinci madde ile elde edilen verilerle aynı olduğu dikkat çekmektedir. Kendisini konu ile ilgili yetersiz bulan katılımcı sayısı ile konuya yönelik farklı türde etkinlik yapma konusunda yetersiz bulan katılımcı sayısının aynı olduğu görülmüştür. Verilen eğitim sonucunda burada elde edilen sonuç olumlu olarak yorumlanabilir.

Tablo 2'de beşinci madde de yer alan "Müze ve tarihi mekânlar ile eğitim yapmak için teknolojik araçlardan (Bilgisayar, internet vb.) nasıl yararlanacağı konusunda yeterli değilim." ifadesini ise katılımcıların önemli bir oranının işaretlediği görülmüştür. Öğretim programlarında özellikle vurgulanan sanal müze ve sanal alan çalışması gibi konularda teknolojinin (internet, bilgisayar vb.) kullanılmasının gerekliliği göz önüne alındığında; katılımcıların çoğunun bu konuda kendilerini yetersiz görmeleri konuyla ilgili verilecek eğitimin önemini ortaya koymaktadır. Proje kapsamında katılımcılara sanal müze ve sanal alan hakkında teorik bilginin yanında, bilgisayar laboratuarında uygulamalı örnek etkinlikler yapılmış bu konuda katılımcıların önemli kazanımlar elde etmeleri sağlanmıştır.

"Müze ve tarihi mekânların eğitimde kullanılmasına yönelik kılavuz kitap gibi ek bir kaynağa gereksinim duyuyorum" ifadesini ise işaretleyen katılımcıların sayısının 13 olduğu belirlenmiştir. Hemen hemen katılımcıların yarısı konuyla ilgili yardımcı kitaplara gereksinim duyduklarını belirtmişlerdir. Bu sayı verilen eğitim sonunda ise 7 olarak belirlenmiştir. Öğretmenlerin, öğretim programlarını tatbik edebilmeleri için kaynak kitaplara ihtiyaç duyulduğunu da vurgulayabiliriz.

Ölçeğin son maddesinde yer alan "Müze ve tarihi mekânlar ile eğitim konusunda hizmet içi eğitim kursuna ihtiyaç duyuyorum." maddesine bakıldığında katılımcıların hemen hemen hepsinin (N=23) bu konudaki bir eğitime ihtiyaç duydukları sonucuna varılabilir. Bunun yanında verilen 5 günlük eğitime rağmen 5 katılımcının konuyla ilgili eğitime yine de ihtiyaç duyduğu da görülmektedir.

Tablo 2'ye genel olarak bakıldığında katılımcıların proje öncesi yeterlilikleri ile aldıkları eğitim sonucundaki yerelilikerinin farklı olduğu ve olumlu manada bir gelişme olduğu görülmektedir. Burada elde edilen verilerin, konu ile ilgili benzer içerikte bir eğitimin öğretmenlere hizmetiçi eğitim olarak verimesinin önemini ortaya koyduğu söylenebilir. Verilen eğitimin katılımcıların büyük bir kısmının kendilerini daha yeterli görmesinde olumlu olarak etki ettiği söylenebilir. Bunun yanında katılımcıların konuyla ilgili yardımcı kaynaklar ile desteklenmeleri gerektiği de görülmektedir.

3.3. Katılımcıların müze ve tarihi mekânlar ile eğitim konusunda görüşlerinin değerlendirilmesi

Müze ve tarihi mekânlar ile eğitim başlıklı proje kapsamında 6 açık uçlu sorudan oluşan bir son ölçek uygulanmıştır. Burada beş gün süren eğitim ile ilgili katılımcıların görüşlerine yer verilecektir. Elde edilen bulguların analizi katılımcıların görüşme formundaki sorulara yönelik verdikleri yanıtların incelenmesi, alıntılar yapılması ve yorumlanması şeklinde olmuştur. Katılımcıların formları sırası ile numaralanmış, katılımcıların isimleri kullanılmadan sıra numarası ile ifade edilmiştir. Bulgular ve yorumlar görüşme formunda yer alan soru maddelerinin sıralamasına göre aşağıda verilmiştir.

3.3.1. Görüşme formunda yer alan "öğretmen olarak derslerinizde bu çalışmadan önce müze ve tarihi mekânlardan yararlanıyor muydunuz? cevabınız 'hayır' ise nedeni ile birlikte yazınız? Bundan sonra yararlanmayı düşünüyor musunuz?" şeklindeki birinci soruya ilişkin görüşler aşağıda verilmektedir:

Katılımcıların birinci soruya verdikleri cevaplar incelediğinde; müze ve tarihi mekânlardan 18 katılımcının daha önce hiç yararlanmadığı, 4 katılımcının yararlandığı, 3 katılımcının ise kısmen yararlandığı görülmüştür. Yararlanmayan katılımcıların 6'sı bürokratik işlemlerden; 2 katılımcı fiziki şartlardan; 3 katılımcı bilgi birikiminin yetersizliğinden ve ilgisizliklerinden dolayı; 1 katılımcının ise müfredatın yoğunluğundan ve öğrencilerinin hazırlanmak zorunda olduğu SBS sınavından dolayı yararlanamadıklarını belirttikleri görülmüştür. Bunun yanında daha önceden yararlananların ise bu çalışmada gördükleri yöntem ve teknikleri kullanmadıklarını ve bundan sonraki uygulamalarında bu çalışmalardan da yararlanacaklarını belirttikleri görülmüştür. Katılımcılardan 1'i müze ve tarihi mekânlardan eğitim amaçlı yararlanmadığını şu ifadeler ile belirtmiştir; "En son lisedeyken sanat tarihi dersi gördüm, daha sonra konuyla ilgili hiçbir ders almadım (Katılımcı–21)." Buna göre katılımcının lisede sahip olduğu bilgilerle konu ile ilgili dersini yürütmeye çalıştığı söylenebilir. Bunun yanında bu soruya hayır cevabını veren kursiyerlerden birisi de ; "Çünkü bu konuda çok fazla benim öğrenciliğim zamanında bir şey yoktu. Tarih öğretmenliği bölümünde müzeler ve tarihi mekânlar ile ilgili bir konu dahi geçmedi (Katılımcı–24)." diyerek bu konuda bir eğitime sahip olmadığını belirtmiştir. Çalışmada eğitime katılan kursiyerlerin hepsi bir şekilde bu çalışmada gördükleri yöntem ve teknikleri kullanarak daha sonra müze ve tarihi mekânlardan yararlanacakları belirlenmiştir.

3.3.2. Görüşme formunda yer alan "Bu çalışmada beklentilerinize ne şekilde cevap buldunuz?" şeklindeki ikinci soruya ilişkin görüşler aşağıda verilmektedir:

Katılımcılara yöneltilen ikinci soru üzerine genel olarak; çalışmaya katılmadan önce çok fazla bir beklenti içinde olmadıklarını belirten katılımcılar; konuyla ilgili kendilerini yetersiz gördüklerini, daha önce konu ile ilgili her hangi bir eğitim almadıkları şeklinde ifadelerde bulunmuşlardır. Beklentileri konusunda görüş bildiren katılımcılar ise; genel olarak beklentilerinin çok üstünde bir eğitim aldıklarını belirtmişler; burada aldıkları eğitim ile tarih öğretim tekniklerine yönelik çıkarımda bulunma imkânı bulunduklarını belirtmişlerdir. Özellikle bu son tespitte çalışmada uygulanan müze ve tarihi mekânlar ile ilgili etkinlikler yapılandırılırken eğitimde çağdaş yaklaşımların, yapılandırmacı eğitim anlayışının göz önüne alınmasının, etkinlik merkezli eğitimin etkisi olduğu düşünülmektedir. Katılımcıların beklentilerinin üzerinde bir sonuçla karşılaştıklarını belirtmelerinde konuyla ilgili gerek lisans eğitimlerinde, gerekse meslek hayatlarında hizmetiçi benzeri bir eğitim almamış olmalarının etkisi olduğu belirtilebilir.

3.3.3. Görüşme formunda yer alan "Bu çalışmadan aldığınız eğitimin konu ve mesleğinizle ilgili bilgi ve beceriler kazanmanızda etkisi olduğunu düşünüyor musunuz? lütfen açıklar mısınız?" şeklindeki üçüncü soruya ilişkin görüşler aşağıda verilmektedir:

Katımcılarının çoğunun üçüncü soruya verdikleri cevaba "kesinlikle" ifadesi ile başlamaları dikkat çekici bulunmuştur. Bunun yanında katılımcıların bu soruya verdikleri cevaplardan; mesleki bilgi ve beceri açısından kazanımlar elde ettiklerini, bu çalışmada edindikleri birikimi derslerinde farklı konulara da transfer edebileceklerini, tarih eğitiminde yeni yaklaşımlar ve yöntemler konusunda tecrübe edindiklerini, bilgisayar ve İnterneti ders konularında kullanmalarına katkı sağladığını belirtmişlerdir. Katılımcıların görüşleri dikkate alındığında katılımcıların çoğu müze ve tarihi mekânlar ile eğitim yapılması konusunda önemli bilgi ve beceri elde ettiklerini bildirmişlerdir. Yapılan görüşme sonunda katılımcıların, proje kapsamında uygulanan etkinliklerin, bilgi ve becerilerini arttırmada etkili olduğu görüşündedirler.

3.3.4. Görüşme formunda yer alan "Çalışma sırasında sizi en çok etkileyen, en faydalı eğitimin hangi çalışma olduğunu belirtir misiniz?" şeklindeki dördüncü soruya ilişkin görüşler aşağıda verilmektedir:

Katılımcıların dördüncü soruya verdikleri cevaplara bakıldığında; çalışmada katıldıkları eğitimlerden müzede yaratıcı drama çalışmasını 7 kişi; sanal müze çalışmasını 5 kişi; kumda yapılan örnek arkeoloji kazı çalışmasını 4 kişi; çağdaş ülkelerde müze konusundaki gelişmeler ve örnekleri 4 kişi; Müzede yapılan kolaj çalışmasını 2 kişi; müze ve tarihi mekanlar ile ilgili sınıfta etkinlik yaprakları hazırlama çalışması 1 kişi; Sultanhanı Kervansarayı'nda yapılan çalışmayı 1 kişi; müze rehberi hazırlama etkinliğini ise 1 kişi en çok etkilendiği ve en faydalı olarak ilk sırada belirtmiştir. Katılımcıların verdikleri cevaplara göre en faydalı görülen eğitimin Aksaray Kültür Evi'nde yapılan yaratıcı darama çalışması olduğunu, bir sonraki etkinliğin ise bilgisayar laboratuarında yapılan sanal müze çalışması olduğunu belirtebiliriz.

3.3.5. Görüşme formunda yer alan "Sizce sosyal bilgiler ve tarih öğretmenliği bölümlerinde müze ve tarihi mekânlar ile eğitim adlı bir ders lisans eğitiminde zorunlu olmalı mı?" şeklindeki beşinci soruya ilişkin görüşler aşağıda verilmektedir:

Beşinci soruya verilen cevaplar incelendiğinde; müze ve tarihi mekânlar ile eğitim konulu bir dersin sosyal bilgiler ve tarih öğretmenliği bölümlerinde zorunlu ders olması gerektiğini kursiyerlerden 24'ü belirtirken, bir kursiyer ise seçmeli ders olarak olması gerektiğini belirttiği görülmüştür

3.3.6. Görüşme formunda yer alan "Bu çalışma ile ilgili öneri ve eleştirileriniz nelerdir?" şeklindeki altıncı soruya ilişkin görüşler aşağıda verilmektedir:

Altıncı soruya yönelik genel olarak katılımcıların görüşüne bakıldığında; yapılan çalışmayı faydalı buldukları, bunun yanında çalışma için ayrılan sürenin yeterli olmadığını belirttikleri, teorik bilginin yanında konu ile ilgili uygulamalı eğitime yer verilmesinin çok olumlu buldukları, fakat uygulamaya ayrılan sürenin daha da fazla tutulması gerektiği, çalışmanın katılımcıların konuya bakış açılarının değiştirmesinde olumlu anlamda katkısı olduğu, çalışmada etkinlik çeşitliliğinin katılımcıların dikkatini çektiği özellikle de konu ile ilgili teknolojin kullanıldığı uygulama örneklerinin dikkat çekici ve faydalı bulunduğu, konu ile ilgili yapılan çalışmaların katılımcıların kendi eğitim öğretim yöntemlerine bakışlarını da etkilediği, bu ve buna benzer etkinliklerin ilerleyen sürede de devam ettirilmesi gerektiği tespit edilmiştir. Bir katılımcı çalışma saatleri dışında da kursiyerler ile aynı mekânda kalmalarının paylaşım açısından daha faydalı olacağını düşünürken; bir katılımcının da açık alan çalışmalarında şapka temin edilmesi gerektiğini belirttiği görülmüştür.

Genel olarak öğretmenlerin görüşlerine ve araştırmacının çalışmalardaki izlenimine bakıldığında; konu ile ilgili daha önce katılımcıların büyük bir kısmı kendilerini müze ve tarihi mekânlar ile eğitim konusunda yeterli bulmadıkları görülmüştür. Bunun yanında dersin öğretim programlarında belirtilmesine rağmen, müze ve tarihi mekânları eğitimde kullanmadıkları da gözlemlenmiştir. Bu konuda katılımcıların daha önceki eğitim hayatlarında konuya yönelik hiçbir eğitim almamış olmalarının büyük bir etkisi olduğu düşünülmektedir. Bu çalışmadan katılımcıların çok memnun kaldıkları, bütün çalışmalara zevkle, isteyerek katıldıkları, müze ve tarihi mekânların eğitimde kullanılmasına yönelik tutumlarında değişiklik olduğu, bu konuya bakış açılarının değiştiği edinilen gözlemler sonucunda söylenebilir. Katılımcıların yapılan çalışmadan memnun kalmalarında yapılan etkinliklerin özelliklerinden biri olan, öğretmenin sınıf ortamında yapılandırmacı öğrenme yaklaşımının gerektirdiği ön koşul olan öğrenci merkezli bir öğretim tarzını benimsenmesinin, katılımcılara özellikle rehberlik yapılmasının ve aynı zamanda katılımcıların sürekli derse katılımlarının sağlamasının etkisi olduğu belirtilebilir.

4. Sonuç, Tartışma ve Öneriler

Bu araştırmada; 5 günlük müze ve tarihi mekânlar ile eğitim konusunda çalışmaya katkılan sosyal bilgiler ve tarih öğretmenlerine yönelik uygulanan öğretmen tutum, öz-yeterlilik ölçekleri ile görüşme formu sonuçlarına yer verilmiştir.

TÜBİTAK tarafından desteklenen "Sosyal Bilgiler ve Tarih Öğretmenlerine Yönelik Müze ve Tarihi Mekânlar İle Eğitim" başlıklı projenin içeriğinin katılımcıların tutum, öz-yeterlilik ve görüşleri üzerindeki etkililiğini konu alan bu araştırmada aşağıdaki sonuçlar elde edilmiştir:

Müze ve tarihi mekânlar ile eğitime yönelik öğretmen tutum ölçeğinin son-test puanları ön-test puanlarına kıyasla önemli ölçüde artış göstermiş ve son-test lehine anlamlı bir farklılık tespit edilmiştir. Ön-test ve son-test puanları arasında, son-test puanları lehine, 17.92 puanlık bir fark, yapılan t-testi sonucunda istatistiksel olarak anlamlı bulunmuştur. Dolayısıyla, bu sonuçlara dayanarak, uygulanan "Müze ve Tarihi Mekânlar ile Eğitim" programının bireylerin müze ve tarihi mekânlar ile eğitim konusundaki tutumlarına önemli ölçüde katkı sağladığını söylemek mümkündür.

Proje öncesinde katılımcıların konuyla ilgili öz-yeterliliklerinin belirlenmesi; proje sonunda verilen eğitimin ve yaşanılan deneyimlerin katılımcıların öz-yeterliliklerine etkisinin karşılaştırılması amacıyla uygulanan müze ve tarihi mekânlar ile eğitim verme konusunda öz-yeterlilik ölçeğin sonuçlarına bakıldığında; özellikle uygulamalı olarak gerçekleştirilen çalışmaların katılımcıların öz-yeterliliklerine olumlu anlamda katkısı olduğu görülmüştür. Katılımcıların öz yeterliliklerine yönelik verdikleri cevaplara bakıldığında çalışma öncesi ile sonrası arasında olumlu manada artış olduğu gözlemlenmiştir. Burada elde edilen veriler, konu ile ilgili benzer içerikte bir eğitimin öğretmenlere hizmetiçi eğitim olarak verimesinin önemini ortaya koymaktadır. Bu sonuçlara göre, verilen eğitimin katılımcıların büyük bir kısmının kendilerini daha yeterli görmesinde olumlu olarak etki ettiği söylenebilir. Bunun yanında katılımcıların konuyla ilgili hizmetiçi eğitim almalarının sağlanması, yardımcı kaynaklar ile desteklenmeleri gerektiği de görülmektedir.

Verilen eğitim ile ilgili katılımcıların görüşlerini almak amacı ile çalışma sonunda yönlendirilen sorulara göre elde edilen bulguların analizi sonucunda; katılımcıların çoğunun daha önceden derslerinde müze ve tarihi mekânları kullanarak eğitim vermedikleri, çok azının ise bu mekanları derslerinde kullandığı, daha önceden yararlananların ise bu çalışmada gördükleri yöntem ve teknikleri kullanmadıklarını görülmüştür. Bunun yanında çalışmada eğitim alan katılımcıların hepsi bir şekilde bu çalışmada gördükleri yöntem ve teknikleri kullanarak daha sonra derslerinde müze ve tarihi mekânlardan yararlanacakları belirlenmiştir.

Katılımcılar genel olarak beklentilerinin çok üstünde bir eğitim aldıklarını belirtmişler; burada aldıkları eğitim ile tarih öğretim yöntemlerinin farklı yaklaşımlarına yönelik bir sonuçla karşılaştıklarını, buradaki eğitim ile tarih öğretim tekniklerine yönelik çıkarımda bulunma imkanı bulunduklarını belirtmişlerdir. Özellikle bu tespitte çalışmada uygulanan müze ve tarihi mekânlar ile ilgili etkinliklerin yapılandırılırken eğitimde çağdaş yaklaşımların, yapılandırmacı eğitim anlayışının göz önüne alınmasının, etkinlik merkezli eğitimin etkisi olduğu düşünülmektedir.

Katılımcılar bu eğitimle; mesleki bilgi ve beceri açısından kazanımlar elde ettiklerini, bu çalışmada edindikleri birikimi derslerinde farklı konulara da transfer edebileceklerini, tarih eğitiminde yeni yaklaşımlar ve yöntemler konusunda tecrübe edindiklerini, konu ile ilgili teknolojin kullanıldığı uygulama örneklerinin dikkat çekici ve faydalı bulunduğunu ve İnternetin ders konularında kullanılmasına katkı sağlayacağını belirtmişlerdir.

Katılımcıların görüşleri dikkate alındığında, çoğu müze ve tarihi mekânlar ile eğitim yapılması konusunda önemli bilgi ve beceri elde ettiklerini bildirmişlerdir. Yapılan görüşme sonunda katılımcıların, proje kapsamında uygulanan etkinliklerin, bilgi ve becerilerini arttırmada etkili olduğu görüşündedirler. Ayrıca çalışmada kullanılan etkinlik çeşitliliğinin katılımcıların dikkatini çektiğide belirlenmiştir. Görüşme formunda kursiyerlerin hemen hemen hepsi müze ve tarihi mekânlar ile eğitim konulu bir dersin sosyal bilgiler ve tarih öğretmenliği bölümlerinde zorunlu ders olması gerektiğini belirttiği görülmüştür. Katılımcıların ifadelerinden, özelliklede bu ve buna benzer etkinliklerin ilerleyen sürede de devam ettirilmesi gerektiğini belirttikleri belirlenmiştir.

Çalışmadan elde edilen sonuçlar çerçevesinde ülkemizde eğitim fakültelerinde Sosyal Bilgiler ve Tarih öğretmeni olacak öğrencilere "Müze ve Tarihi Mekânlar İle Eğitim" dersi zorunlu ders olarak verilmesi gerektiği düşünülmektedir. Günümüzde Türkiye'deki üniversitelerde tarih ve sosyal bilgiler programlarında, müzecilik gibi dersler ya yok ya da seçmeli ders olarak konulmuştur. Ama bunun yanında sosyal bilgiler ve tarih dersleri öğretim programları ile ilişkilendirilmiş, ya da programın kendisinde müze ve tarihi mekânların kullanılmasına, yer verilmesine yönelik birçok direktif bulunmaktadır. Öğretmenlere müze ve tarihi mekânların kullanılmasına yönelik öğretim programlarında direktifler verilmesine rağmen, bu dersi verecek öğretmenlere lisans yıllarında bile bu konuda eğitim verilmemesi bir çelişki olarak değerlendirilebilir.

Müze eğitimi almamış okul öğretmenlerinin genellikle müze ziyareti sırasında öğrenme potansiyelinin her zaman farkına varmadıkları ve böylece öğrenme fırsatlarının kaçırıldığına dair bazı bulgular vardır (Hooper-Greenhill,1999).

Katılımcıların görüşleri doğrultusunda; Kültür ve Turizm Bakanlığı ile Milli Eğitim Bakanlığı arasında yapılacak ortak çalışmalar ile müzeler ve tarihi mekânlara yönelik detaylı bilgilerin, örnek etkinliklerin yer aldığı eğitim materyalleri, ziyaret öncesi ve sonrası kullanılabilecek öğretim teknikleri konusunda dokümanlar, ilgili görsel materyaller, çalışma yaprakları, interaktif materyaller hazırlanıp okullara ulaştırılabilir.

Ayrıca okulların yakın çevrelerindeki müzeler ile işbirliği içinde olmalarının önemli olduğu belirtilebilir. Eğitmen'in (1995) belirttiği gibi; her müze kendi konusu çerçevesinde eğitime doğrudan katkıda bulunabilecek yapıya sahiptir. Tarih eğitiminde kanıt denildiğinde ilk olarak yazılı belge akla getirilirken müzeler ve tarihî mekânlar gibi görsel kanıt sunan alanlar göz ardı edilmektedir. Özellikle müzeler, tarihî çevreye ait pek çok önemli materyalleri bünyesinde barındırmak, korumak ve sergilemenin yanında, toplumların, sosyal, kültürel, ekonomik ve bilimsel gelişmelerine de ışık tutmaktadır. Bu nedenle tarih eğitim sürecinde müze ve tarihi mekânların öğrenme alanları olarak görülmesi ve buralardan yararlanması önem kazanmaktadır (Kale, 2010:195).

Edson (1990:32)'a göre, müzeler ve onların uygulamaları, küreselleşen dünyada sosyo-kültürel etkinlikleri sayesinde daha önemli bir konuma gelmiş ve yarının dünyasını şekillendirecek uygulamalarla daha etkili bir yönlendirici olacaktır. Müzelerin yanında tarihi mekanları da düşünerek bu önemli alanların eğitim dışında bırakılması, eğitimde bir araç olarak yararlanılmaması büyük bir eksiklik olarak değerlendirilebilir. Bu nedenle de gerektiği şekilde bu konuya önem verilmeli, farklı yöntem ve teknikler ile çalışmalarla sürekli yararlanılmalıdır. Bugün mevcut ders programlarında "müze ile eğitim" yer almakta ancak, birçok okulda programın amaçlarına uygun olarak müzelerde gerçekleştirilememektedir. Türkiye için yapılan araştırmalar okulların tüm derslerinde müzeden kaynak olarak yeterince yararlanılamadığını da ortaya koymuştur (Uslu, 2008:4).

Proje çerçevesinde yapılan çalışmalarda; müzede yaratıcı drama, sanal müze, kumda örnek arkeolojik kazı çalışması, müzede yapılan kolaj çalışması konularının kursiyerlerin büyük ilgisini çektikleri gözlemlenmiştir.

Özellikle yaratıcı drama konusunda öğretmenlerin yeterliliklerinin arttırılması ve bu konunun daha sonra verilecek müze eğitimi ile ilgili hizmetiçi vb. çalışmalardın içeriğinde yer verilmesinin önemli olduğu düşünülmektedir. Katılımcıların büyük bir ilgi gösterdikleri diğer bir çalışma olan kumda yapılan örnek arkeolik kazı uygulamasını daha sonra okullarında uygulayacaklarını belirtmeleri dikkat çekmiştir. Katılımcıların arkeoloji ile ilgili bu çalışmanın öğrencilerin tarih konularına olan ilgilerini arttıracağını, dersten zevk alacaklarını, öğrencilerin tarihsel düşünme becerilerinin gelişmesine etki edeceğini belirttikleri görülmüştür. Daha sonra müze ve tarihi mekânların eğitimde kullanılmasına yönelik öğretmenlere verilecek eğitimin içeriğinde bu konuya ilişkin de çalışmalara yer verilmesinin gerektiği düşünülmüştür.

Projede kursiyerlere verilen eğitimin içeriğinde yer alan sanal müze ve alan çalışmalarının bundan sonra yapılacak benzer hizmetiçi eğitimlerin içeriğinde de yer almasının önemli olacağı düşünülmektedir. Özellikle İnternet ve sosyal medyanın gençler arasında kullanımının çok yüksek olduğu göz önünde bulundurulduğunda öğretmenlere derslerde bu araçlardan nasıl yararlanabileceklerine ilişkin eğitimler verilmelidir. Böylece dersler daha ilgi çekici hale getirtilebilir. Günümüzde bilgi ve iletişim teknolojilerindeki gelişmeler çerçevesinde, müze ve tarihi mekânlar ile ilgili İnternet ortamında birçok konu bulunmaktadır. Özellikle sanal müze gezileri konusunda İnternet birçok imkân sunmaktadır. İnternet ortamında 3D sanal turları buna güzel bir örnek teşkil etmektedir. Öğrencilerin çeşitli tarihi mekânlara götürülme imkânı olmadığında bu yolla sınıf ortamında sanal olarak çeşitli çalışmalar yapılabilmektedir. Öğretmenlerimizin bu konuda yeterliliklerinin ve konuyla ilgili farkındalık düzeylerinin arttırılması gerektiği önerilebilir.

Ayrıca Projede yer alan müzede yapılan kolaj çalışmasının da öğretmenlerin çok ilgisini çektiği, zevkle konuya katıldıkları, güzel çalışmalar ortaya çıkardıkları görülmüştür. Buradan hareketle; disiplinlerarası yaklaşımın önemi, sanat eğitimi konularının müze ve tarihi mekânların eğitimde kullanılmasının gerekliliği vb. açılardan daha sonra müze eğitimi konusunda verilecek eğitimde bu konunun da yer almasının gerekliliği düşünülmektedir. Bunun yanında tarihi alanda yapılacak dönem canlandırmalarının da faydası olabileceği önerilebilir.

Hiç şüphesiz ki öğrencilerini geleceğe hazırlayan öğretmenlerimize gerekli becerilerin kazandırılmasına yönelik eğitimlerin verilmesi tartışmadan uzaktır. Ayrıca bu konuda önemli bir nokta da; lisans eğitimi sırasında tarih ve sosyal bilgiler öğretmen adaylarına müze ve tarihi mekânlar ile eğitim konulu bir dersin verilmesidir. Ata (2002:256) öğretmen görüşlerine yer verdiği araştırmasında; tarih öğretmenlerine lisans eğitiminde müzelere ilişkin bir ders konması ve müzelerin okul-müze işbirliği bağlamında tarih öğretmenlerine hizmet içi eğitim verilmesi gibi bazı önerilerde bulunmuştur. Müze ve tarihi mekânlar ile eğitim konusunun Milli Eğitim Bakanlığı tarafından sosyal bilgiler ve tarih öğretmenlerine hizmetiçi eğitim olarak verilmesinin, bunun yaygınlaştırılmasının yararlı olabileceğini söylenebilir. Daha sonra yapılacak benzer hizmetiçi eğitimlerde, bu projede uygulanan eğitim içeriğinin göz önüne alınmasının katkısı olacağı düşünülmektedir.

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TEACHERS AND CHANGE: THE ROLE OF REFLECTIVE PRACTICE

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Abstract

This paper argues that the most powerful, durable and effective agents of educational change are not the policy makers, the curriculum developers or even the education authorities themselves; they are the teachers. It further contends that the quality of the educational changes that teachers have the skills and opportunities to effect will only be as reliable and proficient as the teachers' individual capacities for reflective practice and the development of self knowledge. These aspects of teacher development have, historically, been largely overlooked in the preparation and promotion of effective teachers. The emphasis has been more explicitly focused on the development and demonstration of teachers' understanding of content knowledge and the associated pedagogies and in their capacities to understand their students as individual constructors of knowledge in diverse social contexts. Whilst the former teacher characteristics have traditionally been valued as desirable or even mandatory indicators of teacher quality, the latter are heavily impacted upon by the individual pedagogue's values, attitudes and notions of what it is to be a professional practitioner. In order for teachers to be effective in the Information Age, they need to recognize more than just their students' background and learning preferences. They need to be able to take effective, positive action in the classroom context to improve the educational outcomes for their students. In order to do this they must have the willingness and cognitive capacities to recognize ethical dilemmas and examine their own perspectives on the issues they face critically and analytically. This requires regular, authentic reflection. The reflective process in which one teacher engaged as part of his role in a research study is documented.

Main Text

2.1 The rate and nature of change in modern society is unprecedented (Burchsted, 2003; Dickenson, 2000; Gardner, 2006; Houston, 2002). Teachers, in undertaking one of the basic aims of education, are endeavoring to prepare students for a world that is constantly reinventing itself. There exists an ethical and moral commitment (Burgh, Field, & Freakley, 2005) to prepare, not just an elite few, but all students to participate in society with high levels of intellectual and academic potential and the capacity to develop the skills of lifelong learners. In order to embark on this extremely challenging task, the traditionally held notions of what it is to be an effective teacher must be transformed (Darling-Hammond, 2006, 2009; Lingard, 2011; Marginson, 2008; Mockler & Sachs, 2011; O'Brien, 2002; Ramage, 2011; Shostak, 2011; Warner, 2006; Webster-Wright, 2010). In addition to the long established criteria relating to content and clientele knowledge, teachers must now be prepared to engage with the entirety of the holy trinity for teachers: know your content and how to teach it, know your students and how they learn and know yourself, your values and your capacity for reflection and ethical decision making. The latter capacity, always important (Calderhead, 1989; J. Dewey, 2005; Gore, 1987; Halliday, 1998; Kemmis, 2011; Schon, 1983, 1987, 1991; Tsangaridou & OSullivan, 1994; K Zeichner, 1981; K Zeichner, 1994), rises to new importance at this time for several significant reasons, including claims that many preservice teacher enter and leave their professional preparation programs with the same beliefs about teaching (Morine-Dershimer, 1989).

2.2 Teaching has recently been designated as a profession and teachers now have the same responsibilities as others engaged in professional work. They have increased levels of individual responsibility, accountability and liability. One result of this is that there now is a legal commitment to supporting scholarly success for all students, despite the cognitive complexity that is required being elevated in terms of educational expectations and societal demands (Ministerial Council on Education Employment Training and Youth Affairs, 2008). Additionally, teachers are impacted upon by increasing globalization and mobility in that they are mandated to

accommodate the cultural, religious and societal differences that are presented in diverse classrooms (Clarence, 2011; Dyson, 2004). Whilst these are not the only concerns that teachers face, these particular professional obligations challenge teachers to reflect on how best to present content, select pedagogical strategies, understand student differences and the accompanying parental and community demands and expectations, redefine what it is to be a teacher in the modern world and even to reconsider their notions of basic constructs such as the nature of intelligence. While teacher standards, government policies and proclamations, curriculum boards and national requirements are developed and teachers are expected to use these as guidelines in their everyday professional practice, the reality remains that teacher practice in the closed environment of their own classrooms relies almost totally on the individual's capacity to interpret, understand and perform the role of a teacher as mandated by these documents, whilst simultaneously making spontaneous decisions and attending to the inevitable classroom interactions that cannot be planned for. Documents of change do not automatically empower teachers and, to add to the complexity, individuals bring unique understandings, personal values and varying degrees of competencies to their acknowledgement of, and dedication to, these documents in practice. This situation compels teachers to describe, to analyze and evaluate and to use the resulting insights to improve practice; in other words, to develop skills in reflective practice. Whilst the notion of practitioner reflectivity is not new, it is argued that teachers in contemporary classrooms now need to undertake their reflections from an increasingly informed personal understanding (Akerson, Abd-El-Khalick, & Lederman, 2000; Boud, 2001, 1993; Boud, Keogh, & Walker, 1985).

2.3 The purpose of all the various types of reflection in professional contexts appears to two be fold; to engender change in order to improve the practice (Calderhead, 1989; Gay & Kirkland, 2003; Kemmis, 2011; Rolfe, Freshwater, & Jasper, 2001; Scanlan & Chernomas, 1997; Schon, 1991; Schuck, Gordon, & Buchanan, 2008; Wildman & Niles, 1987) and to develop further self knowledge and understanding (Abell, Bryan, & Anderson, 1998; Akbari, 2007; Boud, et al., 1985; Gay & Kirkland, 2003). However, as reflection is, of necessity, a metacognitive undertaking and as such is an intensely personal pursuit, especially when undertaken to improve professional practice. Even the act of describing an incident or occurrence which triggers (Boud, et al., 1985; Calderhead, 1989; Hill, 2002; Kemmis, 2011; Schon, 1991) the reflective cycle itself relies for its accuracy on personal interpretation and perhaps is not as rational, scientific and able to be 'objectified' as Dewey (1933) initially suggests. Despite the individual characteristics of various models of reflective practice, the initial event is described and then universally analyzed and evaluated against specific, appropriate criteria. In each of these cognitive processes, there is the considerable impact of the individual's personal attributes, including their previous experiences, values and ethical perspectives. In the final stage of reflection, some decisions are made related to change, adaptation or moderation of professional practice with a deliberate focus on professional improvement. It is because of the uniqueness that each person brings to their reflective activity, and to the interpretation of the meaning of the experience being recalled or enacted, that accurate intrapersonal intelligence becomes so vital. It is therefore suggested that teachers need to purposely develop, examine, re examine and check both their self knowledge and their capacity to use this knowledge in order to improve their professional practice, utilizing the notion of the intrapersonal intelligence domain introduced by Gardner (1993) as one aspect of his Multiple Intelligence Theory. This theory not only brings together and meaningfully links the purposes of reflective practice, but facilitates personally meaningful ways of planning to improve practice by utilizing relative strengths.

2.4 The notion of intrapersonal intelligence as foundation for reflection has been explored extensively by Lazear (1999a; 1999) who identifies intrapersonal intelligence as the 'introspective intelligence' (1999a p.111) and explores a number of mindfulness exercises aimed at improving self awareness and promoting effective reflection. Gardner (1993) presents the dual nature of intrapersonal intelligence as (i) self knowledge and (ii) executive function (Moran & Gardner, 2007). Self knowledge in this case is how an individual understands themselves both as teacher and learner. It allows individuals to acknowledge various self expressions such as *'I need, I want, this is a good way for me'*. It also facilitates an understanding of the ways in which others may know an individual and how these may differ from an individual's own knowledge of himself or herself. This knowledge of self representations can be expressed as *'I know myself in ways that others may not know me, I know that others may perceive me differently to the ways in which I know myself'*. Both aspects of this self knowledge are created, maintained and challenged by personal insights and socially mediated perceptions and

feedback. The second aspect of intrapersonal intelligence and the least explored is executive function. Self understanding in this aspect focuses around what Moran and Gardner (2007) name as the '*Hill, the Will and the Skill'*. It is this aspect of intrapersonal intelligence that has the capacity, once developed, to impact most profoundly on an individual's reflective practice, most specifically on the final stage of the reflective cycle, the plan for improvement, although it does influence the quality of reflection in the stages of the cycle.

2.5 The *Hill* refers to the plan of action or the goals that are set for improving teaching and the skills that are embedded in this decision making process: the capacity to identify personally relevant strategies and procedures, to make decisions based on personal needs and desires and to plan actions when faced with difficult or unfamiliar situations. The *Will,* as expected, is related to how motivated an individual is to initiate and implement their plans. The *Skill* refers to the self monitoring aspects of implementation, namely; an aptitude for flexible thinking and the effective use of the working memory, the capacity to monitor and change behaviours in order to achieve goals and to monitor inappropriate responses, the discipline and interest to sustain attention and concentrate on goal appropriate activities and the compulsion to persevere when faced with goal- related difficulties. Working with this theory of self knowledge, teachers have the opportunities to develop accurate knowledge of self and to recognise more readily their personal relative strengths and limitations. Engaging in the skills associated with the '*Hill, the Will, and the Skill'* not only facilitates strengths based planning for professional improvement, but provides a framework for authentic, lasting, professional change. An example of one beginning teacher who found himself in such a situation is detailed below. Despite this teacher openly welcoming the proposed changes in which he was to be involved with his class, difficulties were encountered. It was by engaging in a reflective process in which he considered not only how best to teach the curriculum content or how best motivate his students by identifying and planning for their individual learning preferences but also what he knew about himself.

3.1 In response to the Melbourne Declaration (Ministerial Council on Education Employment Training and Youth Affairs, 2008), school systems in Australia were required to make provision, in all their teaching related official documentation, for the education of every child in each classroom, irrespective of the variants that constitute student difference. One school's response to the requirement that teachers differentiate their teaching, content and tasks to provide an inclusive, productive learning environment was to invite the implementation of a research project which was designed to support the development of the cognitive skills of executive function as defined by Moran and Gardner (Moran & Gardner, 2007). The research design introduced a differentiated program of work for 10 -12 year old students to be implemented in the combined time allocated to Social Studies and English. Three teachers agreed to participate in the study. Each was responsible for one class of combined year 5 and year 6 students. These classes were collectively known as stage three classes. The implementation of the differentiated programs of work was the responsibility of each of the teachers. The design was developed using a Revised Bloom's Taxonomy (Anderson & Krathwohl, 2000) identified hereafter as RBT and Multiple Intelligences (Gardner, 1993) identified hereafter as MI matrix. This framework afforded multiple tasks at different levels of cognitive complexity across different content domains. Research evidence (Noble, 2004) was available to indicate that this planning framework had the potential to be implemented in multitudinous ways to suit individual teacher's pedagogical preferences and to support increased student academic outcomes.

3.2 The research required students to indicate any awareness they may already have relating to their personal MI strengths and relative limitations. Each student participant was then required to select tasks for completion from the eighty tasks provided across the matrix. They were instructed to select tasks that they would personally consider in each of the following categories: Easy, Consolidating and Challenging. The teachers' roles were to mentor the students in the event that they were unsure of what to choose at the each of the three levels and to facilitate new learning in the knowledge, skills concepts and strategies that students may require to complete the selected tasks successfully. To ensure this was achievable, each f the three differentiated programs of work that

were implemented over the six month duration of the study were developed from specific sections of the K-6 English and K-6 HISE document and so common foci were able to be identified for the supporting skills programs. Although suggested organizational procedures were available, the three participating teachers found the implementation and management of this program very challenging. Each of the three teachers had, as expected, executed the implementation in the context of their classrooms and class cohorts quite differently, despite the specific design and the preparation time that had been devoted to developing common understandings. This, however, had little impact on the overall results of the study. What did impact, not so much on the study itself, but on the manner in which the overall findings influenced the teachers and the direction in which the school intended to implement its differentiation plans, was the capacity of one teacher to critically reflect on the challenges that implementing the differentiated program of work had presented and to take appropriate action based on his desire to improve his practice. The remaining two teacher participants, while acknowledging the challenges, either sought help from the researcher who was an experienced teacher of this age of student, or minimized the length of time spent engaging with the differentiated programs.

3.3 The critically reflective teacher found the implementation of the differentiated program highly problematic. During the initial four weeks he struggled to meet the needs of his students in several areas. He found that resourcing and managing the students and their works in progress was time consuming and exhausting. He knew that he wanted to make differences to his practice for a number of reasons related to improving students' learning experiences in his classroom but felt totally overwhelmed by the sheer physical effort that the differentiated program demanded. This may be because, unlike the other two teacher participants who were quite happy to implement the differentiated program, this teacher began to 'own' the research study and placed a high degree of importance on providing the best possible mentoring for his student participants. By the end of the first month, he reported that the study was 'consuming' him as he struggled to remain organized and effective in other curriculum areas. He felt overwhelmed at the prospect of participating in the project for the remainder of the time. In discussions with the researcher he found it difficult to identify precisely the areas in which he might be supported. It was at that point that he realized that he needed time for formal reflection. He needed to 'get back to basics'. He questioned why he had wanted to be a teacher and spent time critically analyzing why the implementation of the differentiated program was making such a strong impact on him and yet was not fulfilling him as a teacher. In fact he acknowledged the impact was quite the opposite: he was finding that implementing the differentiated program of work was increasingly frustrating. During the reflective process here- examined the initial motivation that had determined his career choice. He was then able to articulate the reasons behind his decision to engage with, and to take ownership of the study in which he was a participant. He had wanted to make a difference to students' learning in school. He had wanted students to be enthused about new learning and to explore their learning potential. In his reflections he indicated a strong commitment to schools and to education in general as mediators of social change and transformation. He also deeply cared about the quality of the students' school experiences and the opportunities he could provide for them to have authentic task choices, make personal learning decisions and learn in the context of a collaborative community, without losing sight of his accountability in assessment. He was sensitive to the difficulties that these ideals created in a formal learning environment and acknowledged that institutional demands, systemic demands, community expectations and managing diverse student needs had drawn him to be socialized into a teaching and learning context that did not always encourage him to fully explore ways in which this could be achieved within these existing constraints. As a relatively new teacher he had four years of experience from which to reflect and learn, but he felt that his critical analysis and evaluation of his professional practice to date did not provide him with the solutions he needed.

3.4 However, when it was suggested that reflecting on his self knowledge, that is his intrapersonal intelligence (Gardner, 1993), may help him find an appropriate and practical way forward, the situation began to change. Instead of focusing explicitly on the teaching standards(New South Wales Institute of Teachers, 2005) , the school policies and curriculum documents, he began to consider his own personal values and expectation and to acknowledge his individual relative strengths and limitations. As he identified in his recollections of the

factors that motivated him to be a teacher, he was committed to ethical professional practice and to the wellbeing of his students. What he needed to consider were the implications of his understandings and perspectives, his preferred ways of working professionally what priorities he held to be important in all his endeavors and how to use this self knowledge to achieve his goals; in this case those that were important to him when working in the teaching and learning environment with his students. He realized that, as an enthusiast of extreme sports, he was particularly methodical and well organized. The framework within which the implementation of the study had been developed was too open ended for him to be professionally comfortable. It was then he began to use his skills and strategies to meticulously work through areas of the implementation and to identify strategies that could be introduced incrementally and which would gradually restore his sense of 'balance' in his professional life whist maintaining the integrity of the research project.

3.5 The students continued to self select their tasks from the considerable number provided, but, in order to improve his assessment opportunities and maintain a record of the tasks that the students were undertaking and the learning that had been achieved, he instigated two simple procedures. Instead of the tasks being available to students as color - coded laminated task cards, they were made available on colored paper with the corresponding syllabus outcomes and indicators on the back. As the intervention required the students to share their work with their peers as they completed their challenge tasks, he drew up a timetable, which indicated the days and times that could be made available for sharing learning. This was readily available in the classroom and the students 'booked' themselves in for their presentations as they neared the completion of their challenge tasks. The presentations were comparatively formal and the teacher was able to check the degree of competency that the student presenters had achieved during the actual sharing time as assessment information was available on the task sheets the students handed to him prior to the commencement of the children sharing their products. These records of achievement, suggestions for further progress and general comments were then share with each student before becoming part of the assessment records. The simplicity of the whole procedure made a remarkable difference to ways in which the teacher perceived his participation. The students were very willing participants. The teacher made his laptop available to the students and many presented their products accompanied by a power point presentation. The routines motivated the students to prepare well for their presentations to the class and this resulted in greater attention to the quality of their work, their presentation skills and their capacities, in turn, to be an appreciative, respectful audience. The end of the research project was not the end of differentiated practice for this teacher. By the end of the six month research period, he had planned a similar differentiated program for himself. He designed extra record keeping charts to start off the new class that he would welcome the following year into his classroom and had organized the other teachers to work on the first program with him and then to participate in the development of differentiated programs of work across stage three. They worked as a team, selecting tasks using based on each of their individual relative strengths. Documenting what happened the following year and the degree of change that was sustained was beyond the scope of the study, but would have been of interest.

5.1 The teaching profession is, like any population, comprised of individuals. Each has unique experiences that have, in turn, been interpreted in time and context in their particular manner. Each also has personally constructed understandings of what it is to be professional, to be a teacher and to be reflective. An individual's capacity to be totally objective may be a hotly contended topic in philosophical debates (Burgh, et al., 2005) but it is generally accepted that it is almost impossible. The implications for reflection on professional practice are obvious: individuals describe, analyze and plan a way to improve in their own ways. This writing has presented an argument for the implementation of Gardner's (1993; Moran & Gardner, 2007) notion of intrapersonal intelligence as a supportive framework for authentic teacher reflection as it requires authentic personal response, facilitates planning to improve using strengths based strategies that allow for individual approaches to the changes needed to improve professional practice. This approach fosters ongoing, genuine enrichment of individual personal practice irrespective of the level of initial engagement. This is simply because it permits teachers to start from their own individual experiences and perspectives; consider these in their contextual variations and draw upon the theoretical, professional strategies that they have encountered or plan to explore. It

validates the time and efforts spent on reflection as it allows the planning of actions to improve to draw on all three aspects of the holy trinity for teachers; pedagogical and content knowledge, students and community preferences and differences and an understanding of self and the personal potential that each has to improve their professional practice and to initiate and sustain change.

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TEACHERS' BELIEFS ABOUT TEACHING ENGLISH TO ELEMENTARY SCHOOL CHILDREN

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Abstract

Recent research has focused much attention on teacher beliefs because beliefs are considered to greatly influence teaching practice. Teachers' belief systems need critical inquiry so that teachers can reflect on their practices more closely and teacher training institutions can take necessary steps to improve teacher practice. This study compared beliefs held by 192 non-native in-service and pre-service teachers in Istanbul, Turkey. Data about the teachers' beliefs were collected by means of a questionnaire and observations. The results indicated that both groups strongly supported communicative language teaching methodology, emphasizing the need for addressing children's educational and emotional needs. The agreement rates, however, differed significantly in some respects.

Main text

The Turkish educational reform in 1997 required that foreign languages (English, German or French), begin at grade 4 instead of 6 and compulsory primary education become eight years. Because the number of learners nearly doubled as a result of the reform, the Turkish Ministry of National Education had to deal with an acute shortage of foreign language teachers, a deficit met by appointing teachers from other subject areas after a brief in-service education. The newly appointed teachers lacked even minimum linguistic skills and knowledge of language teaching methods and techniques, causing major debates as to the efficiency of their teaching (Çetintaş, 2010). The problem of teacher shortages was compounded by a lack of materials and overcrowded classrooms (Doğançay-Aktuna, 1998).

The educational reform introduced the communicative approach to language instruction into the ELT curriculum, but its success depended heavily on the teacher enacting it (Çakıroğlu & Çakıroğlu, 2003). The basic goal of the reform was to develop students' communicative capacity in the target language (L2); therefore, teachers had to become practitioners who could carry out communicative classroom activities. Today many teachers know that they should display a wider range of responsibilities, including helping students develop communicative performance and promoting positive values and attitudes towards English language learning (Kırkgöz, 2007). They should be able to play many roles in the course of teaching; and in the process of playing their roles, they must be well aware of the importance of interactions with their students. They should know interactive principles such as automaticity, intrinsic motivation, strategic investment, risk-taking, language and culture connection, interlanguage and communicative competence (Brown, 2001). They should also know how to correct their students' mistakes for the sake of accuracy. Harmer (p.105, 2001) suggests that "…during communicative activities, … it is generally felt teachers should not interrupt students in mid-flow to point out a grammatical, lexical or pronunciation error, since to do so interrupts the communication and drags an activity back to the study of language form or precise meaning." Besides, teachers are expected to be well aware of their students' ability to grasp meaning, level of creativity in using the course materials, capacity for indirect learning, instinct for play and fun, delight for imagination and fantasy, and instinct for interaction and talk (Halliwell, 1992). In brief, the Turkish education reform demands teachers who strip off their old ways and embrace a new approach to language teaching.

Much of the literature on teacher education suggests that teachers' beliefs affect their teaching practices and instructional decisions in the classroom (Richards, 1998; Richards & Lockhart, 1996). These beliefs are usually guided by a number of factors: their own experience as learners in classrooms, prior teaching experience, classroom observations they were exposed to, and their previous training courses at school (Richards, 1998). Teachers' actions reflect their knowledge and beliefs, which "provide the underlying framework or schema which guides the teachers' classroom actions" (Richards & Lockhart, p. 29, 1996).

Williams and Burden (1997) underlines the fact that teaching must be concerned with teachers making sense of meaning from the conditions they encounter. Teachers' awareness of their own beliefs and how they view the world around them is an important component of the constructivist approach and the fountainhead of becoming a reflective practitioner. Even in the case of experienced teachers, a constructivist view suggests that their perceptions and beliefs are continually strengthened by teaching expe¬rience, becoming increasingly central to their view of themselves as they develop confidence in meeting role demands (Roberts, 1998).

However, little is still known about how pre-service and in-service teacher beliefs might vary and whether teachers acquire their beliefs during teacher training or in actual practice. Thus, the main purpose of this study was to compare the teaching beliefs held by elementary school in-service and pre-service English teachers. The research questions were:

What core beliefs do in-service and pre-service English teachers hold about the process of teaching and learning English in elementary schools?

What are the similarities and differences between in-service and pre-service elementary school teachers' beliefs about English teaching?

2. Method

This section gives detail about the participants, research instruments, and data analysis methods.

2.1 Participants

192 participants (157 female and 35 male) agreed to complete the questionnaire. 68 were in-service teachers teaching in 17 state and private elementary schools, and 124 were pre-service teachers studying at four different state and private universities. The questionnaire was only administered to Turkish teachers of English.

2.2 Research Instruments

2.2.1 Scale: Liao's (2007) The Questionnaire of Elementary School English Teachers' Teaching Beliefs was translated into Turkish by the researcher and two other proficient speakers of English and Turkish. The original questionnaire was composed of 40 discrete items organized into three major categories, namely, the nature of children's English development (CED), teaching methods and techniques (TMT), self-efficacy as an English teacher (SE). The participants were asked to assess their beliefs about teaching English to elementary school students on a five-point Likert scale, by indicating the extent to which they agreed with each statement using (1) SD = strongly disagree, (2) D = disagree, (3) N = neither agree nor disagree, (4) A = agree, or (5) SA = strongly agree. Cronbach's alpha coefficient of the original questionnaire was stated to be 0.72.

The reliability of the adopted scale was examined in terms of its consistency. Cronbach's alpha coefficient of 0.96 was obtained for the whole scale. The first factor, the nature of children's English development, had a reliability value of 0.93; the second factor, teaching methods and techniques, 0.84; and the third, self-efficacy as an English teacher, 0.86. The fact that all the internal consistency values were over 0.80 indicates that the scale has high reliability (Fraenkel & Wallen, 2006).

2.2.2 Open-ended question: Liao's original question "What qualifications does a person need to acquire in order to be a successful English teacher in an elementary school?" was translated into Turkish by two proficient bilingual speakers of English and given to the participants.

2.2.3 Observations: The observations were conducted in a private elementary school over two school days. Five items from each of the three factors were selected by the researcher and two experienced teachers. Because observing all 40 items on the scale was not feasible, the observers chose a total of fifteen areas of inquiry. Four in-service teachers were observed for the whole class duration by the researcher and an experienced instructor.

3. Results

3.1 Statistical Analysis of the Survey

Of the 40 items, 27 had means greater than 3.5, and none below 2.5. Most participants were found to agree on most factors.

Table 1. Correlations of survey sub-factor

		CED	TMT	SE	Total
CED	Pearson Correlation	1	,885(**)	,830(**)	,976(**)
	Sig. (2-tailed)		,000	,000	,000
	N	191	191	191	191
TMT	Pearson Correlation	,885(**)	1	,780(**)	,949(**)
	Sig. (2-tailed)	,000		,000	,000
	N	191	192	192	191
SE	Pearson Correlation	,830(**)	,780(**)	1	,892(**)
	Sig. (2-tailed)	,000	,000		,000
	N	191	192	192	191
Total	Pearson Correlation	,976(**)	,949(**)	,892(**)	1
	Sig. (2-tailed)	,000	,000	,000	
	N	191	191	191	191

** Correlation is significant at the 0.01 level (2-tailed).

Table 1 shows that as pre-service and in-service teachers develop greater self-efficacy and use methods and techniques more effectively, they contribute more to children's English development.

Table 2. Comparison	Group	N	x	SD	df	t	P
CED	Pre-service	124	69,13	15,44	189	-1,76	,041
	In-service	68	72,69	8,42			
TMT	Pre-service	124	55,99	10,56	190	-2,11	,019
	In-service	68	59,01	7,10			
SE	Pre-service	124	26,16	6,37	190	-3,51	,000
	In-service	68	29,13	3,77			
Total	Pre-service	124	151,25	31,15	189	-2,34	,007
	In-service	68	160,83	17,36			

Table 2 shows that there are significant differences in both teaching beliefs, which include the scale as a whole and represents the one-factor structure and all the sub-factors. It was found that the two groups differed

significantly in children's English development (t= -1,76), methods and techniques (t= -2,11), and self-efficacy (t= -3,51) (p.<.05). The following discussion will highlight the quantitative results by grouping relevant items in three groups: the nature of children's English development, teaching methods and techniques, and self-efficacy as an English teacher.

3.1.1 The Nature of Children's English development

Eighteen items in the questionnaire addressed different aspects of children's English development ranging from classroom activities to different patterns of learning and optimal age for language education. The in-service teachers and pre-service teachers agreed or strongly agreed on most of the items although the agreement rate was almost always higher for the former group.

Several items were concerned with doing activities, having interesting classes, fully understanding the lesson, interacting with others, using English during activities, and getting support from parents and teachers. The greatest discrepancy within these items was about interacting with others, for which there was about 84% (strong) agreement among pre-service teachers and about 99% among in-service teachers. A considerable ambiguity arose for both groups about whether children should be given opportunities to move around in class. Only half of both groups stated that children should be given opportunities to move around in the English classroom. More than 45% of in-service teachers either disagreed or strongly disagreed with the idea. Almost 20% of pre-service teachers remained neutral, and more than 30% either disagreed or strongly disagreed. This attitude toward limiting students' moving around in class can be attributed to reasons related to classroom management.

Four of the items addressed the issues of variations in gender, individual cognitive development, learning styles, and overall capacity to learn foreign languages. 67% of pre-service teachers agreed or strongly agreed on gender differences in the rate of developing proficiency and response to instruction, whereas exactly half of in-service teachers took this stance. About 20% of pre-service teachers believed that female and male students develop English proficiency at different rates and respond to instruction differently, a rate that doubled for in-service teachers. A majority of both groups agreed that every child has a different learning style and that children have obvious individual variations in their cognitive development process, though in service teacher agreement was quite higher (98% versus 83). The groups had quite different beliefs about whether every child can learn English well. 41% of in-service teachers believed that not every can learn it well, whereas only 21% of pre-service teachers held the same belief. Less than half of both groups somewhat believed that every child can learn English well. This result was interesting in that practicing teachers were less optimistic about every child's ability to learn a foreign language.

Three items were concerned with the optimal age for language learning. Almost 65% of in-service teachers strongly believed that children can learn English faster, while about only 40% of pre-service teachers strongly supported this belief. The total percentage reached almost 93% for in-service teachers when the choice 'agreed' was included. For pre-service teachers, the total number reached 75%, the rest either somehow disagreeing or remaining neutral; whereas only about 6% of in-service teachers believed adults can learn English faster. A similar result held true for teachers' beliefs about teaching English at early ages. A great majority of in-service teachers (97%) believed that learning English as early as possible produces better results. About 81% of pre-service teachers supported this view, while almost 14% somehow disagreed. The groups held completely different beliefs about whether the first grade is the best age for learning English. Only about 34% of in-service teachers thought it was a good idea, 50% somehow disagreed and 16% remained neutral, while 37% of pre-school teachers somehow disagreed and 25% remained neutral.

The relationships between the ways L1 and L2 are acquired were dealt with two items. More than 80% of both groups believed that the way children use their mother tongue affects their learning English. More participants opposed the item that children should learn English the same way as they learn Turkish than those who agreed to it. 44% of in-service teachers somehow believed it to be a bad idea, 10% remaining neutral. It was 40% and 22%, respectively, for pre-service teachers.

3.1.2 Teaching Methods and Techniques

The fifteen items in the questionnaire addressed different aspects of teaching methods and techniques ranging from activities and tools to the perceivably most important skill for language education. The in-service teachers and pre-service teachers agreed or strongly agreed on most of the items although the agreement rate was again almost always higher for the former group.

Concerning the most important skills to teach, five items revealed that both groups agreed most strongly on listening and speaking skills. An overwhelming majority of in-service teachers (99%) considered it important to teach elementary school children English listening and speaking skills. About 12% of pre-school teachers disagreed or strongly disagreed on the statement. Likewise, the two groups had similar beliefs about the importance of oral conversation when teaching children. 73% of both groups considered oral conversation to be the most important element in teaching children. Both groups perceived the role of pronunciation, an important part of listening and speaking skills, as considerably less important. Only 38% of in-service teachers believed pronunciation to be the most important element in teaching children, while 33% disagreed. pre-service teachers had a higher regard for pronunciation (50%), 34% disagreeing and 16% remaining neutral. 69% of in-service teachers considered vocabulary learning the most important element in teaching English, and 30% disagreed with the idea. About 56% of pre-service teachers held the same belief, while 36% disagreed. The two groups held wildly different views about teaching children English spelling and grammar in the early stages of instruction. About 63% of in-service teachers believed that it was unnecessary to teach the two skills, while only 36% of pre-service teachers considered likewise.

Items related to assessment revealed that both pre-service teachers and in-service teachers believed that multiple assessment types should replace paper and pen tests, rating the average of former 90% and latter 45 %. Almost 96% of both groups believed that children's English performance in the classroom should be evaluated by using multiple assessments. The groups had different ideas about the use of paper-and-pencil tests. 55% of in-service teachers somehow agreed to the idea, 4% remaining neutral. Only about 35% of pre-service teachers supported it, and more than 50% somehow disagreed.

Items related to the ways of teaching showed that more in-service teachers then pre-service teachers agreed or strongly agreed on all of the items except Item 21. About 61% of both groups favored English immersion programs over bilingual programs where English and Turkish are used. Over 89% of in-service teachers believed that the teaching of English pronunciation, vocabulary, and grammar should be integrated. Only 68% of pre-service teachers believed so, and 24% believed teaching these skills separately. Both groups held similar beliefs about error correction. 68% of in-service teachers and 74% of pre-service teachers believed that beginning students should not be permitted to make errors in English pronunciation because it would be more difficult to correct them later. About 20% of both groups disagreed. The two groups had different beliefs about the role of memorization in learning English. 51% of in-service teachers and 62% of pre-service teachers considered it to be unnecessary. Yet almost 44% of in-service teachers believed memorization to be necessary, whereas the rate was 28% for pre-service teachers.

Items related to the activities to teach English revealed that both in-service teachers then pre-service teachers agreed or strongly agreed on all the items. Both groups favored singing and role-playing as appropriate English teaching activities. 95% of in-service teachers and 86% of pre-service teachers stated so. About 11% of pre-service teachers believed the opposite. 97% of in-service teachers believed that integrating games into English instruction can facilitate children's learning, while the rate drops to 87% with pre-service teachers. Interestingly, 12% of pre-service teachers oppose using games for English instruction for children. Both groups believed in the importance of using multimedia equipment (Item 36). 11% of pre-service teachers disagreed to its importance, while only 4% of in-service teachers disagreed. In addition, both groups expressed the need to teach foreign cultures along with English, the difference being in the strength of the opinion. 90% of in-service teachers believed in its necessity, only 29% strongly agreeing. 77% of pre-school teachers supported the teaching of culture, more than 44% strongly agreeing.

3.1.3 Self-efficacy as an English Teacher

Seven items in the questionnaire addressed different aspects of language teacher efficacy ranging from student-teacher interaction to teachers' qualifications. The in-service teachers and pre-service teachers agreed or strongly agreed on most of the items although the agreement rate was once again almost always higher for the former group. Items concerned with getting on with students, meaning attributed to teaching English, high confidence in language teaching produced similar results. in-service teachers felt more confident than pre-service teachers in getting along with children in English classes. 59% of the former group strongly agreed that they get along well with children in class, while 42% of the latter expressed such a strong opinion. Slightly less than 40% in both groups agreed to the statement, making the sum total about 86%. 9% of pre-service teachers strongly disagreed to the statement, while no in-service teacher had any strong disagreement. The majority in both groups found teaching English in elementary school a meaningful job, in-service teachers finding it even more so (69% strong agreement against 60% with pre-service teachers). Surprisingly, almost 10% of pre-school teachers strongly disagreed to the statement in contrast to less than 2% with in-service teachers. A great majority of in-service teachers believed that they were capable of teaching English to children, with 70% strong agreement and 26% agreement. pre-service teachers was less confident. 54% strongly believed in themselves, while 9% seriously questioned their capabilities. No in-service teacher had strong beliefs against their capabilities to teach English to children.

Three items were related to the participants' confidence in satisfaction with the profession. In-service teachers overwhelmingly believed (93%) that teaching English in elementary school is fun, with 51% strongly holding this belief. For pre-service teachers the prospects were less optimistic. While 43% of pre-service teachers strongly believed that the experience would be fun, 28% simply agreed to the idea. 6% disagreed and 10% strongly disagreed, while 11% remained neutral. The greatest difference between the beliefs of the two groups lay in their confidence in becoming a good elementary school teacher. 60% of in-service teachers strongly believed that they would make good teachers, while only 27% of pre-service teachers believed so. A high percentage of pre-service teachers (28%) remained neutral in contrast to 9% of in-service teachers. About 15% of pre-service teachers lacked the confidence in becoming good teachers. A similar difference emerged between the groups beliefs in their teaching abilities as opposed to native English teachers. While 29% of in-service teachers strongly believed that they were as good as native teachers, only about 10% of pre-service teachers believed so. More of the former group agreed to the statement than the latter (35% versus 31%). Although similar rates of teachers remained neutral (20% and 22%), a much higher percentage of pre-service teachers doubted their capabilities (32% versus 13%).

Only one item revealed a contrasting result to the other items for the self-efficacy factor. 44% of in-service teachers believed that teaching English in elementary school was easy, with only 4% strongly holding this belief. A higher percentage of pre-service teachers (47%) believed that the experience would be easy, with 10% strongly holding the belief. Almost 15% of in-service teachers strongly disagreed with the statement, whereas only 5% of in-service teachers did so. Although disagreement rate was similar for both groups (38% and 39%), almost 10% of pre-service teachers remained neutral in contrast to the 1% in the other group.

3.2 Content Analysis

41 of the 68 in-service teachers and 15 of the 124 pre-service answered the open-ended question. A total of 320 words and expressions about perceived teacher qualifications (206 of which were from in-service teachers) was examined for patterns. Finally, three major categories were classified, and single instances were grouped under "others."

Professional competence: This category included content knowledge, pedagogic content knowledge, and openness to innovations and self-development. English language proficiency was a frequently mentioned part of content knowledge. Pedagogic content knowledge comprised knowing how to put across the subject matter

according to the student group and employing technology for that end. Being open to innovations and self-development encompassed being engaged in a wide range of activities such as seminars, workshops, conferences, journal subscriptions, and colleague observations.

Personal traits: Of the nine personal traits of a successful teacher, being patient was mentioned most frequently, followed by being loving and fair. Ability to get along with students also ranked high on the frequency list. Other traits were understood, creative, responsible, and energetic.

Student centeredness: Providing fun and motivation through activity ranked highest (mentioned 27 times) together with teachers' awareness of students' needs, levels, and differences. Also included in this category were use of games, songs, and drama activities suitable for the age group.

Others: The category involved infrequently mentioned characteristics such as being smart, having a good memory, focusing on vocabulary, and being a leader. Although they could be included in the above mentioned categories,   they   were   left   out   due   to   their   isolation. For ease of comparison, Table 3 rank these categories by the frequency and percentage of responses made by the pre-service teachers and in-service teachers.

Table 3. The Ranking of both groups about a Successful Elementary School English Teacher

Rank (PST)	Category	F	%	Rank (IST)	Category	F	%
1	Professional competence	47	41	1	Personal traits	72	34.5
2	Personal traits	39	34	2	Professional competence	65	31.1
3	Student-centeredness	23	20	3	Student-centeredness	62	29.6
4	Others	5	5	4	Others	7	3.3

As indicated in Table 3, the ranking differed for the two groups. The pre-service teachers regarded professional competence as the most important qualification a successful elementary school teacher should possess. 41% of the pre-service teachers reported it as a necessary qualification, while the percentage was 31% for the in-service teachers. Both groups mentioned personal qualities with the same frequency, which ranked second for the in-service teachers, though. Student centeredness came third for both groups, but the in-service teachers had a higher regard for placing students at the center of the profession. Almost 30% of the in-service teachers specified student centered concerns, whereas the percentage was 10% lower for the pre-service teachers.

3.3 Observations

On the first day of observation, a meeting was held with the teachers in a private school and a schedule was determined by both sides. Unwilling to accept the request for observations right away, teachers wanted to make sure of confidentiality before letting us in their classes. The participants seemed fairly capable of handling classes of very active students. The first participant was a trainee teacher teaching grade four. The observation in her class added the research a new dimension since she was also observed by the vice-principal who happened to be in that class, so she was very well organized in her presenting the lesson on animal life. The students aided their teacher during her hardest experience in her career by actively participating in the lesson. The participant did not use L1 and the topic seemed to be a correct selection considering young learners' interest in animals. The students were mainly seated and the practitioner, who seemed fairly confident and delightful, overlooked grammar and pronunciation mistakes at all times.

The second participant was a more experienced teacher who was going to teach grade 4 students. The students were asked to form groups of five and so they did without any confusion. It was clear that the teacher

often had group work in her classes. The first activity was a knowledge contest which aimed to teach word order with questions like "What is the name of capital of Turkey?" and the students' responses had to be in written form and syntactically correct; otherwise, no score was won. The second game was "Simon says," a famous total physical response activity that required students to respond to give directions. The last game was "twelve," targeted practicing numbers when students were standing in a circle. The teacher was completely in control of the activities and seemed to have developed a good rapport with the students. L1 was not allowed during all these activities and feedback was given on syntactical mistakes instantly. The teacher also presented a good figure of confidence and seemed to be pleased with her profession.

The third participant was teaching grade six and was making necessary preparations for a video lesson when we arrived at her class. When she said that they were going to watch the film "The Lion King", I was a little perplexed because I never imagined that this film was appropriate for this age. But the teacher was so experienced in simplifying the scenario that students were eager to respond to their teacher's questions. The teacher paused the film every ten minutes to let the students comment on whatever they saw on the screen. Many of the students seemed to have already made considerable progress in language learning. She made some corrections and portrayed a skillful and highly confident practitioner in her class. At the end of the lesson, she assigned the students to write a summary of the film. The observers found that observation notes had quite a number of commonalities and the participant successfully had integrated the listening, speaking and writing skills.

When we arrived at the school next day, we were informed that one of the participants would not come to school due to personal reasons, so we were invited by another participant to a grade 4 class. The objective of the lesson was to practice Simple Past, and the participant asked each student to talk about their previous day. The students were quite good at using irregular verbs for this level. Despite her obvious excitement due to our presence in the class, the participant, a teacher with two years of teaching experience, actively encouraged and motivated the seated students to ask further questions to and interact with the speaker. When the students acted diffidently, she herself assumed a participatory role by asking genuine questions. Occasionally she had eye contact with the researchers asking for approval of what she was doing. She used L2 all the time and in no way were the students allowed to speak Turkish.

In the afternoon we were planning to observe the sixth participant, but when we encountered her in the corridor just before the lesson, she asked us not to join her class since she felt rather tired and it might not be a very active lesson and apologized for not keeping her promise.

To sum up, the four participants who were observed during actual classes mainly followed methodologies advocated by the communicative approach and focused on speaking activities, which motivated students to participate actively. Student-centered activities dominated all the classes, relegating teachers to facilitator role. Moreover, the participants seemed to spend a lot of energy, a fact frequently mentioned by in-service teachers in their responses to the open-ended question. Furthermore, the participants all showed understanding to the students' little misdemeanors, generally overlooked their minor errors that did not prevent comprehension, and smiled most of the time. Comfortable with class management issues and having established routines, the participants had confidence in themselves and displayed their personal characteristics effectively.

4. Discussion

The data in this study revealed that Turkish in-service teachers and pre-service teachers differed considerably in the extent of their beliefs. Even the items that were agreed upon by the majority of two groups did not produce a convergence over 90%. The in-service teachers scored 13% higher on average in the 34 items they agreed or strongly agreed, the difference sometimes running as high as 31%. The differences between the groups for the factors (Children's English Development, Methods and Techniques, and Self-efficacy) were 11%, 12%, and 19%, respectively. The greatest difference in self-efficacy showed that in-service teachers had a stronger sense of self-efficacy. The gap can be attributed to pre-service teachers' inexperience and thus feelings of insecurity.

Of the six items the pre-service teachers score higher than the in-service teachers, three items concerned children's development, two self-efficacy, and only one method and techniques. For example, almost 67% of the pre-service teachers believed that male and female students develop English proficiency at different rates and respond to instruction differently, while only 50% of the in-service teachers stated so. Also, 11% more pre-service teachers believed that every child can learn English well. In addition, the pre-service teachers believed in the importance of pronunciation more and that of memorization less. It was interesting that less than 40% of both groups believed grade 1 to be the best age to start learning English, the rest either disagreeing or remaining neutral.

Responses to the open-ended question revealed discrepancies as well. While the pre-service teachers ranked professional competence highest in importance for a successful language teacher, personal traits were deemed most important for the in-service teachers. The in-service teachers also valued student-centered teaching more. A finding that corroborates a result of Liao's study was that pre-service teachers never mentioned physical readiness required by a successful teacher, a fact that became obvious during the observations: teaching at elementary schools requires energetic teachers. Previous research found that novice teachers focused on maintaining the flow of instructional activity (Akyel 1997 cited in Atay, Kaslioglu, & Kurt, 2010). In a similar vein, pre-service teachers might be paying more attention to the flow of the lesson than to displaying their personal traits or placing students in the center.

Interviews could help clarify the differences between the two groups' responses, so future researchers may incorporate them into the study for further triangulation. Also, beliefs of teachers from private and state schools could be compared. These lines of research can provide further insight into teachers' beliefs in their English teaching.

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TEACHERS' EQUITY SENSITIVITY TO THE SINGLE-SPINE SALARY: THE CASE OF TEACHERS IN CENTRAL AND WESTERN REGIONS OF GHANA

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Abstract

The purpose of this study was to determine how sensitive teachers were about the single spine salary. It surveyed 129 basic school teachers from Central and Western Regions with the Equity Sensitivity Instrument. Both descriptive and inferential statistics were used to analyse the resulting data. It was found that teachers were mainly equity sensitive just demanding what is fairly due them. This indicates that it is recommendable for the Fair Wages and Salaries Commission to be fairer in the fixing of teachers single spine salaries or teachers might result to reducing their input to measure up to such discontented salary level.

Keywords: Single-spine salary, Teacher motivation, Compensation, Equity sensitivity, Ghana

1. Introduction

1.1 Triggering Employee Performance with Motivation

McGregor's Theories X and Y are a snapshot, taken episodically, of diverse human behaviour. Only to some extent does Theory Y suggest that what is needed is the wisdom, tact and ability of management to motivate workers so that their natural disposition to work hard can be nurtured and realized. Although by this, McGregor's work makes some contribution to the development of the concept of worker motivation, to a greater extent, it fails to capture human behavior in its entirety. Work is not as natural as play as Theory Y postulates; neither does coercion in itself elicit increased productivity as Theory X contends. Indeed, motivation is pivotal in winning the sympathy of workers to work satisfactorily. The reward system in place is capable of driving the workforce to work their hearts out without having to coerce them. Employees will not work just because they itch for work. It is the reward attached to the efforts that drives them to do as much as to obtain that pleasurable gesture. Maslow (1970) found that human needs are developmental, which presupposes that people endeavor to get those needs satisfied. No one will work for no fee while the person lacks the basic physiological needs. Apparently, there will not be any intrinsic motivation where there is nil or insufficient extrinsic motivation. The propensity to work is usually triggered by the reception or experience of certain satisfaction that pleases the individual.

Compensation is one of the key elements of the reward system to appreciate and reinforce appropriate work conduct. The extent of performance can be determined after the employee has been appraised. This has the tendency of propelling the employee to work assiduously towards the achievement of the stated goals in order to maximize income as justified by the expectancy theory. Even the most intrinsically motivated employee will become discouraged if the salary is incapable of *paying rent* or *buying bread*. Occasionally, salary adjustments

are necessary to enable workers cope with economic pressures and also to motivate employees to work harder so as to collectively drive the nation to achieve its desired goals.

1.2 Teacher Compensation Packages in Ghana

The economic wellbeing of Ghana, just like any other nation, is directly related to the skills of its citizenry. As well, it is becoming broadly recognized that quality teachers are the key ingredient to a successful school and to improve student achievement. Yet educational policies, forcibly forged by the level of resources in the country, do not ensure that quality teachers are recruited and retained in the profession. Accordingly, over the years, Ghana has been stuck with a compensation system that works against improvements in the teaching force. Without some significant changes, the hope of systematically improving student outcomes is small. Of course, the teacher compensation system works within the entire set of policies that govern teachers including recruitment, certification, tenure, and retirement. Things done in those areas interact with the compensation system and determine the outcome of the kind of teachers that are recruited and the consequential students' performance. Any coherent set of policy prescriptions aimed at improving the quality of the teachers in classrooms must have multiple dimensions. An induction policy is obviously crucial. But an induction policy must be coordinated with policies that manage teachers and reward them according to their performance once they have been inducted.

These grotesque inequitably unsatisfactory compensation packages that bedeviled Ghana coupled with the outcry of the entire labour force in the country compelled the 5th government of the 4th republic to implement the single-spine salary scheme. Under this new salary structure, appropriate compensation that measures up to an individual's circumstance is awarded to deserving workers. This is deemed to ensure that workers are treated fairly and equitably. However, the lack of adequate consultation with the workers in the determination of the remuneration and the approach of the new salary scheme implementation might beget mistrust in the scheme. The result of this might be the feeling of inequity and unfairness among the workforce including teachers which may have negative implications on their productivity.

1.3 Teacher Heightened Expectations Referent to Other Public Servants

Pay differentials always bring about unhealthy situations and conflictual and confrontational industrial relations. Such was the long-standing state of affairs in Ghana. However, the quest of the Ghanaian government in addressing the unevenness in compensation packages among employees in public service in the country by introducing the single spine salary has brought about mixed feelings. Civil and public servants whose salaries are higher than what is equitably due them feared that the single spine salary would erode their remuneration. However, the majority of the workforce (mostly teachers) who think they have been unfairly dealt with all this while insofar as the salaries are concerned are in expectancy of colossal upward adjustments. Since its introduction, the single spine salary has been fraught with implementation challenges. As a result, the committee charged with its implementation recommended a piecemeal implementation approach.

The inclusion of the personnel of the public service in the first batch of the implementation could heighten teachers' expectation. Using the Police as the reference point, teachers who form the greatest percentage of the government workforce might think that they have higher qualification than the Police and as such they deserve better treatment. Even though they were yet to see how much was due them when it got to their turn of the implementation of the new salary scheme, some teachers were estimating how much they are likely to earn. In

other words, some teachers were using the salaries of the Police as a benchmark in calculating their anticipated salary increment. This was a likely indication that if they are not given a better condition of service they might be disillusioned to work. Although their package under the new salary scheme was yet to be implemented one may consider the extent to which teachers think the new salary scheme was equitable. Therefore, it was prudent to know how sensitive Ghanaian teachers were about pay differentials relative to other workers under the new scheme. Any such feeling of inequity among teachers could lead to reduced morale which could be translated into reduction in commitment to duty which might lead to turning out graduates who are not fully functional and educated with the desired attributes of the Ghanaian education system.

1.4 Objectives of the Study

The study sought to find out how workable and equitable teachers saw the single spine salary structure. The purpose of this study was to take a closer look at the efficacy of the applicability of the Equity Sensitivity Theory to teachers. More specifically this study focused on the ability of Equity Sensitivity to discriminate between the responses of three different classifications of individuals posited by the theory (Benevolents, Equity Sensitives and Entitleds) in response to the single-spine salary structure. The specific objectives were to:

1. assess how sensitive teachers were to the equitable nature of the single-spine salary structure;
2. investigate whether teachers' gender, rank or qualification influenced their equity sensitivity to the single spine-salary structure.

2. Theoretical Framework

There have been practical problems with the use of equity theory. Greenberg (1990) illumines the incapability of the theory in aiding prediction of the action to be taken by employees, when faced with inequity, to bring their equity ratio into balance. This lack of specificity regarding what responses individuals experiencing inequity are likely to have is a serious shortcoming of the original equity theory (Furby, 1986) and as such, the original equity theory eventually became less popular (Greenberg, 1990). Accordingly, research efforts were focused on generating a solution to the inadequacies of the equity theory eventually created the equity sensitivity theory (Sauley & Bedeian, 2000). This regeneration of interest in equity has been promulgated in part by an extension of the original equity theory to include individual differences and accordingly modified as equity sensitivity theory (Patrick and Jackson, 1991).

Inasmuch as equity sensitivity theory is an offshoot of the equity theory, equity sensitivity has proven to be a refinement of the original equity theory (Adams, 1963, 1965). However, if equity sensitivity is to prove more useful than the original equity theory, it must be more predictive with regards to how employees respond to feelings of inequity. Without this ability, equity sensitivity theory risks the fate of being considered an interesting notion with little or no practical value and falling out of favour much as the original equity theory (Greenberg, 1990).

Equity sensitivity, posits that employees can be conveniently categorized into three groups: equity sensitives, benevolents and entitleds, along points of a continuum. On one end of the continuum are the benevolents, otherwise known as "givers," who express high satisfaction relative to others when their output/input ratios are less than the referent persons. Benevolents have higher tolerance for under-reward situations. At mid-range are

the equity sensitives. These individuals most closely adhere to the traditional norm of equity – with the balance of inputs to outcomes (Allen & White, 2002). On the other end of the continuum are the entitled individuals or "takers," who are most satisfied when they receive more outcomes than inputs (King, Miles and Day, 1993). Entitleds are most sensitive to perceived under–reward inequity (Sauley & Bedeian, 2000).

According to the latest view, equity sensitives fit the classic equity theory propositions. Equity sensitives prefer to be in a state of equity with regard to the outcomes they receive for the amount of inputs they expend when compared to someone doing similar work. The original propositions of equity theory apply to this group. If an equity sensitive's ratio of outcomes to inputs is out of balance with their referent other, the person will be motivated to act in a way so as to get their ratio back into balance.

Benevolents are more tolerant of situations in which they are being under-rewarded. While they do not seek to be under-rewarded, they are assumed to be less likely to respond (at least overtly) when they are placed in an under-reward situation. Entitleds are posited to experience less dissonance when they are over-rewarded and more dissatisfaction when under-rewarded. As such, they are assumed to be more likely than the other groups to respond overtly to an over-reward situation.

3. Method

3.1 Sample

The target population for the study consisted of all basic school teachers in the Western and Central Regions. A sample of 150 basic school teachers were selected from the University of Education, Winneba, Institute of Educational Development and Extension (IEDE) Cape Coast study centre. Students who are at this study centre are predominantly from the Central and Western Regions. Simple random sampling was used to select 150 basic school teachers to participate in the survey, only 129 completed and returned the survey instrument. This method was adopted because each basic school teacher at the centre was a potential candidate of giving the required pieces of information needed.

3.2 Instrumentation

The Equity Sensitivity Instrument (ESI) by Huseman, Hatfield and Miles (1987) was employed to gather the necessary data from the selected respondents. ESI attempts to measure how individuals differ in their allocation of outcomes. The ESI is a five-item, forced-distribution measure on which the respondent allocates 10 points between a benevolent response and an entitled response for each of the five items. The standard conventional ESI was modified to contextualise its usage. Wherever *organisation* was found in the ESI it was substituted with *government* for the purpose of this study. No other alteration was made to the instrument.

Although the ESI has established validity and reliability, in its edited form the entire questionnaire was tested to determine whether there had been a reduction or further strengthening in this wise. Previous research studies using the ESI have reported coefficient alphas ranging from .77 to .88 (King and Miles, 1994; Patrick and Jackson, 1991) and a test-retest reliability of .80 (Miles, Hatfield and Huseman, 1989). For this study, the Cronbach's alpha was .78, which was consistent with the values found in the other studies cited above.

3.3 Measuring Equity Sensitivity

After scoring the items and averaging the scores of respondents a total ESI score was obtained by adding the points allocated to each of the five benevolent statements. Equity sensitivity scores have a possible range of 0 to 50. In order to generate the 3 classes or sub-groups representing benevolents, equity sensitives and entitleds, the conventional rule set by previous researchers (King et al., 1993; Allen and White 2002) was utilized. The mean equity sensitivity score of the total study sample was 25.9, with a standard deviation of 5.66. and a range of 8 to 45. The decision rule of plus/minus one-half of the standard deviation from the ESI mean was adopted to define the breakpoints for each sub-group. King et al. (1993, p. 305) suggest that "sample-specific breakpoints are necessary because of the unique characteristics on any particular sample that can influence response to the ESI". For example, gender, differing ranks, varied school contexts, age homogeneity, and other variables may influence responses (King and Miles, 1994). This decision rule was applied to trichotomize the sample into the three groups. Thus, teachers with an ESI score of 24 or less were classified as entitleds. Those with a score between 25 and 29 were considered equity sensitives. Benevolent teachers were those with an ESI score of 30 or higher.

4. Results and Discussion

4.1 Equity Sensitivity to the Single-Spine salary

The expectation of taxpayers is to have a system of accountability of the stewardship they entrust in the hands of policymakers and specialists. Teachers by their professional training as specialists are expected to bring their expertise to bear to bring about desired learning in students. They are accountable to the various stakeholders of education since "they are well placed to observe the reaction of pupils to different instructional context" (Pratt, 1980, p. 82). Parents and other stakeholders of education repose faith, trust and confidence in teachers to deliver as expected of them, as they are considered competent. Yet, achieving any phenomenal results in teachers' output depends greatly on their motivation and thus how sensitive they are to the single-spine salary. Typical data on teachers' equity sensitivity to the single-spine salary have gathered, analysed and synthesized.

Participants who had a benevolent score of at most 23 were classified as *entitleds*; those with scores between 24 and 28 inclusive were labeled *equity sensitives*; and others with a benevolent score of at least 29 were categorized as *benevolent*s. Thus the total study sample was split into 40 entitleds, 51 equity sensitives and 38 benevolents.

There was almost an even distribution of teachers across the categories of equity sensitivity. Apart from the equity sensitive teachers who were the simple majority (39.5%) in the teachers surveyed, the entitled and benevolent teachers almost tied with 31 per cent and 29.5 percent respectively of the total study sample. This means that 31 per cent of the teachers surveyed are interested in receiving a relatively higher amount of pay under the single-spine salary scheme than their input may warrant. Approximately 40 percent of the basic school teachers surveyed were just interested in receiving an equitably equivalent output in the form of pay that their input may allow. However, another 29.5 percent of them were ready to receive some amount of pay lesser than

what would have otherwise been provided. The bottom line is that basic school teachers are not indifferent to differences in compensation packages. Rather they were mindful of the extent to which their treatment compares with other workers.

According to King et al. (1993), benevolent employees experience less distress than entitleds when facing either under-compensation or over-compensation scenarios. They found further that entitleds placed significantly more importance on pay and benevolents placed more importance on work characteristics. Furthermore, Miles et al. (1994) found that entitleds tend to place a greater emphasis on extrinsic tangible rewards (e.g., pay), whereas benevolents are more focused on intrinsic intangible rewards. Therefore, since a majority of teachers are equity sensitives, they are likely to demand a fair compensation. However, since the number of teachers who are benevolent do not match either of the entitled and equity sensitive teachers, it is less likely for teachers, in general, to be more concerned about the intrinsic intangible rewards and focus on their work characteristics. Rather, teachers are more concerned about what is due them, at least.

In any case both equity sensitive and entitled teachers outnumber the benevolent teachers. The implication is that teachers were responsive to the minutest pay differentials which they will always struggle to level out. This tends to exemplify the description of Osafo Marfo, then Minister for Finance in the third government of the 4th republic, that "teachers are economic vampires". Thus they agitate every now and then to get higher rewards without recourse to recent or current attempts made by government to improve their conditions of service. This is literally translated to imply that teachers seem not to get satisfied with any pay package.

However, one cannot blame teachers for the insistence in striving for fair and equitable treatment. At least a majority of teachers, as equity sensitives, are just interested in receiving fair compensation under the new salary scheme. It therefore could be predicted that teachers, in general, might resist the single-spine salary scheme if the scheme fails to bring about equitable treatment among the various categories of workers captured under the pay policy.

The ability of the single-spine salary to respond positively to teachers' needs might propel the teachers to work assiduously towards the achievement of or meeting the stated or desired goals in order to maximize income as justified by the expectancy and equity theories. As alluded to earlier, the most intrinsically motivated teacher will become discouraged if the salary does not pay rent or buy bread. Occasionally, such adjustments in salary are necessary for improved teacher motivation. This could only happen if the adjustment is favourable to teachers. In any case, if teachers lift up their performance, because they do not turnout physical products, it would be a bit difficult to measure the resulting productivity. Even where it is possible to do so, Johnson (1986) warns that such a practice might change the relationships between teachers and students as poor student ratings are used as a means of gathering evidence or information to judge teachers' effectiveness and subsequent reward.

4.2: Influence of Teacher Characteristics on Teacher Equity Sensitivity

In spite of these results, it was prudent to analyse the phenomenon in detail to find out whether certain characteristics of the basic school teachers influence the equity sensitivity. The independent variables assessed whether to have influenced teachers' equity sensitivity included teachers' gender, qualification and their rank. To determine whether basic school teachers' equity sensitivity about the single-spine salary structure was tied to

these characteristics, a between group Analysis of Variances (ANOVA) was conducted in search for significant differences at 5% significant level.

None of the results indicated significant differences between teacher equity sensitivity and teacher characteristics. Thus basic school teachers' equity sensitivity was independent of their gender, qualification and rank. The gender of the teacher does not matter in making demands from the government about the adequacy or not of the single-spine salary.

Yet in a typical Ghanaian setting where the man is considered bread winner, it is expected that he demands more so as to distribute such resources to benefit the household. The finding may be authenticated by the recent shift from traditional view of the control and management of households where women are now empowered to contribute. The quest of generating enough to support the family, therefore, is not the preserve of the man. This might account for the lack of any apparent differences between the equity sensitivity of male and female basic school teachers about the single-spine salary.

The differing qualifications of the basic school teachers are said not to make any difference in their equity sensitivity. Possibly, basic school teachers have just settled with tradition that has been with the Ghana Education Service which does not value qualification that much. Basic school teachers most whom have virtually the same qualification (Diploma in Education) might not be disturbed about how their salary compares with other workers.

5. Conclusions

The fact that teachers are mostly equity sensitives and thus they requiring a fair and equitable treatment from the single-spine salary is an indicative of the fact that they might act in commensuration of the compensation given them. Should the single-spine salary fail to meet their expectation, teachers might give a work output of the same measure suiting the salary level. This implies reduced productivity. It is always argued whether improved conditions of service should precede increased productivity or the other way round. Whatever being the case there seem to be some relationship between worker morale, which is the consequence of conditions of service, and productivity. Therefore the average teacher will work harder when they anticipate some actual or perceived benefits to derive from their efforts. Hence, teachers' actions and inactions are contingent on the satisfaction or otherwise of their needs to be met by the single spine salary.

Although found to be mainly equity sensitives, teachers' equity sensitivity is independent of their gender, qualification, and rank. Hence, such teacher characteristics are not predictors of teacher equity sensitivity to the single-spine salary. Teachers' equity sensitivity to the new salary is therefore generally arbitrarily predictable based on their general quest to for salary adjustment. Therefore, there is need for the Fair Wages and Salaries Commission to be actually *fair* in principle and indeed. If the Commission fails to design an equitable salary that teachers would be comfortable with, this pay structure might fail just like the old pay policy.

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TEACHERS' OPINIONS AND BELIEFS REGARDING THE NECESSITY, THE USEFULNESS AND THE IMPACT OF MODERN EVALUATION METHODS ON THE PERFORMANCE OF PUPILS IN SECONDARY EDUCATION

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Abstract

In their attempt to improve educational evaluation, teachers' efforts and interests are most often focused on identifying and using the most suitable ways, strategies, methods and techniques of evaluating pupils' scholastic performance.

Our research analyzes the teachers' opinions and beliefs regarding the necessity, the usefulness and the impact of alternative evaluation methods on the scholastic performance of pupils in secondary education.

Keywords: opinion, beliefs, alternative evaluation methods, performances, scholastic results

Research objectives

The overall objective of this study consists of investigating secondary education teachers' opinions regarding the necessity, the usefulness and the impact of alternative evaluation methods on the scholastic performance and results of pupils in secondary education.

We started from the premise that teachers' understanding and appropriation of the necessity and usefulness of alternative educational evaluation methods leads to a (more) favorable attitude towards the latter, and, implicitly, to the disposition of using them more frequently in their didactic activity.

The general hypothesis

As teachers become more aware of the necessity and the usefulness of alternative evaluation methods, they start using them more frequently in their didactic activity.

Specific hypotheses

- making teachers aware of the usefulness and efficacy of alternative evaluation methods, by way of pupil feedback and personal reflection, engenders a change of the teachers' beliefs towards these methods and determines them to use these methods more and more frequently in evaluating pupils' scholastic performance;

- (self-) monitoring the progress obtained in evaluating pupils' scholastic performance increases teachers' confidence in the worth of alternative educational evaluation methods.

The research design

In our investigation we have used several research instruments that we ourselves devised, namely:

► The structured journal which was used to find out what the teachers' opinions and beliefs were regarding the necessity, the usefulness and the impact of alternative/complementary educational evaluation methods on the scholastic performance of pupils in secondary education.

► The reflective journal is an open instrument which was intended to find out if the teachers' answers grew less conformist and if their inclination toward social desirability bias decreased.

► The progress sheet assessed the degree in which the use of some alternative evaluation methods contributed to the evolution of the responding teachers' careers, from a cognitive, methodological and behavioural point of view.

Before starting out study, we organized short meetings and debates, in the form of focus groups, among the teachers from each participating school, in order to make them aware of the main alternative methods of scholastic evaluation and their necessity and usefulness (the way in which they complement classic/traditional evaluation methods). At the same time we wanted to encourage teachers to use certain alternative evaluation methods in their didactic activity and to determine what impact these methods have on the pupils' performance levels and their psychological comfort.

Within the focus group we also introduced the proposed investigative methods (the structured and the reflective journal, the progress sheet) to make sure that these will be used adequately and in accordance with the objectives of our research.

The subject sample

The subject sample we studied consisted of 151 secondary school teachers.

The participating teachers had on scholastic semester at their disposal to respond to the research instruments we have described previously. Their supervision took place through periodical (monthly) meetings in order for us to determine and encourage them to record their responses to the tasks that they were given. At the same time, we also took care to ensure the confidentiality of their answers.

Data analysis and interpretation

The teachers' answers to the items of the structured journal reveal the fact that most secondary school teachers are constantly preoccupied with evaluating their pupils' scholastic output correctly and objectively.

Thus, where pupil evaluation planning is concerned the cumulated percentage of all the items referring to this activity, as reflected in the teachers' answers (questions 1 to 6 in the structured journal), is 94.6% favorable to understanding the need to come up with, design and plan the performance evaluation in accordance with teaching objectives – learning in the sense of the pupil's awareness of what the teachers' expectations are and learning to attain the required scholastic progress (Figure 1).
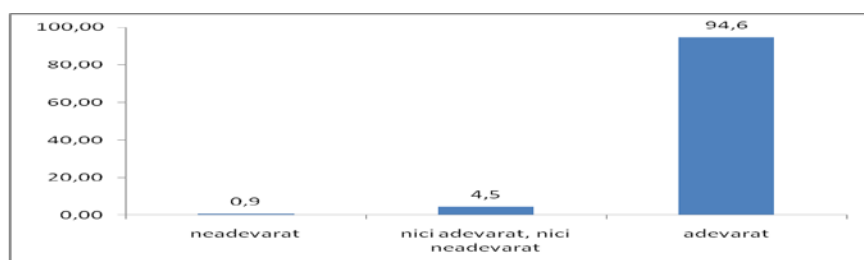
Figure 1: The graphic representation of teachers' responses regarding evaluation planning (false, neither true nor false, true)

In this context, at the stage of designing their didactic activities, we can identify the teachers' preoccupation with establishing their pupil evaluation strategies, methods and instruments. Thus, 98.7% of teachers claim that evaluation is a key preoccupation and all the questioned teachers (100%) claim that they want to diversify evaluation methods by including some alternative methods.

The subjects' responses to the items regarding preoccupation with improving pupil evaluation, the objectivity of evaluation and ensuring the necessary psychological comfort for pupils proves that the great majority of responding teachers have a strong interest in the area (Figure 1 and Figure 3).
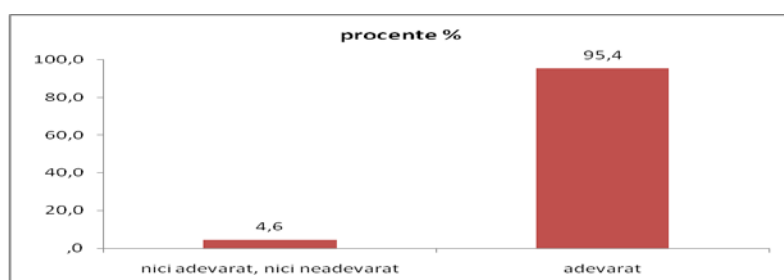
Figure 2: Teachers' preoccupation with improving pupils' scholastic performance evaluation (neither true nor false, true)
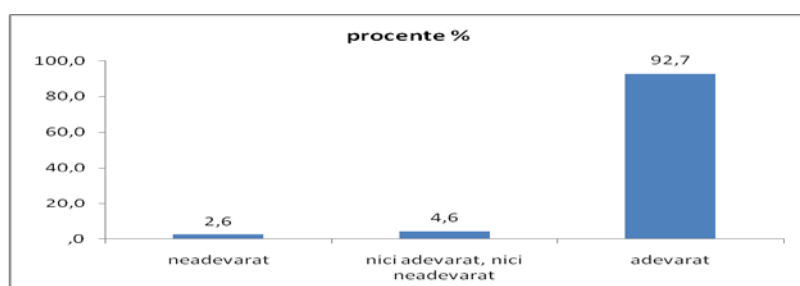
Figure 3: Teachers' preoccupation with the accuracy and objectivity of pupil evaluation (false, neither true nor false, true)

Where formative evaluation is concerned, we can notice that over 97% of teachers who participated in our study display an interest in and preoccupation for assessing the effort put in by the pupils in the learning process. At the same time, teachers are interested in using alternative evaluation methods that have a positive impact on the pupils' psychological comfort. Figure 4 illustrates this fact:
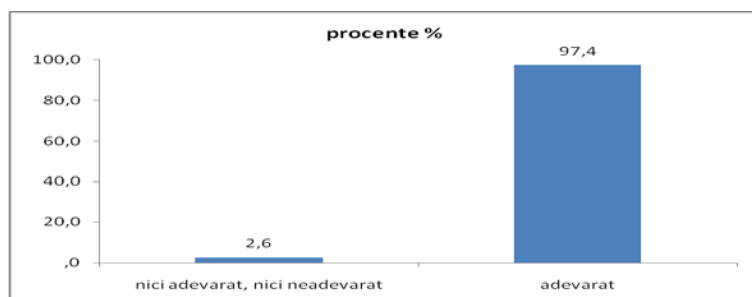
Figure 4: Teachers' evaluation of pupils' learning process (Percentage: neither true nor false, true)

Summative evaluation, which is predominately used by teachers, is meant to determine and assess the results of the pupil's learning process. The teachers confess that they are interested in the pupils' performance levels and, simultaneously, that in achieving this goal, especially with the aid of alternative methods they assess:

the quality of the pupils' information sources;

the original approach to given learning tasks;

the originality of the outcome;

the cooperation an collaboration among pupils, in the case of group assignments, etc.

Thus, 94.7% of participating teachers mention being preoccupied with achieving as objective a summative evaluation as possible, mostly by employing alternative methods for the evaluation of pupils' scholastic performance (Figure 5).
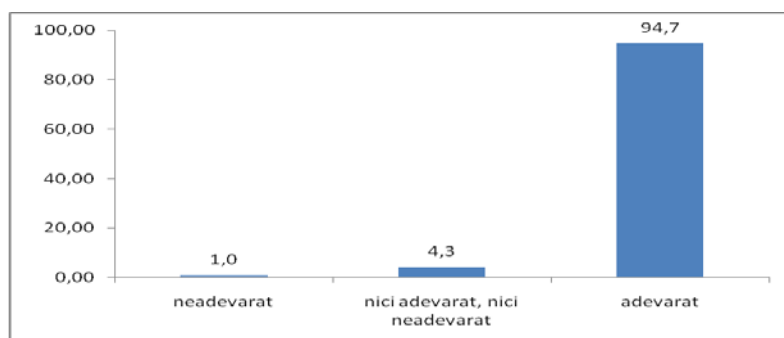
Figure 5: The graphic representation of teachers' responses regarding the summative evaluation of the pupils' scholastic performance. (false, neither true nor false, true)

Where the formative character of evaluating pupils' scholastic performance is concerned, 77.5% of teachers claim to believe in the veracity of the following affirmation: "I can evaluate pupils' scholastic

performances with greater accuracy and objectivity, provided I use alternative methods, as opposed to classic ones" (Figure 6).
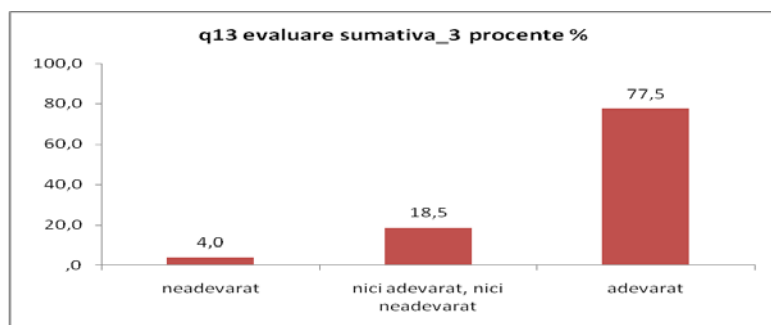
Figure 6: Teachers' opinions regarding the accuracy and objectivity of evaluating pupils' scholastic performances through alternative methods (Summative evaluation: false, neither true nor false, true)

Where the formative gain of pupils assessed through alternative methods is concerned, 86.8% of participating teachers declared that this can be recorded with the help of alternative methods of evaluating pupils' scholastic results (Figure 7).
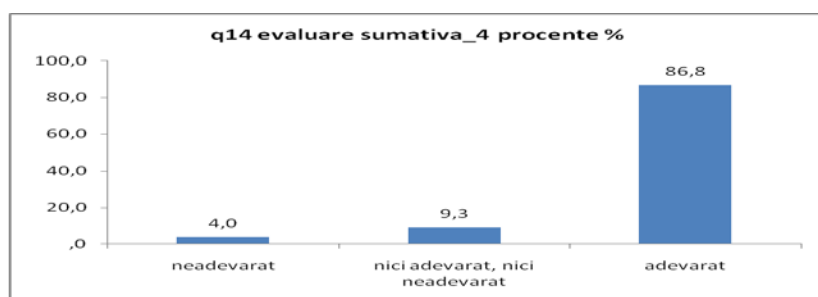
Figure 7: The teachers' opinion regarding the formative character of pupils' scholastic performance evaluation with the help of alternative methods (false, neither true nor false, true)

Cumulating teachers' answers to the questions pertaining to this section of the structured journal (feedback and personal reflection), we can ascertain that 82% of the participating teachers claim that the following affirmations are true:

a) "I am interested to find out the pupils' opinions regarding the means of scholastic performance evaluation I use";

b) "I am interested to diversify the performance evaluation methods I use";

c) "I take into consideration the satisfaction and the psychological comfort of my pupils when I evaluate their scholastic performance";

d) "I try to establish the efficacy of alternative evaluation methods";

e) "I have some reservations about the use of alternative evaluation methods".

Figure 9 illustrates what has been mentioned above.

The teachers' answers to the question about their reservations concerning the use of alternative evaluation methods confirm that, quite on the contrary, for the majority these reservations are unfounded. A percentage of 76.2% of respondents claim that in their case the following assertion is false: "I have some reservations about the use of alternative evaluation methods" (Figure 8).
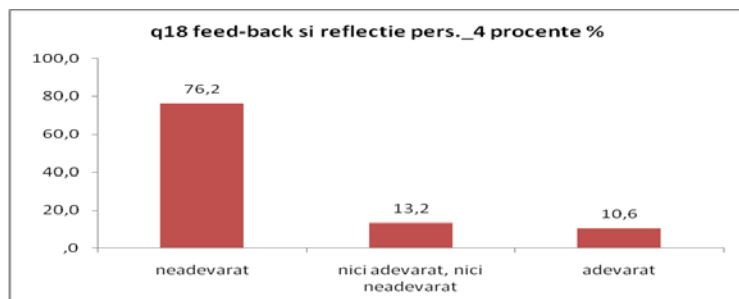
Figure 8: Teachers' opinion concerning their reservations about alternative evaluation methods (false, neither true nor false, true)

Where the efficacy of alternative evaluation methods is concerned, 91.4% of respondents declare that they are preoccupied with determining these methods' degree of efficacy (Figure 9).
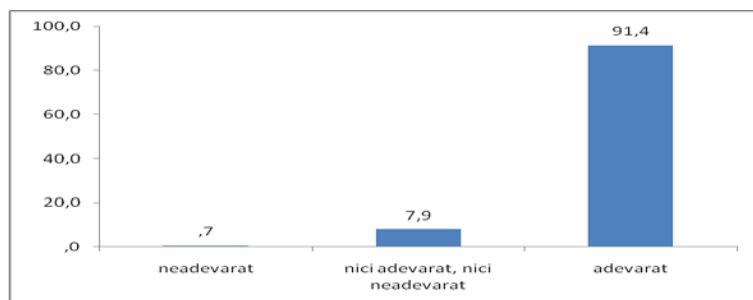
Figure 9: Teachers' opinion about the efficacy of alternative evaluation methods (false, neither true nor false, true)

In conclusion, the analysis and interpretation of the data we obtained from the teachers' responses to the items of the structured journal underscore the fact that our hypotheses are in fact confirmed.

Thus, as the teachers become aware, through feedback and personal reflection, of the qualities and virtues of alternative evaluation methods when it comes to assessing pupils' scholastic performance, their willingness to use them more and more frequently will also intensify.

At the same time, the teachers observe the efficacy of these methods of scholastic evaluation together with the increase of the evaluated pupils' psychological comfort.

It is obvious that, despite their qualities and virtues, alternative methods of scholastic evaluation are not without flaws. Therefore, they should be used cautiously and moderately alongside classic methods.

Through its particularities, the structured journal, which asks for subjects' answers about themselves, their attitudes, their beliefs and personal opinion, could be and, to a certain extent is already, influenced by the social bias phenomenon (the subjects' tendency to shine a favourable light on themselves). Due to this fact, we considered it necessary to find new solutions that might mitigate the "distorted effects" of this investigation instrument. Thus, we employed a different research instrument, the *reflective journal* which "formally has approximately the same configuration" as the structured journal. However, it allows for a greater freedom for the subjects to express their opinions honestly and freely regarding the necessity, the usefulness and the impact of alternative evaluation methods on the pupils' personal development.

Thus, the teachers participating in our research were asked to write such a journal, expressing their onions, ideas and reflections concerning modern / alternative evaluation methods. In order to prevent the uncontrolled dispersion of the respondents' opinions, the (open) reflective journal included several suggestions at the beginning.

The instructions for filling in the reflective journal, formulated in the form of several self-interrogations guided the teachers' reflective activity. Their answers were analyzed taking into account the requirements of the reflective journal (evaluation planning, formative evaluation, summative evaluation, feedback and personal reflection) and the curricular field to which the participating teacher belonged (language and communication, mathematics and science, people and society).

A qualitative analysis of the teacher's opinions regarding their evaluation activity and the pupils' scholastic performance emphasizes the following elements:

most teachers, regardless of the their specialization, plan their evaluation activities taking into account their pupils' abilities, the nature of the subject that is taught and the established teaching-learning objectives;

many teachers use alternative methods of educational evaluation, which they believe to be useful, and helping the pupils feel that they are appreciated and valued;

the use of alternative evaluation methods should occur in parallel with the application of classic/traditional methods;

alternative methods of educational evaluation have a higher degree of efficacy because they allow pupils' results to be gauged and assessed with greater accuracy and objectivity, and at the same time they give pupils a higher degree of psychological comfort;

more so than traditional evaluation methods, alternative methods gauge and assess pupils' originality and creativity better, they stimulate pupils' intellectual potential, their active involvement in the process of learning, they stir pupils' interest and curiosity , favouring a heuristic type learning;

some teachers claim that using alternative evaluation methods is comfortable but they cannot give up traditional types of evaluation;

alternative methods lead to predominantly qualitative evaluation, which is why some teacher seem reluctant to use them;

alternative evaluation methods are liked by students but their efficacy is not always as expected;

alternative methods make evaluation more attractive to pupils, more likeable;

some teachers' reluctance to use alternative evaluation methods derives from the lack of knowledge surrounding these methods' positive characteristics and the lack of knowledge in how to use them;

alternative evaluation methods achieve a global evaluation of the pupils, advancing their type of intelligence;

alternative evaluation methods fulfill a motivational function, stirring pupils' interest in learning;

many teachers claim that they are interested in knowing more alternative evaluation methods and acquiring the necessary abilities to use them adequately.

In order to underscore the progress from a cognitive-informational and technical-procedural point of view (of the abilities to employ alternative methods of educational evaluation), we used an instrument entitled "progress sheet" through which we tried to quantify the gain achieved during a school semester by all the teachers involved in our study who used alternative evaluation methods. With the help of this progress sheet we tried to identify:

the cognitive and procedural gain achieved by employing new methods of educational evaluation;

the participating teachers' perception and opinion regarding the efficacy of these methods;

teachers' awareness of both the strong and the weak points of alternative evaluation methods, and a subsequent change in attitudes;

the degree of usefulness, efficacy and comfort (for students) that teachers assign to alternative evaluation methods in comparison to traditional ones.

The progress sheet was filled in by teachers towards the end of the evaluation period. This progress sheet followed the trajectory and evidently the progress achieved by pupils during the months they were monitored and evaluated through various evaluation methods, and especially through alternative evaluation methods.

Final conclusions

Our research has shown that:

a) using alternative methods of evaluating scholastic performances increases pupils' learning motivation, enhances the quality and the efficacy of the instinctual-educational process in school and creates a higher psychological comfort for the pupils,

b) the teachers becoming aware of the necessity, usefulness and the value of alternative methods of evaluation generates changes in their attitudes and practices, in the sense that they begin to use alternative methods more often.

Teachers in secondary education manifest a willingness to use alternative evaluation methods in the belief that it increases their objectivity in evaluating pupils' scholastic performance. At the same time, the pupils believe that in this way they are evaluated more fairly and the controversies regarding possible evaluation errors decrease.

We can notice that the teachers' reluctance to use alternative evaluation methods goes down as they start to understand these methods' usefulness and necessity and as they learn how to use them. Changes in attitude, mentality and practice are brought about by the teachers becoming aware of the value of these alternative evaluation methods and employing them in the classroom. The pupils' perception when it comes to the evaluation of their scholastic results determines teachers to adapt their evaluation methods and strategies to the characteristics of the discipline and the pupils' expectations.

The qualitative analysis of teachers' opinions regarding the evaluation activity has highlighted significant aspects about the use of alternative evaluation methods. Out of these we would like to mentions the following:

- the favorable opinion held by the majority of teachers participating in this research referring to the necessity, usefulness and the value of alternative methods of educational evaluation

- the teachers' belief that alternative evaluation methods have a greater efficacy due to the fact that pupils favour them and that they believe evaluation as no longer being a condemnation but a stimulus;

- most teachers have realized that the use of alternative evaluation methods contributes to achieving a predominantly qualitative evaluation;

- despite some difficulties and the teachers' reluctance concerning alternative evaluation methods, most support the idea that these methods are favoured by pupils and that as a consequence they feel that they "have to use" them;

- many teachers show the desire to learn more information, especially of the technical and procedural kind, referring to the use of alternative methods of educational evaluation.

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TEACHER EDUCATION AND CONTEMPORARY TECHNOLOGY

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Abstract

This article intends to present the result of some teacher´s work at the college education in a university in the South of Brazil. We are going to show how the work with new technologies was effective in spreading knowledge and even in allowing the interaction with groups. We are going to draw a brief profile about the teacher´s college education in Brazil, discuss different technologies such as the virtual learning environment (Moodle), Cmap tools, blogs and Facebook, and finally, we are going to talk about the importance of teachers training to work with technologies that are constantly being updated.

New technologies; Teacher education; Teacher training.

Introduction

I'm a great believer that any tool that enhances communication has profound effects in terms of how people can learn from each other, and how they can achieve the kind of freedoms that they're interested in.

Bill Gates

This analysis is a result of the lived experience of four professors who act training future teachers to teach in Basic Education and its goal is to discuss and present activities that were performed in the subjects Education and Technology, English and English Literature at the Linguistics Course from a Brazilian University in Curitiba, Paraná. It is a qualitative and quantitative research done in the first semester of 2011.

As professors we recognize the impact in the pedagogical practices that comes from the contemporary technological expansion and that the written, reading, comprehension practice and the teaching and learning process were also changed by this new scenery. Thus, we understand that the teaching process became more complex and compromising, because the current technology allows ubiquity in the academic education; place and time are sparse and it is necessary to have new ways of teaching and learning; the interaction process between teacher/student and student/student are not restricted to predetermined schedules and places.

This analysis of the professors' experience is organized in three different stages: first, some theorectical references, in which we intend to show a brief history of the teacher education in Brazil; second, we discuss contemporary technologies and their practices and finally, we have some considerations about training professors and teachers to work with contemporary technology.

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The Higher Education Professor in Brazil

To talk about teaching in Brazil we have to remember that we are a country that bears a late breakthrough in college education; we have in our culture the Jesuit philosophy, after all, they were our first teachers. We must also have in mind that the scientific research in Brazil started in the 1930´s with the beginning of CAPES (Coordenação de Aperfeiçoamento de Pessoal de Ensino Superior), an agency that helps Brazilian students with their researches across the country. These are some features that were responsible for the making of the Brazilian teachers´ profile and their national identity. Our intention, therefore, is to scan the professor´s specific training; in other words, we are going to analyze how the professionals who work in the universities and train future teachers to work with the Basic Education are prepared.

The university educational practice or the teaching in a university is related to the conditions of the society that suggest different ideas about human beings and the society itself; consequently, we have different elements and assumptions about the role of the university and about the teaching and learning process. In other words, the way professors accomplish their educational actions are related, directly or indirectly, to these academic elements and assumptions. Therefore, it is important to say that the knowledge about reality and about its contradictions and its different understandings motivate changes in the educational and social paradigms, because it allows the professional tasks with more quality, parameter and planning.

For these reasons, Cunha (2006, p. 258) says that:

The performed analyses about professors in the universities make us think systematically about the teaching profession at this level of education, about the professor knowledge and skills and about the innovations that take place in the academic places. These concerns intend to help the understanding of the professor´s pedagogical practice and advance a specialized knowledge about their profession.

Therefore, the teacher is a professional who, in order to develop his teaching skills, needs to be always looking for innovations to enlarge the possibilities in the teaching and learning process.

College education in Brazil has in its cadre of professionals, professors from different areas; they know the environment because they are academics or managers who are studying basic or specific subjects related to their profession. In some cases, these professionals do not have in their curriculum any specific subjects like didactics, developmental psychology, curriculum, history of education and other subjects that help building a theoretical and/or scientific basis for teaching education, and, consequently, provide them with a pedagogical basis. As Anastasiou and Pimenta (2005, p. 35) say, "How do professors identify themselves professionally? [As a] physician, a lawyer, a doctor, a geographer, an engineer […]".

According to this scenery, professionals from different areas become professors. Through continuous studies these professors try to develop their teaching skills by taking post-graduate courses. Some of them do that on their own initiatives; some of them because the institutions where they work offer a career planning, although there is not, by now, a national project for the improvement of higher education professionals. This lack of specific teacher education programs seems to be even more critical when we have to face new technologies and the different ways of using them in class. Most professors graduated in a time when there were not any blogs, software, computers or other technological tools in their educational environment.

Considering this information, we believe professors are professionals who own a specific knowledge. They need to take consistent actions to make their students intensely take part in classes, in order to try to avoid the

traditional way of just transmitting knowledge. We understand that college education is active and proactive. Therefore, we must consider the influence of the new settings that the virtual learning environments as well as the technological resources impose daily to professors.

Under these terms, teaching is the result of the construction and deconstruction of concepts, values and experiences that respect the fact that the world is not limited to a determined and controlled space anymore. The development of communication and computerization technologies has changed the world into a place with no boundaries. The professor who is not able to face this new planetary organization runs the risk of being overcome by the history, being defeated by the new geopolitical reality and by the education beyond the classroom.

We believe that higher education teaching is something challenging, creative and scientific. Having its basis on science and on science criticism – fields of study that have been largely used in the academy – it tries to promote a new appropriate knowledge to a specific time and place.

Contemporary Technologies and Practical Perspectives

We witness different times and they bring us some changes: overcoming paradigms has become a permanent proposal. Technologies allow the contemporary society to enjoy new possibilities of production and socialization of knowledge. According to Kenski (2007, p.11), "I turn on my computer and immediately I access the internet. I get in my university address in the virtual world. A screen stands before my eyes."

When we talk about the use of technologies at the educational environment, we are getting closer to other pedagogical practice perspectives, using the technological tools to help in the teaching process, facilitating the access to information and to the systematized knowledge. It is interesting to try to understand that the technological advances are work tools for teachers and that the ghost that used to haunt us with the idea that the machines would get the teacher´s place is now in the past.

As the aim of the technological tools is diversified, in this stage of the research we are going to talk only about the tools that are used by the professors in the institution in focus in this article. They are: virtual learning environment (Moodle), Cmap tools, blogs and Facebook.

The virtual learning environments are prepared to receive and send information from distance places through technological systems. Nowadays, we can find these virtual learning environments in educational institutes that have noticed the power of the technological resources to students after being in the classroom. They allow the use of pedagogical strategies related to teaching and learning skills, and help students to overcome barriers related to time and place in an easier way. The virtual learning environments are organized in a way that allows students to open their minds. According to Almeida (2003, p. 119) "These environments can be used in online distance education systems; supporting the activities that are done in the classroom, spreading the interaction between students beyond classroom´s time and place."

The virtual learning environment from the university that we are analyzing here is organized to cooperate facilitating the learning process, attending requirements from the actors that use the place. The tools must be adequate, according to the needs and requests from a specific moment. Almeida (2003, p. 119) states that "The virtual learning environments´ resources are basically the same we have on the internet (mail, forum, chat, conference, resources center, etc)." The virtual learning environment is available on the web and it can be accessed by the students from everywhere, allowing professors to have activities with their students even when they are not at the premises.

The use of Moodle in our institution has proved to be an effective tool to be used in virtual classrooms and forums. In distance learning, students participate by asking and answering questions concerning themes proposed

by the professor. In real time, the professor talks to the students, motivating them to enlarge and/or deepen their research. In the Forum, the questions are posted in advance, and the students post their replies. Besides reading the answers, the tutors map them, and make some statistics in order to improve the use of the tool.

The tool maps technique was developed by Joseph Novak and his team in the 70´s, after working research with children. Novak´s employees tried to search the learning applicability of Ausubel and Vygotsky's theories. The tool maps technique comes up from the necessity of organizing all the collected information. As a consequence, we have what we know today as Cmap Tools. They are a teaching and learning tool that helps the student to learn in a meaningful and reflexive way; it stimulates the student, who acts and reacts, in a rediscovery process. It is considered a pedagogical visual resource that actives and motivates those who learn better through vision. To work and to learn from a Cmap tool, reading comprehension is mandatory. By using the tool, it is possible to share ideas, organize knowledge, act and react before, and thus develop independence.

Novak (2003) defines Cmap tools as a tool to organize and represent knowledge. This meaningful material helps studying and learning; it also promotes cognition and social interaction. To create a cmap tool one needs to read the material, to choose main concepts, to use arrows, ramifications, key-words and links.

To share information, ideas and discoveries with other professors and to be updated in their area, the professor needs to be "websocially" added on the web and have to access the so-called cyberculture world that, according to Levy (1999, p.17), is "a set of techniques (material and intellectual), practice, attitudes, ways of thoughts and values that develop with the cyberspace growth."

Years ago it was necessary to be in lectures, seminars and events to know people that could contribute with news relating to the improvement of our classes. Nowadays it is possible to know what happens all around the world in real time in cyberspace. The Social networking is a good example: through Facebook, professors from the university that we are analyzing here have coworkers´ groups that share the same interests and that keep them updated about everything that is new concerning the web pedagogical tools that can be used in the classroom.

One of these tools that are really useful to the contemporary pedagogical practice is what we call blog. Even though it was not created as a teaching/learning resource, it has been used by professors, teachers and students from different areas and institutions as a complement of their classes. Through this resource, professors from the university mentioned here publish their own articles and post materials written by different people about the themes that have been – or are going to be – discussed with their students. Professors of English also use blogs as a digital journal to motivate their students to practice writing. These materials can become articles and they can be published in academic journals.

Conclusion

Let us turn now to some final remarks. For a long time, we have been searching for innovative ways of meeting the needs of our students. We have noticed that their performance and their interest have improved after we started using the new technologies mentioned above. Interdisciplinary studies and the integration of contents have been greatly stimulated, and there is no doubt that the new technologies play a crucial role in this process.

Our institution stimulates the use of technologies. Professors, students and people in general can access everything that is produced by the university which, on its turn, fulfills its social function, stimulating research and sharing knowledge. (10 pt) Here introduce the paper, and put a nomenclature if necessary, in a box with the same font size as the rest of the paper. The paragraphs continue from here and are only separated by headings, subheadings, images and formulae. The section headings are arranged by numbers, bold and 10 pt. Here follows further instructions for authors.

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TEACHER THINKING ABOUT KNOWLEDGE, LEARNING AND LEARNERS:A METAPHOR ANALYSIS

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Abstract

Metaphors reflect the insight about teacher knowledge and its execution when teachers teach. Metaphors are acknowledged as elemental constituents of human cognitive processing that have a useful place in teacher thinking and beliefs research today. Metaphors manifest teacher's beliefs and 'Beliefs reflect their perceptions. Though it is true that a Metaphor analysis may not be able to completely interpret or uncover teachers' veritable beliefs as uncovering beliefs or personal theories requires a detailed qualitative analysis, it certainly helps us to gain deeper insight into teacher's thinking and our understanding of teacher's beliefs, behaviours and actions. The objectives of the study are: 1. What metaphorical images do preservice teachers use to describe Knowledge, learning and learners? 2. What typologies or categories can be evolved from these metaphors? 3. What images can be derived from preservice teachers' metaphors about knowledge, learning and learners? 4. What implications can be drawn from the Metaphor analysis for teacher education programmes?

This research is the part of a larger study that comprised a sample of 637 preservice and in-service teachers in India with the objective of analysing their beliefs or personal theories about knowledge, learning and learners. The findings indicated that the participants unconsciously constructed and used their own metaphors that became the basis of their conceptualization about the three aspects - knowledge, learning and learners.

Keywords: Metaphors; Beliefs; Personal Theories; Pre-service teachers.

Introduction

The Dictionary defines a metaphor as a literary figure of speech that uses an image, story or any tangible thing to represent a less tangible thing or some intangible quality or idea. Metaphor is a Greek word, which means transfer (meta means trans, or "across"; phor means fer, or "ferry") (Fenwick 2000, in Kasoutas and Malamitsa 2009). It is also described as a figure of speech in which an implied comparison is made between two unlike things that actually have something in common. A metaphor expresses the unfamiliar in terms of the familiar. A Metaphor is also observed to be used to express a phenomenon or a situation in familiar terminology. According to Senge (1990) in Farrell (2006) these are 'what humans carry in their heads', in the form of images, assumptions and stories, and not only determine how we make sense of the world, but how we take action'. According to Clandinin (1986) metaphors are indicators of the way teachers think about teaching and also guide the way they act in the classroom. Metaphors reflect the insight about teacher content knowledge and its enactment when teachers teach. Metaphors are acknowledged as elemental constituents of human cognitive processing that have a useful place in teacher thinking research today. According to Lakoff and Johnson (1980),'a metaphor is one of the most important tools for trying to comprehend partially what cannot be comprehended totally: our feelings, aesthetic experiences, moral practices, and spiritual awareness. These endeavours of the imagination are not devoid of rationality; since they use metaphor, they employ an imaginative rationality. Metaphors also relate to reality as many of us share the same insight shown by using the same metaphors. The metaphor helps to highlight certain features of reality while forcing others into the background, and thus points to the most relevant and important features of the situation.' Tubin, (2005).

Metaphors and Beliefs

Metaphors reflect beliefs and 'Beliefs focus people's perceptions. They determine which features of a new situation will be selected. The mind then tries to find a match for those features in prior experience'. Yero (2002). The essence of metaphor, according to Lakoff and Johnson (1980) is the understanding and experiencing of one kind of thing in terms of another. "A teacher who believes students learn through active interaction with their environment will perceive the same levels of noise and motion, but with a more positive interpretation and a different "feeling". The teacher may unconsciously find a match in situations where productive activity is taking place such as a beehive or a construction site. To this extent, a metaphor a person uses reflects that person's beliefs." Yero (2002). Metaphors have been found to be culturally rooted. The choice and use of metaphors is also influenced by the situation in which those metaphors are to be used; different situations may bring about different metaphors in the same teacher and different teachers in the same situation. Difficulties with the interpretation of metaphors include: (i) too many possible interpretations; (ii) some are too ambiguous and abstract to be interpreted; and (iii) they can be interpreted differently by different researchers (Lim 1999; Glucksberg et al. 1992 In Kasoutas and Malamitsa (2009).

Review of Studies

Hoa (2009) in her study on processes of knowledge construction in Vietnamese Children found that teachers believed their own roles of be of mother, boat rower and used such metaphors to describe their roles. According to most teachers in her study, the 'giver – receiver' model of teaching-learning was considered important to support the process of construction of knowledge. The image of a boat rower metaphor, the noble functions of a teacher in taking the learners from unknown shores to known with his/her tireless efforts were highlighted. Tobin and Tippins (1996) also pointed out that metaphors serve as a link between what is known and what is unknown and provide a connection between images and language. They further emphasized that these two qualities may allow the teacher to build new knowledge and construct better strategies for teaching (In Chen (2003). Lim Chap Sam (1999) in her study used metaphor analysis to explore adults' images of mathematics. She discusses the possible use of metaphor analysis in exploring adults' images of mathematics. Based on reviews of past literature and the author's own experience of using this kind of analysis in one of the image study, the potential advantages and problems encountered during the study are discussed. Cortazzi and Jin (1991) explore teacher's and students' metaphors about teaching, learning and language and found that teacher's accounts of significant learning events are deeply and widely pervaded by metaphors. Chapman (1997) investigated the teaching of mathematical problem solving from a teacher's perspective. The study focused on three teachers and their way of making sense of teaching problem solving. The findings indicated that the participants unconsciously constructed personal metaphors that became the basis of their conceptualization of problems and making sense of their teaching. Community, adventure and game were determined to be the key metaphors of the three participants, respectively. Inbar (1996) in Saban et al (2007) collected and categorized over 7000 metaphorical images of what a teacher, the learner, the principal and the school are. It appears from these data that most of the educators in the study tended to perceive themselves more in a caring role while the majority of the students tended to focus more on the evaluative and controlling aspects of teaching.

Schinck et al (2008) in their paper report on the beliefs that ninth and tenth grade students have about mathematics. These beliefs were revealed using contemporary metaphor theory. An analysis of the students' metaphors for mathematics indicated that students had well developed and complex views about mathematics. Metaphors seem to provide a powerful cognitive tool in gaining insight into prospective teachers' professional thinking. Saban et al (2007). **Saban (2010)** investigated the metaphorical images that prospective teachers in Turkey formulated to describe learners. Farrell (2006) finds that Preservice teachers come to any teacher education course with prior experiences, knowledge and beliefs about learning and teaching. Additionally, the belief systems of preservice teachers often serve as a lens through which they view the content of the teacher education program. Consequently, it is essential that teacher educators take these prior beliefs into account because any new material taught will have to compete with these existing beliefs and theories. However, these beliefs are usually held tacitly. One method of making this prior knowledge explicit is to examine the metaphors preservice teachers use during their practice teaching. **Saban et al (2007) in their study** investigated the metaphors that prospective teachers in Turkey formulated to describe the concept of "*teacher*". Participants

completed the prompt "*A teacher is like... because...*" by focusing on only one metaphor to indicate their conceptualization of teaching and learning. Ten main conceptual themes of metaphors were identified. Metaphors are commonly used as a powerful research tool in teacher education programs for eliciting the personal theory of teaching and learning (Goldstein 2005; Saban 2004; Saban et al. 2007; Wright et al. 2003). (In Kasoutas and Malamitsa (2009). Kasoutas and Malamitsa (2009) while exploring Greek teachers' beliefs using Metaphors, write in their paper about 'known difficulties in working with Metaphors', "conceptual metaphors are not only created but also inherited from the community to which each one belongs. Also cultures embed a changing repertoire of favoured metaphors, which reflect particular aesthetics (Fenwick 2000). As a result, persons belonging to the same community tend to prefer specific metaphors frequently oblivious to the meaning constructed and communicated through their use (Robertson 2003)."

Objectives

1. What metaphorical images do preservice teachers use to describe Knowledge, learning and learners?
2. What typologies or categories can be evolved from these metaphors?
3. What images can be derived about 'knowledge' from preservice teachers' metaphors about learning and learners?
4. What implications can be drawn from the Metaphor analysis for teacher education programmes?

Methodology

This research is the part of a larger study that comprised a sample of 637 preservice as well as in-service teachers with the objective of analysing their beliefs or personal theories about knowledge, learning and learners. The larger study being a mixed method study used Self reports, Interviews and Observations of both student teachers as well as in-service teachers. According to Moser (2000), in Saban et al (2007) metaphor analysis is essentially a qualitative research methodology related to content analysis, but it also allows researchers to apply quantitative procedures on the categorical data, resulting from the uncovering of the meanings and reasoning beneath those consciously set forth by the participants in each metaphorical relationship. In order to study the beliefs of preservice teachers further, a short very questionnaire comprising two questions was administered to 103 preservice teachers at the beginning of the teacher education programme.

The preservice teachers were required to complete the statements with the images that came to their minds while completing the following statements. The three questions are: Learners are like__; Learning is like_; Knowledge is like___. The student teachers were given 30 minutes to complete the three statements with appropriate metaphors that adequately represented their thinking about learners and learning. More time was not given because a prompt response was required from the teachers, without giving them time to think but enough time for them to write the first and immediate thought that came to their mind about the statements to be completed.

Analysis

In the analysis of qualitative data, the metaphors from the pre-service teachers were analysed using content analysis. Employing the Emergent Coding Technique, categories were established following the preliminary examination of the collected data. The data i.e. metaphors thus obtained were categorized in broad categories or typologies that explained and expressed their beliefs and thinking. The metaphors thus obtained were put together in lists and pasted on data sheets, based on their similarities the metaphors were analysed one by one and categorised into different categories, by the researchers. An attempt was also made to categorize the responses into as many categories as that could be possible because some of the responses contain multiple views or varied expressions.The invalid metaphors were identified and removed from the final sheets that were then coded and organised. In order to obtain validity the data from students have been presented as data sheets. The process of analysis has also been clearly explained. The responses from the students too are included in

quotes. After eliminating the data from 8 teachers, because the teachers had not filled in the responses, or the responses were too ambiguous, the rest of the 95 metaphors each for 'Learners' and 'Learning' and were coded, categorized and analysed while 81 metaphors from student teachers were coded after removing the invalid metaphors for Knowledge. It is true that the responses were open to multiple interpretations because of their subjective nature; attention was therefore taken by the researchers to be as objective as possible while categorizing the metaphors in different typologies or categories. The data was collected, coded and analysed by a single researcher, this analysis was then discussed and agreed upon by one expert who placed the Metaphors in respective categories that were identified by the first researcher. Ten student teachers were also asked to complete the following statement "A teacher is like _____ because _____", in order to confirm that the researcher had appropriately interpreted the Metaphors and placed them in suitable categories.

The Learner

Metaphors for Learners described by the student teachers fell under only three categories i.e. ***Learner as Elements of nature, Learner as object of Use and Learner as a being or a human being, with one Miscellaneous.***

Table 1.7. Learner Categories

S.No.	Categories	No. of Students	Percent
1	Elements of Nature	42	44.2
2	Objects of Use	38	40.0
3	Being/Human Being	14	14.7
4	Misc.	1	1.05
	Total	95	100

1.7.1. Learner as Elements of Nature

Student teachers who believed their learners to be elements of nature or a natural phenomenon viewed their learners to be a ***seed, fish, plant, flower, tree, blossom, bud, earth, river, bird, star, moon, rainbow, rays, growing plant, aroma, ripe fruit, meandering river, sea, budding plant, light, drop of water***, suggests that the student teachers believe their role to be that of a nurturer or a cultivator who likes to see their students grow and develop.

The metaphors of a ***seed, plant*** etc. shows that learners are like plants and seeds etc that need support and care, it also suggests that the learners are very delicate and if not taken care of, may 'wilt'. Other elements of nature are such as ***ripe fruit***, that suggests that the effects of teacher's teaching is visible in the form of a 'ripe' or educated learner; ***earth, moon, rainbow*** all depend upon; are interpreted as, 'someone other than the learner that makes a learner shine, show colours etc. when compared to a ***fish***, it conveys that a learner can be compared to a small fish, helpless in a large ocean, where it might get lost if not for a support like a teacher.

1.7.2. Learner as Object of Use

Student teachers believed their learners to be ***potter's clay, boat, diya, candle, plain sheet of paper, freezer, food, instrument, musical instrument, a blank wall, glass, monitor, bulb, empty pitcher, sweet, sponge, pot, clay***, suggesting that their learners could be moulded in any way that they liked.

It however also shows that the student teachers could also see the changes that they desired in their learners as a result of their teaching when they compare their learners with clay that can change shape depending upon which shape the potter desires to give it, empty pitcher or a glass, that can be filled with anything and in any quantity; like a refrigerator that can be stuffed up with food (information here), even stores that something that you may use later or even never use, a monitor, that shows only what humans feed in the CPU; a sheet of paper, on which one can write anything, a blank wall that can be painted in any way and in any colour, learners here are believed to be passive recipients of knowledge. All these metaphors also suggest that the learner is devoid of any previous knowledge and awaits someone to 'fill' in that knowledge. The state of a learner is like a storehouse that stores everything but is unable to process. Learners associated with computers too suggests that like a computer can store large amount of data, so can the learner, except now maybe the information can be processed, but only when required (exam time). Learners are like 'sponge' when they absorb all the information that is provided by the teacher, without ever needing to understand. It also suggests the capacity of a learner who is able to absorb many times more than its size as in the case of a sponge.

1.7.3. Learner as a Being or a Human Being

Student teachers' metaphors such as *hungry person, infant, care giver, mother, rider, baby, child, body, soul, artist, astronaut, receiver, traveller, seeker, enthusiast,* suggests that the student teachers believe a learner to be a being or a human being. It also implies that learners are equated to animate beings suggesting that they are responsive and have needs and desires, are hungry to learn. Learner is likened to a *receiver* because he/she accepts without questioning the giver; a *rider*, who likes to take risks and challenges and is very strong. As in the case of an *infant* or a *baby* or a *body*, it conveys that as a baby struggles and discovers new things around himself or herself, also cannot manage on his or her own, is someone who is helpless, doesn't know much and needs support to grow, so does a learner.

Learning

Metaphors for Learning described by the student teachers fell under six categories i.e. *Learning as Elements of nature, Learning as object of Use, Learning as a being or a human being, Learning as Process, Learning as Product and the Miscellaneous category.*

Table 1.8. Learning Categories

S.No.	Learning Categories	No. of Students	Percent
1	Elements of Nature	33	39.29
2	Objects of Use	17	20.24
3	Being/Human Being	7	8.33
4	Process	14	16.67
5	Product	5	5.95
6	Miscl.	8	9.52
	Total	84	100.00

1.8.1. Learning as Elements of Nature

Student teachers who believed learning to be elements of nature or a natural phenomenon viewed learning as *soil, water, sunlight, fragrance, blossom, fruit, gravity, rain, sea, sky, sun, ocean, bottomless ocean, moon, sunshine, coloured pigment, blooming garden, light.* Most of the student teachers used *sun, sunlight, sunshine,*

light as a metaphor suggesting that knowledge or learning is so powerful that it emits' light'; likewise the emitted light is so strong that it has the ability to light the world around and provide heat and energy. Other metaphors of *sea, bottomless ocean* suggest that learning is as deep as an ocean; in fact its depth is unknown, it also conveys the difficulty in learning which is like *crossing the ocean*, *sun, the moon, the sky* suggests that learning cannot be achieved easily and may also be unreachable.

1.8.2. Learning as Objects of Use

Learning metaphors from the student teachers mainly comprised s*ugar, nutrition, food, fruit, colours, brushes of art, CPU, electricity, light and wheel.* Most of the student teachers compared learning to food items such as *sugar, fruits* etc. The metaphor when related to food items shows the importance of learning same as food is for life. It also suggests something that is sweet which conveys that learning is attractive i.e. it pulls one to itself in the same way as sweets and fruits. *Colours and brushes of art* as metaphor for learning again suggests that learning can be of a variety of types and it finds its place in different ways just as the colours do in a persons' life, it also suggests that learning is interesting and not boring. The student teachers realizing the need and importance; or a *wheel,* which has been a basis for life and has continuity, suggest learning as a continuous process and its use in various spheres of life.

Some student teachers compared learning to a mould that gives shape to any object suggesting that learning like a *mould* gives shape to a learner in any desired shape that the teacher provides a 'mould' in.

1.8.3. Learning as a Being

The category of learning as a being comprised only 4 metaphors, with most of the metaphors on learning as a *mother*, who takes care of her children and provides for anything that a child needs, similarly learning too 'provides' a learner with necessary skills and knowledge to accomplish anything that a learner wants to achieve in life. An *experienced teacher or a guide* as a metaphor suggests that learning is not memorizing but experiencing, it also suggests that for a teacher learning is 'the real learning' and her experiences are the ones that are important to learners. The other most important metaphor under this category comprises learning as *soul* or as *life*, again suggesting the 'all important' tag for learning just as in the same way as soul and life are crucial for a body. Soul also conveys the 'central' meaning to learning. Learning is like *travelling* when a learner goes through it like a traveller, discovering and experiencing things and learning as the learner travels.

1.8.4. Learning as a Process

With 7 metaphors identified in the category of Learning as a process most of the metaphors conveyed learning as a process that is never ending and is lifelong, suggesting that a learner continues to learn throughout his or her life, learning does not end with the learning achieved at an educational institution but it goes on beyond it, living one's life too teaches many things to a learner, as a result it is a never ending process. Many student teachers used *cooking* as a metaphor for learning suggesting that learning may be as simple or as difficult as cooking, also reflecting the importance of the result of cooking i.e. food which again is very important for life. Cooking also entails various processes and skills which convey that for learning to occur a learner needs to use different skills and strategies. A few student teachers used *grinding motion, climbing up a ladder, going up,* suggesting the difficulty in learning, while grinding suggests that the student teachers need to use 'grinding' or great effort to enable students to learn. Climbing up a ladder also suggests that as one goes up the ladder which requires a lot of effort, ones view of things around becomes clearer......because of height suggesting more knowledge.

1.8.5. Learning as a Product

Learning as a Product category comprised 4 metaphors that were used by the student teachers to compare with learning. The student teachers used *music* as a metaphor for learning which makes learning as sweet and melodious as music. At the same time sweet music can only result if the musician plays his or her instrument suggesting that the music or learning can only be produced once a teacher with her students constructs

Knowledge together. Most of the student teachers used *experiences* as a metaphor to convey that learning can occur if experiences stored with the student teachers are shared with their learners. Learning is an *asset* because it can be stored and used as and when required, can be transferred just as assets can be transferred. It also suggests the great value of learning just as assets are valued.

1.8.6. Learning as Others/Miscellaneous

With 5 metaphors in the miscellaneous category student teachers used metaphors such as *energy, personality, path and places* for learning. Most of the student teachers used *Energy* as metaphor conveying that learning gives energy and ability to a learner making him or her stronger to face the challenges in society. Learning is a *path* because it is something that has been treaded before, in this case by the teacher, mentor or a guide who then 'puts' the learner on the same path carved by him or her. *Places* as a metaphor conveys that learning can be explored just as places can be explored. The learner needs to discover to learn. Learning is like *knowledge* as this is what is transferred that result in learning.

Knowledge

Metaphors for Knowledge described by the student teachers fell under only three categories i.e. **Learner as Element of nature, Learner as object of Use and Miscellaneous category.**

Table 1.9. Knowledge Categories

S.No.	Knowledge Categories	No. of Students	Percent
1	Elements of Nature	54	66.67
2	Objects of Use	18	22.22
3	Misc.	9	11.11
	Total Students	81	100.00

1.9.1. Knowledge as Elements of Nature

Most of the student teachers used the metaphor of *rising sun, sun, sunlight, sunshine* for knowledge relating knowledge as Knowledge gives a person 'shine' like sun gives us shine, spreads its rays to lighten the world, it distributes sunlight equally to all, lights up our lives in the same way and brightens future. Many student teachers likened knowledge to *sea* or an *ocean* as it contains many things, living things etc., It can accommodate a large number of things, it is endless and a learner dives in the ocean of knowledge, more one explores, deeper it gets; it never ends and just gets bigger and deeper as one wade into the ocean, has no end, no limit, it is wide, unlimited water even after so much is used and consumed each day, has currents. Knowledge is like a *flower* as it blossoms like a flower, makes people happy, makes one's life blossom, and gives fragrance to all without discrimination, just like knowledge. When knowledge is like a *tree* it gives fruit, shade and shelter to all equally, just as knowledge does, removes carbon dioxide and gives oxygen like impurities are removed from mind because of knowledge. Knowledge is like a *well* because we can put many concepts in it because of its depth,

just like a well can contain a lot of water, so can knowledge. Knowledge is likened to a *pearl* as we only get a pearl if we go deeper in the sea similarly only once we go deeper into learning we get the *pearl* of knowledge. It is like Life in the same way as life teaches us lessons.

1.9.2. Knowledge as Objects of Use

Knowledge is like a ***burning candle, candle, diya, light, ray of light*** because it gives 'light' to others, knowledge lights up a person like candle lights up a dark room, removes darkness, shows direction in a dark room, removes darkness, gives awareness. Darkness here is referred to the ignorance because of the lack of knowledge. When knowledge is likened to a food item it is as the Mind needs the food of 'knowledge' and it is like *sugar* because like sugar knowledge too is sweet, knowledge makes a person's life comfortable and useful. Mind like treasure can be stored and is taken care of like we take care of our treasures. Knowledge is like *electricity* because it has a lot of Energy; one can achieve a lot because of the power of knowledge. Knowledge is like a *pot* as we can give a pot any desired shape; likewise knowledge can occur in any form the teacher gives it a shape. It is like a *flower pot* as teachers have sown the seeds of knowledge in the flower pot which will bring out flowers that will give fragrance. It is like a *mirror* when it reflects our true self like knowledge does, our knowledge shows others who and what we really are. The metaphor of a *book* is used for knowledge as unless you open the book of knowledge, your goal cannot be reached. It is like *money* which suggests that a person's needs cannot be fulfilled without money, similarly without knowledge it is not possible to achieve anything in life. Knowledge is like *storage* when it is like a storehouse of information that stores a lot of content.

1.9.3. Knowledge as Miscellaneous Category

Knowledge under Miscellaneous comprised metaphors such as ***gaining profit, success, experiment, God, soul, life, learning and experience***. Most of the student teachers used the metaphor 'experience' for Knowledge as experience enlightens our minds and has a long life. It is like ***gaining profit*** as like profit knowledge helps us in gaining many things in life. Knowledge is *immortal* like 'God' as it never dies; it always remains in some form or another. It is likened to a 'soul' as everything depends on it as all depends on knowledge. Knowledge is like an experiment as it gives results just as any experiment does. Some student teachers used *learning* as a metaphor for knowledge believing that they were like synonyms.

Discussion

We came across a rich variety of images in the form of metaphors when we analyzed the data from the Pilot study and also in the data received from the student teachers. It was interesting to see the variety in the types of Metaphors that these student teachers used. This study with the final sample of 95 female student teachers reveals that student teachers used a variety of metaphors to relate and make sense of the world around them and used metaphors very often. As compared to other recent studies that have been conducted by **Saban et al (2007); Hoa (2009) etc, it was found that the Metaphors used by the participants of the study reflected their own socio-cultural background. Metaphors such as teacher as an 'Octopus'**, 'teacher as butterfly' and 'teacher as chameleon' **and the like were not seen to be used. In all t**here were 6 major categories derived for learning; 4 categories for learners and 2 for knowledge.

This research helped us gain a better insight about the concepts of knowledge, learners and learning of pre-service teachers. We as teacher educators need to prepare a reflective group of teachers. There are various studies that have used Metaphor analysis as a methodology to study student teachers' beliefs. According to

Senge (1990) in Farrell (2006) these are 'what humans carry in their heads', in the form of images, assumptions and stories, and not only determine how we make sense of the world, but how we take action'. Clandinin (1986) has suggested that metaphors are indicators of the way teachers think about teaching and also guide the way they act in the classroom.

Metaphors therefore help us establish how we see the world and also how and why we take action in different situations and make beliefs explicit; these thus need to be a focus of dialogue in teacher education programmes. When teachers reflect on their actions and write case studies, it has been seen that they also use Metaphors. The analysis of Metaphors that the teachers use helps them to reflect on and assess their own beliefs and personal theories. Teachers are then able to inspect their own behaviour and also are able to reflect upon how these impact their own actions in the classroom. The metaphors thus can effectively be used as a tool for teachers to reflect upon their own actions. Organization of such exercises or Diary writing for preservice teachers by teacher educators will go a long way in improving teaching practice. Diary writing has been found to be an effective process for teachers to reflect on their actions. It enables a teacher to write down her reflections and read them through to reassess her actions. The diary writing by the prospective as well as the in-service teachers needs to reflect the major aspects of their teaching and it must be able to answer certain questions. These actions taken by the teacher will go a long way in making their beliefs and personal theories explicit which will then also become a focus of dialogue leading to the improvement of teaching and learning in schools, which is the need of the hour. Teachers need to be persuaded to organise their thoughts, see the associations with theories and also make conscious efforts to posit and hypothesize. In a study by Chan (2004) on beliefs where results give support to researchers' assumptions in the literature that 'teachers' conceptions and class teaching are beliefs driven and if teacher education students are able to make their beliefs explicit, it would help their learning 'how to teach' through discussion and analysis of what they believe to work in their teaching.' Teacher preparation programmes as a result need to endeavour at cultivating in students an inquiring attitude and the abilities to learn by analysing and reflecting on their actions. The teacher educators need to take prospective teachers' prior beliefs and personal theories while planning their teaching strategies and providing experiences that allow for reflection to bring about changes in teacher education. In order to structure effective learning environments that promote reflection, teacher educators and policy planners need to draw on research related to teachers' beliefs and personal theories and also use effective, socio-culturally relevant tools and strategies such as Metaphor analysis to bring forth and challenge their beliefs.

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TEACHING APPLICATIONS OF PROSPECTIVE TEACHERS IN TRANSITION: PRIMARY SCHOOL AND PRE-SCHOOL

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Abstract

In this study, two of gains related to Ataturk in the course of life sciences in primary school curriculum and renewed pre-school curriculum were determined by researchers for the purpose of the study. Gains are related to the disciplines of mathematics and life sciences. Scheduled teaching for 6 age group and 1st class students were administered by a total of four groups including prospective teachers from classroom teachers and pre-school education. Prospective teachers in each group were constituted by 4-5 persons. The study used a combination of qualitative and quantitative patterns. Data were gathered with *evaluation form of the teaching process* which was prepared by the researchers. Due to the closeness of the 6-7 year old age group's age and development characteristics, the conducted activities demonstrated similarity. Prospective primary school teachers had the opportunity to observe the circumstances of year 1 students before they come to primary school and prospective pre-school teachers had the opportunity to observe the development of students in 6 year old age group after them. With this study, prospective teachers have had the opportunity to practice the theoretical knowledge on development, learning and teaching they learnt till present.

Key words: Prospective teachers, concept of Atatürk, transition to primary school and pre-school education, primary school education, pre-school educatıon.

Introduction

Primary education preparation is easy and adequate learning of the child without experiencing emotional confusion. The child reaches this preparation by completing the things it has learnt in the "pre-school period" (Oktay, 2002). It is important that preparatory activities are carried out for children coming to school without benefitting from the opportunities of pre-school education (Bilir, 2005). The setting in which the child is can directly influence the child (Oktay, 2002). The readiness of the child for school is possible with the child getting through this critical period in its development successfully and through conscious guidance. Education of the child begins at home and experiences acquired at home are combined with newly learnt knowledge (Yazıcı, 2002; Parlakyıldız & Yıldızbaş, 2004). Preparing children for primary education is among the most important objectives of pre-school education. Thus, in pre-school education preparation for primary education is one of the most important areas to be emphasized (Polat Unutkan, 2006, pp.7). Conducted studies suggest that children, who have received good pre-school education are better than their peers in adaptation to primary education and their academic achievement, just as in all fields of development in future years (Yılmaz, 2003, pp. 13; Sevinç & Bayhan, 2006, pp. 212). The first step to primary education and thus, life is possible through the correct learning of concepts.

Learning Concepts

According to Piaget, concepts actualize in two stages: The first stage is concept formation and the second stage is concept attainment. Concept formation occurs in two steps: 1. First concepts are learnt through experiences children acquire visually. 2. Afterwards, details among abstract characteristics are learnt. By perceiving the similar and different aspects of the concept, the individual generalizes the similarities and forms concepts. Concept formation is intense in childhood years as everything around the child is new. The concept acquisition is the second stage of concept learning. In this stage logical grouping is based on the characteristic of the formed concept together with the developed schema. Concept learning in children generally proceeds through the stages of recognition, naming, matching, ordering, grouping, and differentiating.

In learning concepts, in order to aid concepts and generalizations, model works, illustrations, photographs, pictures, video etc. experienced with real objects as a result of an activity is required (Cited by: Birbili,2007, pp. 144). Another approach suggested by Taba (1966) is guiding of the student to discovery by the teacher through questions asked. It is the direction of children to observe through questions such as "what did you hear? What did you see? Why?" etc and ensuring that they differentiate similarities and differences between concepts as a result of their observations. Here, the teacher is only the one that asks questions. This strategy is called the "list, group, label strategy" (Cited by: Birbili, 2007, pp. 145).

According to Birbili (2007), no matter which strategy is utilized, the early childhood period should be focused on carefully in concept education. Another factor to be paid attention to in concept learning and generalization is to present the child with the most possible examples and experiences. When presenting children with various examples, the teacher has the opportunity to observe the achievement of the child in concept learning (Birbili, 200, pp. 146). Example selection is a critical component of concept acquisition. The first samples should be real samples or pictures. This ensures that the concept is learnt more firmly by the child (Birbili, 2007, pp. 146). The role of the teacher in concept learning is to ensure the child has the most possible experience using his/her senses, the child has knowledge on what s/he knows till present, form experiences suitable for comparison, to guide in the determination of similarities and differences between objects, and thus, to ensure that the child finds meaningful and useful information in daily life (Birbili, 2007, pp. 147).

Purpose and significance of the study

Statements for Ataturk used by families, teachers, visual media and social environment are the first concepts created by pupils mentally and learned by them. The way subject of Ataturk is being taught changes depending on these factors. This hinders proper learning of the concept of Ataturk and causes miscomprehension. However a pupil has his/her first information on Ataturk in the preschool period. Introduction of Ataturk to the pupils is achieved with the education delivered in preschool and primary education. Learning basic concepts in a meaningful way seems to be associated with success in reading, comprehension and mathematics (Busch, 1980, pp. 38–48). When the literature is examined, it can be observed that there are no textbooks, materials or teaching cases oriented at practice that are suitable for 6-7 year old age group student development with regards to the teaching of the concept of Ataturk. At the same time, as the study is first in its field, it is expected that the results to be obtained from the study shall constitute an example for and guide future studies. In the revised pre-school and year 1 primary social studies curriculum in this study, the acquisitions concerning Ataturk can be gathered under the objectives of "Recognizing Ataturk" and "Comprehending the significance of Ataturk for the Turkish nation". For this purpose, by taking the development levels of pre-school 6 year old and primary year 1 students into consideration, the necessary acquisitions have been arranged by researchers as follows.

Objective 1. Recognizing Ataturk

Acquisitions:

1. Being able to tell Ataturk's place of birth, date of birth, date and place of death,

2. Being verbally able to share memories of Ataturk pertaining to his childhood,

3. Being able to form a family tree demonstrating Ataturk's father, mother, and sister,

Objective 2. Comprehending the significance of Ataturk for the Turkish nation

Acquisition:

1. Having knowledge on reforms in the fields of alphabet, measurements, units, and dress.

Having students acquire the selected objectives is important for them to have an in-depth understanding and knowledge of the concept of Ataturk. At the same time, how Ataturk is taught at educational institutions and which matters concerning Ataturk are focused on in lesson plans have an active role in the selection of objectives. By taking these matters into consideration, teaching of the concept of Ataturk is actualized in the 1st primary year by prospective pre-school (PreS) teachers and prospective primary school (PS) teachers in the 6 year old age group through unique designs they have developed.

Research Problem

How is the teaching process developed by Prospective PreS and PS Teachers for developing the concept of Ataturk in the 6-7 year old age group?

METHODOLOGY

In this study, two of gains related to Ataturk in the course of life sciences in primary school curriculum and renewed pre-school curriculum were determined by researchers for the purpose of the study. Gains are related to the disciplines of mathematics and life sciences. Scheduled teaching for 6 age group and 1st grade students were administered by a total of four groups including prospective teachers from classroom teachers and pre -school education. Prospective teachers have been divided into 8 groups with 4-5 persons in each group. When the groups were being formed, the teacher determined the group members themselves; however, matching between the groups was determined randomly by the researchers. The study used a combination of qualitative and quantitative patterns. Data were gathered with evaluation form of the teaching process which was prepared by the researchers.

FINDINGS AND INTERPRETATIONS

Data pertaining to the structured field study were collected through the graded scoring key called "teaching process assessment form" developed by the researchers. It was evaluated through the preparation, teaching process, and presentation stages. The three achievement levels of poor (1 point), acceptable (2 points), and can be set as an example (3 points) have been determined in grading. Educational curriculums & teaching and assessment &evaluation experts' opinions have been obtained for the content validity of the scale. The items have been arranged in line with expert opinions and in compliance with the purpose of the study. The reliability of the graded scoring key has been examined through the consistency percentage of the scoring of the researchers. For the consistency between the evaluation results of the researchers, the Cohen Kappa coefficient has been calculated and determined as Kpreparation = .82, Kimplementation= .88 and Kpresentation = .55. According to the obtained Kappa coefficients, excellent consistency in the preparation process, excellent consistency in the implementation process, and reasonable consistency in the presentation process have been observed between researchers.

Findings on the evaluation of observers on the teaching process of the work groups can be found in Table 1 (See appendix I). Accordingly, it has been observed that only the 2nd group in the PS teacher group could not complete their pre-teaching preparations (For instance, ordering of desks, preparation of students for teaching). It has been determined that the groups experienced problems in preparing a detailed curriculum in compliance with objectives and acquisitions. When prepared lesson plans were examined, it has been observed that the groups did not assist each other in the preparation of lesson plans and they could not prepare lesson plans complying with

acquisitions. There were no bibliographies in any of the lesson plans, no information was provided on the assessment process, and there were no activities for the development areas of students (prepared by prospective PS teachers) in any of the pre-school lesson plans. In the PS teaching lesson plan (prepared by prospective PreS teachers) the introduction and development steps have not been prepared at a suitable level. All the groups were able to complete the teaching process as they had planned.

When the teaching process was examined, it has been observed that attention was drawn to the topic in the groups and continuity was achieved. No association between subjects was observed in the presentations of the 2nd Group of prospective PS teachers. It has been observed that the prepared instruments and materials in the general of the groups were not in compliance with teaching principles and they were not functional. It was observed that some of the stages of concept teaching were carried out correctly. For instance, photos with Ataturk and his family together were brought to the classroom. The students were told that the person in the photo was Ataturk and the materials with photos of Ataturk were presented to the children and Ataturk's physical and general characteristics were discussed. Right after the correct identification and reference of Ataturk's physical characteristics, informative feedback was provided. For instance, after the child found and pointed out Ataturk, the prospective teacher reinforced the correct behavior by saying "Good for you! You recognize Ataturk". Different photos (photos taken in crowded settings) were shown again afterwards in order to determine whether or not the child recognized Ataturk and permanence of the behavior was ensured.

Before coming to the 1st year of PS, children will have learnt many concepts around them with concrete samples at a classification level. By means of showing children photos of Ataturk's family, through various exemplifications, Ataturk, his mother, father, and sister have been introduced. Thus, having the child associate the concept of family and Ataturk is achieved. In addition to this being necessary for the teaching of the concept at a concrete and recognition level, concepts enable the recalling of concerned preliminary learning. Despite Ataturk's resemblance of his father, they were able to differentiate Ataturk. However, there have been children, who said that his mother was his grandmother. When presenting Ataturk's family photo in textbooks, his father, Ali Rıza Efendi should also be in this photo. As a matter of fact, in the 2004 the 1st primary year Turkish textbook, Ataturk's father's photo was not used and in the 3rd Social Sciences textbook it was presented in a separate small photo. It is considered that this shall cause the student to acquire a deficient behavior in recognizing Ataturk's family (Acar, 2006).

For the purpose of preventing incorrect comprehension of students, the following activities have been conducted by prospective teachers: Children have been talked about the family photos in Ataturk corners. Recognition and naming of his mother, father, and sister was ensured. In order to ensure the permanence of learning, photos used in the presentations were utilized. First, the children were directed the question of "Do you know the person or persons in this photo?" and then these photos were randomly handed out to the children. The names of Ataturk's mother, father, and sister were asked separately and they were requested to match the handed out photos and the names. The photos of students providing the correct answer were hung up on the panel on the wall.

The students were provided the reforms in the form of dressing and the changes in measurement and units of measure through the drama technique. The prospective teachers formed pairs and had them wear the old and new form of dress. The pairs in both cases displayed three plays consisting of reading a newspaper, purchasing fabrics, and purchasing fruits. In the first case, the pairs read newspapers with the old and new alphabet. In the dialogue among themselves, they stated that they could read the newspaper in the old alphabet but they could not write using this alphabet. In the second case, the newspaper written in Turkish could be easily read. In the second and third plays, units of measurements were provided to the students by using standard and nonstandard units. After the students watched the drama, they answered the questions of the prospective teachers. The difference between pairs in terms of dress and units of measurement were demonstrated. Afterwards, the prospective teacher conducted comparative activities enabling the students to learn through "overarm" and "okka" as nonstandard units of measurement and "meter" and "kilogram" as standard units of measurement. An idea of the length of the desk was obtained by the prospective teacher and students through measurement in fathoms. Afterwards, information was obtained on the length of the desk in meters through the use of a measuring stick. In this way, the students acquired the types of reforms in terms of units of measurement.

Furthermore, 4 human models were stuck to the board. A selection was made between the old and new form of dress and the students were requested to dress the models.

The following questions were directed at the students as assessment questions and examples were provided from the answers:

1. Was it good for us to shift to the new measurement instruments from the old measurement ones?

2 How did we shift from our old circumstance to our new circumstance?

3 Who caused us to experience this shift?

4. What would have happened if Ataturk had not done these? (We would always have to wear burqas. We could not go shopping. We could have read newspapers but not be able to write. The letters are too difficult.)

5 If it wasn't for Ataturk, what would have we be wearing? (Burqa, Fes)

6 If it wasn't for Ataturk, would we have been measuring everything correctly? (No. overarm was removed and it was replaced with meters.)

7 If it wasn't for Ataturk, what type of letters would we have had? (very confusing.)

8. Was it a good thing that Ataturk granted us new letters? (yes)

In the Pre-S group, the responses of students to the assessment questions were considered to be satisfactory and successful. Studies on length in the 1st year of PS education and in the Pre-S period begin with nonstandard units of measurement. Children measure objects they own and objects in their daily lives with nonstandard units of measurement. This procedure is repeated with the assistance of the teacher using a ruler. They are informed on units of measurement by discussing the differences of standard and nonstandard measurements and using terminology such as which is longer, which is shorter, which is older, which is newer, which is heavier, which is lighter,etc. Rulers are used in length activities and scales are used in weight activities (Copley, 2000;Clements and Stephan 2004; Charlesworth & Radeloff,1991;cited by:Yıldırım,2010, pp. 149-152).

When the Table in Appendix 1 is analyzed, it has been determined that there are deficiencies in prospective PS teachers effectively using their voice and body language. The fact that prospective teachers are having such an experience in different educational institutes for the first time can be indicated as a reason for this. Prospective PS teachers have had the opportunity to acquire experience in relation to pre-school children and prospective PreS teachers had the opportunity to acquire experience in relation to the classroom setting of 1st year students, the approach of teachers, functioning of rules, and in-class arrangements. Prospective PS teachers had difficulties in drawing the attention of pre-school children and ensuring classroom dominance. In most groups, most members attended the presentations. During presentations, prospective teachers generally provided satisfactory and correct answers to questions from students. Full participation in groups observing each other was not possible for the 1st Group of the pre-school section.

Results and Recommendations

The findings obtained in this study have been assessed:

1. Due to the closeness of the 6-7 year old age group's age and development characteristics, the conducted activities demonstrated similarity. This caused researchers and groups to obtain reliable results in their assessments of each other.

2. Prospective PS teachers had the opportunity to observe the circumstances of year 1 students before they come to PS and prospective PreS teachers had the opportunity to observe the development of students in 6 year

old age group after them. Education is a whole and PreS and PS teaching should be assessed with a scientific approach as the continuation of each other. The study has attempted to ensure this.

3. In their evaluations, the researchers have determined that some difficulties were being experienced when prospective teachers were teaching in conformity with the development level of the 6 year old age group. This could be caused by the failure of the groups to adequately inform each other on the concerned classroom settings.

4. Another result of the study is the prospective teachers experiencing different class levels for the first time, interdisciplinary works, and producing a joint product.

5. With this study, prospective teachers have had the opportunity to practice the theoretical knowledge on development, learning, and teaching they learnt till present.

The correct and effective teaching of the concept of Ataturk can be ensured through interdisciplinary studies and education-teaching cases that are arranged according to the development level of students by taking study based teaching as a basis.

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Appendix A.

Table 1. Results on the evaluation of observers on the teaching process

	1st group				2nd group			
	B	**E**	**B**	**E**	**B**	**E**	**B**	**E**
Preparation	Pre-S	Pre-S	PS	PS	Pre-S	Pre-S	PS	PS
The interview took place with schools in a seamless manner.	3	3	3	3	3	3	3	3
Classroom environment was prepared for teaching.	3	3	3	3	3	3	1	1
A detailed lesson plan was made in accordance with the objectives and achievements.	1	2	1	2	2	2	1	1
The necessary information was collected by using a variety of resources.	1	1	1	1	1	1	1	1
Working as planned was prepared and completed.	3	3	3	3	3	3	3	3
	1.group				**2. group**			
Implementation	**B**	**E**	**B**	**E**	**B**	**E**	**B**	**E**
	Pre-S	Pre-S	PS	PS	Pre-S	Pre-S	PS	PS

	1.group				2. group			
Attention was drawn to the issue and continuity was ensured.	3	3	3	3	3	3	3	2
Content is organized.	3	3	3	3	3	3	2	2
Equipment and materials were prepared and used in accordance with the principles of teaching.	2	2	2	2	3	3	3	3
Concept learning steps were performed correctly.	3	3	3	3	2	2	2	2
Consistent statements were made on the subject.	3	3	3	3	3	3	3	3

Presentation	1.group				2. group			
	B	**E**	**B**	**E**	**B**	**E**	**B**	**E**
	Pre-S	Pre-S	PS	PS	Pre-S	Pre-S	PS	PS
Groups used his voice and body language effectively.	2	2	2	2	3	3	3	2
All members of the group participated in the presentation and helped to the group members.	2	2	3	3	3	3	3	3
The presentation was supported by appropriate materials.	2	2	2	3	3	3	3	3
Adequate and correct answers were given to questions asked by students during the presentation.	2	3	2	3	3	3	2	2
Groups have observed each other with full participation.	1	1	2	2	2	3	2	2

*B and E represents researchers' first names.

TEAM PROJECTS AS A METHOD OF TEACHING CORPORATE FINANCE RELATED ISSUES IN THE INTERNATIONAL STUDENTS' ENVIRONMENT

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Abstract

The process of internationalisation of higher education results in challenges for didactics who are involved in teaching the incoming students. By use of descriptive method, this narrative paper offers an analysis of the challenges and possible areas of dysfunctions that may arise while implementing team projects in teaching corporate finance related themes in the international groups of students. It revises the current shape and philosophy of team projects included in the educational offer of the Faculty of Finance and Insurance at the University of Economics in Katowice. Additionally, the experiments in adjusting team projects' organisation in order to avoid team dysfunctions are discussed.

Keywords: team projects; international education; higher education; educational offer; incoming students; corporate finance;

Introduction

Contemporary didactics meets plenty of challenges springing from the internationalisation of education processes. For universities, a growing number of incoming students from all over the world create a need to adjust the educational offer properly. For more than the past decade, University of Economics in Katowice, Poland, faced these issues and worked over developing attractive educational offer for incoming students. One of inventions in this process was an implementation of team projects which require students to work as a group in order to enlarge both theoretical and practical aspects in different fields of economic knowledge. The Faculty of Finance and Insurance of the University of Economics in Katowice (which is one of four faculties of this University) offers for the incoming students the possibility to attend a few team projects within corporate-finance related issues. As we are the teachers who developed these team projects, in this paper we aim at sharing our experiences in this field. Thus, the paper is kept in narrative tone and based on descriptive method. Accordingly, our experiences described here should be treated as a form of an experiment within implementation of team projects as heuristic didactic method, followed by their necessary improvements and modifications due to being applied in international group of students. In particular, the description of our experiment is directed to reveal the most demanding areas of cooperation within student-student and teachers-students relationships.

In the second section of the paper we recall some literature review on the importance of using team projects in didactics, together with highlighting the potential areas of concern. We also discuss here the challenges of teaching in international groups. In the third section of the paper we offer a model of our approach to organise

and implement team projects. In the fourth section we discuss the challenges we met and how we managed to solve the problems and dysfunctions that emerged. The last section briefly concludes the study.

Team project as teaching method and its application in international groups

Team projects belong to the heuristic methods of teaching and are based on the idea of giving students a real task which is supposed to be solved by themselves as a group within a defined period of time. A form of team projects ensures that the learning experience for students is real and thus more relevant to them. The prime goal of using team project in didactics is to make students active in the understanding of the real world. The real world practice demands the need of contacting each other and shaping leadership skills. It is worth to notice, that for the above mentioned reasons the application of team projects in education is constantly growing on importance (Michaelson, Knight & Fink, 2002, Stein & Hurd, 2000).

Team projects are applicable for any type of economic-related courses. By attending such projects students have an opportunity to be equipped with a blend of technical and interpersonal skills that will be useful in meeting challenges of the contemporary workplace. Groups enable students to learn in more real situations and to develop their interpersonal skills in interacting, negotiating, leading others to desired outcomes. Accordingly, students forge new networks with people beyond their familiar peers to mirror their workplace situations (Dickinson, 2000; Gammie 1995, Hunter, Vickery & Smyth, 2010; Nelson & Bass, 1994; Ravenscroft & Buckless, 1997;Stein et al., 2004). However, team projects remain emotionally and intellectually challenging as they require students to take active participation and perform cognitive and social tasks at the same time, which is often difficult.

However, the implementation of team project in didactics is exposed to the risk of dysfunctional behaviors in teams. Typical areas of dysfunctions include (Ferrante et al., 2006; George, 1992; Liden et al., 2004; Sinclair, 2003; Tyler & Blader, 2003;):

- negative perception of team work because the feeling of inequity – e.g. inequity? in granting,
- social loafing (also referred to as a free-rider problem) – a risk that some students will not participate to the best of their abilities and generally decrease in individual effort,
- team leader attitude – e.g. poor treatment of team, ignoring team member input, being rude or disrespectful in communication, confusion over team leader's role,
- instructor attitude – e.g. poor treatment with regard to team formation, communication barriers, unclear instructions and rules of team project.

Dysfunctional team behaviour should be avoided as it reduces the effectiveness of team performance. Usually, it is because dysfunctions lead to conflicts in groups. In particular, the conflicts may be manifested positively – in the form of a debate, or negatively – by hostility of group members. Conflicts arose both over the solution of a given task and on interpersonal issues. The resolution of conflict may be achieved by means of voicing and considering all opinions and – in case of interpersonal conflicts – the effort to build healthy relationships (Utley & Brown, 2010).

The implementation of team projects in international students' environment poses even more areas of dysfunctions. International group of students are not homogenous if taking into account their cultural background, prior studying experience and learning style differences – that all inflicts the interpersonal relationships in the group. Even more important are the obstacles in communication that are predominantly based on the language skills of team members. In most of the cases the incoming students are ESL (English as a Second Language) students. If they are linguistically ill-equipped, they have problems with communicating with others and thus the effectiveness of the group performance decreases. In addition, Napier & Gershenfeld (2004) spotted that people judge others by they speech. Thus, there is a risk that linguistically ill-equipped student may decrease their participation in the group as a result of being ignored by team leader and other team members. It is because the poor communication impacts the performance and satisfaction of team work. The effect of decreased participation of the ESL students may be even strengthened by the general problems of ESL students with poor language proficiency in dealing with their new academic environment (Watty, 2007). A solution would be to

recruit students with an adequate language proficiency. However, in practice the recognition of the language skills is often based on declarations of student's home university or based on student's own judgment.

The current model of organisational and implementation framework of the offered team projects

Team projects should distinguish with a few features. First of all, the goal of team project should be clearly defined and accepted by students. Secondly, the methods of working over a given task should be clearly stated, together with the deadlines of delivering following parts of the project. Finally, the transparent criteria of final assessment should be formulated, together with the specification of the required form of presentation of the team work results (Królikowski, 2000; Mikina & Zając, 2001).

Drawing upon these requirements, we decided to organise our team project offer for the incoming Socrates-Erasmus students of the Faculty of Finance and Insurance (FFI), University of Economics in Katowice, Poland. The current shape of team projects educational offer of FFI is based on the assumption that projects should give international students an opportunity to enlarge some problems that are subject to corporate finance. The 'Corporate Finance' course is offered on FFI and currently covers 60 direct contact hours. However, we spotted that some aspects of corporate finance remain only partially accomplished. It is because the 'Corporate Finance' course offered in English mirrors the content of the same course placed in the standard educational offer (for Polish students) where it is assumed that 'Corporate Finance' course is preceded by 'Financial Accounting' course and followed by 'Financial Analysis' course. Thus, we decided to give students a chance to study some less-deeply accomplished areas of corporate finance by means of attending team projects, which they can choose respectively to their interests. The current shape of our team projects offer is specified in table 1.

Table 1. The current offer of corporate-finance related team projects of the Faculty of Finance and Insurance, University of Economics in Katowice, Poland

Team project theme	Semester of delivery	Problems to be explored
CICF: Contemporary Issues in Corporate Finance Instructor: Joanna Błach, Ph.D.	winter summer	(1) Capital structure decisions: raising equity capital, raising external sources of long-term finance, acquiring funds in times of globalization, financing patterns across countries, building adequate financial structure; (2) Cost of capital; (3) Dividends policy; (4) Investor Relations; (5) Corporate Governance; (6) Corporate Social Responsibility in the context of company's financial objectives; (7) Financial innovations and their consequences for the financial situation of the company: financial innovations in the investment and financing activity
FDMUR: Financial Decision Making Under Risk Instructor: Monika Wieczorek-Kosmala, Ph.D.	winter summer	(1) Analysis of different kinds of risk that may arise in a company (2) Catastrophic risk and company's performance: how floods in Poland (2010/2011), volcano ash (2010), Japan earthquake (2011) etc. influenced the business environment (in micro and macro scale); (3) Risk in investment projects; (4) Risk in Mergers and Acquisition; (5) Decision-making in the area of selecting risk treatment techniques (in particular derivatives and insurance) ; (6) Contribution of risk management process to value creation
FLAM: Financial Liquidity Analysis and Management Instructor: Monika Wieczorek-Kosmala, Ph.D. Joanna Błach, Ph.D	winter	(1) Financial liquidity strategies and their impact on indebtedness and profitability; (2) Financial management of current assets: accounts receivable management, setting credit policy of a company, inventories management, cash budgeting (professional planning of cash inflows and outflows in the company); (3) Raising external sources of short-term finance (availability of money market instruments, short-term funds in capital structure – the problem of short term financial balance)
FASA: Financial Analysis – Selected Aspects	summer	(1) A deeper analysis of a set of ratios within the chosen aspect of financial management (covering min. 3 year period, based on comparison of at least two companies),

		e.g. capital structure ratios, liquidity ratios, profitability ratios, capital market ratios; (2) A complex analysis of a chosen company (covering min. 3 year period); (3) Bankruptcy prediction models and their application - early-warning signals analysis; (4) Information potential of the financial statement of the company
Instructor: Joanna Błach, Ph.D Monika Wieczorek-Kosmala, Ph.D.		

The list of problems to be explored (table 1) represents our suggestions and recommendations for students how they can develop the topic of their own project. However, we are open for students' own ideas until it fits the general theme of the team project. We observe that in most of the cases students prefer to choose one of suggested issues and individually search for applicable case study.

First team projects were included in educational offer in the winter semester of 2004/2005 and at that time 47 students from different European countries took part in the projects (Tarasek & Wieczorek, 2005). Since then, the offer evolved with regard to both the themes of team projects as well as the core organisational aspects. A precise number of students attending each of the offered team project in the next academic years up till now is presented in Appendix A.

Our philosophy of organising each of above specified team project, which is discussed in the remainder of the paper, is based on four core assumptions:

- students individually select a topic and define a goal that hey are going to develop within one of offered team projects,
- students will systematically work over selected topic that matches the general scope of the team project,
- the cooperation within the team will be clearly structured (with transparent role of teachers as instructors, team leaders and team members),
- the assessment covers both systematic work as well as the results of the project that are constituted by written paper followed by oral presentations.

Topics of team projects

We assumed that students will have an opportunity to select a topic of team project solely. We encourage students to invent a topic (problem) which matches the general theme of team project but which is still adjusted to their personal interests or main field of study. For example, students of marketing may formulate a topic that will develop an aspect of corporate finance highly tied to marketing issues (e.g. any aspect of analysis of sales revenues). We also require our students to do their best to collect all necessary literature and empirical data for solving a chosen problem. We strongly urge students to clearly distinguish in their project the theoretical insights (that give a chance to deepen a knowledge) from research (often case study) part.

Systematic work over the project

In order to achieve the systematic work over the project, the organisation of offered team projects is accompanied by a well-thought-out work timetable, which is presented in Fig. 1. Usually, in the second or third week of the semester (which lasts 15 weeks on FFI), we organise so called 'First meeting' which has two parts. The first part is in a form of lecture where we present the offer of team projects. We discuss the theme and general idea of particular team project, together with the presentation of topics that were prepared by students in the previous years. The presentation ends with the explanation of the team project rules (including its organisation, timetable and assessment). The second part of the meeting is more active as we offer students a

chance to decide which project (or projects) they wish to attend and then to find partners for the project. We allow students to join in teams of 4-6 members, enhancing them to build international teams, in particular to join with Polish students who have a better understanding of the functioning of the Faculty (which is important while searching literature in university library or gathering data). The second part of the meeting is closed by the fulfilment of students' team declarations. If there are students who do not find partners, we – as instructors – join them in teams with regard to their general field of studies.
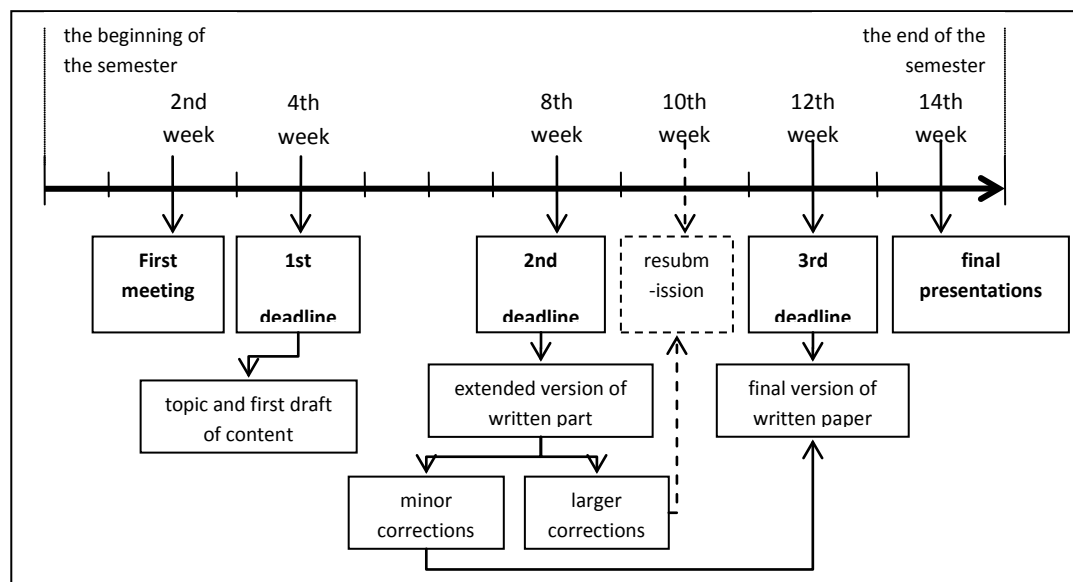
Fig. 1. A model of team project timetable within a semester

Our timetable assumes that between the 2nd and 12th week of team project work we check threefold the progress in project preparations. The first deadline is in the 4th week where we expect students to clarify final topic of team project together with a brief description of the content. The second deadline is in the 8th week where we expect students to provide a more extended version of a written part of the project for our (instructors') larger comments. If the comments are considered as minor, students continue their work over the project and in the12th week they are expected to complete the written paper for final assessment. In case of the need of deeper improvements, students are requested to resubmit the project for larger comments in the 10th week in order to control the correctness of improvements, and then prepare the final version of written paper for the 12th week. Then, students are given two weeks to prepare final public oral presentations which begin in the 14th week of the semester.

The structure of cooperation in a team

The assumed model structure of cooperation in team is presented in Fig. 2. and it is based on transparent rules. The transparency is supported by placing all materials touching the organisation and assessment of the results of the project on Moodle Platform (previously on a simple web site for Erasmus incoming students). The teacher – as instructor – offers a possibility to discuss any doubts and problems arising while working over the project by means of both direct contact hours and e-mail contacts. It is assumed that each team identifies a team leader who is responsible for communication with instructor. Any comments are then channelled by the team leader to all team members. In addition, meetings with team leader or even with all team members may be arranged by instructor whenever an urgent need appears (e.g. if students have serious problems with the understanding or developing the project or are far delayed in preparations).

Team leaders are informed that they are responsible for resolving any interpersonal conflicts that arise in team. The instructor has a power only to help in conflicts over a method of solving particular problems related to

the subject of team work. Also, instructors offer their help to make available appropriate literature sources for the problems revised in team projects, as an access to English-language literature on FFI is limited for incoming students.
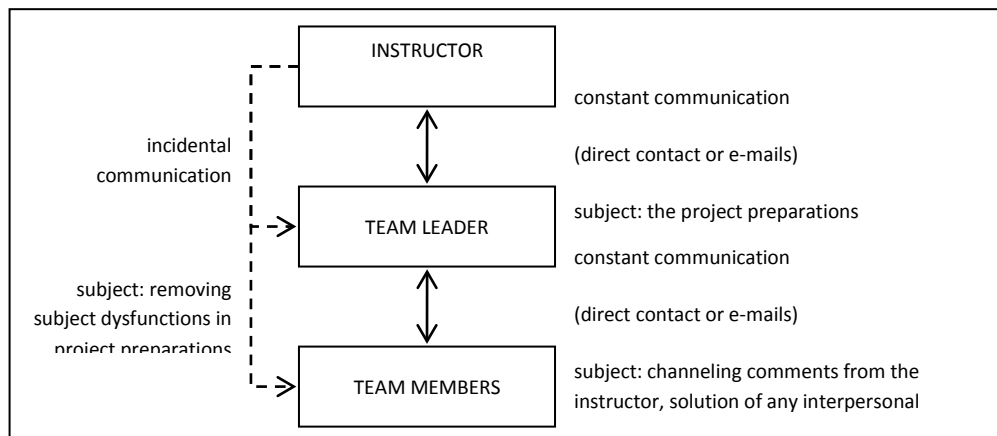
Fig. 2. A model structure of cooperation in team

Final assessment

The criteria of final assessment are transparent and explained in detail on the 'First meeting' (as mentioned above). In particular, we divided the assessment criteria by distributing points separately for systematic work over the project, written part and oral presentations. We use a special, far detailed assessment form that grant points for listed elements of each of these criteria. The prime assumption of our assessment procedure is that all team members are equally assessed. We do not grant team leaders for their function as we perceive the function as more administrative than creative. Within the first criterion – the continuous preparation of the project – students may be granted up to 40 points out of 200, which gives 20% of their final note. Students are penalised by the reduction of points in case on delays from deadlines. The second criterion of assessment is the quality of a written paper together with the quality of the solution of selected problem. This criterion offers up to 80 points, which constitutes 40% of the final note. In particular we assess the quality of theoretical assumptions and empirical findings. The last criterion is the quality of the oral presentation, where students may be granted up to 80 points, which constitutes the remainder 40% of their final note. Students are informed in advance that the presentation of final results should be between 10-15 minutes and that all team members should be involved. A relatively short time for presenting the results forces students to select the most interesting elements of their findings. On the other hand, this time is enough to give chance each team member to speak. In addition, relatively short presentations are more attractive for the audience (formed by the other team project participants).

The challenges of offering team projects in international students' environment

Our experience in offering team projects for incoming Erasmus students allowed observing almost each area of possible dysfunctions. The current shape of our offer, presented in the previous section, is a result of many modifications we implemented as a response to the challenges and obstacles we met. We gathered the prime issues in table 2, together with a short description of steps that were taken flowingly. However, still some issues remain hard to be solved completely.

Table 2. The methods of responding to the prime challenges of the international team project

Challenge	Response
national rather than	purposeful reorganisation of teams (which helped to

international teams	solve the problem partially)
ESL disturbing communication	modification of assessment criteria – implementation of criteria addressing the involvement of all team members and the ability to discuss the team project problem easily, to explain the assumptions and results of the projects
risk of plagiarism	creation of an electronic base of team projects from previous years; warning meetings of students, careful analysis of projects of similar problem or case
delays in keeping deadlines – last minute projects of poor quality	modification of assessment criteria – 20% of final grade dependant on continuous progress in preparations
low culture of presentation	modification of assessment criteria – implementation of criteria addressing student's attitude during the presentation

We realised that students tend to form more national that international teams. If possible, they are interested in forming a team constituted of their home country members. Our response to this problem was a purposeful reorganisation of teams leading to complete teams of students representing at least two nations. However, we are not fully successful in this effort as students often join in national teams due to co-habitation (and thus comfort of cooperation) or communication purposes (they prefer to communicate in their home language rather than in English). Thus, we perceive the problem of a tendency to build national teams to be partially linked to ESL (English as a Second Language), which is our biggest concern. We observed that the communication problems arise mainly due to students that are linguistically ill-equipped. These students tend to join in national teams and a team leader is always a student with the best English qualifications. It allows students to communicate without any barriers inside a team. However, the communication with instructor is sometimes highly difficult (e.g. students do not understand the criteria of assessment or the current information displayed on the web site with regard to dates and classroom where final presentation take place). In addition, while presenting the results of the project the linguistically ill-equipped students avoided to be active and did not take voice. Thus, in the assessment criteria we decided to grant points for the involvement of all team members. However, this solution brought only partially satisfying results – the linguistically ill-equipped students tended to read word by word their part displayed on slide and/or prepared notes. Thus, we decided to inform such teams that studying in English requires them to enlarge the related vocabulary. Students are warned that during the oral presentation we are going to ask them some questions and that their inability to answer these questions (due to problems with communication in English) will cause a penalty in one of the assumed criteria, thus lowering their final grade.

Another important area of problems that aroused after a few years of team project existence was an observation that the topics of students projects tend to be repeated. In order to avoid a plagiarism, we created an electronic base of the previous projects (only with written parts). Whenever the incident of a repetition of the project idea or analysed company occurs, we invite all team members for a discussion. We show students the previous project similar to their proposal and warn them that we are going to compare carefully the results of their work (in order to check whether they solved the problem on they own, original way).

We noticed also that students have many problems with keeping the deadlines. At first, the continuous progress in preparations was not included in the assessment criteria which caused the carelessness of students who often prepared last minute projects of very poor quality. Thus, we decided to penalise students for any

delays in project preparations by reducing the points they may be finally granted. Currently, 20% of the final score depends on the continuous work over the project.

The last area of dysfunctions we discovered was the culture of final oral presentations. Here we could easily observe the impact of students' culture background and the problems it may cause. Very often the attitude of our students during the presentation was unacceptable as compared to the requirements of public speeches (e.g. students keep hands in pockets, chew gums, stay back to the audience etc.). Once again, the only solution we found useful was a modification of assessment criteria by granting points for students' attitude during the presentation.

Conclusions

Although we met plenty of challenges, we consider teaching with team projects in international students' environment as a rewarding task. We are full of recognition to the individuality of our students which is demonstrated by original topics of team projects followed by the unique methods of solving the corresponding problems. Drawing upon our experiences, we are of the opinion that team projects are also effective in international students' environment. This method truly helps to develop interpersonal skills and increase language proficiency. Students have a chance to closely cooperate with their team mates from other countries which gives an opportunity to develop cross-cultural abilities. However, organisation of team projects directed to remove possible areas of dysfunctions reducing team work effectiveness, teachers (as instructors) faces a significant challenge. Our experiences confirmed that probably the quickest and most effective tool to direct students and to force them for required behaviours is the modification of assessment criteria. However, we are aware that it raises the risk of illegibility of these criteria for students. In many cases the challenges may be met by accomplishment of some solutions that are more organisational in nature.

We believe that our experiences described in this paper offer an interesting field for discussion over the challenges and solutions springing from didactics in international students' groups. We hope to find new ways to solve the observed problems with team project method as despite these dysfunctions we consider it as one of the most effective method of teaching corporate finance related issues in the international students' environment. Team project method brings many advantages not only within didactics. As researchers offering expertise in corporate finance related issues, we are offered an inspiration for further comparative studies of international scale. Student's projects are often based on national point of views, bringing closer the valid sources of information that may deepen the scientific researches.

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Appendix: Number of incoming students attending corporate-finance related team projects offered by Faculty of Finance and Insurance, University of Economics in Katowice, Poland

Academic year	Semester	Number of incoming students	Team project			
			FDMUR:	CICF:	FASA:	FLAM:
2006/2007	winter	attending team project	15	-	-	-
		in total	65	65		
	summer	attending team project	6	9	11	-
		in total	73	73	73	
2007/2008	winter	attending team project	18	9	8	-
		in total	67	67	67	
	summer	attending team project	26	6	5	13
		in total	67	67	67	67
2008/2009	winter	attending team project	19	24	-	18
		in total	67	67		67
	summer	attending team project	19	-	-	20
		in total	76			76
2009/2010	winter	attending team project	20	12	12	22
		in total	92	92	92	92
	summer	attending team project	28	25	-	14
		in total	58	58		58
2010/2011	winter	attending team project	25	-	-	17
		in total	74	-	-	74

	summer	attending team project	25	-	22	-
		in total	83		83	
2011/2012	winter	attending team project	20	8	-	26
		in total	71	71		71
	summer	attending team project	20	19	29	-
		in total	90	90	90	

THE AGE AND JOB SATISFACTION RELATIONSHIP IN HIGHER EDUCATION

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Abstract

This study examined the age-job satisfaction relationship in higher education. The study instrument used was the short form Minnesota Satisfaction Questionnaire (MSQ) which measures overall job satisfaction, intrinsic satisfaction, and extrinsic satisfaction using 20 facets of the job. The instrument was personally administered to the respondents. The population for the study consisted of academics in North Cyprus. The results show that the job satisfaction levels of the older age groups of academics are on the whole higher than the younger age groups. Overall job satisfaction and extrinsic satisfaction do not seem to indicate a linear relationship with age, with overall job satisfaction and extrinsic satisfaction levels varying for different age groups.

Keywords: Job satisfaction; intrinsic satisfaction; extrinsic satisfaction; academics; age; North Cyprus.

1. Introduction

Our job is not only a main source of income but also an important part of our life that contributes to our social standing (Sharma and Jyoti, 2009). In this respect the search for an understanding of the causes of satisfaction and/or dissatisfaction experienced on the job is an ongoing area of interest for social scientists, managers, and policy makers worldwide. Satisfied employees will be more productive and remain with the organization longer, however dissatisfied employees will be less productive and more inclined to quit (Sarker, Crossman, and Chinmeteepituck, 2003). Satisfied employees are also more likely to be creative and innovative and come up with breakthroughs that allow an institution to grow and change positively with time and changing market conditions (Sharma and Jyoti, 2009).

Job satisfaction has been defined in a variety of ways, the most widely used definitions in the literature being those of Locke (1976), Dawis and Lofquist (1984), and Porter, Lawler, and Hackman (1975). Locke (1976) defined job satisfaction as a pleasurable or positive emotional state resulting from the appraisal of one's job experiences. Dawis and Lofquist (1984) defined job satisfaction as the result of the worker's appraisal of the degree to which the work environment fulfills the individual's needs, and Porter, Lawler, and Hackman (1975) defined job satisfaction as one's reaction against his/her occupation or organization. In general, it can be said that job satisfaction is an affective reaction to a job that results from the person's comparison of actual outcomes with those that are desired, anticipated, or deserved (Oshagbemi, 2000).

Research findings have indicated that many personal characteristics affect job satisfaction in different and complex ways, these personal characteristics including gender, age, marital status, and working experience, to name a few (Koustelios, 2001). Along with gender, age is probably the most reseached characteristic in respect to its association with job satisfaction. A number of studies have suggested that the importance of job attributes is age-related (Moyes, Williams, and Koch, 2006), though the nature of the relationship between age and job satisfaction is not clear (De Nobile and McCormick, 2008). Many studies have suggested a positive relationship between job satisfaction and age (Aldag and Brief, 1975; Ronen, 1978; Rhodes, 1983), while others have

suggested a U-shaped or non-significant relationship (Luthans and Thomas, 1989; Clarke, Oswald, and Warr, 1996). Siassi, Crocetti, and Spiro (1975) reported higher levels of job satisfaction in workers over 40 than those under 40. Ronen (1978) reported a linear relationship between age and job satisfaction in a sample of private sector production workers but not in a sample of Israeli Kibbutz workers. Near et al., (1978) examined the relationship between age, occupational level, and overall job satisfaction and found that the strongest predictors of job satisfaction were rank and age. In his own review and analysis, Rhodes (1983) concluded that job satisfaction was positively and linearly associated with age arriving at this conclusion after a review of the findings from seven other separate studies (Aldag and Brief, 1975, Near, Rice, and Hunt, 1978; Ronen, 1978; Siassi, Crocetti, and Spiro, 1975; Stagner, 1975; Staines and Quinn, 1979; Weaver, 1978). In his study which examined the level of job satisfaction experienced by Greek teachers, and the relationship between personal characteristics and specific aspects of job satisfaction Koustelios (2001) found age to be a significant predictor of different aspects of job satisfaction. Additionally, Ssesanga and Garrett (2005), in their study of the job satisfaction of university academics from Uganda, reported age to be a significant influence on teaching satisfaction.

A wide range of research exists related to job satisfaction along with its causes and consequences in various settings (mostly profit oriented), however much of this research has been conducted in the west with even less evidence available from non-western nations (Maghrabi, 1999). Several studies have also concentrated on workers within the industrial sector to the neglect of workers in higher education (Oshagbemi and Hickson, 2003). Even less evidence is available related to job satisfaction in higher education for non-western nations. Research focusing on job satisfaction in higher educational organizations has indicated that, on the whole, academics are generally satisfied with their work. Findings indicate that academics want work tasks that correspond to their personal interests and allow them considerable autonomy in task selection and decision-making; they want a sense of achievement, facilitated by feedback from supervisors; they want clarity as to what is expected of them and harmony among the various people they work with; and they want salaries awarded equitably and at a level that meets their expenses; and they want promotions to be awarded fairly (Kelly, 1989). The job aspects that are most frequently perceived as responsible for low satisfaction are pay, university administration policy, availability of resources, and working conditions (Kelly, 1989).

Dissatisfaction amongst workers is undesirable and dangerous in any profession, but it is suicidal if it occurs in the teaching profession (Sharma and Jyoti, 2009). As Johnes and Taylor (1990) state, the goals of higher education are to provide in-depth knowledge, seek academic development, educate students, as well as to coordinate national development demands (cited in Chen, Yang, Shiau, & Wang, 2006). None of these goals can be accomplished efficiently if low satisfaction or dissatisfaction exists amongst academics. The job satisfaction of academics, their commitment, and their retention are crucial to effective academic institutions (Saner and Eyupoglu, 2012). Academics find themselves in a profession that is highly stressful. The requirements of career completion, excessive course loads that tend to hinder research and insufficient payment are all factors that may cause financial and physiological discomfort for individuals (Koyuncu, 2001). Unless they maintain positive attitudes towards their profession they will inevitably fail in their professional career (Sirin, 2009).

The main purpose of this study is to examine the age-job satisfaction relationship in higher education, more specifically academics in North Cyprus, and to identify which aspects of the job are sources of satisfaction and which are source of dissatisfaction. The results of this study will enable university authorities and policy makers to develop and implement policies towards the improvement of the undesirable conditions and the strengthening of the desirable conditions, reinforcing the higher-educational system. Studies that examine this relationship in a Turkish cultural context are few thus providing an ideal opportunity for research aiming to fill the gap in this field.

2. Methodology

To measure the job satisfaction of the academics the short-form Minnesota Satisfaction Questionnaire (Weiss, Dawis, England, and Lofquist, 1967) was utilized. The Minnesota Satisfaction Questionnaire (MSQ) is one of the most widely used instruments in the measurement of job satisfaction (Scarpello and Campbell, 1983)

and its validity and reliability has been proven over the 40 years that it has been in use. It has been used to measure job satisfaction in a variety of sectors, including education. The short-form MSQ is composed of twenty facets, each facet represented with just one satisfaction item. The short-form MSQ measures three satisfaction scales, namely intrinsic satisfaction, extrinsic satisfaction, and overall job satisfaction. Intrinsic satisfaction refers to occupational conditions (how people feel about the nature of the job's tasks), and extrinsic satisfaction refers to environmental conditions (how people feel about features of the job that are external to the work). Respondent academics were asked to express the extent of their satisfaction with each of the 20 facets of their job on a five-point Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied). The original short-form MSQ was translated into Turkish by the authors and tested on ten academics to test its validity and reliability. The internal consistency of the translated questionnaire was 0.85, obtained using Cronbach's alpha coefficient. The questionnaire was accompanied with a personal information form in order to determine the demographic variables of the academics that participated in the study.

The population for this study comprises academics from 5 of the North Cyprus universities. A total of 600 academics were randomly approached with 412 agreeing to take part in the study, resulting in a response rate of 69%. The questionnaires were administered in an interview format. Though extremely time consuming, this method was utilized so as to ensure as high a response rate as possible, hence the use of the short-form MSQ over the long-form. Of the 412 respondents, 67.7% were lecturers with a master degree, 7.8% were lecturers with a PhD, 13.3 per cent were assistant professors, 4.6% were associate professors, and 6.6% were full professors. The low number of respondents from the academic ranks associate professor and full professor is an indication of their relatively small numbers in the academic population in North Cyprus compared to the other ranks, though this is not surprising for a developing country. However, it is not felt that these percentages have had an affect on the final results as comparable studies conducted have also yielded both similar sampling percentages and similar results. Such studies include Ssesanga and Garrett (2005) and Oshagbemi (1997). Just slightly over half the respondents (53.4%) were male and 46.6% were female, and 63.8% were married and 36.2% were not married. The greatest percentage of respondents (37.6%) were in the age range 21-30, 34.5% were in the age range 31-40, 17.2% were 41-50, 6.1% were aged 51-60, and the remaining 4.6% were in the age range 61 and above.

The statistical package for the social sciences (SPSS) version 13.0 was used to analyze the data collected. Analysis consisted of the computation of descriptive statistics in order to examine the different job satisfaction levels of the academicians across the different age ranges and ANOVA in order to understand the relationship between job satisfaction and age.

3. Findings and Discussion

The mean scores (M) and standard deviations (SD) for the job satisfaction of academics in North Cyprus in relation to age can be seen in Table 1. Mean scores below 3.50 are considered to be more on the "dissatisfied" side of the "satisfaction-dissatisfaction" scale with mean scores above 3.50 being more on the "satisfied" side of the scale (Pearson and Seiler, 1983). As Table 1 presents the level of overall job satisfaction experienced by the academics in all age groups are above 3.50 thus indicating job satisfaction.

The level of overall job satisfaction increases and continues increases until the 51-60 age group and then starts to decrease, though only very slightly at the 61 and above age group. When we look at intrinsic satisfaction again satisfaction experienced by the academics in all age groups are above 3.50 thus indicating satisfaction. There is a steady increase from the younger age group up to 31-40 age group and the satisfaction level remains almost constant during the 41-50 age group. Then a rapid increase continues up to the maximum level experienced by the older age group. The extrinsic satisfaction scores indicate that the 21-30 and 31-40 age group are dissatisfied with the 41-50 age group indicating only moderate satisfaction. The 51-60 age group indicate an increasing level of satisfaction however a decrease is experienced in the 61 and over age group. Therefore, extrinsic satisfaction indicates a progressive increase from dissatisfaction to satisfaction starting with the 21-30 age group up until the 51-60 age group (maximum level) after which a decrease is observed, though still indicating satisfaction.

Table 1 Age-Related Mean Satisfaction Scores

Variables	Overall Job Satisfaction		Intrinsic Satisfaction		Extrinsic Satisfaction	
	mean	sd	mean	sd	mean	sd
21-30	3.60	0.66	3.70	0.64	3.41	0.78
31-40	3.70	0.69	3.82	0.73	3.45	0.75
41-50	3.74	0.61	3.80	0.63	3.63	0.66
51-60	3.95	0.38	3.98	0.36	3.89	0.55
61and over	3.93	0.53	4.03	0.51	3.73	0.63

The mean scores indicate that the overall job satisfaction and extrinsic satisfaction of academics are not linear in relation to age. However, intrinsic satisfaction can be considered to have a linear relationship with age. Support is also provided in Table 2 which indicates that the mean satisfaction scores for overall job satisfaction and extrinsic satisfaction were found to be significantly different in relation to age. This finding is consistent with the literature (Sharma and Joyti, 2009; Picket and Sevastoss, 2003). Intrinsic satisfaction was found not to be significantly different in relation to age. This indicates to us that overall job satisfaction and extrinsic satisfaction levels vary for different age groups and are at maximum at the older age groups, whereas intrinsic satisfaction levels do not vary for different age groups.

Table 2. Age-Related ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Intrinsic Satisfaction					
Between Groups	3.484	4	.871	2.028	.090
Within Groups	174.799	407	.429		
Total	178.283	411			
Extrinsic Satisfaction					
Between Groups	7.540	4	1.885	3.507	.008
Within Groups	218.784	407	.538		
Total	226.324	411			
Overall Job Satisfaction					

Between Groups	4.173	4	1.043	2.525	.040
Within Groups	168.157	407	.413		
Total	172.330	411			

4. Conclusion

The main purpose of this study was to examine the age-job satisfaction relationship amongst academics in North Cyprus. The results show that the job satisfaction levels of the older academics are on the whole higher than the younger academics. The findings indicate that overall job satisfaction and extrinsic satisfaction levels vary for different age groups of academics (that is, a statistically significant relationship exists between age and the two satisfaction measures). However, a statistically significant relationship does not exist between age and intrinsic satisfaction. It is hoped that this study makes a contribution to the job satisfaction literature, especially in Turkish cultural perspective.

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THE ANALYSIS OF RESEARCH CONDUCTED TO EVALUATE THE EFFECTIVENESS OF IN-SERVICE TRAINING PROGRAMS: TURKEY'S SAMPLE

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Abstract

In today's ever developing and changing world, teachers need in-service training since they are required to improve their knowledge, ability and attitude. In Turkey there are a lot of in-service training programs (ITP) that cater to the needs of teachers in elementary and secondary schools. Determining the effectiveness of ITPs and reflecting on possible improvements is of great benefit. This study, which is based on the need, aims to investigate the research fulfilled to analyze the effectiveness of ITP for teachers in Turkey and to discuss the results.

Keywords: In-service training; effectiveness; evaluation; document analysis; case study

1. Introduction

In today's ever developing and changing world, teachers as in every profession need in-service training since they are required to improve their knowledge, ability and attitude. Mercer, Forgnone, and Beattie (1978, p.30) have observed that "no profession in the social sciences can assume that pre-service education alone is sufficient for maintaining professional status". Egbert and Kluender (1979, p.19) have presented a similar rationale in noting that "it is not reasonable to assume that a given training period can prepare a person for a lifetime in any complex profession" (as cited in Powers, 1983). Therefore, in-service training (IT) is likely to have positive impact on teachers and school programs.

In the literature, IT is described in different ways. Taymaz (1981) states that IT is the training provided to the newly-employed or already working individuals to enable them to gain the necessary knowledge, ability and attitude that the profession requires. However, Aytac (2000) describes IT as all types of activities that meet an individual's adaptation, progress and development needs from the moment one starts a job in an institution. Guskey (2000) views it as processes and activities necessary to promote the professional knowledge, skills and attitudes of educators which in turn enhance students' learning. According to Hull (2001, p.43), the term in-service training is used to represent "all kinds of activities ranging from a brief teachers' meeting after school to a program to keep the community informed about school events."

In Turkey there are a lot of in-service training programs (ITP) that cater to the needs of teachers in elementary and secondary schools. In Turkey, professional development of teachers has been administered through central authority since 1960 and has been conducted by the In-Service Training Department of the Ministry of National Education since 1982. In recent years, some professional development activities for teachers in addition to the courses and seminars implemented by the Ministry of National Education have been conducted by various institutions (Bumen, Ates, Cakar, Ural&Acar, 2012).

The achievement of in-service training programs depends on effective planning, organization, application and evaluation (Karacaoğlu, 2009). Determining the effectiveness of ITPs and reflecting on possible improvements is of great benefit. Therefore, this can be achieved through program evaluation. Yuksel and Saglam (2012) define program evaluation broadly as a process of collecting information about the effectiveness of a program that is designed and implemented, analyzing and interpreting that information and ultimately taking decision regarding continuation, improvement or termination. McCain (2005) views evaluation as a process of appraising training to determine and improve its value. According to McCain (2005), gathering data for evaluation and conducting an

analysis only provides information; therefore, that information must be used for some purpose. Some of the purposes for conducting an evaluation include the following:

to improve the design of the learning experience

to determine if the objectives of the learning experience were met and to what extent

to determine the adequacy of the content

to assess the effectiveness and appropriateness of the instructional strategies

to reinforce learning

to provide feedback to the facilitator

to determine the appropriate pace and sequence

to provide feedback to participants on learning

to identify which participants are experiencing success in the learning experience

to determine business impact, the cost-benefit ratio

to identify the learning that is being used on the job

to assess the on-the-job environment to support learning

Moreover, Mathinson (1992) highlights the points in the evaluation of an effective ITP: (1) deciding on what teachers are going to acquire in the ITP and the proportion of it, (2) the effect of ITPs on the professional development of teachers and (3) identifying and evaluating the effect of inevitable difference between schools and teachers in varying school experiences (as cited in Ozan &Dikici, 2001). Good evaluations lead to get sound, meaningful and sufficiently reliable information which can be used to make thoughtful and responsible decisions (Guskey&Sparks, 1991 as cited in Guskey, 2000).

Guskey (2000; 2002) also indicates five critical levels of professional development evaluation including 1) participants' reactions, 2) participants' learning, 3) organization support and change, 4) participants' use of new knowledge or skills, 5) student learning outcomes. Collecting data in each level gets more complex and since each level is based on the previous, success at an early level may be necessary for positive results at the next higher one. Guskey (2000), proposes 'working backward' from Level 5 "the student learning outcomes that you want to achieve" and through each successive level to "what set of experiences will enable participants to acquire the needed knowledge and skills (Level 1)."

Evaluation must become an integral part of staff development. Purposeful evaluation before, during, and after a professional development program that is initiated is essential for determining if the program is worthwhile. Both formative evaluation, employed prior to and during a professional development experience, and summative evaluation, used afterward to assess results, are valuable.

The research investigating the effectiveness of ITPs actually presents the quality of these programs. Therefore, depending on the importance of evaluations, the overall analysis of studies conducted to evaluate the effectiveness of ITP in Turkey is of great importance.

1.1. Aim

This study aims to analyze the research conducted to evaluate the effectiveness of in-service training programs for teachers in Turkey. Based upon the main aim, the research questions are 1) What are the aims of the research conducted to evaluate the effectiveness of ITP? 2) In what dimensions are the results of the research conducted to evaluate the effectiveness of ITP?

1.2. Significance

Determining the effectiveness of ITP, gathering the results of evaluation studies under common themes and reflecting on possible improvements are of great benefit for the In-Service Training Department and for the education units of various public corporations and institutions. Therefore, it is necessary to analyse the results of studies done to evaluate ITP in Turkey. The findings obtained from the

research are significant in terms of putting forth the results of the research for consideration. Hence, the present circumstance related to various ITPs can be seen and the weaknesses of these programmes and the dimensions to be developed can be shown to curriculum development experts and curriculum practitioners.

1.3. Limitations

This study is limited to 35 pieces of research which consisted of master's theses, articles published in national refereed journals, and papers presented at national conferences and symposiums which were all conducted to evaluate ITP in Turkey from 2000 to 2011.

2. Research Methodology

The methodology of the research procedure included two major sections: design, data collection and analysis.

2.1. Design

This study was conducted through document analysis method which is one of the methods of qualitative research. The main purpose of document analysis is to analyse sources including written information that is targeted to research about events and facts in detail. Document analysis may be the sole research method when it is not possible to make in-depth interviews and comprehensive observations (Yıldırım and Simsek, 2011).

2.2. Data Collection and Analysis

Data was collected through document analysis. Within the document analysis, 35 studies were included in the research which consisted of 7 master's theses, 22 articles published in national refereed journals, and 6 papers presented at national conferences and symposiums fulfilled in Turkey from 2000 to 2011. In this study, instead of some articles which are the summary of theses, the theses were included.

Descriptive analysis technique was administered to analyze the collected data obtained during the document analysis process. In that process, the research was analyzed individually and, depending on the findings of the research, a thematic framework was formed and themes and sub-themes were determined. Analyzing the findings, the frequency values were counted both for the main and sub-themes. Then, two experts having qualitative research and field knowledge were consulted related to the reliability of the thematic framework. Based upon their opinions, the data were reorganized and the findings were discussed.

3. Findings and Discussions

The major findings were presented based on the two research questions. Discussions on each aspect were summarized together with the findings.

3.1. The aims of the research

When the aims of the research are analyzed, it is seen that the aims gather under four main themes. The themes are displayed in Table 1.

Table 1. The aims of the research

Themes	Frequency (f)
The evaluation ITP conducted in specific subjects/topics	21
The evaluation of ITP organized by the Ministry of National Education	8
The evaluation of ITP to see whether it is put into practice in schools	5
The evaluation of educators serving in ITP	1

Examining the aims of the research overall, it is seen that 21 of the ITPs were conducted to evaluate specific subjects/topics, 8 of them were organized by the Ministry of National Education and 5 of them were fulfilled to see whether what is learned in ITP is put into practice by teachers in schools. Only one study aimed to evaluate the educators serving in ITP. Educators actually play important role in the success of ITPs by planning and organizing them so there could be more studies as to the evaluation of educators.

Sample aim related to the evaluation of ITPs conducted about specific subjects/topics can be shown as in the following:

"The aim of the study is to analyse the effect of in-service training program on the improvement of views about the nature of science of elementary science and technology teachers" (A3)

Sample aim related to the evaluation of ITP organized by the Ministry of National Education can be shown as in the following:

"The aim of the study is to analyse the views of teachers and administrators working in state schools about the ITPs conducted by the the Ministry of National Education" (A10)

Sample aim related to the evaluation of ITP to see whether it is put into practice in schools can be shown as in the following:

"The aim of the study is to evaluate an in-service training about laboratory studies of physics teachers in long term" (A13)

Sample aim related to the evaluation of educators serving in ITP can be shown as in the following:

"The aim of the study is to examine the perceptions of participants in relation to the competencies of program instructors" (A25)

3.2. The dimensions of the research results

The sub-themes as positive and negative regarding the dimensions of the research results are displayed in Table 2.

Table 2. The dimensions of the research results

Sub-Themes	Frequency (f)
Positive Results	203
Planning	17
Approval of the place and physical facilities (such as course place, materials) by participants	7
Voluntary participation to ITP	4
Adequate planning of ITP by the course manager	3
Approval of the time and duration of ITP by participants	3
Needs Analysis	18
Doing a needs of analysis at the beginning of the process	11
Meeting the training needs of participants	7
Objectives	13
Objectives prepared in accordance with the needs	6
Objectives meeting the needs of participants	6
Clearly stated objectives of the program	1
Content	14
Content meeting the needs of participants	7
Clear content of the program	5
Content prepared in accordance with needs	2
Practice	19
Including practice as well as theory	11
Appropriate use of teaching methods and techniques	6
Organization of available equipment	2
Evaluation	26

Using process–based evaluation	10
Evaluations measuring the realization of ITP's aims	7
Use of different measurement tools	5
Evaluation of ITP with different methods	4
Educator	25
Having strong communication skills	9
Having sufficient professional and field knowledge	8
Guidance and assistance provided to the participants	6
Making effective presentations	2
Participants	71
Contribution to the professional and field knowledge of the participants	31
Positive changes in the attitudes of the participants	14
Acquired knowledge and skills reflected in the classroom context	11
Positive effects on students	10
Positive changes in psychomotor skills of the participants	4
Cooperation between participants	1
Negative Results	153
Planning	59
Disapproval of the place and physical facilities (such as equipment, materials, course place) by participants	21
Disapproval of the time and duration of ITP by participants	20
Mandatory participation to ITP	7
Failure to cooperate with universities	5
Inadequate number of educators	4
Inadequate planning of ITP by the course manager	2
Needs Analysis	10
Objectives	10

Content	13
Practice	11
Inappropriate use of teaching methods and techniques	5
Explanation of just theoretical knowledge	5
Inadequate practice	1
Evaluation	9
Not using process–based evaluation	4
Evaluations not measuring the realization of ITP's aims	2
Ignoring evaluation	2
Not awarding successful participants	1
Educator	19
Insufficient general qualifications	8
Not being able to use learning environment effectively	4
Insufficient professional and field knowledge	2
Not having enough adult education competency	2
Not having strong communication skills	2
Not giving feedback to participants	1
Participants	22

As seen in Table 2, the positive and negative results of studies gather under the same sub-themes: planning, needs analysis, objectives, content, practice, evaluation, educator and participant. The findings of this study revealed that the positive results in total were more than the negative results. Most of the positive results were included in the participant dimension. The ITPs mostly contributed to the professional and field knowledge as well as attitudes of the participants. Furthermore, the ITPs resulted in the participants to reflect what they learnt on the classroom context, thereby positive effects on the students. The positive results of studies related to participant dimension can be shown as:

"The ITP has resulted in participants to gain positive feeling, views and attitudes related to behaviour control and skill teaching" (A8)

"The ITP led the participants to use the techniques that is taught in the course in the classroom and be more effective" (A15)

Determining the needs of participants at the beginning of the process, preparing objectives and content in accordance with the needs, including practice as well as theory and using process-based evaluation are the other frequent positive results. Positive results of studies related to these dimensions can be shown as:

"The content of the ITP has been designed by determining the needs of physics teachers about science laboratory" (A24)

"The ITP included activities to be done in groups and gave the chance to apply the methods that were presented" (A27)

However, most of the negative results are related to the planning dimension. Time, duration, pace, place of ITPs and physical facilities in the course place were mostly disapproved by the participants. Some results of studies related to these dimensions can be shown as:

"The course started at the beginning of the semester after the summer holiday so teachers could not be motivated" (A18)

"The pace of the course was too fast and it was short term" (A30)

Moreover, some of the negative results are regarding the professional knowledge and skills of participants and not being able to reflect acquired knowledge and skills in the classroom context. The results of studies can be shown as:

"The physics teachers stated that they still could not use the laboratory effectively" (A34)

Also, educators' general qualifications, not being able to use the learning environment effectively, insufficient field/professional knowledge and adult education competency, inappropriate use of teaching methods and techniques, explanation of just theoretical knowledge are not approved by the participants in the ITP. The results of the study related to this dimension can be shown as:

"The educators should be expert in their fields and should be selected from the academics in the universities" (A25)

4. Conclusion and Suggestions

The evaluation of ITPs in a continuous and holistic approach and improvement of ITPs according to the results is essential so as to cater to the needs of teachers. This study was based on this need and 35 studies were analyzed. According to research findings, the positive results are more than the negative results; however, there are a lot of points to develop in ITPs that are arranged in Turkey.

The research findings also revealed that teachers' views as the participant were mostly preferred for the evaluation of ITPs in Turkey. Based on this finding, it can be suggested that evaluations should be made not only through teachers' views but also via more than one data collection instrument such as students. It can also be suggested that evaluation conducted to determine the effectiveness of ITPs should be applied not only at the end of the process but also during the program. Besides, it was noted that there was not an agreement related to the timing of ITPs (in summer, in winter, after the lessons, at the weekend, in the seminar periods of June and September). For that reason, it may be logical to ask for participants' views regarding the time of the program. Also, it was identified as a requirement that the educators should be selected from those who are expert in their fields and have adult education competency.

Based on the research findings, the following can also be suggested:

Scientific methods should be implemented to determine the needs of participants,

Participants should be selected objectively,

Participants who are successful in ITPs should be awarded,

ITPs should be arranged in appropriate physical places to meet the needs of participants,

The number and duration of ITPs should be increased and for that reason distance education may be utilized to reach more teachers,

Instructional strategies and techniques should be varied to motivate the teachers,

ITPs should be conducted in cooperation with universities,

Follow-up studies should be conducted at schools after ITPs.

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THE CASE OF SCHLEIERMACHER IN THE CONTEXT OF HERMENEUTIC METHOD IN EDUCATION

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Abstract

Very wide range of methods has been used throughout the history of education. Some of these methods have been long-running and employed for centuries; some of them occupied a significant place in the history of education only for a certain period of time and some of them have been frequently in and out of sight in the historical scene. Hermeneutic method, which is also known as a form of interpretivist method, whilst having experienced very functional periods throughout the history of science, also have seen certain periods in which it was not much mentioned and even fall into oblivion.

Having taken its name from Hermes who was believed to be a messenger between the gods of the ancient Greek Mythology and the human beings, Hermeneutics experienced a very functional period in the ancient Greek philosophy and literature and played a very active role in interpreting the religious and profane texts.

Not much mentioned along the medieval ages encompassing practically a period of a thousand years, in the New Age, especially after Renaissance and Reform, hermeneutic method played a key role in the reinterpretation of the Sacred Texts.

In the eighteenth century, the natural sciences virtually monopolized the science by using the "explanation" method and the social sciences retreated to the background. As a consequence, hermeneutics was left aside and not mentioned at all till the end of the nineteenth century.

It was not until Wilhelm Dilthey, the most significant theoretician of the discipline called Geisteswissenschaftlicen Hermeneutik, came up with the "understanding" method as opposed to "explanation" method, and hence hermeneutics reappeared in the historical scene.

This paper will deal with Schleiermacher as an educator and discuss his teaching method in the context of the application of the hermeneutical method to education.

Keywords: Education, hermeneutic method, hermeneutics, Dilthey, Schleiermacher.

Main text

Introduction

It would be proper to inform the reader about the life and thought of Schleiermacher, before we get started on this paper named "The Case of Schleiermacher in the Context of the Hermeneutic Method in Education".

One of the famous thinkers of the nineteenth century, Friedrich Ernst Daniel Schleiermacher, was born on October 21, 1768 in Breslau, Poland and died on February 12, 1834 in Berlin. The German philosopher is a theologian and also a philologist. He laid the foundations of the Protestant Theology and made a systematical interpretation of the Christian dogmas in his book named Der Christliche Glaube / The Christian Faith.

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Approximately in 1925-55, the theological ideas of Schleiermacher which had been influential during the nineteenth century was criticized harshly by a group named "The Word of God" which was led by Karl Barth ve Emil Brunner on the grounds that his ideas created a religion depended on the human culture rather than the absolute truth. However, the importance of the contributions of these ideas have begun to be better understood recently (Yılmaz, 2003, 104).

According to Schleiermacher, hermeneutics is the art of understanding the meaning of another person's words correctly. That means building a bond between the person one understands and the third person to whom the thing that one understood was transmitted to (Berger, 1999, 14; Schleiermacher, 1977, 11). As opposed to the former theoreticians, Schleiermacher problematized the question of understanding another person and rendered it a general problematic about knowledge by dealing with intent rather than reality and appealing to intuition rather than research. His analyses depend on examples from Bible or Classical Antiquity and for all that his attempt remains to be a bit theological still (Freund, 1997, 30).

At the beginning, the hermeneutical techniques had been developed to overcome the difficulties or failures in understanding the obscure or apparently incoherent passages which takes place mostly in religious texts. Schleiermacher thought our seeing neither an obscurity nor incoherence in a text is not a clue that our interpretation was correct. Potentially, understanding is always open to misunderstanding. We can't get anywhere as long as we acknowledge that the familiar words bear the same meaning as they are understood by us in daily usage when they take place in a historical text. As Linge claims, misunderstanding can naturally occur because of the changes in the meanings of words and worldviews which have occurred in the period that set apart the writer from the interpreter. These historical changes bring forth a trap which will make the understanding inevitably difficult, unless the consequences of these changes are neutralized. Thus, we appeal to hermeneutical rules not only when we confront difficulties, but also whenever we attempt to understand anyhing (West, 1998, 121).

The essential contribution of Schleiermacher to the formation of a hermeneutical approach is his attempt to investigate the conditions for the possibility of valid interpretation and to develop a new concept of understanding by relying on the legacy of the former transcendental philosophy and romanticistic movement. According to Schleiermacher, while a literary text belongs to the entire works of the author (objective factors of the texts), the peculiar meaning of the text depends on the subjectivity of the author at the moment of creation (subjective factors of the text). He thinks that understanding is a creative reformulation and reconstruction acting in a circular and dialectial flow, since it always contains a formerly known appeal. This approach to understanding anticipates the concept of hermeneutische zirkel (hermeneutical circle), which in future will be one of the main concepts of the hermeneutical approach. Having distinguished two types of interpretation, grammatical and phsychological, and having tried to determine the particular laws of these two types, Schleiermacher has been interested only in understanding and interpreting the text yet, but he has also claimed that the true object of understanding is a text which is to be understood and deciphered, an idea which will be influential along the whole development of the hermeneutical thought (Göka, 1993, 86; Göka, Topçuoğlu, Aktay, 1996, 28-29.).

Schleiermacher's hermeneutical circle approach can be outlined in three steps: (1) In order to reach the meaning of a text, one has to place it in the entire works of the author, in the same way as one has to place each word in the context of the entire work. (2) Likewise, one has to place the works of the author in the relevant literary genres and gradually in the whole literature. This is the objective aspect of the matter. (3) On the other hand, the interpreter has to determine the place of the same text in the spiritual life of the author as an expression of a moment of the creative process. Thus, according to Schleiermacher, when the circle containing the objective and subjective dimensions were completed and thus the "hermeneutic circle" was formed, only then it would be possible to reach the meaning (Kasaboğlu, 1992, 61).

The Development of the Hermeneutic Method since the New Age

With the Renasaissance, the interpretation and its rules had gained a new dimension and as a consequence the language, life conditions and nationality concept of the classical, Christian Mediaeval Ages had been fully changed. Thus, the interpretation shifted to a a new area different than the former one in Rome where its function was interpreting the Bible and it began to be employed to interprete another spiritual life through grammatical, objective and historical researches. This new philology, polymati and critique usually had to work with only small pieces of information. So these new sciences had to change into a new type and become creative and constructive. Therefore philology, hermeneutics and the critical science approach rose to a higher position. Last four hundred years have witnessed a very broad hermeneutical literature. Classical and sacred texts were powers to be gathered, so hermeneutics formed two movements. Classical and philological prescription was described as the art of critique (ars critica). The then-uncompleted works of Scioppius, Clerius ve Valerius manifested themselves in this period. These works gave the hermeneutical teaching of art in their first chapters. Countless writers and speakers wrote and talked about interpretation (de interpretatione). However, in the final analysis, the construction of hermeneutics was indebted to the interpretation of the Bible. The most important and perhaps the essential one among these works was Key (Clavis) which was written by Flacius and oublished in 1567 (Dilthey, 1924, 317).

The rules of interpretation which had been discovered and then reached the climax up to that time were brought together in a teaching structure. So, with these rules, artistic method had to acquire universality as a means of the postulate. This rule-based point of view that shaped hermeneutics raised the awareness of Flacius through the discussions of sixteenth century. He had to struggle in two fronts. One of these fronts was the authorities of restorated Catolicism, who claimed that there was no ambiguity in Bible. Having learned much, especially from the interpeeretations of Calvin, Flacius objected to these ideas. This interpretation of Calvin was a return to its foundations rather than merely interperation. For a Lutheran of that time, the most important mission was to refute the traditional teaching of Catolicism which had been recently formulated. The Catholic tradition which determined the interpretation of the Bible opposed to the rules of interpretation which was adopted by Protestants to interpret the Bible only on the grounds that it was impossible to deduct universal and sufficient interpretations from the sacred text. Some time after the publication of the works of Flacius, Bellarmin, the Catholic representative in the Trieste Concile, published an essay opposing severely to the idea that the Bible interprets itself in 1581 and tried to prove the necessity of the tradition. In the context of these discussions, Flacius attempted at raising the rules of interpretation into the universal rules of hermeneutics. In order to bring these efforts to conclusion, means and rules which had never been used in any hermeneutical study before were developed. The interpreter will be in need of an elavatory means, if he confronts a difficulty in a text. These are the sacred texts formed in the context of the living Christian piety. We translate this from the dogmatical cast of mind into our way of thinking. This hermeneutical value which is the experience of this piety is only the principle of particular events. Therefore, in each method of interpretation, the interpretation itself is a factor derived from the objective context. However there is a rational rule of interpretation besides this religious rule of interpretation. Grammatical interpretation is the next one. However Flacius underlines that the physchological and technical rule of interpretation should be interpreted according to the composition of certain parts and the entire text and also the aim of the work. And the studies on the re-organization of Aristotelian Rhetoric were conducted by Melanchthon. Flacius was conscious of the necessity to consider some parts and elements of the text according to the context, aims, proportion and equality which was inherent in them in order to determine the monosemy of the text by this means. Therefore he adds the hermeneutical value to the viewpoint of his methodical teaching itself. "Just like the parts of a whole hold their own understanding in their relationship with this whole and the other parts of it." He starts with the inner form of an object, then proceeds to its style and the elements of influence and develops the fine characteristics of the Pavlusian and Johannesian style. This was a great step within the scope of the rhetorical understanding. Melanchthon and Flacius claim that each text is written and understood according to certain rules. This resembles a logical automat by which the text is transformed into the figures of style, form and speech (Dilthey, 1924, 318).

The deficiencies of Flacius' work were overcomed in the hermeneutics of Baumgarten which was developed much after. Baumgarten accomplished in his work a second great theological and hermeneutical movement.

Owing to the information supplied by Baumgarten from a Halle library, not only the Dutch interpreters and English free thinkers but also the interpreters who expounded the Bible in a German framework rather than as an ethnological work apperad in the field. Semler and Michaelis got contact with him and joined his researches. Michaelis applied the uniform outlook of language, history, natura and law to the interpretation of the Old Testament. Semler, predecessesor of the Great Christian Baur, destroyed the uniformity of the interpretation of the Old Testament text and started a proper study. In this way he tried to understand each Holy Scripture according to its own local character. He then bound these Holy Scriptures together and formed a new unity. With this unity, he put the the oldest Christian-Jews conflict in the living historiografies in order. In the preliminary phase of the theological hernemeneutics, he divided the whole science into two parts resolutely: Interpretation based upon the usage of language and interpretation based upon the historical situations. In this way, interpretation was freed from dogmatism and the grammatical and historical schools were founded. Careful and sophisticated genious of Ernesti formed a new hermeneutics for the interpreters of the classical texts (Dilthey, 1924, 319).

Contributions of Schleiermacher to the Hermeneutical Method

Schleiermacher developed his own hermeneutics from his readings. These developments formed within the precise limits. Compositions and thoughts were formed by these interpreters according to the conditions of the time of each text within the frame of local and temporal visions. According to this pragmatical understanding of history, the human nature seen as consisting of equal religious and ethical aspects was confined only outwardly, locally and temporally. The human nature is not historical.

Up to that time, classical and Biblical hermeneutics acted in unison. Didn't these two practices have to be understood generally? In 1757 Meier took this step with his book named An Essay on a General Art of Interpretation. He tried to generalize the concepts of his own scientific field. It was necessary to develop rules from the signs which can be followed in each interpretation. However this book once again indicated that it was impossible to form a new science according to this architectural and symmetrical point of view. Only thing that this point of view could generate were blind windows that nobody could enter in. A very influential hermeneutics could only be generated by an attitude of mind that had brought the mastery of philological interpretation and the real philosophical talent together. He was Schleiermacher who had such a mind (Dilthey, 1924, 320).

Under what conditions did Schleiermacher work? His interpretation of the art works of Winckelmann, Herder's ability to understand the spirit of the ages and societies cognitively, Heyne's, Friedrich August Wolf's and his students' (among whom Heindorf carried out Platonic studies in a close contact with Schleiermacher) introducing a new aesthetical point of view to the philological studies—all these conditions together bound Schleiermancher to the experience of the German Transcendantal Philosophy. The idea of returning to an ability given in subconscious and the impact of this association unwittingly revealed the whole form of our inner world and from the association of these two moments emerged a particular art of interpretation and the grounding of the scientific hermeneutics.

Up to that time, Hermeneutics was at least a structure of rules. Its parts and own rules were linked together by the aim of a universal interpretation. Hermeneutics had some functions classifying the interpretation into certain parts grammatically, historically, aesthetically, rhetorically and objectively. For centuries, Hermeneutics had raised awareness about how the functions of the rules stemming from philological mastery should operate. Now Schleiermacher had returned again to these rules in order to analyze the understanding. In this way, in order to understand this movement itself, he deduced from this understanding the potentiality, means, limits and rules of the universal interpretation. However he expressed that the understanding which he defined as imitating, constructing and planning could only be analyzed if there is a living relationship between the method and the literary product. An influential work emerges from this creative method and thus it recognizes the necessary condition for another method to be understood. We can understand the author's state of mind from his aim, in the same way as we understand the whole of a work from its style (Dilthey, 1924, 324).

Therefore, a new historical-phsycological outlook was required for the solution of the problem. In this context, we tried to find out what is mentioned here by tracing the formation of hermeneutics as an artistic teaching of a certain kind of literary product between the Ancient Greek interpretation and rhetoric. However the concepts of these two methods always remained historical and logical. The categories in which these ideas realized were continuous practices, logical context, logical order and the dressing of these logical products with style, speaking figures and pictures. Now very new concepts are used to understand a literary product. This ability which contains integrity and creativity accepts the firstly expressed ideas and shapes them without being aware of its own influence and creativity. Receiving and forming spontaneously these ideas are the integral parts of it. Here, individuality manifests itself in each word. The inner and outer form of a literary work is the highest expression of it. Now, in order to understand this work, an unceasing requirement occurs: The necessity to confine one's own individuality because of the opinions of the other people. Understanding and interpretation is constantly active in life. They fulfill their development in the artistic interpretations of the crucial works and in the minds of writers themselves. This is a new perspective formed in Schleiermacher's mind in a different manner.

However there was a one more condition required for this great leap forward of the general hermeneutics. This historical-phsycological outlook was developed by Schleiermacher and his friends together with the philological art of interpretation. The German Spirit of Schiller, Wilhelm von Humboldt and Schlegel brothers ceased to be a poetical literary product and turned out to be the understanding of the historical world. This was a powerful movement. Böckh, Dissen, Welcker, Hegel, Ranke and Savigny joined this movement. Friedrich Schlegel became the pioneer of Schleiermacher in the philological art. The concepts which was used by Schlegel in his brilliant works on The Greek Poetry, Goethe and Boccaccio, shed light on the inner style of the work, the developmental history of the author and every fields of literature. The particular success of this profoundly-constructed philological art stemmed from the scientific critique. Art of critics (Ars critica) must have been founded upon the theory of these generated literary abilities, as mentioned briefly in Schleiermacher's "Hermeneutics and Critique (Hermeneutik und Kritik)" (Dilthey, 1924, 324).

First of all, Schlegel developed a scheme for the translation of Plato. It was followed by the founding of the new interpretation technique which will firstly be applied to Pindar by Böckh and Dissen. According to this technique Plato had to be understood as an artist of philosophy. The aim of this interpretation is to create coherence between the Platonic philosophical character and the artistic form of the Platonic works. At that time philosophy is still a living phenomenea united with speech. Its literary formation is necessary for only remembrance. It should be a dialogue in an artistic form. Philosophy is in need of a living connection of thinking to continue reproducting itself. According to this Platonic thought which has also a firm integrity in itself, each dialogue should involve the background of the event, organize its aftermath and continue forming the various parts of the philosophy. If we follow this relationship of the dialogue, then the connection of the sources are formed which will reveal the undermost inner aim of Plato. Schleiermacher claims that Plato can only be understood after the connection which is formed artistically. With regard to this, in the chronological order of his works a disconnection might occure or the connection might become less important. In his famous critique (Rezension), Böckh claims that this work on Plato is a masterpiece in the science of philology.

Such a philological mastery and a philosophical talent first came together in the genious of Schleiermacher. In this success, the solution of the hermneutical problem and the transcendental philosophy which offers an adequate means for all the texts played a great part. So hermeneutics as a general science and an art of interpretation emerged.

In the fall of 1804, Schleiermacher developed the first scheme of hermeneutics from the Ernestian interpretive readings. So he wanted to start the interpretation lectures in the University of Halle. We had only an ineffective form of this hermeneutics. It was Böckh who was his student in the University of Halle that brought the required influence to his hermeneutics in the wonderful part of his lectures on the encyclopedia of philosophy (Dilthey, 1924, 332).

In conjunction with another development, I would like to quote some sentences which seem to me essential from the hermeneutics of Schleiermacher. The interpretation of each literary work can only be fulfilled by the

method of understanding which was formed artistically. It extends to all aspects of life and contains all types of speech and writing. Accordingly the analysis of understanding is essential for the rulemaking in interpretation. However this can only be associated with the analysis of the literary works. The relationship between the understanding and fruition which determines the means and limits of interpretation can only help to form the connection of the rules.

The potentiality of emerging of a universal interpretation can only be generated from the nature of understanding. The characters of the interpreter and the author of the text do not confront each other since they are uncomprable facts. This two facts lie in the foundation of the general human nature. Therefore, the collectivity of human is only possible with speaking and understanding. Here we can once again explain the expressions of Schleiermacher phsycologically. Ultimately, all differences depend on the differences stemming from the essential mental conditions of different people rather than the qualitative differences. However, the interpreter can succeed in emphasizing and strengthening the mental conditions in effect, leaving behind the others and embedding the imitation of the foreign lifes in himself, if he practices and places his own vitalness into an historical environment.

This logical aspect of the interpretation which we have expressed in our logical terminology is founded in the coeffect of induction, in the application of general truths to the particular situtiations and in the comparative method. The last thing to do is to determine the particular forms, fulfill the logical operations aforementioned and recognize the connections.

Here the main difficulty common in all arts of interpretation becomes evident. It is supposed to understand whole of the work from each word and their connections, however understanding the "part" depens on understanding the "whole". This cycle repeats itself in the relationship between the work, the development and mood of its author and the literary genre to which it belongs. Schleiermacher best analyzed this problem in his work, "The Introduction to the Republic of Plato". I came across different examples of the same method in his lecture notes on interpretation. ☐He started his compared to a slapdash reading. This introduction involved the entire context, including the main lines. He shed light to the difficulties. In everywhere that informs us about composition, he stopped and contemplated. Then the real interpretion began. ☐Theoretically we here determine the limits of all possible interpretations which to some extent perform their function. So understanding everything is impossible because it is a relative thing and it never ends.

Schleiermacher refused to divide the method of interpretation to four categories (grammatical, historical, aesthetical and objective) as it was practiced before him. If the interpretion has begun and been capable of having an impact on each category, then this division only points out to the realization of the grammatical, historical, aesthetical and objective cognition. However, the method of interpretation itself can be divided to two categories which serve to deduct from the things inherent in the lenguistical signs a mental creativity. Grammatical interpretation goes from context to context and continues until the highest connection in the whole of the text is established. Psychological interpretation starts with the formation of the inner creative process, proceeds with the inner and outer form of the work and finally records the development and mood of the author creating the coherence of the work (Dilthey, 1924, 336).

It is just the point where Schleiermacher masterfully brought the art of interpretation. In his teaching, the inner and outer form is essential. Especially, the general theory of the literary products bears a profound meaning, in the same way as Organon has an important place in the history of literature.

The highest aim of the hermeneutical method is to understand the author better than himself. Imagine a sentence that the coherence of its teaching has been come into existence from an unconscious creating.

Now we have arrived at the conclusion, which says understanding is only possible with an interpretation which reached universality against the language monuments. If hermeneutics is conscious of the philological interpretation method and the causes of truthfulness; when the practical use of this discipline is compared with a living exercise, it can't have a great impact, as Friedrich August Wolf has rightly criticized. However, besides

this practical use, it seems to me that, the second and even the most important duty of interpretation is grounding the universality of interpretation theoretically in a historical perspective against the persistent pressure of skeptical subjectivity, because the reliability of history completely depends on this. When the teaching of interpretation is recognized as the logical and methodological teaching of the human sciences in the context of the theory of knowledge (Erkenntnistheorie); then it becomes an important link between historiography and philosophy. In other words, it becomes the essential supplementary and grounding element of human sciences (Dilthey, 1924, 317).

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THE CRITICAL EVALUATION OF A FACULTY OF EDUCATION WEB SITE BY COMPUTER TEACHER CANDIDATES

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Abstract

The aim of this research is to investigate the Web site evaluation skills of computer teacher candidates as they assess the Trakya University Faculty of Education web site in terms of visual design, structure and navigation. The research utilizes a Web Site Evaluation form and a semi-structured interview in order to collect the required data. The analysis of the quantitative data has been carried out via descriptive statistical techniques; with the frequency and percentage distribution figures for each item given in charts; whereas the analysis of the qualitative data has been carried out through descriptive analysis techniques. It was concluded from the study that the computer teacher candidates found the faculty web site to be easy to use and fluid in terms of navigation and they reported that the site works as intended and without problems. However, it was also reported by the teacher candidates, that the faculty web site had neither a customized site search engine nor a promotional video and that, the promotional images needed a more professional touch in order to have a stronger effect on visitors. Another conclusion was that the computer education teacher candidates tended to pay attention on issues like color schemes in the visual design of a web site and that they preferred not having too much visual detail or animations within similar websites.

Keywords: CEIT, Web site evaluation, Web design, Education Faculty

Introduction

The rapidly developing Web technologies in the recent years have resulted in improved dynamicity, richer visual content and faster loading times of Web pages. Even though most of these new technologies may seem to be exclusive to private industries; they are also employed by Web sites of governmental organizations, including educational institutions such as universities or libraries.

The Web sites, which serve the purpose of education, have been positively affected in terms of technical structure and ease in content updates by developing Web technologies. As a consequence, the Web sites of many academic institutions have been re-structured. However, Web technologies alone are not enough to create Web sites that serve the needs of the target audience; and there is always a need to implement them by taking usability issues into account (Calongne 2001), since usability means quality in Web sites and it puts the users and their real needs in the center (Zaharias 2004). There have been numerous studies seeking to evaluate the usability of Web pages that belong to academic institutions and re-structure them according to the results. Cobus et al., as well as McGillis and Toms, have worked with users of library web sites in order to evaluate the usability of the said sites (McGillis and Toms 2001; Cobus, Laura et al. 2005), whereas Uçak and Çakmak, as well as Zengin and colleagues, (Uçak and Çakmak 2009; Zengin 2011) have collected user opinions in order to evaluate the web sites of respective academic departments. Kutluca, Tamer and Aydin have conducted a large scale research to evaluate through expert reviews the Web sites for 67 Faculties of Education in Turkey and reported the results (Kutluca, Aydin et al. 2009).

A recent example of an academic institution web site that has been re-structured to reflect new technologies in Web site design is the Trakya University Faculty of Education Web site. The faculty houses a department of Computer Education and Instructional Technology (CEIT), where pupils enrolled also take up Web page design and Web programming courses as part of the undergraduate curriculum. The undergraduate program thus helps the students become individuals that are knowledgeable in these fields

This study provides information on the infrastructure of the new Trakya University Faculty of Education Web site, which was re-structured and published in 2011; then showcases an evaluation of the new Web site by the computer teacher candidates that are enrolled as students in the Computer Education and Instructional Technology undergraduate program offered by the faculty; and finally discusses the results of the evaluations.

The Technological Infrastructure of the Web Site

The previous version of the web site, which had been based solely on HTML, proved to be inefficient in terms of page updates, user interaction and dynamic processes. However, the re-structured Web site, which was built and published in the year 2011, uses Jquery and Ajax structures, which form the basis of today's Web 2.0 and Semantic Web technologies. Therefore, dynamic web pages that allow for updates through user interaction have been created for the site. The programming language employed for the construction of the site was C# under ASP.NET technology. Additionally, data such as personnel hierarchy and website news feed entries have been recorded into a database running on MS SQL Server 2008 database management system. At the design stage, the CSS language has been used in order to achieve identical appearance over different Web browsers.

The purpose of the research

The purpose of this study is to assess the evaluation of the new Trakya University Faculty of Education Web Site, which has been published as of 2011, by the students of the Department of Computer Education and Instructional Technology at Trakya University Faculty of Education.

The answers for the following questions have been sought in accordance with this purpose: According to the students of the Department of CEIT, who are also Computer Teacher candidates, how is the Faculty of Education web page evaluated

- in terms of technical and navigation structures; and
- in terms of visual design?

Method

Research model

The research employs two methods, namely the quantitative "general screening model" and the phenomenological model, which is a qualitative research method. As a result of a review on current literature, a 37-item questionnaire named the "Web Site Evaluation Form", which was developed by Kutluca, Aydin and Baki (Kutluca, Aydin et al. 2009), has been chosen as the data collection tool for screening purposes. The aforementioned research employs the form as a tool of expert review and the form has been used within this research on computer teacher candidates, who are both site users as students and Web site design experts in-training. Additionally, in order to clarify the results and to precisely find out about students' opinions, interviews have been made with 2 students from each class and evaluated in terms of qualitative methods.

Population and sample

It is intended to assess the evaluations of the Trakya University Faculty of Education Web Site by computer teacher candidates that are undergraduate students at the Department of Computer Education and Instructional Technology (CEIT). The population of the study has been set as 143 students that are studying in Trakya University Faculty of Education Department of CEIT. Purposive sampling has been used at the qualitative data collection stage of the study, where two students have been chosen from each classroom for interviews. The purposive sampling variables for the selection of interview participants have been set as student class and gender.

Data collection instruments

Data for the evaluation of Trakya University Faculty of Education Web Site has been collected via the form that has been selected, during February 2012 and March 2012. The scoring for items in the Web Site Evaluation Form have been set as Yes (2), Partially (1) and No (0) The frequencies and percentage values acquired as a result of analyses on quantitative data have been shown in charts. A semi-structured interview form has also been created by the researchers in order to use in the interviews made for the qualitative data collection stage. The form, which has been based on relevant literature, has been subjected to expert review and edited in accordance with the feedback received.

Data analysis

The data that has been collected via the Web Site Evaluation Form has been entered into a spreadsheet created in MS Excel software. Frequency and percentage values have been obtained from this spreadsheet. As for qualitative data, interviews made with the students have been recorded as audio data; to be transcribed into computer text later and handed to an expert for review of integrity. Once the integrity of the interviews has been verified by the expert, they have been indexed. The necessary opinions regarding the interview questions have been selected and entered into an MS Excel spreadsheet. Then, the opinions that have been entered into the spreadsheet have been collected under certain theme categories. Lastly, the opinions which have been categorized under themes have been interpreted by experts and reported as findings

Findings

Findings obtained from form data

Table 1. Findings on items pertaining to technical and navigational structures sub-category

Technical and Navigational Structures	Yes		Partially		No	
	f	%	f	%	f	%
Is it easy to control the use of the site?	88	62	39	27	16	11
Are all the pages of the Web site working without problems?	81	57	45	31	17	12
Is the information architecture of the Web site too complex?	30	21	48	34	65	45
Is it easy to navigate between pages?	90	63	40	28	13	9
Is there a search engine within the site?	40	28	15	10	88	62

According to the values on Table 1, it can be deduced that the Web Site is easy to use; that there are no problems at any of the web pages and that; navigation in the website is easy. However, there seems to be a problem regarding the site search engine. There also seems to be a partial problem regarding the information architecture.

Table 2. Findings on items pertaining to the visual design sub-category.

Visual Design	Yes		Partially		No	
	f	%	f	%	F	%
Are font faces and sizes consistent in all the pages that comprise the site?	83	58	34	24	25	17
Does the site include visuals and photographs that promote the faculty?	103	72	36	25	4	2,8
Do the web pages for different departments/divisions share a common visual theme?	91	64	41	29	11	8
There are web pages within the site that do not work / can't be reached.	28	20	33	23	82	57
Are there animations on the site pages?	63	44	36	25	44	31
There is much detailed information on the pages	31	22	49	34	63	44
Too many different colors have been used in the site's pages.	20	14	50	35	73	51
Do you think that color harmony has been preserved throughout the site?	102	71	31	22	10	7
Are there pages that are still under construction?	23	16	39	27	80	56

According to the figures on Table 2, the only problems regarding visual design seems to be about animations and about lack of detailed information on the pages.

Findings obtained from interview data

Technical and navigational structures

The teacher candidates that have been selected for participation in the interview phase of the research have been initially asked about their opinions on the technical and navigational structures of the Faculty of Education Web page. It was found that the teacher candidates generally thought that the means of access to the Web site is quick and sufficient and that the content of the Web page is easily reachable through the menus and other organizational elements that are parts of the site navigational structure. On the other hand, some participants of the interviews have reported that certain menus have failed to operate and that transition between pages failed at times. The computer teacher candidates also reported that, in spite of the occasional technical difficulties, the transition through menus and pages is clear and fluid; whereas the menus have been designed as neat, simple and understandable.

"Yes, it works fast but, I mean, we do have a CEIT group in the Faculty of Education and because of that... well, I guess the site could have been designed to be more lively. I thought the navigational structure could be improved." [Y.B.]

"Transitions are swift in general. There are no problems in that aspect. However, there seems to be some problems when moving between menus. Menus seem to close by themselves in case they are not aligned, and then you have to re-open them.." [Y.B.]

"Yes, I mean, as far as navigation is concerned, I can freely move around the site. I can check out all the educational departments of the faculy, as it can be seen from here"[G.K.]

Visual Design

It can be said that the opinions of the interviewed teacher candidates regarding the visual design of the Web site is generally in the positive direction. The overall themes discussed in the stated opinions are the color palette, picture quality, and the use of video and animations. The teacher candidates have reported that the color palette is designed as harmonious; however, the selection of th colors should have been more appropriate for a

university, which is a governmental institution after all. In addition, one teacher candidated reported that the orange color, which was one of the colors contained in the color palette for the Web site, was discomforting for the eyes, hence creating trouble for the site visitors.

"Orange. I've read somewhere about the orange-blue combination in Web sites, about how it is exhausting for the eyes. It keeps attracting unnecessary attention."[E.K.]

"The color scheme is harmonious, it is beautiful, there is nothing too extreme or eye-biting about it . Which is normal since, I mean, it is the Web site for a University, which is an official institution. So I can say yes, it is good"[Y.B.]

Another aspect of visual design that has been discussed is image quality. Teacher candidates reported that they found the images to be very 'amateur' in terms of technical quality and appropriateness for the Web site. They also reported that they expected more professional images that promote the Faculty more effectively.

"A lecture hall ahs been shown in one image but, it is completely empty. I think it would be better to have the image of a hall with students inside."[B.B.E.]

"Sure, there could be more appropriate, proper images at the site. These photos also look, how shall I say, a little artificial"[A.Ö]

Various opinions on visual design have also been discussing about video and animations. Teacher candidates have reported that the lack of videos that are promoting the faculty is a disadvantage and that these needed to be included in the Web site. As for animations, the teacher candidates reported the number of animations used in transitions between site images is sufficient and that too many animations in the Web page would have been inappropriate anyway.

"There are image transition animations. That is a good thing. There are no problems with it either, so I can say it's pretty nice." [E.Ö.]

"Too much of that would be disturbing. The current level of animations is enough." [Y.B.]

"Yes, a promotional video could be effective."[E.K.]

The interview featured several questions regarding the visual design of the site text content. The answers pointed out that the font face and size used in the web site are appropriate for the target audience. It has been reported that the text was easily readable and the content wa sunderstandable.

"The notice board text is beautiful. The overall font faces are normal, too. They're not too large, nor too small. The size is completely readable, which is nice."[E.Ö]

"No, I think the font sizes are quite fine for me. For example, here, this notice board text, which keeps flowing, and the fact that it changes color when i click here, it is good, useful."[G.K.]

Conclusions and recommendations

According to the research, computer teacher candidates believe that, as far as technical and navigational structures are concerned, Web sites with menu elements that enable fluid and dynamic transition between pages are more effective. In addition, as far as visual design is concerned, the computer teacher candidates seem to care about harmony in the color palette, believing that a Web site for an official government institution needs to have simpler colors. It was stated that the images used in the Web site are not effective for the promotion of the faculty, that more professional and higher quality images need to be used for this purpose and that it can be much more useful to include promotional videos in the Web site. It is thought that too much use of animations could result in distraction and disturbance of the eye sight. As far as text properties are concerned, the teacher candidates believe that readability of the Web site is good.

The following recommendations could be made as a result of the analyses:

- It was understood that the lack of an intra-site search engine is a disadvantage according to the students. Adding a search engine to the Web site should be considered.
- Students have reported that the images used in the Web site are of amateur quality. The images therefore need to be replaced with more professionally acquired ones.
- It has been understood that the students could not be well informed about the faculty and its departments due to lack of promotional videos. Such promotional videos need to be prepared.
- It was found out that the Web site does not feature language selections for international visitors, such as exchange students from the Erasmus program. For this reason, translated versions of the Web site need to be developed.
- It was found out that photographs of faculty administrative staff are not present on the Web site. The photographs of the administrative staff need to be uploaded.

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THE DEVELOPMENT OF SOCIAL AND EMOTIONAL ABILITIES OF PRIMARY SCHOOL CHILDREN

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Abstract

This paper aims to identify the progress of social and emotional abilities and resilience to a group of Romanian primary school children after attending the Program *Playing the Life.* The experimental study was made on 27 subjects in two stages, before and after the program, from children and teacher point of view. The main result refers to the increasing of social and emotional abilities (raw score, T score and category) and their factors (self-regulation, social competence, empathy and responsibility) from self-assessment of children and teachers assessment

Keywords: social and emotional learning; self-regulation; social competence; empathy; responsibility; strengths-based assessment;

Introduction

Social and Emotional Learning (SEL) is a new issue in the sciences of education field and represents a reaction to challenges from social context regarding subjective children wellbeing. In the last decade there were developed many different social and emotional learning programs especially in the U.S. and U.K. These programs were sustained by scientific research which highlighted their key benefit: greater academic and professional success, behaviour improvement, increased inclusion, learning improvement, growth social cohesion and mental health improvement (Weare, 2003). An important meta-analysis found that students who received social and emotional learning had more positive attitude about school and improved an average of 11 percentile points on standardized achievement tests compared to students who did not receive such instruction (Durlak & Weissberg 2010, Durlak & Weissberg, 2011). The review indicates that SEL programs are effective in both school and after-school settings and for students with and without behavioural and emotional problems (Durlak, Weissberg, Pachan, 2010). School-based programs improve students' social-emotional abilities, attitudes about self and others, connection to school, and positive social behaviour and it reduces conduct problems and emotional distress. In conclusion, social and emotional abilities can be taught in school by teachers and in this form are most effective (Durlak & Weissberg, 2011, Merrell & Gueldner, 2010).

The experimental approach is based on the theory of positive psychology as it was initiated by Martin Seligman and Mihaly Csikszentmihalyi (2000) and the program evaluation is consistent with Strength-Based Assessment. According to this, the focus is on the positive attributes, assets and subjective wellbeing rather than deficits, pathology and mental illness (Cowen, Kilmer, 2002, Keyes 2002, Jimerson, Sharkey, Nyborg, Furlong, 2004, Keyes, Corey 2005, Suldo & Shaffer, 2008, Gilman, Huebner, Furlong, 2009, Bird, Markle, 2012).

Our study is included in wider range of researches concerning the SEL benefits and evidence-based programs. We aim to enrich the practical review of Strength-Based Assessment accomplished with children in after-school settings. We hope to validate the *Program Playing with Life* as developing the social and emotional abilities and resilience of primary school children. Social and emotional assets and resiliencies represent a set of adaptative characteristics that are important for success at school, with peers and in the outside world as follows: friendship skills, empathy, interpersonal skills, social support, problem solving, emotional competence, social maturity, self-concept, self-management, social independence, cognitive strategies (Merrell, 2011).

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Resuming, the two goals of the study were as follows: 1) to validate the Program *Playing with Life* and its benefits for children; 2) to identify a progress in development of children's social and emotional abilities after program participation.

Having these goals in mind we propose one general hypothesis: *The proposed program has positive effects on the development of children's social and emotional abilities;* and three specific hypotheses: 1) The children's implication in the program will increase their level of social and emotional abilities from their self-assessment perspective; 2) The children's implication in the program will increase their level of social and emotional abilities from teachers' assessment perspective; 3) The children's implication in the program will increase their level of social and emotional abilities separately on each of the factors *self-regulation, social competence, empathy, responsibility* from teachers' assessment perspective.

The *independent* variable of this research was the educational program for the development of social and emotional abilities identified in two periods of time: before the intervention (pre-test) and after the intervention (post-test). The *dependent* variable – the global development level of social and emotional assets and resilience operationalized in several categories: self-regulation, social competence, empathy and responsibility.

Research Method

Participants

The sample included 27 children aged between 8-12 years old from 6 urban public schools. Depending on the subject gender, there were 55% girls and 47% boys. All participants come from families with medium high standard of life and level of education, in a proportion of 22% disorganized by divorce. The student attended the schools as follows: 26% in grade 2, 4% in grade 3, 41% in grade 4, 22% in grade 5, 7% in grade 6.

Assessment instruments

The instrument used in assessment before and after the program is Social Emotional Assets and Resilience Scales (SEARS, Merrell, 2011). SEARS is a complex evaluation system of social, emotional and behavioural characteristics based on positive psychology and strengths assessment model. There are four primary rating scales within SEARS system, for children (ages 8 to 12 years), for adolescents (ages 13 to 18 years), for teachers (with students ages 5 to 18 years) and for parents (with children ages 5 to 18 years). The forms are short (ranging from 35 to 41 items) and each rating scale has o companion short form comprising 12 items that possess the strongest item-level psychometric properties. Each item has four-point ratings scale varying from 0=Never to 3=Always; higher score values (raw score, T score, percentile) are indicative of a child or adolescent possessing more of the desirable social-emotional characteristic. With exception of SEARS-Child (SEARS C) all other forms has four empirically derived scales: Self-Regulation (SR), Social Competence (SC), Empathy (E) and Responsibility (R). After summing the values can be calculated total raw score, T score, percentile and tier that corresponds to the examinee's total raw score. A profile for each subject can be constructed and after this the values are integrated in a category: Tier 1 *Average to High Functioning,* Tier 2 *At Risk,* and Tier 3 *High Risk.* The author mentioned in Professional Manual that internal consistency for the total score of each of the four SEARS measure range from .80 to .95 whilst the scale score internal consistency coefficients range from .80 to .95 and for short form is between .82 and .93.

Procedure

The experiment was a longitudinal one with repeated measures, developed between December 2011 and March 2012 through children assessment with SEARS C and SEARS T (2 teachers). The answers from full forms where then taken over in short forms in order to obtain different types of integrated and progress monitoring reports for every child. The *Playing Life* Program developed in 8 modules made up of 2 weekly themes each; every theme took 2 hours.

The first phase was *The Initial Evaluation* of children social-emotional assets by self-assessment and 2 teachers assessment and the second was *The Final Evaluation* held with the same group of children in the same conditions. The third phase consists in uploading the values from scoring sheet to computer program (SEARS Scoring Program) in order to calculate the total raw score, the T score, percentile and place the children in the proper tier. In this moment the researcher also constructed a SEARS individual profile of each subject and also generates The SEARS Integrated Report (with protocols from children and teachers) and SEARS Progress Monitoring Report (with short form protocols pre-test and post-test separately for children and teachers). In the fourth phase the overall data for each subject were selected and then transferred to SPSS for processing. In the fifth phase there were made the statistical operation in order to check the hypotheses and it was done the qualitative interpretation.

Results

The data were processed with the program SPSS 10.0 for Windows. We used the following main statistical operation:

The Paired Sample t test in order to compare the raw score and T score at variables *social and emotional abilities* and their factors depending on the variable *testing moment*

The cross-tabulation technique in order to compare the categories of variables *social and emotional abilities* and their factors depending on the variable *testing moment*

To check the hypotheses we made comparison between initial and final evaluation (pre-test and post-test) for variables *social and emotional abilities* and their factors (*self-regulation, social competence, empathy and responsibility*) taking into account three types of measures (raw score, T score and category) achieved from two perspectives: children's self-assessment and teacher's assessment. We present below the obtained results for each of the three specific hypotheses.

The specific hypothesis 1

Comparisons regarding global children's self-assessment – social and emotional abilities (raw scores, T scores) before and after the program

Sustained by the obtained results, we consider that:
- There were significant differences on the significance threshold $p \leq 0.05$ between the raw scores at variable *social and emotional abilities (children's self-assessment)* measured pre-test and post-test [t (26) = 7.344, p = 0.000], the participation at the program directing to a significant increase of raw scores at variable *social and emotional abilities (children's self-assessment)*, (Table 1).
- There were significant differences on the significance threshold $p \leq 0.05$ between the T scores at variable *social and emotional abilities (children's self-assessment)* measured pre-test and post-test [t (26) = 7.485, p = 0.000], the participation at the program directing to a significant increase of T scores at variable *social and emotional abilities (children's self-assessment)*, (Table 1).

Table1. Means and results at t test of means comparison at variables raw score and T score of *social and emotional abilities (children's self-assessment)* before and after the program

Variables	Means	Results at t test of means comparison
Raw scores social and emotional abilities (children's self-assessment)		
Before the program	47.07	t (26) = 7.344
After the program	64.59	p = 0.00
T scores social and emotional abilities (children's self-assessment)		

		37.51	t(26) = 7.48
Before the program			
After the program		**48.37**	**p = 0.00**
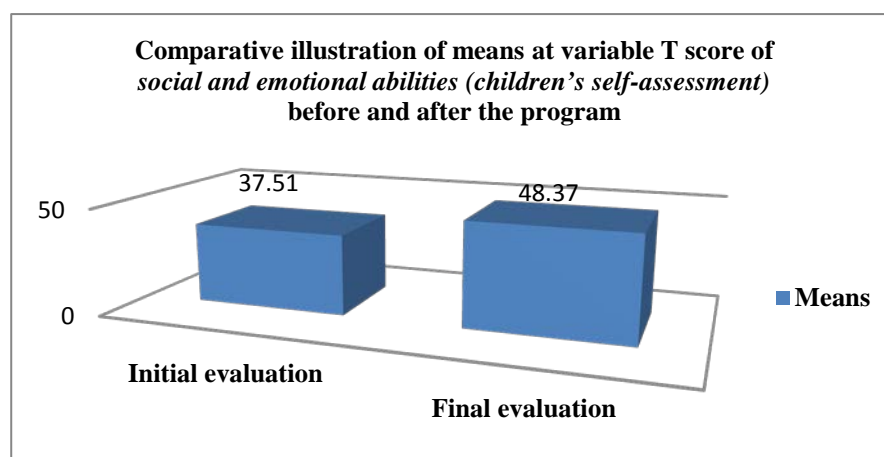
Figure 1. Comparative illustration of means at variable T score of *social and emotional abilities (children's self-assessment)* before and after the program

The category comparison at social and emotional abilities (children's self-assessment)

before and after the program

We used the cross-tabulation technique to check this comparison. The results are presented in Table no.2. We notice that before the program, 6 children were placed in *High Risk* Tier, 16 were placed in *At Risk* Tier and 5 were placed in *Average to High Functioning* Tier. After the program no child was placed in *High Risk* Tier, 5 were placed in *At Risk* Tier and 22 were placed in *Average to High Functioning* Tier. We observe that the participation in the program make that children be placed in superior categories regarding the social and emotional abilities and also no one in *High Risk* Tier 3.

Table 2. The categories crossover regarding *social and emotional abilities* level
(children's self-assessment), before and after the program.

	Total category initial assessment (children's self-assessment)			
	Average to High Functioning	At risk	High risk	Total line
Total category children initial assessment (self-assessment)				
Average to High Functioning	5	13	4	22
At risk	0	3	2	5
High risk	0	0	0	0
Total column	**5**	**16**	**6**	**27**

The specific hypothesis 2

Comparisons regarding global teachers' assessments – social and emotional abilities (raw scores, T scores) before and after the program

Sustained by the obtained results, we consider that:
- There were significant differences on the significance threshold $p \leq 0.05$ between the raw scores at variable *social and emotional abilities (teachers' assessments)* measured pre-test and post-test [$t(26) = 22.287$, $p = 0.000$], the participation at the program directing to a significant increase of raw scores at variable *social and emotional abilities (teachers' assessments)*, (Table 3).
- There were significant differences on the significance threshold $p \leq 0.05$ between the T scores at variable *social and emotional abilities (teachers' assessments)* measured pre-test and post-test [$t(26) = 22.745$, $p = 0.000$], the participation at the program directing to a significant increase of T scores at variable *social and emotional abilities (teachers' assessments)*, (Table 3, Figure 2).

Table 3. Means and results at t test of means comparison at variables raw score and T score of *social and emotional abilities (teachers' assessment)* before and after the program

Variables	Means	Results at t test of means comparison
Raw scores social and emotional abilities (teachers' assessment)		
Before the program	55.88	t (26) = 22.287
After the program	76.81	p = 0.000
T scores social and emotional abilities (teachers' assessment)		
Before the program	44.51	t (26) = 22.745
After the program	52.68	p = 0.000
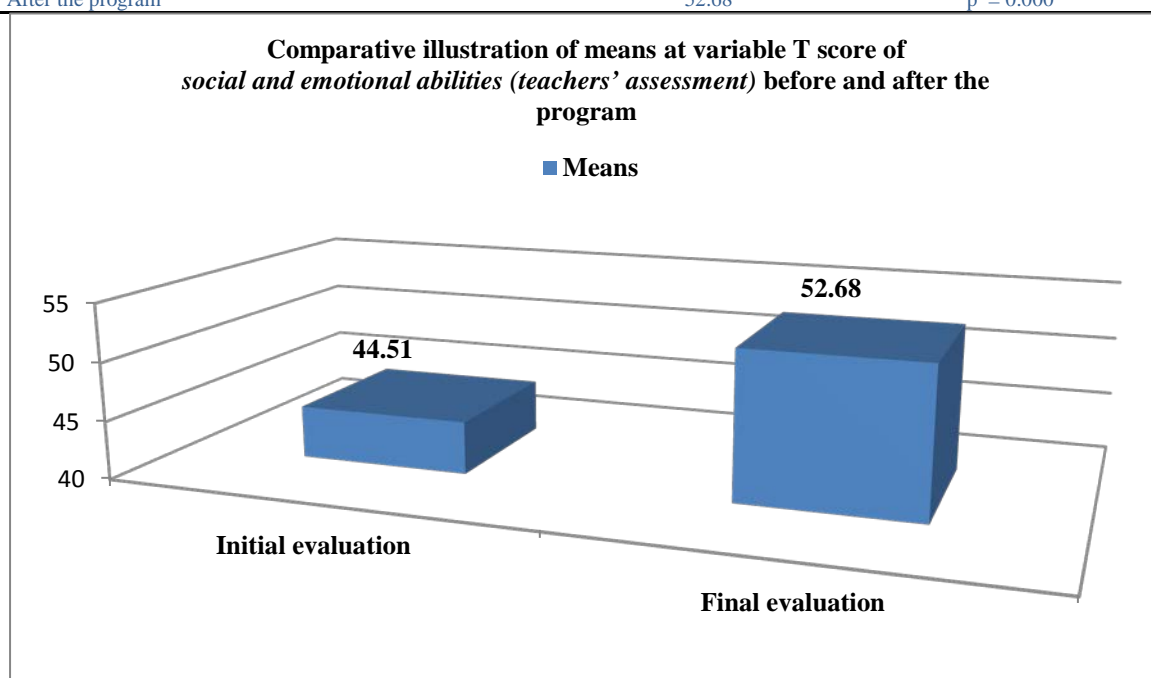
Figure 2. Comparative illustration of means at variable T score of *social and emotional abilities*

(teachers' assessment) before and after the program

The category comparison at social and emotional abilities (teacher A and teacher B assessments) before and after the program

We used the cross-tabulation technique to check this comparison. The results are presented in Table no. 4 and Table no.5. We notice that in teacher A assessments before the program, 6 children were placed in Tier *At Risk* and 21 were placed in Tier *Average to High Functioning.* After the program 1 child was placed in Tier *At Risk* and 26 were placed in Tier *Average to High Functioning*. We observe that participation in the program makes children be placed in superior categories regarding the social and emotional abilities, 5 out of 6 children initially placed in Tier *At Risk,* passed in Tier *Average to High Functioning* after the program and also no one is in Tier 3 *High Risk* (Table 4).

Table 4. The categories crossover regarding *social and emotional abilities level (teacher A assessment)* before and after the program.

	Total categories initial assessment (teacher A assessment)			
	Average to High Functioning	At risk	High risk	Total line
Total categories initial assessment (teacher A assessment)				
Average to High Functioning	21	5	0	26
At risk	0	1	0	1
High risk	0	0	0	0
Total column	**21**	**6**	**0**	**27**

Concerning the Teacher B assessments of social and emotional abilities, before the program 4 children were placed in Tier *At Risk* and 23 were placed in Tier *Average to High Functioning*. After the program no child was placed in Tier *At Risk,* all 27 children being placed in Tier *Average to High Functioning*. We observe that participation in the program make that children be placed in superior categories regarding the social and emotional abilities, all 4 children found initially in Tier *At Risk* has moved after the program in the top Tier *Average to High Functioning* (Table 5).

Table 5. The categories crossover regarding *social and emotional abilities* level *(teacher B assessment)* before and after the program

	Total categories initial assessment (teacher A assessment)			
	Average to High Functioning	At risk	High risk	Total line
Total categories initial assessment (teacher B assessment)				
Average to High Functioning	23	4	0	27
At risk	0	0	0	0
High risk	0	0	0	0
Total column	23	4	0	27

The same progression tendency was discovered from category comparison for both teachers (A and B) at all dimensions of social and emotional assets (*self-regulation, social competence, empathy and responsibility*) accomplished before and after the program.

The specific hypothesis 3

3.3.1. The comparisons of raw scores, T scores (teachers' assessments) of every factor of social and emotional abilities - self-regulation, social competence, empathy and responsibility - before and after the program

Sustained by the obtained results, we consider that:
- There were significant differences on the significance threshold $p \leq 0.05$ between the raw scores at variable *self-regulation (teachers' assessments)* measured pre-test and post-test [$t(26) = 9.598$, $p = 0.000$], the participation at the program directing to a significant increase of raw scores at variable *self-regulation (teachers' assessments)*, (Figure 3).
- There were significant differences on the significance threshold $p \leq 0.05$ between the T scores at variable *self-regulation (teachers' assessments)* measured pre-test and post-test [$t(26) = 25.360$, $p =$

0.000], the participation at the program directing to a significant increase of T scores at variable *self-regulation (teachers' assessments)*, (Figure 3).

- There were significant differences on the significance threshold p ≤ 0.05 between the raw scores at variable *social competence (teachers' assessments)* measured pre-test and post-test [t (26) = 16.015, p = 0.000], the participation at the program directing to a significant increase of raw scores at variable *social competence (teachers' assessments)*, (Figure 3).
- There were significant differences on the significance threshold p ≤ 0.05 between the T scores at variable *social competence (teachers' assessments)* measured pre-test and post-test [t (26) = 12.848, p = 0.000], the participation at the program directing to a significant increase of T scores at variable *social competence (teachers' assessments)*, (Figure 3).
- There were significant differences on the significance threshold p ≤ 0.05 between the raw scores at variable *empathy (teachers' assessments)* measured pre-test and post-test [t (26) = 14.141, p = 0.000], the participation at the program directing to a significant increase of raw scores at variable *empathy (teachers' assessments)*, (Figure 3).
- There were significant differences on the significance threshold p ≤ 0.05 between the T scores at variable *empathy (teachers' assessments)* measured pre-test and post-test [t (26) = 19.023, p = 0.000], the participation at the program directing to a significant increase of T scores at variable *empathy (teachers' assessments)*, (Figure 3).
- There were significant differences on the significance threshold p ≤ 0.05 between the raw scores at variable *responsibility (teachers' assessments)* measured pre-test and post-test [t (26) = 14.905, p = 0.000], the participation at the program directing to a significant increase of raw scores at variable *responsibility (teachers' assessments)*, (Figure 3).
- There were significant differences on the significance threshold p ≤ 0.05 between the T scores at variable *responsibility (teachers' assessments)* measured pre-test and post-test [t (26) = 14.610, p = 0.000], the participation at the program directing to a significant increase of T scores at variable *responsibility (teachers' assessments)*, (Figure 3).

In order to facilitate the understanding we present a global graph comparative for T scores means at variables *social and emotional abilities, self-regulation, social competence, empathy and responsibility* (teachers' assessment) before and after the educational intervention.
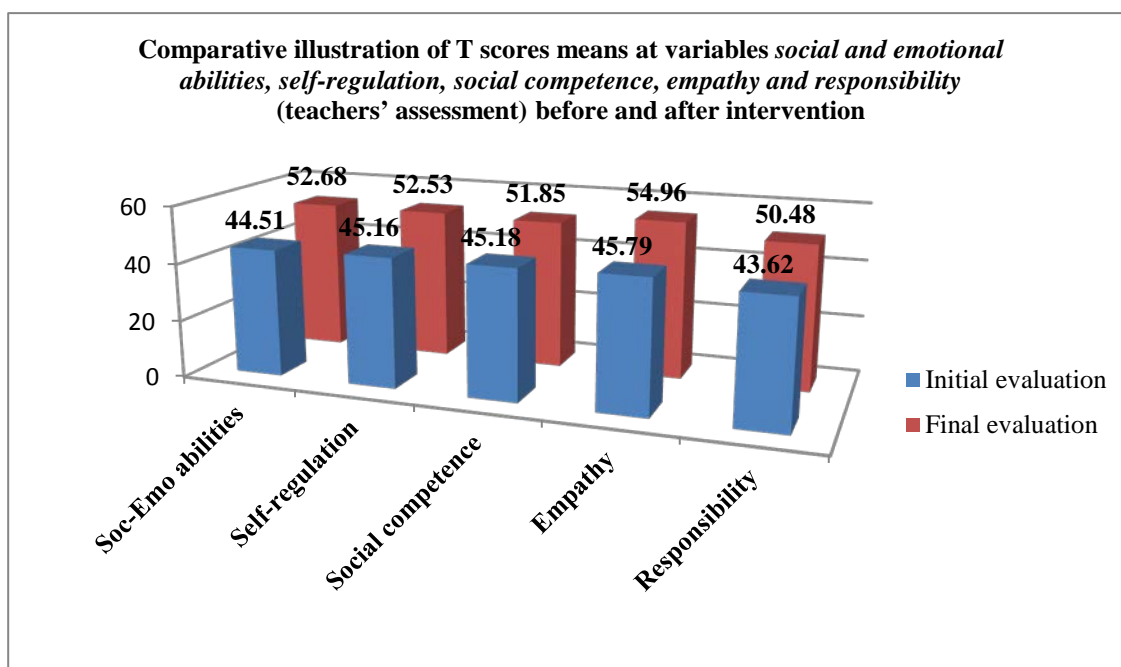
Figure 3. Comparative illustration of T scores means at variables *social and emotional abilities, self-regulation,*

social competence, empathy and responsibility (teachers' assessment) before and after intervention

Discussion and conclusions

The general hypothesis showed how children's participation in a social and emotional learning program helps to increase social and emotional abilities. The social and emotional skills level was established from two perspectives, one of children's self-assessments and the second of two teachers who worked in teams to run the program. We considered three types of measurements: raw score, T score and the development category of social and emotional abilities. Moreover, if students did an overall assessment of skills, the teachers also took into consideration the 4 scales of SEARS: self-regulation, social competence, empathy and responsibility. In all experimental conditions (different assessors, at different times of testing, different types of measurements, different scales) there were recorded increases in levels of social and emotional abilities statistically significant at threshold $p \leq 0.05$. These findings based on scientific evidence are of outstanding importance in terms of teaching since it shows that socio-emotional development of children can be influenced in a constructive manner through consistent and systematic educational programs and it is not only a duty of family or wider social context. This means that the social-emotional skills development (vital for a balanced functioning of the individual and for an optimal social integration) best be addressed in the school curriculum under the guidance of competent teachers and with adequate teaching resources. Although socio-emotional aspects of child development have been neglected for various reasons (difficult to quantify, superfluous values, variability and complexity of mental phenomena, or the pathological view or the perspective of natural development, by imitation, without the need for systematic intervention), this research is in line with Anglo-Saxon extensive studies. These studies show that social-emotional skills can be effectively increased through school and after-school programs. A relevant fact is that the increasing of children's socio-emotional skills and resilience produced regardless of the level where they were at the beginning of the program.

Apart from the obvious improvement in the level of socio-emotional skills and resilience of children, this approach opens two perspectives: the first refers to skills rising of children with normal development, and the second to the increase of the level of children who already manifested behavioural/emotional problems or had a degree of vulnerability to later manifestation. This is a harmonious union of the benefits of social and emotional learning programs for children between the *preventive* character for those with average to high functioning and the *interventionist* character for children at risk for serious deficits in social skills or emotional problems. This opens the way for the unification of all preventive initiatives from school (regardless of their purpose or theme addressed), and for the broad addressability of different categories of children (regardless of the initial level of social and emotional abilities). This finding is supported by the statistical confirmation of the hypotheses and the individual profiles/monitoring reports of children's progress. However, this increase is limited by the participants' number in the experiment and could be continued through the hypotheses confirmation for nationally representative samples. Likewise, this increase is valid for trained educators to address social and emotional learning curriculum, for a previous pilot program, for appropriate resources and active inclusive strategies, for team teaching and for various grouping ways of students. The difficulty, but at the same time, the merit of the study were marked by the absence of running on a large scale (e.g., in schools) of such programs to allow access to a large group of subjects and the researcher to be released by additional responsibility of organizing the program implementation. Despite the limitation due to the number of participants we believe that investigative study is among the first steps to integrate the social and emotional learning in the Romanian educational system based on scientific evidences.

In conclusion, the results confirm the hypothesis launched. Thus, application of the intervention program helps children to develop social and emotional abilities and their factors: self-regulation, social competence, empathy and responsibility. Also it was found that the program intervention makes that student to be placed in top categories regarding their social and emotional abilities. The full confirmation of hypotheses (from all perspectives of measurement) gives confidence to practitioners to design and implement social and emotional learning programs and support for decision-makers to introduce it in the curriculum. However, experimental

research is in line with global scientific research, bringing evidence to support the idea that social and emotional skills can be developed through educational programs in the Romanian context.

Acknowledgements

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THE EFFECTS OF CULTURAL FAMILIARITY AND READING ACTIVITIES ON L2 READING COMPREHENSION

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Abstract

This study examines whether cultural familiarity has an influence on reading comprehension and whether using a set of reading activities compensate for the absence of cultural familiarity. 60 junior Turkish EFL university students participated to the study. A 2×2 true-experimental research design was used in the study. The results revealed that the nativized version of a short story from the target language culture contributes to comprehension of L2 readers' significantly and the use of activities facilitated for better literal understanding of the original text. It also emphasizes a strong influence of cultural schema on comprehension.

Keywords: reading comprehension; schema theory; foreign language culture; nativization.

1. Introduction

Reading has been regarded as interplay of text-based and knowledge based processes of readers. Since comprehension is a gradual process which involves the coalescence of information from disparate parts of text, the construction of text meaning necessitates a hybrid of text information which is explicitly stated in the text in addition to relevant knowledge stored in long-term memory (Koda, 2005). Thus, the processes readers go through while reading are regarded to be active and interactive. That is, readers use a combination of both literal and inferential comprehension during reading. The former is based on lower-level cognitive processes including lexical access and syntactic parsing while the latter is based on higher-level cognitive processes including textbase of comprehension, which is about understanding what the text says and the situation model of interpretation which is about understanding what the text is about (Alptekin,2006). In literal comprehension, being part of lower-level cognitive processes, lexical access -also referred to as data-driven process- necessitates a high degree of text-dependence in which words in a text are assigned meaning, whereas in syntactic parsing words or constituents come together to form semantic propositions. On the other hand, inferential comprehension requires the combination of successive propositions to make a meaningful whole by using reasoning and drawing conclusions about the relationships between or among bits of information that are not explicitly stated within the text. Two types of inferences, bridging and elaborative, have been reported (McKoon & Ratcliff, 1989). While bridging inferences are related with the semantic connection of two unrelated statements, readers apply elaborative inferences when they have a need to predict upcoming consequences of information (McKoon & Ratcliff, 1989). For instance, in the following sentence "The actress fell from 14th floor", readers may predict that the actress died. Hence, they generate a predictive or forward inference (Ezquerro & Iza, 2001). Both types of inferences requires reading beyond the literal meaning of explicitly stated text elements in the text, including prior knowledge and monitoring comprehension to aid better comprehension outcomes. That is, prior knowledge activation should be brought to the text to resolve relational gaps stemming from inferences (Brantmeier, 2004; Koda, 2005).

2. Working-Memory

Many micro-level and macro-level processes demand an invaluable storage and computational area from working- memory, which is limited in capacity. Miyake and Friedman (1998) define working memory as:

> *" a computational arena or workplace, fuelled by flexibly deployable, limited cognitive resources, or activation that support both the execution of various symbolic computations and maintenance of intermediate products generated by these computations" (p.341).*

The resources of working memory are said to be restricted, thus its limited capacity make it hard to display its dual function, storage and computation, simultaneously and efficiently. High correlations have been found between working memory capacity and reading performance in a number of studies in literature (Daneman & Merikle, 1996).

3. Schema Theory and reading comprehension in L2

It is stated that the interpretations of the readers vary according to their background knowledge in that a major task in discourse processing lies in discriminating thematic information from peripheral information (Singer, 1994). The influence of background knowledge on inferences is indisputable since inferences are driven by schemas. There have been many discussions on schema theory (Ketchum, 2006). A schema is defined as an abstract knowledge structure (Anderson & Pearson, 1984). The theory is closely associated with how readers combine their previous knowledge with the text (Alderson, 2000; Alptekin, 2006; Carrell, 1983; Grabe & Stoller, 2002; Rumelhart, 1980).

4. Reading Activities

There have been many studies on the effect of background knowledge and cultural schema on reading comprehension, yet studies which explore whether the use of reading activities can compensate for the lack of cultural knowledge are not much.

Following Alptekin's ideas, Erten & Razı (2009) carried out a replication study named "The effects of cultural familiarity on reading comprehension" with an aim to extend Alptekin's work to achieve a better understanding of his work. They added reading activities to the methodology to see if reading activities such as pre-reading, brainstorming, pre-questioning, scanning, skimming, clarifying, reciprocal teaching, inferring, thinking aloud, asking and answering questions can compensate for the absence of cultural familiarity. That is, they hypothesized that reading activities will affect readers' literal understanding positively. The results of their study revealed that activities contributed to the comprehension of the original story, yet the effect of nativization remained intact specifying a strong effect of cultural schema on comprehension.

5. Aim of the Study:

Supporting Alptekin's approach, Erten and Razı's extension of the previous study with the inclusion of reading activities would be worth replicating to have a better account of the issue with the use of a similar design in a different context with different groups. Therefore the aim of this study is to find out to what extent both cultural knowledge and reading activities are effective on the comprehension of short stories. The research questions and the hypotheses of the study are as follows:

RQ1) Does cultural familiarity of the participants have an effect on their reading comprehension?

RQ2) Can reading activities compensate for the absence of cultural familiarity?

H1-) Cultural familiarity will have a significant impact on reading comprehension.

H2-) Although reading activities contribute to comprehension, the impact of cultural familiarity will remain a significant factor.

6. Method

The study was conducted in an English Language Teaching Department of the Faculty of Education at a public university in Turkey in fall term of 2010-2011 academic year. The department in which the study was carried out was regarded appropriate for the study since the program contains reading classes where lecturers make use of many diverse short stories and literary works.

6.1.Participants

60 juniors took part in the study. The ages of the participants ranged from 20 to 24. At the time of the study they were having a training so as to become teachers of English. They all shared similar educational backgrounds. In assigning participants, their GPAs at the end of their fourth term in the department were regarded in order to form 2x2 true-experimental research designs. In calculating their GPAs, only the English-based courses and English-medium-teacher-training courses were considered. In order to achieve this, marks gained by each student from courses were multiplied by the number of credits of the course and then the sum of multiplied course loadings was divided by the total number of credits earned by the participants. Junior students who had failed any English-based courses were ignored as they were thought as those who cannot meet the minimum language requirements to be included in the study. Hence, L2 competencies of the control and experimental groups were considered to be equivalent in terms of their proficiency levels.

Ultimately, fifteen students from each range of GPAs were assigned to four diverse groups. This placement was done to create homogeneous groups in which participants were believed to display similar scores in accordance with their similar GPAs. With this in mind, four treatment groups were labelled as *Treatment 1* (Original no activity- ONA), *Treatment 2* (Original with activity- OWA), *Treatment 3* (Nativized no activity- NNA), and *Treatment 4* (Nativized with activity- NWA). The participants in first treatment group (ONA) read the original text without the use of reading activities, whereas the second treatment group of participants (OWA) was supposed to read the original text with the accompaniment of pre-reading, while reading and post reading activities which were thought to contribute to the comprehension of readers. The third treatment group of participants (NNA) was required to read the nativized version of the text without the use of reading activities and finally the fourth treatment group of participants (NWA) were given the nativized version of the text with reading activities. Mean GPA values for each treatment group are given in Table 1.

Table 1. Mean GPA values for each treatment group

Name of the Group	N	M	SD
Original text with no activities	15	2.58	0.41
Original text with activities	15	2.54	0.32
Nativized text with no activities	15	2.62	0.28
Nativized text with activities	15	2.59	0.40

An analysis of variance revealed that there were no significant differences among the treatment groups, $F = 0.094$, $p < .95$, indicating a reasonable homogeneity of these groups.

6.2.Instruments

6.2.1.The reading text

The short story 'The Girls in their Summer Dresses' by Irwin Shaw (2000), which was first published in 1939, was chosen for "Turkification" (Alptekin 2002). The short story tells us a day of a couple trying to spend a Sunday off in the city of New York. Due to the purposes of research the story was nativized and adapted to

Çanakkale context in the original study. In this replication study the same story was nativized and adapted to Kocaeli context so as to make the readers imagine that story takes place in the city of Kocaeli.

In nativizing the story, the names of the characters were substituted with Turkish names. Care was taken while adapting the city plan of New York to Kocaeli. All the names of the places, streets, and buildings had to be logical in readers' minds so as to activate their schemata about the city of Kocaeli. For instance, in the original story the couple leaves the Brevoort and starts walking towards Washington Square along Fifth Avenue. In the nativized version of the story, the couple leaves Yahyakaptan (a suburb in the city of Kocaeli) and starts walking towards Anıtpark (a well-known place for each citizen in Kocaeli). To have a better account of the nativization some conceptual cues were also changed to complete the nativization. For instance, in the nativized version of the story, the characters planned to eat fish instead of steak since Kocaeli is a coastal city and the fish is consumed as much as steak.

6.2.2. Reading Test

Once participants completed the reading session a post-test, which was recall type in nature, was administered. As the research design includes both the nativized and the original versions of the story, the post-test was also written for two different versions of the story. Three different elicitation techniques constituted the post-test. The first set of ten questions contain True/False/Not Given items, whereas the second set of eight questions were related with putting some scrambled actions into correct order. Eventually, ten open-ended pen and paper type of comprehension questions were used as the last set of questions to check comprehensions of the students in all treatment groups. During the post-test period, not only the students were not permitted to refer to the reading text but also they were not permitted to use their dictionaries. Due to the fact that the students had not read the story before the experiment a pre-test was not considered.

6.3. Procedure

The participants in first treatment group (ONA) read only the original text without activities, while the second treatment group of participants (OWA) read the original text with a set of reading activities. The third treatment group of participants (NNA) read the nativized version of the text without activities and finally the fourth treatment group of participants (NWA) was given the nativized version of the text with reading activities. Table 2 shows the procedures applied for each group of students in four different treatment groups.

6.3.1. Pilot Study

The items of the post-test were piloted with 12 students who have similar educational backgrounds with the participants in the study, with GPA scores in the same range as those of the participants. The aim was to identify test items that were too easy or too difficult. The study revealed that each item performed satisfactorily, suggesting that the post-test had high Cronbach's alpha ($r = .84$ and $p < .01$), which was considered to be consistent enough to go on conducting the post-test to the real sample.

Table 2: Procedures for each treatment group

Treatment 1 (ONA)	Treatment 2 (OWA)	Treatment 3 (NNA)	Treatment 4 (NWA)
The original text was given without activities (30″)	*Pre-reading activities:*	The nativized text was given without activities (30″)	*Pre-reading activities:*
	Brainstorming (3″)		Brainstorming (3″)
	Pre-questioning (3″)		Pre-questioning (3″)
	Reading the story (35″)		*Reading the story* (35″)
	While-reading activities:		*While-reading activities:*
	Scanning (2″)		Scanning (2″)
	Skimming (2″)		Skimming (2″)
	Clarifying (2″)		Clarifying (2″)
	Reciprocal teaching (2″)		Reciprocal teaching (2″)
	Inferring (2″)		Inferring (2″)
	Post-reading activities:		*Post-reading activities:*
	Thinking aloud (2″)		Thinking aloud (2″)
	Question / Answer Relationships (2″)		Question / Answer Relationships (2″)
Post-test given (15″)	Post-test given (15″)	Post-test given (15″)	Post-test given (15″)
Total 45″	Total 60″	Total 45″	Total 60″

Note. ONA = Original text with no activities; OWA = Original text with activities; NNA = Nativized text with no activities; NWA = Nativized text with activities,' = minutes.

6.4.Data Analysis

6.4.1.Marking the papers

The open-ended question part of the post-tests including students' answers was marked by two independent raters. Papers were only rated for comprehension purposes ignoring grammatical mistakes so as to minimize the influence of any variation among the writing skills of students.

In the part of the post-test where students were asked to order some events from the story was marked according to the Weighted Marking Protocol (Razı, 2005). Such protocol has a nature of partial evaluation as the marking procedure of the protocol is based on correcting the wrong order of events provided by the participants and reducing their marks with reference to their mistakes. In this protocol students are given some marks even if they do not put all the events in the right order. Marks given to student papers by two independent raters were analysed through Pearson Correlation Coefficient Procedure. A high correlation coefficient was detected among the two sets of marks ($r = .84$ and $p < .01$), which was regarded to be consistent enough to go on further statistical analysis.

6.4.2.Statistical analysis

The participants' post-test scores were analysed through the use of ANOVA to see whether there were differences among the treatment groups according to their gained scores. After the results of ANOVA revealed that there were differences across the treatment groups, a Post Hoc Scheffe test was employed to find out where the group differences occurred.

7. Results

Table 3 demonstrates descriptive statistics giving the mean scores gained by each treatment group included in the study. As seen in the table, the participants who read the nativized short story with reading activities outscored the other groups and outperformed them with having the highest mean scores gained according to the results of post-test. The participants who read the nativized short story without reading activities scored higher than those who read the original short story both with and without reading activities.

Table 3. Mean scores of groups

Treatment condition	N	M	SD
NWA	15	72,26	3,53
NNA	15	68,40	2,94
OWA	15	63,66	2,31
ONA	15	61,06	5,39
Total	60	66,35	5,66

Note. ONA = Original text with no activities; OWA = Original text with activities; NNA = Nativized text with no activities; NWA = Nativized text with activities.

Table 3 indicates, there are some differences among the mean values of the groups gained in the study. Table 4 indicates statistically significant differences between groups where p <.05. The results of One-Way ANOVA Test point out that the mean values of the treatment groups gained in the study are not the same.

Table 4: One-Way ANOVA Test Results

DependentVariable		Sum of Squares	df	Mean Square	F	Sig.
	Between Groups	1114,85	3	371,61	26,72	,000
Post-Test						
Score	Within Groups	778,80	56	13,90		
	Total	1893,65	59			

The differences observed between different treatment conditions were statistically significant, $F = 26,72$, $p < .001$. Group differences were examined through a post-hoc Scheffe Test. The results are illustrated in Table 5.

Table 5: Post Hoc Scheffe test for the total score of the post-test

Conditions	Mean Difference	p	Cohen`s d
ONA vs. OWA	-2,60	,313	0.30
ONA vs. NNA	-7,33(**)	,000	1.35
ONA vs. NWA	-11,20(**)	,000	1.63
OWA vs. NNA	-4,73(*)	,012	0.64
OWA vs. NWA	-8,60(**)	,000	1.46
NNA vs. NWA	-3,86	,055	0.87

Note. ONA = Original text with no activities; OWA = Original text with activities; NNA = Nativized text with no activities; NWA = Nativized text with activities. **$p < .01$. * $p < .05$.

Table 5, demonstrated that there are highly significant differences between the treatment groups. With regard to the first hypothesis of the study (that cultural familiarity has a significant impact on reading comprehension) was sufficiently supported by the between-group differences confirming that cultural familiarity influenced the students' comprehension. The NNA group outperformed ($M = 68.40$) the ONA group ($M = 61.06$), with a considerable effect size ($d = 1.35$). The second comparison was done between activity groups and a significant difference was found. The NWA students ($M = 72.26$) did significantly better than the OWA students ($M = 63.66$), indicating a large effect size ($d = 1.46$).

The second hypothesis (that although reading activities contribute to comprehension, the impact of cultural familiarity remains a significant factor) was also supported by the results obtained from the comparisons between the groups. Unexpectedly, although the NWA students ($M = 72.26$) performed better than the NNA students ($M = 68.40$), the difference was not found as statistically significant, with an effect size of ($d = 0.92$), implying that reading activities on reading comprehension with nativized texts were effective as it was thought to be but this effect was not found to be statistically significant. Another finding revealed that the NWA students ($M = 72.26$) also performed better than the ONA students ($M = 61.06$), with a large effect size ($d = 1.63$). However, the difference between the OWA ($M = 63.66$) and ONA students (M= 61.06) was not statistically significant ($d = 0.30$), implying that the activities did help students to comprehend better to a small extent. Although there was a rise in mean scores, indicating the effect of reading activities, this effect was not found as statistically significant.

Another difference was observed between the OWA ($M = 63.66$) students and the NNA students ($M = 68.40$, $d = 0.64$) implying that students who read original text with activities did not perform better that students who read the text in the nativized version with no activities.

Students (NNA) who read the nativized text without the aid of reading activities ($M = 68.40$) performed better than those who read the original text with activities (OWA, $M = 63.66$) indicating that even without the use of reading activities effect of nativization on reading comprehension remains intact.

8. Discussion

The present replication study aimed to concentrate on the investigation of cultural familiarity effect on reading comprehension. It also aimed to discover whether activities can make up for the absence of students' relevant cultural schema.

Not surprisingly, the students who read the original story with or without reading activities scored lower than their counterparts who read nativized version of the story due to the fact that the readers who read the nativized version did not have to deal with unfamiliar names and culturally distant contextual clues, resulting in worse comprehension gains. Thus, they could process new input in their short-term memory since their working memory was not overloaded. Therefore, it would be logical to assume that readers who read the original text in this study had to use controlled processes which required greater effort overloading the working memory. On the

other hand, nativized text readers used automatic processes as they were familiar with the new information and that would enable them to free up space in their short-term memory (Erten 1988; Alptekin, 2006; Erten & Razi, 2009).

The fact that the students who read the nativized text performed better might also be related to motivational issues. Dörnyei (2003) claims that motivation is related to achievement, stresses that who is motivated will possibly be successful. On the other hand, Lightbown and Spada (2006) join the argument by asking a question. Is a student successful because (s)he is motivated or is a student motivated because s(he) is successful?

One cannot underestimate the effect of interest on learning. Promoting interest in classrooms is believed to increase the intrinsic motivation of students (Pressley et al., 1992). In research field, two types of interest have been proposed, namely, situational interest and personal interest (Krapp et al,1992). While the former is spontaneous, transitory and environmentally activated, the latter is less spontaneous and activated internally (Schiefele, 1999). The situational interest factor might be facilitative in explaining individual performance diversities in this study. Therefore, it would be logical to comment that situational interest might be aroused by the nativized text with culturally familiar words and expressions that might contribute to better comprehension.

As for the effect of reading activities on comprehension, their value in reading comprehension cannot be ignored, yet the original study and this replication study both did not have an aim of comparing the effectiveness of activities. Rather, both studies intended to explore whether the use of reading activities can compensate for the absence of culturally familiar knowledge. Actually, it would not be wrong to comment that activities contributed to comprehension since pre-reading, while-reading and post-reading activities facilitated these two groups of readers (OWA, NWA) for better comprehension. This is in accordance with the statements by Carrell and Eisterhold (1983), Ur (1996), and Karakas (2002). Pre-reading activities enables teachers to activate readers' schemata before reading. While-reading activities do also have a facilitative role on the comprehension of the short stories. Post-reading activities also aid to clarify any unclear meaning (Chastain 1988).

The results of this replication study accord well with the results of the original study (Erten&Razı,2009) since a powerful effect of cultural familiarity on comprehension in L2 reading has been found in both studies. The use of reading activities was found to be facilitative but its effect was limited in that activities fail to make up for the absence of cultural knowledge in the texts.

9. Conclusion and Implications

With regard to the results of the study, the following conclusions can be drawn. First, cultural familiarization to the text has a significant effect on reading comprehension. The second conclusion that can be drawn is that nativization contributes to reading comprehension since readers are provided with cultural familiar texts. Another conclusion of this study is that reading activities have an effect on reading comprehension and finally the fourth conclusion reveals indicates that reading activities have an impact on reading comprehension but the impact was limited, thus they cannot make up for the lack of cultural familiarity.

There are some limitations listed in the original study. Since this study is a replication of the original one, most of the limitations which will be given below are shared by both studies. Firstly, this study did not aim to measure the effectiveness of individual reading activities. Furthermore, care was not taken in selecting the activities used in the study, indicating that this selection is far from experimental scrutiny. Hence, the diversity in the results gain from the post-test might stem from the use of different activities that aim to activate cultural schema and further elaboration on text.

The use of GPA scores in assigning the students constitutes another limitation for the study as results gained from a more standardized, globally accepted and prestigious proficiency test such as IELTS or TOEFL (e.g. Alptekin, 2006) could have been used so as to keep the groups homogenous.

Another limitation of the original study is that the post-test was not piloted to identify the items in the test which were relatively too east or too difficult. But in this replication study post-test items were checked with a

pilot study which was carried out with a relatively small group. The results revealed that all of the items perform satisfactorily.

The findings of the study recommend that motivational and attitudinal factors are also related to reading comprehension, therefore, the phenomenon could be illuminated with a more-controlled measurement where the reading processes and involved variables are analyzed in depth. The original study was conducted with a small sample size of forty-four participants. In this replication study the number of participants increased to sixty. However, to have a better account of the phenomenon a further study with a large sample size would be helpful in increasing the reliability of the gained results and in enlightening the individual variations better with the use of statistical analysis.

Although both studies, the original and replicated one, have a number of limitations, the results of this study may yield important pedagogical implications. As noted earlier, the highest score were obtained through the use of nativized short story. In culturally familiar or nativized texts readers can use top-down reading models due to the conviction that their relevant schemata are activated but, on the contrary, in texts which are not culturally familiar or are not nativized, readers cannot use top-down reading models as the background knowledge that they bring to the text is different from the writer's. Therefore, the use of nativized texts that contain culturally familiar words and expressions, with a facilitative effect, might be increased in language classes. However, care must be taken in order not to underestimate the importance of reading activities in comprehension.

This study did not investigate the efficiency of a single pedagogical reading activity in promoting reading comprehension. Instead, using disparate activities that cater to different types of comprehension can contribute to a fuller understanding of texts. Thus, it enables learners go beyond literal comprehension of the text.

Finally, throughout the treatments a high degree of teacher-centered manner was displayed resulting from the whole-class teaching style. Therefore, performance differences among individuals during the activities could not be observed. An in-depth analysis where different data collection methods are use could be beneficial in illuminating the contributions of individual activities and cultural familiarity to comprehension. More student-centered classrooms should be created to encourage more autonomous learners.

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THE EFFECTS OF INTERACTIVE EXERCISES ON STUDENTS' ACHIEVEMENT: USING THE OPEN SOURCE AUTHORING APPLICATION

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Abstract

Freeware open source authoring tools are available and easily attainable over the internet for teachers to develop their own interactive instruction. This study investigated the effects of interactive exercises developed using the open source authoring tool on students' achievement using the pre-test post-test with the control group research design with 35 seventh grade students in the Science and Technology course. Findings showed that the use of interactive exercises embedded in the instruction improves the achievement of students more than the instruction having traditional exercises. Further research should compare the effects of interactive exercises completed individually and in a group format.

Keywords: Interactive exercises; Authoring Applications; Instructional Design; Computer-Based Learning; Science Education

Introduction

The amount of information produced has been going beyond the boundaries of human mind and becoming hard to keep up with. In the same way, technology develops at an enormous speed with the developments that shape our life. Each day new technologies are invented and enter our life. High science and technology level contribute the economic, social and cultural development. The development in science and technology gains ground at an enormous speed. In today's world where information increases accumulatively, it has been crucial that people should be educated as the ones doing investigations and questioning, producing information and knowing how to attain it, not as the ones being passive learners. Science and Technology course comes first to make students have such abilities (Tatar & Kuru, 2006).

The Science and Technology course is an interdisciplinary course utilizing information from physics, chemistry and biology. Due to the complex nature of the course, there are many abstract concepts in the Science and Technology course that makes it difficult to understand (Özseveç, 2006). The use of visual materials to teach abstract concepts is recommended (Yalın, 2007). The usage of visual materials in teaching of abstract concepts facilitates the recall of information. Karamustafaoğlu (2006) emphasizes that material usage plays an important role especially in Science and Technology programs' achievement.

Technology has been widely used in education. The presence of technology in education system made learning and teaching activities easier (İşman, 2005). Another effect of technology in education is that it assists students to have positive tendency towards lessons during learning process. Learning environments empowered with technology arouse interest among students and raise learning motivation. Students learn willingly in classes equipped with technology.

Besides the quality of learning outcomes, using computer technology also saves time in teaching and learning. Computers have become the most common devices for teachers to present information. Reduced cost,

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increased speed and diversity of programs used in computers are important reasons for computers to become common as part of the instructional process inside the classroom.

Providing visual instruction to students has the potential to improve students' interest and motivation. Besides visuals, being able to interact with the instruction through exercises enforce students to actively participate class activities. Interactive exercises utilized in the classroom can be used effectively in teaching abstract concepts. However, most of the time teachers can not develop their own interactive instructional materials due to the lack of knowledge and expertise in computer programming. However authoring applications provide user friendly environment for teachers to develop their own interactive instruction. Yet their high license fee prohibits teachers from obtaining them. Nowadays, freeware open source authoring tools are available and easily attainable over the internet for teachers to develop their own interactive instruction. However there is a limited study on the effects of interactive exercises developed using open source authoring tools on students' achievement in the science and technology course. This study is designed to address the following research question:

Does the use of interactive exercises embedded in the instruction improve the achievement of students more than the instruction having traditional exercises?

Method

2.1. Context

The study was conducted at the private educational institute preparing primary school students for the nationwide exam that has to be taken by all eight graders. Therefore students attending the private educational institute are highly motivated for learning. Socio–economic status of students attending the course is above the average.

2.2. Participants

The study group consists of 35 students attending the Science and Technology course organized for the seventh graders in 2010. The experimental group has 20 students and the control group has 15 students. The experiment and the control group were assigned randomly from the available two classes in the private educational institute.

2.3. Research Design

The quasi-experimental research design with existing groups is used to investigate the effects of interactive exercises developed using the open source authoring tool on students' achievement in the science and technology course. The pre-test post-test with control group research design was used to investigate the research question. The achievement test consisted of sixteen multiple-choice questions with five options was administered to the participants in the control and experimental groups before and after the study.

2.4. Experimental Treatment

The course module to teach the subject of "Atom's structure" was designed and developed by researchers using the freely available Open Source authoring application (http://exelearning.org) which can be exported in IMS Content Package, SCORM 1.2, or IMS Common Cartridge formats or as simple self-contained web pages. In this study developed course module was exported as a self-contained web page and saved on the local drive of the computer to be used offline during the four-week application of the course offered in weekends. The course module was designed to include nine events identical to the ones recommended by Robert Gagne. Special

emphasize was given to eliciting the performance (practice) while developing the instructional module. Students in the experimental group completed the practice as a whole class activity and the teacher entered the group responses to the computer to receive feedback. Screen views from the developed instructional module's exercise and feedback pages presented at Figure-1 and Figure-2.

Figure-1: A Screen View from the Exercise Page

Figure-2: A Screen View from the Feedback Page

2.5. Activities of the Control Group

The control group received the instruction in a traditional manner. Participating students used the text-book and completed the exercises on the blackboard. Similar to the experimental group, participants in the control group were also received instruction in a four-week period offered in weekends.

2.6. Data Collection Instrument

Students' achievement on the subject of "Atom's structure" was measured through a multiple-choice test. The multiple-choice test had sixteen questions with five options for each question. The measure of internal consistency of the multiple choice test was found as 0.671. Twenty minutes were given students to complete the achievement test before and after the study.

2.7. Data Analysis

Students received one point for each of their correct answer in the pre-test and post-test. Scores of the students ranged from 0 to 16 in the multiple-choice test. In order to answer research questions, descriptive statistics, Shapiro-Wilk test, independent t-test and the Mann Whitney U test were used for the data analysis.

Results

The descriptive analyses of pre-test and post-test results of participants are presented in the Table-1.

Table-1: The Descriptive Analysis of the Pre-test and the Post-test Results of Participants

		N	Mean	Std. Deviation
Pre-test	Experimental Group	20	8.25	2.67
	Control Group	15	6.66	2.25
Post-test	Experimental Group	20	15.3	0.73
	Control Group	15	12.26	1.98

Before testing the hypothesis, the tests of normality were conducted to determine which types of test were going to be used for analysis. The results of the Shapiro-Wilk test (see Table-2) revealed that only the post-test scores of the experimental group are not normally distributed. Therefore non-parametric test was used for hypothesis testing when the post-test scores of the experimental group are analyzed.

Table-2: The Results of the Shapiro-Wilk test

	Shapiro-Wilk		
	Statistic	Df	Sig.

Ex_pretest	.885	15	.056
Ex_posttest	.783	15	.002
Cont_pretest	.964	15	.756
Cont_posttest	.937	15	.342

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Initially students' prior knowledge was compared in the experimental and the control group. The result of the independent t-test revealed that there was not any significant difference between the pre-test scores of the experimental and the control groups (t(33)= 1.85; p>0.05) (See Table-3). This finding shows that before the study participants' knowledge in the control group on the subject of "Atom's structure" is not different from the study participants' knowledge in the experimental group.

Table-3: Pre-Test Comparison of the Experimental and Control Groups

	t-test for Equality of Means						
	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Lower	Upper			
Experimental-Control	1.58	0.855	-0.15	3.32	1.85	33	0.073

In order to investigate whether the use of interactive exercises embedded in the instruction improves the achievement of students more than the instruction having traditional exercises. The post-test scores of students in the experiment and the control groups were compared. The result of the Mann-Whitney U- test revealed that there is a significant difference between the post-test scores of the experimental and the control groups (U= 18.5; p<0.05) (See Table-4). This finding indicated that achievement of the students in the experimental group is higher than the achievement of the students in the control group.

Table-4: Mann-Whitney U for the Post-test Comparison of the Control and Experimental Groups

Groups	N	Mean Rank	Sum of Ranks	U	p
Experimental	20	24.58	491.5	18.5	0.0
Control	1	9.23	138.5		

Results and Conclusion

Findings indicate that the use of interactive exercises embedded in the instruction developed with the open source authoring application improves the achievement of students more than the instruction where traditional exercises are used. This result supports the promise that improving skills of teachers in the instructional design and development is necessary to improve the quality of the instruction. Schwarz, Jason & Ajay (2007) emphasize that integration of interaction through computer modelling tools in courses; teachers can become more knowledgeable consumer of computer technology to foster learning. In conclusion, it is recommended that using interactive exercises developed with the open source authoring application improve student learning more than exercises used in traditional format in the Science and Technology course. Improving the skills of teachers in the instructional design helps to improve the quality of the instruction and learning of the students. Therefore in order to expand the influence the use of open source authoring applications should be the compulsory part of the instructional technology course in teacher education programs to furnish prospective teachers with such skills. Further research should compare the effects of interactive exercises completed individually to the effects of interactive exercises completed in a group format to present the effects of the individual and the group work.

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THE EFFECTS OF "LIVE ONLINE COURSE" ON STUDENTS' ACHIEVEMENT AT DISTANCE EDUCATION

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Abstract

This study was performed to investigate the effects of live online course on students' achievement at distance learning. 63 second-year Distance Computer Education & Instructional Technology students enrolled in this study. At the live online course, the instructor presented physics lessons. Midterm, final and make-up scores were examined after the LOC instruction. Students who are LOCFF (n=32), joined over 50 % percent and they had significantly higher scores than students who are LOCFR (n=31), joined below 50 % percent to the lessons. According to t-test result, LOCFF group more successfully than LOCFR group (p=.006*).

Keywords: Distance education; Live online course; Web-based instruction.

1. Introduction

Distance education is a field of education that focuses on, technology and incorporated in delivering education to students who are not physically "on site" to receive their education (Potashnik & Capper, 1998). Distance education is going to become more popular and accepted approach for education in the modern age. Several considerations have led to wide acceptance and sustained growth of distance education in all over the world. First, it is recognized that education is a key factor in economic development and social change (Rashid & Elahi, 2012). Distance education activities are designed to fit the specific context for learning, the nature of the subject matter; need and goals of the learner, the learner's environment and instructional technologies methods.

Use of the web based instruction for educational purposes is widespread and rapidly growing. Thousands of university courses have been developed for delivery entirely via the web. This approach accelerates more colleges and universities urge faculty to create online versions of their courses (Dutton et al., 2002). Online course is one of the most dynamic and enriching forms of distance learning that exist today. Online course is a subcategory of distance education, which has been defined as the formal delivery of instruction in which time and geographic location separate students and instructors (Holmberg, 1989; McIsaac & Gunawardena, 1996; Verduin & Clark, 1991).

The Online course overcomes the time and place constraints that restrict access to instruction in traditional educational settings. In addition it includes the relatively low cost and availability of computer technologies, increased pressures relating to employment, financial and family responsibilities, as well as the high cost of higher education and the limited availability of scholarships. Online course offers appealing educational alternatives and provides lifelong learning opportunities for those whom a traditional university setting does not work.

The online course consists of computer oriented communication for the instruction. There are interactions which are learner-content, learner-instructor, and learner-learner in the online environment (Riel & Harasim, 1994; Hillman et al., 1994; Moore, 1989; Miltiadou & Savenye, 2003). Many researchers have indicated that interaction in the distance course and considered it as an important factor that can influence the success or failure of a course (Moore, 1989; Miltiadou & Savenye, 2003; Kearsley, 1995; Keegan, 1988; Ross, 1996; Tsui, 1996; Vrasidas & McIsaac,1999). Kearsley (1995) find out that a high level of interaction has positive effects at distance learning courses. Moore (1989) examined distance course's interaction types. Tsui and Ki (1996)

indicated that students interacted more frequently over the course of the semester, as they became more comfortable using technology and more successfully.

In the light of these findings this study was aimed to investigate the effects of live online physics course on students' achievement at distance learning.

2. Methods

2.1. Purpose of the research

The purpose of this study is to investigate the effects of live online physics course on students' achievement at distance learning. In the context of this study, "Is live online course effective in terms of student achievement at distance instruction?" research question was investigated and examined.

2. 2. Participant and procedure

The participant of this study was 63 second-year Distance Department of Computer Education & Instructional Technology students. At the live online course, the instructor presented one-dimensional motion, Newton mechanic, force, two-dimensional motion, energy conservation and momentum subjects in each week. Students were able to ask questions to instructor at the misunderstanding points and the instructor had solved physics problems in detailed online with students. In addition, students could follow the recorded lessons whenever they want.

In this study, midterm, final and make-up exam scores of students were examined after the Live Online Course (LOC) education.

3. Findings

In order to investigate the effects of live online physics course on students' achievement at distance learning, students' midterm exam, final exam and make-up scores were examined in detailed and the results were presented for *Live Online Course Followers Rarely* (LOCFR) and *Live Online Course Followers Frequently* (LOCFF) groups under the 3.1. and 3.2. sub-headings as follows.

3.1. Live Online Course Followers Rarely (LOCFR) Findings

In the analysis of live online course data, *Live Online Course Followers Rarely* (LOCFR) group's content following numbers, live online course following numbers, scores and grades frequencies according to months during the semester were determined and graphs were presented.

Table 1. LOCFR group's numbers of content following, numbers of live online course following, scores and grades frequencies.

No	Student Score and Grade								Number of Content Following						Number of Live Online Course Following					
	(LOCFR)				(Final)	(Make-Up)								Total						Total
1	R1	65	25	40	48	FF	FF	FF	0	0	2	0	10	12	0	0	1	0	4	5
2	R2	70	40	50	56	FF	BB	BB	9	8	7	0	0	24	0	1	0	0	0	1
3	R3	50	45	70	64	FF	BA	BA	3	13	8	0	12	36	0	0	0	0	0	0
4	R4	60	45	NE*	50	FF	-	FF	0	1	18	1	9	29	0	0	0	0	0	0
5	R5	50	47	67	64	FF	BA	BA	0	8	15	2	10	35	0	0	0	0	1	1
6	R6	45	30	35	38	FF	FF	FF	5	19	7	2	4	37	0	2	0	0	2	4
7	R7	75	60	NE*	65	BA	-	BA	1	5	19	2	6	33	0	0	0	0	0	0
8	R8	55	50	NE*	52	CB	-	CB	0	8	25	0	12	45	0	0	4	0	0	4
9	R9	45	30	NE*	35	FF	-	FF	0	8	11	0	1	20	0	1	1	0	0	2
10	R10	20	25	40	34	FF	FF	FF	0	18	6	0	0	24	0	0	0	0	0	0
11	R11	80	45	60	66	FF	BA	BA	4	1	3	15	2	25	0	0	0	0	0	0
12	R12	35	40	45	42	FF	FF	FF	3	0	3	0	0	6	0	0	0	0	0	0
13	R13	50	75	NE*	68	BA	-	BA	0	3	16	0	19	38	0	1	0	0	0	1
14	R14	70	40	45	53	FF	FF	FF	0	10	25	0	3	38	0	0	0	0	0	0
15	R15	50	67	NE*	69	BA	-	BA	2	17	4	18	3	44	0	7	0	0	0	7
16	R16	45	45	45	45	FF	FF	FF	0	2	9	0	0	11	0	2	0	0	0	2
17	R17	95	20	55	67	FF	BA	BA	2	6	18	6	5	37	0	0	4	1	0	5
18	R18	50	55	NE*	54	CB	-	CB	0	0	2	0	0	2	0	0	0	0	0	0

19	R19	45	35	40	42	FF	FF	FF	4	14	7	2	3	30	0	3	1	2	2	8
20	R20	70	65	NE*	67	BA	-	BA	0	0	39	1	9	49	0	0	9	0	0	9
21	R21	83	20	57	65	FF	BA	BA	4	12	13	0	2	31	0	2	2	0	0	4
22	R22	35	40	50	46	FF	CC	CC	0	0	11	1	0	12	0	0	0	0	0	0
23	R23	40	45	50	47	FF	CC	CC	0	0	9	0	0	9	0	0	1	0	0	1
24	R24	95	52	NE*	64	BA	-	BA	2	14	5	4	0	25	0	0	0	0	0	0
25	R25	82	58	NE*	66	BA	-	BA	0	11	24	3	7	45	0	0	0	1	0	1
26	R26	85	55	NE*	64	BA	-	BA	4	23	15	5	1	48	0	2	2	2	0	6
27	R27	65	30	25	41	FF	FF	FF	2	9	4	0	0	15	0	1	0	0	0	1
28	R28	75	25	45	54	FF	FF	FF	3	4	6	1	5	19	0	1	0	0	0	1
29	R29	75	35	45	54	FF	FF	FF	2	12	3	11	1	29	0	1	1	0	0	2

Table 1. LOCFR group's numbers of content following, numbers of live online course following, scores and grades frequencies. (Continue)

Student Score and Grade									Number of Content Following						Number of Live Online Course Following					
	(LOCFR)					(Final)	(Make-Up)													
30	R30	65	20	35	44	FF	FF	FF	0	18	16	3	6	43	0	5	3	2	1	11
31	R31	85	20	57	69	FF	BA	BA	3	5	6	1	0	15	0	1	2	0	0	3
32	R32	60	40	40	46	FF	FF	FF	0	10	9	3	9	31	0	0	0	0	4	4

NE*: Not Entered

Average Score**: 30% Midterm + 70% Final / Make-Up Score

LOCFR: Live Online Course Followers Rarely

As seen in Table 1.; when examined LOCFR group's the lowest and the highest scores were determined. Student who was numbered as 14 followed content and Live Online Course, 38 and 0 respectively. Student numbered as 30 followed content and Live Online Course, 43 and 11 respectively. The both of students failed at the distance physics course.
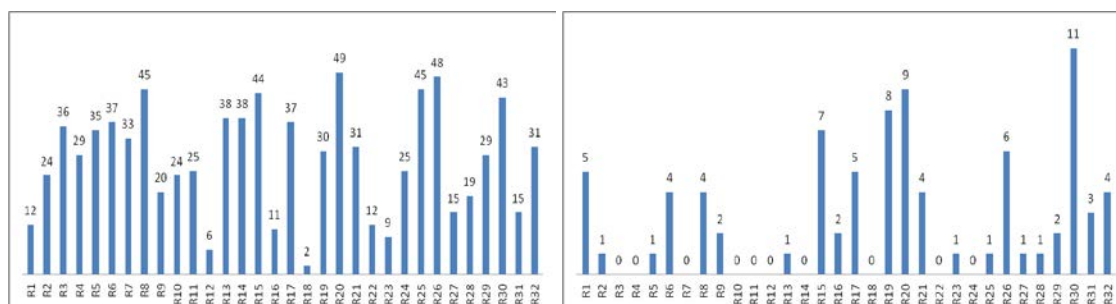
Fig. 1. LOCFR group's content following (total) and live online course following (total) frequencies during the semester as scale.

It was shown in Fig 1., general frequency distributions of LOCFR Group's Content Following (Total) and Live Online Course Following (Total) during the semester.

3.2. Live Online Course Followers Frequently (LOCFF) Findings

In the analysis of live online course data, *Live Online Course Followers Frequently* (LOCFF) group's content following numbers, live online course following numbers, scores and grades frequencies according to months during the semester were determined and graphs were presented.

	Student Score and Grade								Number of Content Following						Number of Live Online Course Following					
	(LOCFF)				(Final)		(Make-Up)							Total	September	October	November	December	January	
1	F1	65	50	NE*	55	CB	-	CB	0	17	12	18	3	50	0	4	4	20	0	28
2	F2	45	25	35	38	FF	FF	FF	0	1	27	0	24	52	0	0	0	0	1	1
3	F3	60	60	NE*	60	BB	-	BB	11	26	45	16	4	102	0	0	1	3	0	4
4	F4	55	30	50	52	FF	CB	CB	2	19	28	4	21	74	0	7	7	1	0	15
5	F5	80	75	NE*	77	AA	-	AA	2	19	19	15	9	64	0	11	5	2	0	18
6	F6	90	40	75	80	FF	AA	AA	3	19	22	23	15	82	0	3	7	5	3	18
7	F7	70	45	55	60	FF	BB	BB	1	2	47	10	34	94	0	1	5	11	4	21
8	F8	70	55	NE*	60	BB	-	BB	7	28	35	13	15	98	0	3	10	3	0	16
9	F9	91	42	74	83	FF	AA	AA	13	30	16	26	0	85	0	4	0	13	0	17
10	F10	70	40	30	49	FF	FF	FF	12	20	26	14	1	73	0	4	0	10	0	14
11	F11	60	60	NE*	60	BB	-	BB	9	28	9	9	7	62	0	0	0	2	1	3
12	F12	75	65	NE*	68	AA	-	AA	12	27	36	15	4	94	0	16	9	13	0	38
13	F13	90	30	35	52	FF	FF	FF	17	20	34	3	4	78	0	5	0	0	1	6
14	F14	89	42	73	84	FF	AA	AA	8	8	25	29	12	82	0	2	4	2	4	12
15	F15	90	40	73	79	FF	AA	AA	10	31	4	4	3	52	0	10	0	3	0	13
16	F16	90	38	75	80	AA	AA	A	0	2	15	47	1	65	0	0	5	1	0	6

								A												
17	F17	50	40	40	43	FF	FF	FF	3	21	18	9	0	51	0	4	3	6	0	13
18	F18	45	25	30	35	FF	FF	FF	6	7	17	7	18	55	0	1	5	0	13	19
19	F19	60	25	30	39	FF	FF	FF	15	19	28	0	4	66	0	0	0	0	2	2
20	F20	60	50	NE*	53	CB	-	CB	16	8	27	2	8	61	0	0	0	5	7	12
21	F21	60	40	50	53	FF	CB	CB	0	2	24	11	27	64	0	0	2	4	1	7
22	F22	65	50	NE*	55	CB	-	CB	0	55	9	0	17	81	0	21	0	0	2	23
23	F23	60	45	NE*	50	FF	-	FF	0	33	13	12	8	66	0	6	3	6	0	15
24	F24	65	40	50	55	FF	CB	CB	19	16	28	6	6	75	0	8	12	0	2	22
25	F25	60	55	NE*	57	BB	-	BB	0	14	32	13	23	82	0	1	5	1	1	8
26	F26	50	25	50	50	FF	CB	CB	8	18	21	8	20	75	0	1	7	3	5	16
27	F27	78	80	NE*	81	AA	-	AA	6	21	19	4	2	52	0	4	8	1	0	13
28	F28	82	74	NE*	77	AA	-	AA	9	15	18	15	11	68	0	0	1	5	0	6
29	F29	30	25	30	30	FF	FF	FF	2	16	20	12	5	55	0	0	9	5	4	18
30	F30	90	72	NE*	79	AA	-	AA	14	26	24	17	16	97	0	9	4	9	6	28
31	F31	60	55	NE*	57	BB	-	BB	5	10	13	15	17	60	0	1	0	1	6	8

NE*: Not Entered

Average Score**: 30% Midterm + 70% Final / Make-Up Score

LOCFF: Live Online Course Followers Frequently

As seen in Table 2.; when examined LOCFF group's the lowest and the highest scores were determined. The student who was numbered as 2 followed content and Live Online Course, 52 and 1 respectively. The student numbered as 12 followed content and Live Online Course, 94 and 38 respectively. While student 2 failed at distance physics course, student 12 finished physics course with the highest score.
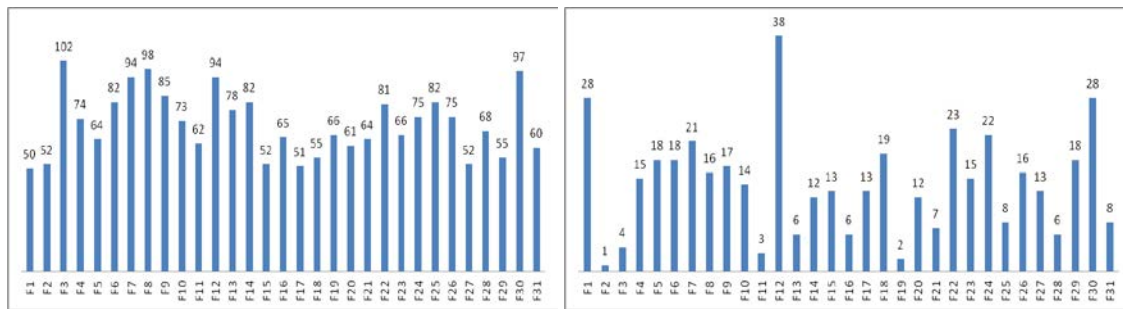
It was shown in Fig 2., general frequency distributions of LOCFF Group's Content Following (Total) and Live Online Course Following (Total) during the semester.

Table 3. Comparison of LOCFR and LOCFF groups' scores of students' according to independent group t-test results.

Groups	Mean	N	Std. Deviation	Std. Error Mean	Independent group t test		
					t	SD	p
LOCFR	49,12	31	17,006	3,006	-2,859	61	,006*
LOCFF	65,74	32	27,980	5,025			

As shown in Table 3.; LOCFF group had significantly higher mean score (65,74) than LOCFR group's mean score (49,12) during the online physics course and independent group t-test results showed that there was statistically significant difference between LOCFR and LOCFF groups' scores (p= ,006*).

Fig. 3. The comparison between the LOCFR and LOCFF groups were presented according to general frequency distributions of content following (total) and live online course following (total) during the semester.
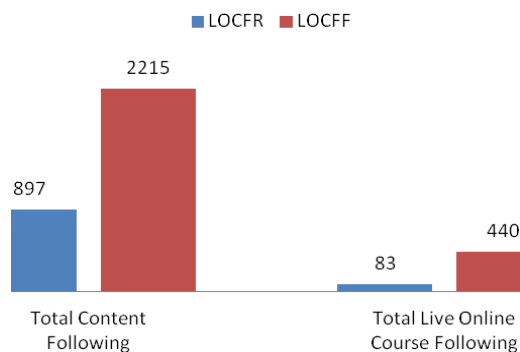
In addition, the comparison between the LOCFR and LOCFF groups were presented according to general frequency distributions of Content Following (Total) and Live Online Course Following (Total) during the semester in Fig 3.

4. Conclusion

The purpose of this study is to investigate the effects of live online physics course on students' achievement at distance learning. In order to investigate the effects of live online physics course on students' achievement at

distance physics course, students' midterm exam, final exam and make-up scores were examined in detailed. According to data analysis, it was found that LOCFF group had significantly higher mean score (65,74) than LOCFR group's mean score (49,12) during the online physics course and independent group t-test results showed that there was statistically significant difference between LOCFR and LOCFF groups' scores (p= ,006*). According to the findings, it was seen that LOCFF group more successful than LOCFR group. This result supports previous works (Miltiadou & Savenye, 2003; Potashnik & Capper, 1998; Riel & Harasim, 1994; Verduin & Clark, 1991; Vrasidas & McIsaac, 1999) and implicates the importance of the live online course on students' achievement at distance learning.

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THE EFFECTS OF MYTHOS' ON PLATO'S EDUCATIONAL APPROACH

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Abstract

The purpose of this study, by examining the findings related to education in Greek mythos, is to reveal Plato's contributions to the educational approach. The similarities and differences between Plato's educational approach and the education in Mythos are emphasized in this historical - comparison based study. The effect of mythos, which in fact give ideal education of the period, with the expressions they made about Gods' and heroes' education, on the educational approach of Plato, known to be intensely against the mythos, is rather surprising.

Keywords: educational approach, educational history, mythology.

1. Introduction

Plato is the first thinker of philosophy as well as of education. His ideas about education still have influence on schooling. Thus; Plato is a decent starting point in the studies over the meaning and the philosophy of education. Thinkers like Aristoteles, John Locke, J. J. Rousseau, and John Dewey, who produced education theories couldn't help challenging Plato. However; Plato's challenge was mostly with the mythos. In ancient Greece, one of the three words meaning 'say' is 'mythos'. Epos and logos are the other two. The exact meaning of mythos is considered as 'word', 'tale', 'story' or 'myth' which are said or heard. Logos, however, means the utterance of the truth with human sayings. That is; mythos and logos are two opposite words. Therefore, Plato despises mythos as he did to Heraclitus and describes it as fake, vain and ludicrous. However, it is known that Plato couldn't think separately from mythos and even created his own mythos as mythos is identical to Greek thought and language and therefore is impossible to isolate mythos from Plato's thoughts. (Erhat, 1996)

Over the past few decades many emphasis has been given to the importance of myth in Plato's philosophy (Hooger, 2010). A rational philosopher, Brunschvicg, sees Plato's making use of mythos as a forceful return of a primitive way of thinking which means questioning the state before the existence of the earth and alike the sort seen in Hesiod. Burn, however, sees Plato's making use of mythos as an essential part of philosophy. V. Broachar also defines mythos as a complementary parts of Plato's teachings. (Brun, 2007)

The purpose of this study was to analyze the effects of Greek mythos on Plato's educational approach.The writing out of the Greek myhtos began with Homer and Hesiod, yet further flourished with new narrations and interpretations. For this reason, mythological sources, starting with Homer, spans to the explanations of the twelfth century Byzantanian scholars. Of course, the works of Homer and Hesiod on which Plato frequently emphasized were used in this study. However, not limited with those above, some mythological dictionaries prepared with the use of a great many mythological sources were also taken advantage for this study. Also the study focuses on Plato's educational thought in *Republic* and *Laws*.

1.1.Mythos

In advance of the twentieth century, mythos was regarded as 'tale' or 'fiction', but in this century, addressing mythos as adopted in archaic societies enabled itself to be considered as historical knowledge. 'Myth narrates a

sacred history; it relates an event that took place in primordial time, the fabled time of the "beginnings." '(Eliade, 1993, p.13). Mythos, which usually carries a cosmogenic meaning, appeared as an effort to descibe natural events. For humans, mythos is a symbolic instrument that helps understand the world, the cosmos and he himself.

Myth is covering stories that utilize fantasy to teach people about the nature around them (Hooper, 2010). Myth tells only of that which really happened, which manifested itself completely. (Eliade, 1993). The basis of Greek education was poetry and the content of Greek poetry was the myths. Mythos is the oldest education system and in this respect it is not surprising that Homer and Hesiod were used in ancient Greek education. Herein Dupont is noteworthy with these words: 'Homer's poetry is the only educational book for common saga, poetical memory, the guardian of the culture and for all children' (Dupont, 2001). In *Republic*, Plato mentions that as a result of a mythos which brought all the Greeks together, Homer with *Iliad* describes it as the foundation of the Greekness (*Republic*, 607a). However , his poems , tragedies and the sources of these describes Homer and Hesiod as figures who could never reach the reality, create fictional characters and are of no help to the society (*Republic*, 595-601).

Plato is known to have great influence on mythos gaining such meanings as 'tale' 'history' (Peters, 2004). He registers his objections to some of the dangers of an educational program which are based on the myths (*Republic*, 398a-b). But he also supports the use of children in education, but only the beautiful ones (*Republic*, 377c).

1.2. Traces related to education in Mythoses.

When mythoses are analysed, it is possible to reach some information, although limited, about the education of some mythological characters. That from infancy, how some gods and heroes are raised is cited in mythoses. It is known that wetnurses, nannies and nymphas, known as natural and heavenly bodies living in the moorland, waters and forests played some roles during the infancy of gods and heroes. Even the king of the Gods, Zeus, was brought up and breastfed by nymphas (Grimal, 1997). Plato leaves the role of nursery and nutrition of the babies to wetnurses and nannies (*Republic*, 460d).

In mythoses, as an instructor there were gods and semi-gods, but the most commonly aforenamed instructor is Centaur (Kentaur), which is a creature made up of half man and half horse called Chiron. The name of Chiron (Kherion), which is the most famous, the wisest and the best horseman, derives form 'Kheir' meaning 'hand'. (Çelgin 2011). This centaur who was seen as instructive roles in mythoses is a man of nature and with the lessons he learned from the nature, he raised gods and heroes. In addition to gods such as Apollo and Asclepius, the instructor of Achilles, one of the main actors of *Iliad*, was Chiron (Erhat, 1996). The lessons that Chiron taught can be listed as arts of war and hunting, medicine, ethics and music. By saying that Achilles, brought up by Chiron, cannot be bad (*Republic*, 391c).

Achilles is the hero who was the most commonly referred subject in Greek myhos. *Iliad* is more of a saga of Achilles than Troia. Achilles was taught by the horseman, Chiron. As well as music education like playing the reed, singing and elocution, Achilles was educated in such physical education lessons as spear throwing, fighting, war making, riding and running. He learned the art of medicine and making drugs. In addition to these, he is said to have had any kind of virtues. These virtues can be listed as resisting to pain, not telling lies and being sober and sturdy in Mythoses (Erhat, 1996). In his work *Republic*, Plato criticizes Homer saying that Achilles cannot foster evil in him as he is   not only the descendant of God but also being well educated (*Republic*, 391c). What attracts attention here is Plato's complete approval of the education that Achilles, a fictional character, received.

When the disorganized data in mythoses is analysed together, it can be perceived that education can be classified under two main headings as mental and physical education as in Plato. However, another point that attracts attention is especially musical education is more emphasized in mythological stories. For Plato, the education of the guard of the state starts with music (377 a) and that education should be based on music is

emphasized (*Republic*, 401a-e), for spiritual education can be realized through music and the music symbolizes the universe (Nietzsche, III,9 (90)). Here it is necessary to mention inspiration fairies (muses) called 'mousa' in Greek mythology. Deriving from the root of 'men' meaning mind, thought and the power creativity as a word, 'mousa' constitutes the etymologic root of 'music'. Mousas are the daughters of Mnemosyne and Zeus (Hesiod, *Theogony*, 75). Zeus took the lead by defeating the tough powers and so as to establish his sovereignity he adopted powers which are creative in proportion to regular and moderate. Mouses are the products this power (Erhat, 1996). Here the terms regular and moderate are important as the order and harmony that Plato constantly emphasized (*Republic*, 410a ff; 430 e ff.) are valid in Greek mythologhy too. These terms are stressed with Zeus' being the father of Mousas and that the new order is moderate and harmonious is emphasized. Mousas defined as heavenly singers are also the managers of the thought (Grimal, 1997). Music is known to have a fundamental role in enabling the oral culture to be kept in mind and passing over to the next generations. In this respect, Mousas are accepted as references by poets, for they have a broad memory, tactful thinking and conscience (Dönmez; Kılınçer, 2011). Two great sagas of Homer, *Iliad* and *Odyssey* start with an addressing to Mousas. Hesiod begins *Theogony* with a praise to Mousas. Plato is known to refer to Mousas and praise them as poets. (*Republic*, 545e-549a). Moreover as an actual Mousa, he points at dialectical and philosophical Mousa, namely Mousa Ourania (*Republic*, 548c).

Another mythological entity interested in music is Apollo. Apollo, known as the manager of Mousas, is a one of the second generation gods. He is mostly viewed as the god of poetry, dance and prophecy. One of the musical instruments played by Apollo is the lyre. In one of the traditions, the lyre is written to have been given to Apollo by his father, Zeus, yet in another generation is narrated to have taken the lyre from Hermes in return for his herds (Grimal, 1997). Plato is known to have mentioned about Apollo's lyre in ideal education about musical education (*Republic*, 399d).

Marsyas is regarded as the founder of two – hole shepherd's pipe. Marsyas, mastered at playing the pipe, becomes the manager of the Mousa choir. In an Anatolian based legend, Marsyas maintains that the reed could compete with the lyre of Apollo and as referees Mousas and Midas, the Phrygian King, were chosen. When Mousas chose Apollo and Midas chose Marsyas, Apollo changed his ears into those of an ass and punished Marsyas by excoriating (Erhat, 1996). As mentioned above, the preferring of Apollo is ture for mythos.

Apart from this, the fact that Apollo is a bright god emitting light can be understood from the adjective Phoibos (bright). Apollo, as the god of sun, is the successor of Hyperion and is associated with Helios (Bulfinch, 2011). Considered to be the father of Pythagoras, Apollo was thought to have lived on the Leuce Island (White Island), known to be the heaven for orpheusisicm and pythagorascism (Grimal, 1997). Apollo symbolizes the enlightened, stagnant and moderate power. It is the light, the power of seeing the nature and perceiving the entity with mind and the power of shaping (Erhat, 1996). For this reason, Plato interpreted Apollo as 'mask of the Form of the Good'. The significance of Apollo in Platoic philosophy has been suggested in Christina Schefer's book (Schefer, 1996). Apollo has the power of inspiration as Dionysos, yet the difference of him is his moderate power of inspiration (Grimal, 1997). Plato talks about Apollo as the god who first makes the nicest *Laws*.

"For us nothing, but for the Apollo of Delphi, the chief, the fairest and the first of enactments." "What are they?" he said. "The founding of temples, and sacrifices, and other forms of worship of gods, daemons, and heroes; and likewise the burial of the dead and the services we must render to the dwellers in the world beyond to keep them gracious. For of such matters we neither know anything nor in the founding of our city if we are wise shall we entrust them to any other or make use of any other interpreter than the God of our fathers. For this God surely is in such matters for all mankind the interpreter of the religion of their fathers who from his seat in the middle and at the very navel of the earth delivers his interpretation." (*Republic*, 427 b-c).

The son of Apollo, Asclepius, is known as the god of medicine in the Greek mythology. The one who taught Asclepius the art of medicine is again the horseman Chiron. Asclepius taught his daughter Hygieia and the sons of Asclepius the art of medicine (Erhat, 1996). While Asclepius was growing up, he was becoming even more famous as a highly-regarded healer with exceptional skills. Aside from the art of surgery, Chiron had also taught him the effective use of drugs, incantations and aphrodisiacs as aids to healing (Grimal, 1997). Chiron, however, is stated to have learnt all this from the nature (Erhat, 1996). Plato's description of Asclepius is as:

"Then, shall we not say that it was because Asclepius knew this—that for those who were by nature and course of life sound of body but had some localized disease, that for such, I say, and for this habit he revealed the art of medicine, and, driving out their disease by drugs and surgery, prescribed for them their customary regimen in order not to interfere with their civic duties, but that, when bodies were diseased inwardly and throughout, he did not attempt by diet and by gradual evacuations and infusions to prolong a wretched existence for the man and have him beget in all likelihood similar wretched offspring? But if a man was incapable of living in the established round6 and order of life, he did not think it worth while to treat him, since such a fellow is of no use either to himself or to the state." "A most politic Asclepius you're telling us of," he said." (*Republic*, 407 d-e).

As a result of Apollo's and Mousa's copulation, musicians Linos and Orpheus, who were yet again mentioned as an instructor in mythological tales, were born (Graves, 2010). There are legends saying Linos was the person who invented melody and the rhythm (Grimal, 1997). Linos is known as the music teacher of Heracles. He punished Heracles as he didn't have the talent for music, but Heracles got furious and killed his teacher. We can conclude from this mythos that Heracles having brute force cannot be educated as he has lacking in music, or rather delicate thinking (Dönmez,Kılınçer, 2011). Linos, thought to have universal wisdom, was the teacher of Thayris and Orpheus (Graves, 2010). There are mythoses saying that Linos also learned Phoenician (Fenike) alphabet from Kadmos and the name of each letter and the final form was given by Linos (Grimal, 1997).

Another musical instrument that Plato introduced in education is the cithara. In some traditions, cithara is described as an instrument invented by Orpheus, yet in some other traditions it is stated that Orpheus increased the number of cithara's strings to nine from seven as is the number of Mousas. Orpheus could also play the lyre apart from the cithara. As an instrument of harmony, with seven sympathetic strings, the lyre also represents the harmony of the cosmos. Thracian hero Orpheus is stated as Kalliope from the Mousas or the son of Polhymnia. There are mythoses as regards to the fact that Orpeus learned musicianship from Linos or Apollo. He sings in Olympos as Mousas and with his music he soothes animals, plants, humans and genies (Grimal, 1997).

Another musician that is referred as the teacher of Orpheus in some traditions and as a student in some others is Mousaios. Mousaios is the son of goddess of Moon known as Selene and was brought up by nymphas as many other mythological characters were. The music of Mousaios were used to heal patients (*Republic*, 365a; Grimal, 1997).

Heracles, about whose education we know more than that of any other heroes, were taught by many different teachers for physical and spiritual education. However he is known to be better in physical education. It is stated that he was educated in not only calisthenic subjects such as car driving, swordplaying, war techniques on horse or without horses, fighting, archery but also playing the lyre and singing, literature , astronomy and philosophy (Graves, 2010). The education that Heracles received in classical period is the education that Greek kids received, but the teachers of Heracles were mythological characters just like himself. Heracles killed Linos, who taught him music and literature, as a result of anger fit and   later were taught to shoot arrows from an Scythian cowman called Teutaros.

1.3.Plato's Educational Approach

Plato is described as the first great educator and founder of educational thought (Cooney, Cross and Trunk, 1993). With Academy, Plato became the founder of the first systematic education and the school where the education would be conducted. The intellectual environment of his Academy continued activities more than 900 years and in A.D. 529 it was closed by the emperor Justinian (Cooney, Cross and Trunk, 1993). However, although the Academy was closed down later, the philosophy (teachings) of Plato lasted throughout Archaic Age and the Renaissance and reached to the modern day (Brun, 2007).

Plato's educational approach can be found in Dialogues of the *Republic* (Politeia) and the *Laws* (Nomoi) in which he develops his ideas about education (Lodge, 1947). As in many other examples presented in the history of thought, Plato's educational idea appeared in association with idea cumulation, understanding and views of the period when he initially lived. The educational approach of Plato, who went after 'good' as a perfect Socrates follower, was deeply affected by the educational approach of two crucial city states, Sparta and Athens. Especially in the *Republic*, it can easily be understood that the model he presented in Sparta is the idealized sample of the education named agoge he practised (Russell, 2000). Plato thinks that education is the main responsibility of the state as in Sparta. According to Plato, only a state established within a proper system is perfect.

Plato classifies people as having gold, silver, iron and bronze in their nature. According to him, people with gold in nature are the managers, the silver are the assistants of them and, the iron and the bronze are farmers and labourers. This metaphor is like the mythos in which Hesiod tells the creation of the roots of human beings (Hesiod, *Works and Days*, 106-200). In the *Republic*, Plato talks about the necessary education that the managers would receive in his ideal state. Education is a part of Plato's ideal state in which philosophers should rule. According to Plato, for the education of these ideal prospective managers verbalized as wardens (gatemen) there are two important ways are Physical education and music. There are also rhetorics in musical education (*Republic*, 376e). In this part of the dialogue Plato describes the role of poetry in education and criticizes Hesiod and Homer (376d- 412b). Music educates the soul but the significant role of music education for Plato is that it educates philosophical part of the soul.

For Plato, physical education is important, yet just because the physical condition is good doesn't mean that the mankind is 'good'. However 'good' man is the one who looks after his body well (*Republic*, 403 d). In the '*Laws*', it is stated that after the age of six, irrespective of their being girl or boy, every kid is supposed to go through physical education (*Laws*, 794 c). Plato's sayings about girls' education are different from the ones expressed by mythoses. Because, in mythoses, it is generally seen that female characters were engaged in handcrafts. Plato begins his physical education with nutrition and recommends the diet expressed in Homer's epic stories (*Republic* 404 c). For Plato gymnastic is not only produces bodily health, also diciplines the psychological element of the spirit.

Plato emphasizes the role of abstract sciences in education for the age group between 20-30 which are choosen to be soldiers and guardians They should be trained in abstract sciences, numbers, astronomy, geometry and harmony. After this stage comes the dialectical education. With the help of this education, they go into the way of discussing the universe of ideas and gaining the actual knowledge. (Aytaç, 1992).

Cave allegory in the *Republic*, the myth itself is nothing but a shadow, a mere likeness of reality, and not reality itself. But a myth, if it is to be at all useful as a means for education, must inform the audience of its own nature: the best myths, then, will be shadows that inform the reader of their shadow-like nature. With the cave allegory, Plato turns the underwold of Hades, expressed by Homer, upside down and hence emphasized the immortality of spirits (Arent, 1996). Homer's lines about Hades are as such:

"How didst thou dare to come down to Hades, where dwell the unheeding dead, the phantoms of men outworn" (Homer, *Odyssey*, XI, 475).

With these lines of Homer, that souls lacking in the power of thought without their own bodies is expressed and the life on the earth is dignified. The perception expressed by Homer with this passage is a prevalent idea in the whole Greek mythology. However, Plato thinks just the opposite and criticizes Homer by the cave allegory stating that what is essential is the soul itself and the earth where we have the body is not the real world but the shadow. In Plato's theory of ideas, what is important is not the body that mythoses dignified but reaching the world of ideas which is the source of eternal life. Here, the effect of Orphic –Pythagoric approach is felt in Plato's philosophy. With this allegory, Plato tries to associate his ideas of theory with the teaching that things are composed of numbers (Zeller, 2008). To Plato, reaching the world of ideas is only possible through education.

"... But, at any rate, my dream as it appears to me is that in the region of the known the last thing to be seen and hardly seen is the idea of good, and that when seen it must needs point us to the conclusion that this is indeed the cause for all things of all that is right and beautiful, giving birth1 in the visible world to light, and the author of light and itself in the intelligible world being the authentic source of truth and reason, and that anyone who is to act wisely in private or public must have caught sight of this." (*Republic*, 517b-c).

In the *Laws*, Plato discusses a practical code of *Laws* for a state (Cooper, 1997). Education is the most important thing in Plato's ideal state in which philosophers should rule. In this dialogue, he insists on the dogma that virtue is knowledge. Edelstein says, Plato bases the life of the ideal state not on philosophy but on mythology (Edelstein, 1949).

2.Conclusion

Plato had two programs of education: unphilosophic and philosophic man. In *Republic*, the education of unphilosophic is also for the early education of philosophers. And this early education has two parts as in mythoses: music and gymnastic. Music education includes myth, rhythm and harmony to make the soul graceful and harmonius. In the myth in which Hercules, who cannot use his power moderately, killed Linos, it is seen that the mental state of the hero who had no talent for music was not in an order and continuously in pain. (Grimal, 1997). Hercules seen as the mythological interpretation of the disorder which was brought on by those who only trained their bodies as stated in the *Republic* of Plato(*Republic*,410d). For Plato gymnastic education is also necessary to the health of soul. In the ideal education of Plato, musical and physical education are to be given moderately (*Republic*, 411e-412 b).

Myth plays a continuing role in Plato's education. The presence of myth in his dialogues is the strongest evidence. Plato uses myths to teach his paradoxial views. He thought myth to be a kind of logos, a likely logos. In *Republic* Socrates says" the myth, taken as a whole, is false, but there is truth in it also". (*Republic*, 377 a). Plato uses myth as pedagogical devices. He found myth to be a perfect means for teaching crucial doctrines. A principle used by educators is that one leads the student from what is better known to what is lesser known. It seems Plato's technique is this principle (*Republic*, 368d-369a).

Most scholars argue that mythos and logos are on occasion interchangeable in Plato's dialogues. Indeed, sometimes Plato writes of myth as a kind of logos. Plato uses images in his dialogues because the images help a student to understand and learn. Finally, for Plato education is to create in young people an imagination because without imagination education is useless and he creates this imagination with myths in his dialogues. Also he doesn't create his ideal education apart from Greek mythos that it seems on his works.

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THE EFFECTS OF PROBLEM-BASED E-LEARNING ON PROSPECTIVE TEACHERS' ACHIEVEMENTS AND ATTITUDES TOWARDS LEARNING MATHEMATICS

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Abstract

The aim of this study is to investigate the achievements and attitudes of prospective teachers towards mathematics in problem based e-learning. Experimental research model was used to determine the achievements and attitudes of prospective teachers towards mathematics in Problem based e-learning. The participants of this research include 73 (36 in experiment and 37 in control group) prospective teachers, who take course from the first researcher. The assignment form and attitude scale which were developed by researchers was applies before and after the course at 2010-2011 spring semester. Data received by assignment form and attitude scale, were analysed with t test for dependent samples and t-test for independent samples. The differences between prospective teachers' mean scores of assignment form and attitude scale were found statistically significant in the level of p=.05. These differences were found significant in favor of prospective teachers who took the course on problem based e-learning.

Keywords: Problem based e-learning; mathematics education; prospective teachers; attitude; t-test for independent samples and dependent samples.

Introduction

E-Learning is a contemporary teaching method supported by the use of information and communication technologies. E-learning enables the use of a much broader pedagogical strategy when compared to classical education and learning activities. The most important advantage of e-learning when compared to other traditional methods is that it significantly decreases the costs when compared to the other educational methods (Terzi, nd).

In this context, the study's frame is created by using Problem-based learning (PBL) and e-learning approach together within the scope of coeducation models. PBL was first developed in medical education in the 1950s(Barrows, 1996).The adoption of PBL in education outside the medical field started and carried out in 1990s. PBL has been applied globally in a variety of professional schools and teacher education (Oberlander & Talbert-Johnson, 2004). It is a pedagogical strategy for posing significant, contextualized, real world situations, and providing resources, guidance, and instruction to learners as they develop content knowledge and problem-solving skills (Mayo, Donnelly, Nash, & Schwartz, 1993). According to the study of Günhan (2006), PBL increased the geometrical thinking levels of students in mathematics lesson, created a positive attitude towards mathematics and increased the level of access. In the study of Uslu (2006), it was seen that PBL in mathematics has a meaningful positive effect on students' attitude towards mathematics when compared to the traditional method. In the study of Luck & Norton (2004), online problem based groups success was found higher than the face to face problem based groups in terms of cooperation sub-dimension.

When the literature is analyzed, it is seen that learning purpose web contents are not sufficient. Content of the web pages of schools that are bound to the ministry of education is no more than the presentation of institution, so academic level information sharing is almost non-existing. Universities have the same problem. Another significant situation is that individuals are still afraid of computer usage which is a negative effect; these kinds of

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attitudes will surely create problems in transition to e-learning. Today, in Turkey, some institutions that do not get government grant have to take some of the expenses from workers; managers of primary and secondary schools sometimes have to take support from the parents of students in order to build and update computer laboratories. Employment problem has a negative effect on transition to e-learning in education. E-Learning practices' areas of appliying in Turkey are divided into four categories: Universities, companies, public and individual directed practices. In universities, certificate and post graduate programs are mainly practiced in e-learning model. During university education, some lessons in universities are presented completely with e-learning model (Çınar, 2010; Göktaş & Kayri, nd.). But this can not be generalized for every university. According to the results of many researches, PBL has a more positive impact on students' attitude towards lessons when compared to traditional method (Goodwin, 2006; Tavukçu, 2006, Çiftçi et al. 2007; Akınoğlu & Tandoğan, 2007). This is why, this study is important in terms of determining the efficiency of sufficient knowledge of prospective teachers in the faculty of education by using problem based learning and e-learning approach on the issue of e-learning and problem based learning on students' success and attitudes.

The purpose of this study is to examine the effectiveness of problem-based e-learning on pre-service teachers' achievements and attitudes towards learning mathematics. The study includes an attitude and achievement test in order to examine changes in pre-service teachers' achievements and changes in the attitudes from pre-test to post-test. Two research questions guided this study: 1. What is the effect of PBeL environment on pre-service teachers' achievements? Are there any differences in learning methods knowledge between experiment and control groups after using the program? 2. What is the effect of the PBeL environment on pre-service teachers' attitudes? Are there any differences in attitudes between experiment and control groups after using the program?

Method

Research model and study group

Experimental design with pretest posttest control group was used in this study. There were randomly chosen two groups in pretest-posttest control group design. One of the groups was experimental while the other was control group. In both groups, measurements were made before and after the experiment (Karasar, 2005). Experimental design with pretest posttest control group was used in this study. Randomly chosen 2 classes out of 3 which were equal in terms of academic success constituted control and experiemntal groups. The study was carried out in the second semester of 2010-2011 academic years. The participants of this research included 73 (36 in experimental and 37 in control group) students from department of elementary mathematics education, who were taking courses from the researchers.

Data collection and analysis

In this research, a teaching material presented in web environment was prepared in order to enable students practice problem based learning activities. Blackboard Learning Administration System that enables students design learning materials on web was used for this purpose. In our day, many universities (*For instance; Hacettepe, University of Cincinnati, University of Newcastle, University of Leicester, Ohio University, and University of Cambridge)* use Blackboard Learning Administration System which is used for problem based learning practices.

In the study, online problems that were qualified enough to develop prospective teachers' analysis and synthesis abilities were prepared. After problems were created, 3 experts' opinions were taken. On the bases of feedbacks, problems were re-shaped and presented to prospective teachers. Problems were discussed in 2 or more sessions for 2-3 hours, that were generally organized successively, sometimes with a few days off for free study. Prospective teachers worked individually and within a group. Academic success evaluation form in this study was prepared by researchers. While preparing the evaluation form, questions that are used in Teacher Selection Examination for Anatolian High Schools, whose validation-reliability are ensured, are analyzed and 20

of them were chosen for the study. In order to evaluate the reliability of the test, it was conducted on 68 randomly chosen 4th and 5th grade students of Mathematics Education. According to the reliability analysis that was made with SPSS 16.0 program, Cronbach Alpha reliability coefficient was found to be .81. This value was the desired level and was accepted to be sufficient (Büyüköztürk, 2006). In order to determine attitudes towards mathematics, 5 point likert-typed attitude scale towards mathematics developed by Üzel (2007) was used. Factor loads of the items in the scale varied between 0.454 and 0.730. Total Cronbach Alpha reliability coefficient was found to be .88. This result shows that the scale is reliable. Both in the control and experiment group, the topic were "derivative practices". The goal was to define the changes in students' success in mathematics and their attitudes towards it in a way that can be associated to "derivative practices" at the end of the process.

t-test is used for related and unrelated samples in the analysis of research data. Statistical processes are made with the use of SPSS 16.0 package program. p= .05 meaningfulness level is taken as the basis in all statistical solutions.

Findings

This part of the research consist findings that are achieved at the end of statistical analysis of the data gathered by the methods which are used in solving the problem and interpretations about these findings.

The aim of the first sub-problem of the research is to see if there is a meaningful difference between the knowledge levels of the experiment and control groups in terms of developing prospective teachers' success in mathematics. T-test is made for unrelated samplings with the calculations by SPSS 16.0 package program. At the end of the pre-tests and last-tests of experiment and control groups, a difference occurrd in favor of experiment group as .85 and 16.2 points respectively. T-test points of unrelated samplings which are respectively t = 0.876 and t = 4.02. When p values are analyzed, there is not a meaningful difference between experiment and control groups in terms of mathematical success before the teaching; at the end of last-test, p = .000 < .05 which means that there is a meaningful difference in favor of experiment group (Büyüköztürk, 2006). This result shows that in terms of efficiency, PBeL based teaching is more effective that traditional teaching method. In order to assess the effect of this efficiency on knowledge, difference between the average differences are analyzed. T-test is used for independent samples. In .05, meaningfulness level is t=3.713 and p=.000 < .05; so there is a meaningful difference in knowledge level which is supported by the findings. In other words, in terms of developing mathematics success, teaching based on problem based e-learning is more effective than the traditional teaching method.

The aim of the second sub-problem of the research is to see if there is a meaningful difference between the attitudes of prospective teachers' mathematics success in the experiment group educated with a PBeL based method and control group educated with traditional teaching method. "Mathematics Attitude Scale" is conducted and t-test is made in order to assess the attitudes of experiment and control group prospective teachers. Between the pre-attitude points of experiment and control group, there is a 3.22 points difference in favor of the experiment group. In order to see if this difference is meaningful, SPSS 16.0 package program is used and t-test is applied and it is found that t = 0.898. p value calculated in %95 confidence interval is found to be p= .334 > .05 which shows that difference between both groups' attitudes aren't meaningful. In other words, there is not a meaningful difference between experiment and control groups' attitude towards mathematics lesson before the experiment. In order to assess the changes of the experiment and control groups' attitude after the experiment, last attitude scales differences are taken into consideration. There is 11.52 points difference in favor of the experiment group in the last attitude points. In order to see if this difference is meaningful, t-test is used with SPSS 16.0 package program and t= 2.120. p value calculated in %95 confidence interval is found to be p= .334 > .05 shows that there is a meaningful difference between both groups' attitudes; and when the averages are taken into consideration, the difference is in favor of the experiment group. This result shows that PBeL based teaching affects attitudes towards mathematics more positively than traditional teaching method.

Discussion and conclusions

In this study, problem based e-learning teaching is made with prospective teachers. At the end of this teaching, prospective teachers' success on "Derivative Practices" and their attitudes towards mathematics are determined. At the end of analyzing the findings, it is found out that PBeL positively develops success and attitude towards mathematics. In his study, Günhan (2006) found that PBeL based teaching creates a positive attitude towards mathematics and increase the level of knowledge. In his study, Uslu (2006) mentioned that problem based learning method in mathematics teaching have a more meaningful positive effect on the attitude of students' attitude towards mathematics when compared to traditional method. In this sense, the study's findings are similar with the findings of the studies of Günhan (2006) and Uslu (2006). In this study, the result that prospective teachers develop positive attitude towards mathematics conflicts with Gürsul's (2008) study results which includes the information that difference between pre-attitude scale point and last-attitude scale points aren't statistically important (development level of the attitude towards mathematics). Similarly, this study's findings don't coincidence with Luck&Norton's (2004) study which has the result that PBeL based teaching doesn't increase success. At the end of the teaching in which problem based learning and e-learning approach is used together, prospective teachers had enough knowledge on learning and their attitude towards mathematics positively developed. In this context, it can be said that mutually complementary and supportive learning occurred. Similar studies can be carried out on the departments that educate secondary education mathematics teachers and possible contributions can be researched. Knowing PBeL based teaching's practicalability on other lessons in mathematics education license program is important in terms of understanding the effectiveness.

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THE EFFECT OF PARENTAL ATTITUDES ON BULLYING AND VICTIMIZING LEVELS OF SECONDARY SCHOOL STUDENTS

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Abstract

The aim of this research is to examine the effect of parental attitudes on bullying and victimizing levels of secondary school students. In order to determine the victim and bully levels of the students in this research, "Determination of Peer Bullying Scale – Adolescent Form" developed by Ayas and Pişkin (2007) was used. In order to determine the attitudes of parents, "Parental Attitude Scale" adapted into Turkish by Yılmaz (2000) was used. The study group of the research consists of 300 students studying in three different secondary education schools which are a Science high school (n=107), a general high school (n=97) and a teacher high school (n=96) in province of Bilecik in second term of 2010-2011 education year. 157 of these students are female and 143 are male students. The schools and the students in these schools were selected with the random method. When the research results are examined, the level of being subject bullied does not significantly change according to parental attitudes. It was found that the children of families with negligent parental attitudes are bullied more than those of families with Permissive and democratic parental attitudes. Similarly, the mean score of exhibiting bullying behaviors does not show a significant difference according to parental attitudes. It was found that the children of families with negligent parental attitudes exhibit more bullying behaviors than those of families with Permissive and democratic parental attitudes.

Keywords: Parental Attitıte, Bullying, Victim, secondary school

Introduction

The duty of schools in traditional education term requires them to be interested in the academic achievements of students, however with contemporary education, important responsibilities such as gaining students physical, sensorial and social skills were added to the duties of schools. For the schools to be able to fulfill such important responsibilities, the schools should be safe and peaceful. Negative events to be experienced in school environment will cause the students to lose their interest in school, to withdraw from school and in parallel with this they will be psychologically affected in e negative way with the decrease in their academic achievements.

Although there are many events which may affect the students negatively in schools, one of the events that is one of the most important negative ones seen among students is the bullying cases experienced among them. It has been recently stated that bullying has become an international fact which affects the general ambiance of schools negatively. Many studies on bullying carried out in different countries show that it is a problem which is experienced in almost every part of the world (Ayas, 2008). The first definition of bullying was made by Olweus (1993) who initiated the first studies on this subject: "A person is bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons". Bullying is not limited to physical aggression. Hurting others' feelings, oral insult or discrediting their self-respect through socially excluding them can be included in bullying (Hazlar, 1996).

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As a result of examining different definitions of bullying, Pişkin (2002) defined bullying as a type of aggression which leads one or more students to intentionally and continually disturb those who are weaker than them and in which the victim cannot protect himself or herself.

Bullying behaviors lead to many negative effects on students. In the studies, it was seen that the absence of bullied students increased, their success decreased, their self-respect was negatively affected, they experienced sleeping and eating problems, and it led to problems such as drug use, antisocial behaviors and gun use (Anderson and Swiatowy, 2008)

The ones who carried out researches on the subject state that bullying behaviors are learned in very early periods of life. Bullying behaviors are also seen as an acquired attitude like other social behaviors (Crick and Bigbee, 1998). It is seen that the reactions given to the behaviors of their children by their families and the behaviors of the family members among themselves affect the behavior types of the children. Misguidance, punishing them severely, failing in drawing the lines of the children, making mistakes in awarding them may lead to bullying behaviors in peer relationships of the children (Amy, Adamski and Ryan, 2008).

It was determined that parenting style of families is very effective in showing bullying behaviors of children who are bully in their school years. The children of families who prefer physical punishment, who exhibit hostile and repudiative attitudes, whose problem-solving skills are not sufficiently developed, who teach their children to hit even in the smallest provocation are very likely to be bully in the upcoming years (Demeray and Malecki, 2003; Fitzpatrick, Dulin and Piko, 2007).

There is no relationship between bullying and authoritarian parental attitude, absence of intimacy and warmth in the family, inconsistent discipline methods, absence of common activities, lacking of communication between parents and the child (Baldry and Farrington, 2000; Curtner-Smith, 2000) In a study carried out by Farrington on 411 male children whose ages varied between 8 and 12, he found that the negligence of the children by their families was the most important determinant of bullying (Cited by: Smith, 2006).

In a study by Toksüz (2010), it was found that the children who spend time with their parents, who feel that their family love and are interested in them are less inclined to bullying; as the respect of the parents to the individuality of the child and levels to permit their children to express themselves increase, the bullying tendency of the children decreases; in addition as the control and supervising of the parents on the children decrease, the bullying tendency of the children increases.

The studies show that bullied and bullying students are negatively affected by these events and they also affect school environment in a negative way. This study is carried out to determine what kind of effect parental attitudes have in case individuals are bully and victim.

METHOD

In this part, the model of the research, study group, data collection tools and statistical techniques used in the analysis of the data will be given respectively.

The Model of the Research

The study was planned and performed in conformity with cross sectional survey method which is one of survey methods. Cross sectional survey method is a research model which aims to determine if variables differ or not according to other variables which are measured once.

Study Group

The study group of the research consists of 300 students studying in three different secondary education schools which are a Science high school (n=107), a general high school (n=97) and a teacher high school (n=96) in province of Bilecik in second term of 2010-2011 education year. 157 of these students are female and 143 are male students. The schools and the students in these schools were selected with the random method.

Data Collection Tools

In order to determine the victim and bully levels of the students in this research, "Determination of Peer Bullying Scale – Adolescent Form" developed by Ayas and Pişkin (2007) was used. Determination of peer bullying scale adolescent form consists of two parallel scales which are called "bully scale" and "victim scale" and in which same items are asked in a different way. The students are expected to mark how often they do the words and actions written in bully scale and how often they are subject to such words and actions in victim scale. Psychometric studies regarding these subscales are summarized below.

a) Victim Scale: Victim scale consists of six factors which are 1) Physical victim, 2) Oral victim, 3) Exclusion, 4) Being Rumored, 5) Harming of the Belongings and 6) Sexual Victim. For the validity study of this scale, experts were asked for their opinion and then confirmatory factor analysis was carried out. As a result of first level CFA, fit index was found as X2= 5407.73 (sd=1307, p.= .00), X2 / sd = 4.13 RMSEA= 0.041, GFI= 0.90, AGFI= 0.89, CFI=0.90, NFI=0.96 and NNFI= 0.97. As a result of second level CFA, fit indexes were found as X2= 5959.71 (sd=1315, p.= .00), X2 / sd = 4.53 RMSEA= 0.043, GFI= 0.89, AGFI= 0.88, CFI=0.97, NFI=0.96 ve NNFI= 0.97.

Cronbach's α internal consistency reliability coefficients of victim scale were found as 0.93 for Total Victim Scale, 0.82 for "Physical victim" subscale, 0.75 for "Oral victim" subscale, 0.77 for "Exclusion" subscale, 0.75 for "Being Rumored" subscale, 0.80 for "Harming of the Belongings" subscale and 0.88 for "Sexual Victim" subscale.

b) Bully Scale: This factor also consists of six factors and these factors are 1) Physical Bullying, 2) Oral Bullying, 3) Exclusion, 4) Rumoring, 5) Harming the Belongings and 6) Sexual Bullying. For the validity study of this scale, experts were asked for their opinion and then confirmatory factor analysis was carried out. As a result of first level CFA, fit index was found as X2= 6461.32 (sd=1307, p.= .00), X2 / sd = 4.94 RMSEA= 0.046, GFI= 0.89, AGFI= 0.88, CFI=0.96, NFI=0.95 ve NNFI= 0.96. As a result of second level CFA, fit indexes were found as X2= 7298.38 (sd=1316, p.= .00), X2 / sd = 5.54, RMSEA= 0.049, GFI= 0.87, AGFI= 0.86, CFI=0.96, NFI=0.95 and NNFI= 0.96.

Cronbach's α internal consistency reliability coefficients of bully scale were found as 0.92 for Total Bully Scale, 0.83 for "Physical Victim" subscale, 0.74 for "Oral Victim" subscale, 0.75 for "Exclusion" subscale, 0.66 for "Rumoring" subscale, 0.79 for "Harming the Belongings" subscale and 0.88 for "Sexual Bullying" subscale.

In order to determine the parental attitudes, Parental Attitude Scale developed by Yılmaz (2000) was used. 9 items in acceptance/interest dimension and psychological autonomy dimension which were prepared on 4-point Likert Type scale and first two items in control/supervision dimension were 7-point and there are 8 items in 3-point Likert type scale. Cronbach's Alpha internal consistency coefficient in the first dimension was .72, internal consistency in the second dimension was .76 and internal consistency coefficient in the third dimension was .82.

FINDINGS

Table 1. Change of levels of being bullied according to parental attitudes Anova Results

	PARENTAL	N	$\bar{x}$	SS		Squares	Sd	Squares	F	P

	ATTITUDE					Total		Average		
	Permissive	205	84.79	26.27	Intergroup	10936.42	2	5468.12		
VICTIM	Democratic	63	76.20	19.60						
	Negligent	32	104.87	35.80	Intragroup	194920.49	297	656.29	8.33	.000
	Total	300	26.23		Total	205856.92	299			

When Table 1 is analyzed, the mean score of being bullied does not show a significant difference according to parental attitudes ($F_{(2,297)}=8.33$, $p<.05$). Being bullied does not change significantly according to parental attitudes. Accordingly, parental attitudes affect levels of being bullied.

Table 2. Change of levels of exhibiting bullying behaviors according to parental attitudes Anova Results

	PARENTAL ATTUTUDE	N	$\bar{x}$	SS		Squares Total	Sd	Squares Average	F	P
	Permissive	205	76,7511	25,34	Intergroup	3945,48	2	1972,741		
BULLY	Democratic	63	69,6349	17,67					3.44	.033
	Negligent	32	85,0000	25,05	Intragroup	170079,91	297	572,660		
	Total	300	75.69	24.12	Total	174025,39	299			

When Table 2 is analyzed, mean score of exhibiting bullying behaviors does not show a significant difference according to parental attitude ($F_{(2,297)}=3.44$, $p<.05$). Exhibiting bullying behaviors does not change significantly according to parental attitudes. Accordingly, parental attitudes affect levels of exhibiting bullying behaviors.

Result and Suggestion

The recent studies on bullying carried out in Turkey show that bullying events are important problems in schools. The schools where bullying events are experienced are also negatively affected by this problem and it is seen than it affects education activities negatively. Such events which are seen in schools constitute a condition in which previous process should be considered. According to the studies (Demeray and Malecki, 2003, Fitzpatrick, Dulin and Piko, 2007), it is seen that the period before starting school, in other words, the family process where they get their first education is influential in occurring of such behaviors.

When the levels of being bullied are examined according to parental attitudes, it is seen that the children of families with negligent parental attitudes are bullied more when compared those of families with Permissive and democratic parental attitude. Parents with Permissive attitudes are the parents who have no time and energy to spend for their children, who are indifferent to them, who never supervise their children in any way, who do not fulfill any emotional needs of their children apart from their basic needs such as their meals. Such families are also not interested in school or out-of-school activities (Yılmaz, 2000). In a study by Farrington, it was found that being neglected by their families is the most important determinant of bullying (Cited by: Smith, 2006). In families with negligent parental attitudes, the children do not feel themselves safe enough. The children who do not feel save enough are inclined to be victims (Anderson, Swiatowy, 2008).

Another finding of the study was that the children of families with negligent parental attitude exhibit more bullying behaviors than those of families with Permissive or democratic parental attitudes. Families with negligent attitude do not control their children sufficiently. As the control of the control and supervision of the parents on the children decrease, the bullying tendency of the children increases (Toksöz, 2010). Sarıtaş stated that the children of families who do not show sufficient interest in their children become bullies.

In studies carried out to prevent the bullying events experienced in children, it should be ensured that the families actively participate in such studies and awareness should be raised on what kind of attitude they should exhibit towards them. If the children teach their children positive and negative behaviors and they show a democratic attitude, it is considered that their children should be less affected by bullying events.

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THE EFFECT OF POST CODES ACTIVITY ON STUDENTS' SUCCESS ON UNIT OF PERMUTATION

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Abstract

In this study, it was aimed to determine the effect of activity-based teaching methods to students' achievement on "Permutation" unit in elementary program. Our study was carried out on in elementary school which is located in Sakarya in first semester of 2010-2011 academic years. The sample composed of total 72, 7th grades students. Two intact groups were assigned randomly as control (36) and experimental group (36). During four weeks, while permutation subject was taught by activity-based teaching methods in experimental group, it was instructed using traditional approach to teaching in control group. Data was gathered using an achievement test of permutations with 20 items developed by the researchers. Mathematical achievements were taken into consideration when creating the experimental conditions and making statistical analysis. The data were examined by independent t-test and ANCOVA. The findings of the research showed that achievements of both groups increased significantly after the study. But achievements scores in experimental group are statistically significant difference. As a conclusion, activity-based teaching methods can be efficiently implemented in 7th classes and helped students improve meaningful learning.

Keywords: Writting Zip Codes Difficulties in Permutations, Activity-Based Teaching.

Introduction

The information society that is developing and changing in a fast manner requires changes also in education systems. How the qualified individuals who will be able to meet the necessities of the information society, and with which aims and methods the so called individuals will be improved should be determined in consideration with the necessities of the information society. This change makes it necessary to reconsider the changing social conditions, the results of scientific researches and the concept of learning. Critical thinking, systematical thinking, problem-solving and adaptation to the new and changing conditions of life are among the most important skills that the individuals need in terms of learning in a future world. And there has to be an effective learning method in order to enable it.

Mathematics, considered an indispensible tool in science and technology, is also a part of daily life. If a person needs to come up with a solution to the problem encountered, he/she has to use his/her analytical thinking power. And approaching rationally to the problems and developing solution offers with analytical thinking is directly proportionate to the quality of the received mathematics education (Bayraktar, 1998).

In this respect, mathematics and the necessity of mathematics education are accepted indisputably in our country, as in every country, and mathematical behaviours are tried to be earned from elementary school programs to the higher education programs (Altun, 1998).

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Developing the existing structure and relations of mathematics, which is accepted as a system consisting of relations developed with consecutive abstractions and generalizations requires intuition. Intuition includes inductive thinking and surprising thinking processes. Inductive thinking can be defined as the process of reaching generalizations from the relations between the events taken separately. As for surprising thinking, it is the process of putting forward an idea that has not been set forth before in any subject and the process of leaping to mind of different ideas (Baykul, 2001). Consequently, the duty of teachers should not be to make the students memorize a heap of certain stereotyped rules but to guide them to discover the mathematical principles and generalizations themselves.

If one examines the historical processes in respect for guiding, mathematical teaching was attached importance also in the years of World War Second as much as mathematics which is a language that has the power of affecting in every field regarding the structure of universe- regardless of language, religion and nation difference (Karaçay, 1985)

The need to perform reforms in mathematics teaching was realized especially in the period after the Second World War (Yıldırım, 2000). Till the beginning of 20th century, mathematics teaching consisted of introducing operation skills in a mechanical way. But after 1930s, the meaning part of mathematics gained importance and studies in that direction started to show affect in mathematical programs. Early on, associationist, then Gestalt School affected mathematical teaching considerably. Another important view which still continues to be a problem and which affected mathematics teaching is the Piaget school. Piaget's views regarding mathematics teaching and the earning of mathematical concepts are discussed even today and are seen as a key theory in the improvement of education quality (Clark, 2005).

The negative attitude towards mathematics in our country develops as the students have difficulty in learning the mathematics subjects and as they think they will not succeed in the mathematics class. It begins in the elementary school and unfortunately continues increasingly with each school year. Eventually the students develop negative attitude and disconfidence. What is worse, they deduct that they are not clever enough to get the best of mathematics and that mathematics is not among the subjects they cope with. The teaching and the approach of the teacher have important role in these wrong views. Mathematics teachers sometimes make use of different methods so as to increase the mathematical comprehension abilities of the students, to teach them that mathematics is not a subject to be afraid of and to make them like it.

An effective and good learning is realized when the student actively participates in the classes and when the student is involved in the learning process as he/she learns the information during the learning process. As mathematics is based on mental visualization and perceptions, it cannot be transferred to a passive student via direct manner of teaching as if pouring water into an empty container. The best known way for a student to be active is to make them participate in solutions activities of problems which do not include algorithms the solutions of which are not known easily or which have not been solver before (Bayraktar, 1998).

There are not any subjects among the mathematical concepts that the students of the primary stage of elementary school cannot learn. Every student with no serious mental obstacle can learn these concepts. Mathematics education, which is anticipated to make the students get into the habit of independent and correct thinking, should now be relieved of such state that connotes fear for children. It is necessary for the students to get a decent education in order for them to enjoy problem-solving and to learn enjoying mathematics. Since this education cannot be conducted with only teaching the subjects and loading the students with homework, the mathematics class should be supported with various activities (Koç, 1996).

If we examine the renewed elementary school mathematics program, the program has been prepared as a result of a very extensive research in the field of mathematics education. The mathematics program is based on the principle of "Every student can learn mathematics." Mathematics-related concepts are by definition abstract. If the development levels of the children are taken into account, it is rather difficult for them to be directly perceived. Operation skills along with conceptual learning are given importance in the program. Learning mathematics also includes thinking with regard to mathematics, comprehending general problem solving

strategies and recognizing mathematics as an important tool in real life as well as earning basic concepts and skills (MEB, 2001).

The learning field of the research is probability and statistics, which includes the research. The concepts of the learning field of probability and statistics that the student will need and encounter the most have been discussed. It has been attached particular importance to the development of estimation skills as well as the development of probability and statistics in students. The learning field of probability and statistics consists of 3 sub learning fields on the level of 7th graders. These are determination of possible situations, types of events and kinds of probabilities. Due to the content arrangement understanding of the program, as the grade level increases sub-learning fields and contents vary in relation with the previous learnings.

Skills of mathematical thinking can be developed as a result of the association of different disciplines with mathematical subjects. And in this study, the subject of permutation has been explained on the basis of the production system of zip codes and a presentation of the subject has been performed with work sheets of teachers and students and various activities. The study has been started with the assumption that the zip code activities upon which the study is focused in teaching the subject of permutation may affect the success in this subject.

Method

In this past are given such information as the research method used in the research, the universe and sample of the research, the development and implementation of measuring tools, collection of data and analysis of the collected data.

2.1. Research Method

With this research, the effect of activity-based teaching method and traditional teaching method in the teaching of permutation sub-learning on the academic success and permanence level of 7th graders has been tested

'Testing Model" will be conducted in this research which aims to compare activity-based teaching method and traditional teaching method in terms of their effect on success and permanence levels. "Testing models are research models where the data that is desired to be observed is produced under the direct control of the researcher in order to reveal the cause and effect relations". This method is carried out with the use of pre-test and post-test control group pattern. Pre-test and post-test control group pattern is implemented through the subjection of the experimental subjects to the measurement regarding the dependent variable both before and after the experimental study. Experimental subjects are divided into two as experiment group and control group (Karasar, 2002:87).

In Pre-test and post-test control-group model, there are two randomly generated groups. Symbolic expression of this model are as follows:

Figure 1*: Pretest - Posttest Control Group Model*

		Pre-test		Post-test
GE	R	O1.1	X	O1.2
GC	R	O2.1		O2.2

G_E: Experimental Group

G_C: Control Group

R: Subjects selected randomly

$O_{1.1}$ and $O_{1.2}$ Pre-test and Post-test Measures of Experimental Group

$O_{2.1}$ and $O_{2.2}$ Pre-test and Post-test Measures of Control Group

X shows the independent variable which was applied to subjects in experimental group (Karasar, 2005).

In this study, two separate classes - one experiment and one control group- have been determined so as to test the effectiveness of the activity-based teaching method in the targets and behaviours regarding the "Permutation and Probability" unit of the mathematics class of the 7th graders in elementary schools. In the experiment group activities supported with the activity based teaching method (Zip Code activity) has been performed while in the control group the traditional teaching is conducted. Before the experimental process has begun, both groups have been tested with pre-tests and after the experimental process both groups have been tested with post-test as the same test. Experimental phase of the research lasted for one week. It has been thought that different variables that could emerge in time other than the independent variable can be controlled.

2.2. Experimental Design

Experimental design used in the study shown in Table 1.

Table 1: Experimental design applied in the study.

Grup	Class	Method
Experimental	7-B	Pre-test + Activity-Based Teaching + Post-test
Control	7-C	Pre-test + Traditional Teaching Method + Post-test

2.3. and Population   **Samples**

Our study was carried out on 7th grades students in elementary school which is located in Sakarya in first semester of 2010-2011 academic year. Our experimental and control groups consisted of 72 students (7th grades).

Classes	Class-B	Class-C	Total
Numbers of Students	36	36	72

Table 2: Distribution of students in research

Classes and the numbers of students which are constituted for our research study are showed in Table 2. In sample of study, our experimental group (7-B grade) consisted of 36 elementary students, and our control group (7-C grade) consisted of 36 elementary students.

2.4. Method and Tools of Data Collection

The source of the data obtained from the research method is made up of the pre-test and post-test points that the experiment and control group students received from the success test of mathematics class.

"Mathematics Enhancement Programme" "Zip code" activities suggested by the program and the activity samples created by the researcher have been used and a learning situation has been realized that is appropriate for the qualities stated within the class. After the performed teaching, the students were subjected to some activities and the results have been examined. A lesson plan similar to the one below has been implemented in the teaching.

2.5. Success Test

In this experimental research, after the unit of "Permutation and Probability" has been determined, success test has been developed with respect to this unit. With this success test, the differences in successes of the students of the experimental and control group have been measured. The following steps have been followed in the development of this test:

1.While the success test has been prepared, target behaviours have been determined belonging to the Permutation and Probability unit of the Mathematics Class in elementary schools. Test articles have been created that has the scope validity so as to satisfy these behaviours.

2.Before the tests were developed, the relevant literature has been scanned and the previous researches conducted before on this subject have been examined. A test draft consisting of 15 questions have been developed by the researcher.

3.The validity of the success test that has been prepared has been determined after expert opinion has been obtained. Accordingly, the opinions of 2 academics at the Department of Mathematics Teaching at the Faculty of Education at Sakarya University and 3 mathematics teachers have been asked.

4.The prepared draft have been performed on 54 students who are still 8th graders and the reliability works of the test have been performed. The test has been shown to the experts and their opinions have been asked and in line with these opinions the errors have been corrected and the test has been given its final form.

5."Reliability is the resolution among the independent measurements of the same things. It is the state of a thing which is desired to be measured and which continually acquires the same symbols. It is the following of the same processes and the use of the same measures and obtaining the same results. It is the state of the measurement free from accidental mistakes. Reliability is determined with correlation coefficient and it takes values varying between zero and one. If the value approaches one, the reliability is considered to be high." (Karasar, 2002).

There has been no need to omit any one of the articles of the 15-article test prepared at the beginning with reference to Cronbach Alpha reliability coefficient. After these procedures the 15-article test has become ready. As the $r = 0.7782$ as a result of the applications, it was accepted that the success test has a high reliability.

Some examples from Success Test

Question 2: How many double digit numbers can be written smaller than 300 with elements of (0, 1, 2, 3, 4, 5) ?

Question 5: How many nine-letters words which are meaningfull- meaningless and different from each other can be written starting with the letters M and ending with K using letters of word "MATEMATIK"?

Question 8: How many different post adress in Istanbul can be given using elements of (0, 1, 2, 3, 4)?

Question 13: How many post adress in Sakarya can be written using elements of (0, 1, 2, 3, 4) without repetition?

Question 15: How many seven-digit numbers can be writen using the numbers in 1102333?

2.6. Analysis of the Data

Microsoft Office Excel 2003 has been used in order to calculate the reliability of the success test, the article-total correlation and the difficulty degrees of the test articles. Associated t-test has been used in order to measure whether there is a significant difference between the pre-test points of the students. Associated t-test has been used for the intragroup comparison of the pre-test and post-test success points of the both groups within the group.

2.7. Research Process:

The implementation phase of the research is as follows:

1. 36 students in the 8-B class of the Elementary School has been chosen as the experiment group and 36 students of the 8-C class, as control group.

2. Before the application success test has been applied as pre-test to the students of the both groups in order to measure the pre information of the students of experimental and control groups

3. The implementation started in the last week of December in both classes. It lasted for one week in both groups.

Findings and Interpretation

Pre-Test Scores of students in Experimental Group:

Figure 2: Pre-test Scores of Experimental Group
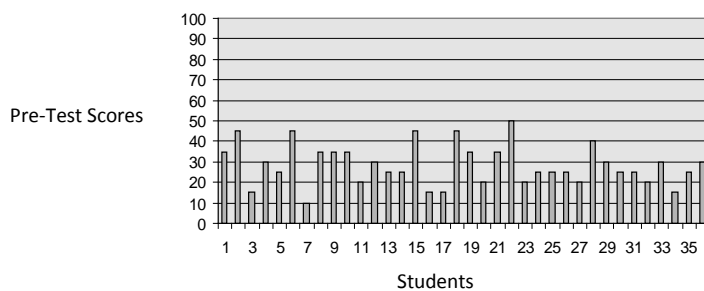
Post-Test Scores of students in Experimental Group:

Figure 3: Post-test Scores of Experimental Group
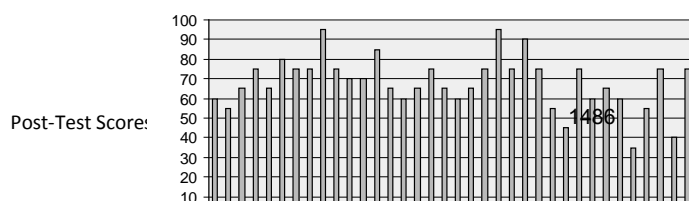
Processed in the form of Activity-Based Teaching on subject of permutations in the experimental group was found to significantly increase the student's academic success. (Table 3).

Table 3: Pretest and Posttest Mean Scores of Experimental Group (p < 0.05)

		Measure	N	$\overline{X}$	sd	df	t	p	
Pre-Scores	Experimental Group	Pre-test	36	28.47	9.98	35	-15.7	.000	**Test of**
		Post-test	36	68.05	13.32				

students in Control Group:

Figure 4: Pre-test Scores of Control Group
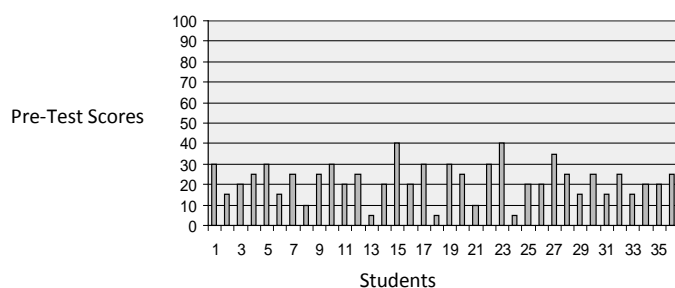
Post-Test Scores of students in Control Group:

Figure 5: Post-test Scores of Control Group
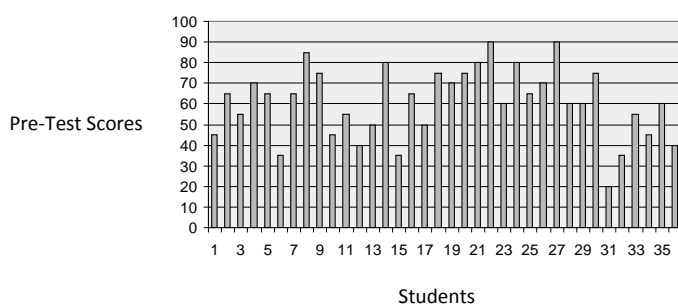
Processed in the form of Traditional Teaching Methods on subject of permutations in the control group was found to significantly increase the student's academic success. (Table 4).

Table 4: Pretest and Posttest Mean Scores of Control Group (p < 0.05)

Measure	N	$\overline{X}$	sd	df	t	p
Pre-test	36	21.94	8.80			
				35	-11.6	.000
Post-test	36	60.69	17.03			

Contr ol Group

Associated t-tests have been used for the purpose of measuring the intragroup changes of the success points of the pre and post mathematics tests of the both groups. The results of the analysis show that the post-test points of the both groups are significantly higher than their pre-test points ($p < 0.05$). This finding may be interpreted as that the teaching implemented in both groups significantly increases the geometry success of the students. ANCOVA has been used for the comparison of the post-test geometry success points. Pre-analysis data reveal that the data meet the assumptions for the performance of ANCOVA.

Table 5: Descriptive Statistics of Post-test Scores of Groups

Group	Mean	Adjusted Means	N
Experimental	68.05	67.88	36
Control	60.69	60.86	36

Table 6: ANCOVA Results of Success Test

Varyansın Kaynağı	Sum of Squares	df	Mean of Square	F	p
Pre-test	16.446	1	16.446	.069	.793
Group	790.593	1	720.59	- 12.3	.043
Error	16355.082	69	237.85		
Total	315725.00	72			
Adjusted Total	17346.875	71			

Results

According to the findings obtained from the research, the following results have been obtained.

1.It has been seen that the activity-based teaching implemented in the experimental group increases the academic success of the student in a significant manner.

2.It has been seen that the lessons performed with traditional teaching in the control group increases the academic success of the student in a significant manner.

3.It has been found that there is a significant difference among the post-test success points that have been adjusted according to the pre-test points of the students of control group where the activity based teaching method is used and the control group where the lessons are performed with the traditional method. In other words, significant difference has been seen among the success levels of the experimental and control groups after experimental procedures.

4.It seems that the use of activity-based teaching method in education has an effect on the academic success of the students. After all, success is obtained with the activity based teaching and visuality comes into prominence.

Suggestions

•It must be paid attention that the activities and teaching designs to be prepared for the students to learn mathematics more efficiently, more attractively and productively should be appropriate for the individual features of the students and should develop their high-level thinking skills.

•Methods should be used designed according to the contemporary teaching methods that include higher interactions for a more efficient and productive realization of the prepared activities.

•Experts from every field must participate in the design team in the preparation of the activities. Because those activities where experts without enough number and quality participates in the development process will decrease the efficiency of the teaching.

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THE EFFECT OF THE INTERNET AND MOBILE PHONES ON THE HABIT OF TEACHER CANDIDATES' USING TURKISH LANGUAGE AS WRITTEN LANGUAGE

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Abstract

In this study, it is aimed to reveal whether the habit of teacher candidates' using mobile phones and the internet has a negative effect on writing Turkish texts. In accordance with this purpose, the data collected via surveys from 405 teacher candidates, it was determined that students preferred mobile phone short text messages in written communication rather than chat and e-mail. Students stated that they used Turkish word abbreviations in chat, e-mail and short mobile phone texts. They also expressed some justifications as a result that using abbreviations is time saving, even though they do not write the entire word, the reader will understand what is written and they also think that writing entire word is more difficult. According to the data gained from the same survey, the majority of the students do not use a word or word abbreviation from another language in electronic media correspondence. The rate of male students using spelling and obeying punctuation rules is higher than the rate of female students while writing e-mail.

Keywords: Turkish language; internet; mobile phone; teacher training; writing habits.

Introduction

Language that is the most important tool for communication between people can be influenced by the other languages and change in an international platform like internet. That a language changes the other languages depends on the number of its users, use of frequency, namely on the domination in the environment. The dominant language on the internet is English. According to statistical results of Internet World Stats, 536.6 billion users used English language on the internet in 2010 [URL1]. Since most of the internet sites are English, it has been experienced shortage to use Turkish language characters. The characters (letters) ç, ğ, ı, ö, ş and ü are not used. Due to the domination of English language on the internet, Turkish language has changed with the effect of English today.

It can be given as an example that the use of strange words which are the mixture of Turkish and English words in internet correspondence can cause the changes in Turkish language as well. The expressions such as hacking (hacklemek), downloading (download etmek), flash memory (flash bellek), chatting (chat yapmak), e-mail address (e-mail adresi) have been involved unfortunately not only in internet environment but also in the colloquial and written language of youth. Even though Turkish Language Institute has found Turkish equivalents to many of these statements, they have not still involved in our language. This is why some of the equivalents are long, difficult to pronounce, and they do not create awareness in the society.

The word abbreviations which are used especially in chat areas, blogs, e-mail, social networking sites, and forums are the indicators of the emergence of a special Turkish language that belongs to internet. For example instead of 'selam (hi), slm; instead of 'merhaba (hello)', mrb; instead of 'ne haber? (what's up?), nbr; instead of 'tamam (it's okay)', tmm; instead of 'hoş geldin (welcome)', hg are some of the most common Turkish words abbreviations.

There are some typographical errors which young people often repeat on the internet such as English words shortenings as well as Turkish shortenings. The shortenings such as instead of 'Teşekkürler (Thanks)' they use 'thnx'; instead of 'senin için (for you)', they use '4u'; instead of sana/size (to you), they use '2u' are some examples of these. Sometimes while writing Turkish words, instead of using Turkish letters in correspondence, English letters are preferred. Particularly, it has been seen frequently instead of Turkish letter k, they use 'q',

instead of 'v' they use 'w', instead of 'u' they use 'ou', instead of 'ş' they use 'sh', instead of 'ç' they use 'ch'. For example, Buqet, Turkish name (Buket); Haroun, Turkish name (Harun); Pasha, Turkish name (Paşa); Chetin, Turkish name (Çetin) are the examples of this wrong kind of uses.

Writing and the Internet

Writing is the most common expression type that we refer to in our daily life after speaking and its basic aim is to transfer a message about a specific topic to the reader. Writing is also a need like speaking. Furthermore, it is one of the communication ways in the society. Writing is a necessity for transferring the feelings and thoughts as well as for sharing the professional knowledge and experiences. Additionally, it is extremely important for the development of language (Özbay, 2006).

With the spread of Web 2.0 applications, social networks, blogs and wikis have been new favorites of young internet users. Social networks are the sites in which it is aimed to create a virtual community to act together, share ideas and produce new solutions (Özmen et al, 2011). Facebook, Twitter, Linkedin, Badoo, and Flickr are the most common social networks. Today, Facebook has over registered 500 thousand users and half of these users log in every day. Three million messages are sent every 20 minutes on Facebook and one user writes 25 comments on average per month [URL2]. In 2010, with 18.679.460 Facebook users, Turkey was in the fourth place in the world [URL3]. Blogs, without requiring technical knowledge, are the log-like web sites in which people can create what they want and write about them according to their wishes. Readers can comment on according to the choice of publisher. Comments are an important dynamic of blog culture; in this way, an interaction is created between the writer and readers [URL4]. Wiki is a web site which allows the visitors, without requiring membership, to add some contents, edit, delete and modify. Discussions about available data and changing these data can be made and these discussions and changes can be stored (Karaman et al, 2008).

Mobile phones are one of the most important communication tools as well. They are the most important technological products which young people use very commonly recent years because they have voice, text, and video communication support and can connect to the internet.

Today, e-mail, chat software, social networks, blogs, wikis, and forum correspondence and the mobile phones are the primary preference of young people for written communication. The most notable feature in these types of correspondence is the flexibility and irregularity of the written language. Yet, a regular and formal language is used in the texts such as letters, petitions, and reports in daily life. That mainly the electronic media correspondence is used reflects as a complicated Turkish language on the daily correspondence of young people. This reflection has become a serious concern as it is seen in the example of a college student who has written his surname 'Kahramanoğlu' as 'K.oğlu'.

Objective and Importance of the Study

Language is an integral part of national culture and an important tool to transfer the national culture to the next generations. Teachers who teach basic language skills can be more effective guides to make students meet cultural products and understand to improve these (Oğuz, 2010, Coşkun transmitting from 2009). Considering this fact, this study was realized with the aim of determining the writing habit of teacher candidates and the effect of internet and mobile phones on their writing habits. It is thought that this kind of academic studies are very important in order to determine the negativity of the topic and take necessary precautions.

Method

Research Model

In this study, descriptive scanning model was used to determine the effect of the internet and mobile phones on the writing habits of the teacher candidates.

Population and Sample

The sample of the study includes the students who study in the various departments of Education Faculty of Trakya University in 2010-2011 academic year. 405 students in total participated in the study voluntarily. 284 of the students are females (70.12%) while the 117 of them are males (28.89%). 4 of the students who participated in the survey did not specify gender. Table 1 shows the distribution of the students according to gender.

Table 1. The distribution of the students participated in the survey according to gender.

	f	%
Female	284	70.12
Male	117	28.89
Unanswered	4	0.99
n	405	

Data Collection Tools

A survey improved by the researcher including 25 questions was used as a data collection tool. The first eight questions of these have been prepared in order to learn the demographic information of the student. The others are related to determining the habits of using internet and mobile phones of the students and also revealing the reflections of these habits regarding the accurate use of Turkish language.

Findings and Interpretation

When the answers students gave to the survey were analyzed in terms of gender, the following findings were obtained:

76.41% of the female students answered 'yes' to the question "Do you have your own computer?" while 69.23% of the males students answered the same question as 'yes'. Most of the students participated in the survey have computers. This finding indicates both students are willing to have computer and having a computer is not a luxury but a need. At the same time it can be said that the purchase conditions of computers are getting easier.

70.25% of the female students answered 'yes' to the question "Do you have internet connection (where you live such as home, dormitory, boarding-houses, etc.)?" while the rate of the male students answering as 'yes' is 61.61% for the same question. These values show that internet connection has been spread over a large area and available in many environments. Additionally, since the dormitories and boarding-houses serve on this issue, it is easy in terms of the access to the internet of the students. Regarding this finding, we can reach a conclusion that students use the internet in a multi-purpose way.

Almost all teacher candidates (99.65% of the girls and 99.13% of the boys) have their own mobile phones. This rate indicates that young people use mobile phones for both verbal and written communication quite often. No relation was found between the gender of the students and the time they devoted on average a day on the instant messaging (chat). The question "How many hours a day do you devote to the instant messaging (chat) on the internet?" was answered by the 39.55% of students as 'less than 1 hour', 25.94% as 'between 1-2 hours', 7.81% as 'between 3-4 hours', 2.27% as '5 hours or over five hours'. 24.43% of the students stated that they never devoted their time to instant messaging (chat) on the internet (Table.2). According to these findings, most of the students participated in the survey don't prefer to use internet with the aim of instant messaging (chat).

Table 2. The average time students devoted to instant messaging (chat) per day according to sex

n= 405	Female		Male		Total	
	f	f%	f	f%	f	f%
Never devote	70	24.82	27	23.48	97	24.43
Less than 1 hour	103	36.52	54	46.96	157	39.55
1-2 hours	81	28.72	22	19.13	103	25.94
3-4 hours	24	8.51	7	6.09	31	7.81
5 hours or over 5 hours	4	1.42	5	4.35	9	2.27
Total	282	71.03	115	28.97	397	98.02

Chi-square	df	p	fe<5%	fe=0
8.91	5	-	25	2

There is a relationship between the variable of gender and the use of word abbreviations in the instant messaging (chat) correspondence on the internet (χ^2:5.24 df:1, p<.05). According to the answers to the question "Do you use word abbreviations in your instant messaging (chat) correspondence?", 81.14% of the female students, 70.69% of the male students use abbreviations in instant messaging (chat) correspondence (Table 3). Female students use abbreviations in their correspondence more than male students.

Table 3. The Circumstance of using abbreviations of the students in instant messaging (chat) according to sex

n= 405	Female		Male		Toplam	
	f	f%	f	f%	f	f%
Yes	228	81.14	82	70.69	310	78.09
No	53	18.86	34	29.31	87	21.91
Total	281	70.78	116	29.22	397	98.02

Chi-square	df	p	fe<5 %	fe=0
5.24	1	p<.05	0	0

When asked whether they use a word or words abbreviations from different languages in their instant messaging (chat), 90.42% of the female students and 85.44% of the male students answered as 'no'. There is no relation between their genders and the time they devoted on average a day to e-mail processing. When we analyze the answers to the question "How many hours do you devote to reading-writing-answering e-mail a day on average?", 66.08% the students spend less than 1 hour, 9.87% of them spend between 1-2 hours, 1.27% spend 3-4 hours, 0.25% spend 5 hours or more than 5 hours. 22.53% of the students never spend time on e-mail

processing (Table 4). According to these findings, many of the students participating in the survey do not prefer e-mail as a communication tool.

Table 4. Average time the students devoted to e-mail processing a day according to sex

n= 405	Female		Male		Total	
	f	f%	f	f%	f	f%
Never spend time	70	25.00	19	16.52	89	22.53
Less than 1 hour	179	63.93	82	71.30	261	66.08
1-2 hours	27	9.64	12	10.43	39	9.87
3-4 hours	3	1.07	2	1.74	5	1.27
5 hours or more than 5 hours	1	0.36	0	0.00	1	0.25
Total	280	70.89	115	29.11	395	97.53

Chi-square	df	p	%fe<5	fe=0
4.02	4	-	40	0

There is a relation between the gender of the students and the use of word abbreviations in e-mail correspondence (χ^2:11.38 df:1, p<.01). 57.30% of the female students and 38.39% of the male students answered as 'yes' to the question "Do you use word abbreviations in your e-mail correspondence?" (Table 5).

Table 5. The circumstance of students' using word abbreviations in their e-mail correspondence according to sex

n= 405	Female		Male		Total	
	f	f%	f	f%	f	f%
Yes	157	57.30	43	38.39	200	51.81
No	117	42.70	69	61.61	186	48.19
Total	274	70.98	112	29.02	386	95.31

Chi-square	df	p	fe<5%	fe=0
11.38	1	p<.01	0	0

There isn't a relationship between the gender and the reasons why students use word abbreviations in their e-mail correspondence. Students were asked "What are the reasons to use word abbreviations in your e-mail correspondence?". According to the answers given to the question, 'saving time' is one of the primary reasons (44.13% of female students and 37.78% of male students).The answers 'Even though I don't write the word in its complete form, it is understood' (28.49% of female students and 31.11% of male students) and 'it is tiring to write it in its complete form' (25.14% of female students and 22.22% of male students) are among the other reasons (Table 6). The reasons of using abbreviations of male and female students in their e-mail correspondence and the reasons of using abbreviations in instant messaging (chat) are the same. While it is important to the female students to express many more ideas in the shorter time, the situation is different to the male students. Male students use Turkish language more accurate than female students in terms of using fewer abbreviated

words in their instant messaging (chat) in the internet correspondence. The reason that everyone understands even though 'I do not write the complete word' means that these students, at the same time, are accustomed to understanding these abbreviations.

Table 6. The reasons why students use word abbreviations in e-mail correspondence according to sex

	Female		Male		Total	
n= 405	f	f%	f	f%	f	f%
To save time	79	44.13	17	37.78	96	42.86
Since it is tiring to write in complete form	45	25.14	10	22.22	55	24.55
Even though I do not write its complete form, it can be understood.	51	28.49	14	31.11	65	29.02
For everyone writes in this way	1	0.56	1	2.22	2	0.89
Other	3	1.68	3	6.67	6	2.68
Total	179	79.91	45	20.09	224	55.31
Chi-square df p fe<5% fe=0						
5.01 4 - 40 0						

There is a relationship between the gender of the students and their paying attention to obeying the punctuation and spelling rules while they are writing e-mail (χ^2:4.01 df:1, p<.05). 56.63% of the female students and 67.54% of the male students answered the question "Do you pay attention to using punctuation marks and obeying spelling rules while writing e-mail?" as 'yes' (Table 7). Female students pay less attention to using punctuation marks and obeying spelling rules when we compare them to the male students. It can be said that male students are more sensitive to this issue.

Table 7. The circumstance of students' using punctuation marks and obeying spelling rules in e-mail correspondence according to sex

	Female		Male		Total	
n= 405	f	f%	f	f%	f	f%
Yes	158	56.63	77	67.54	235	59.80
No	121	43.37	37	32.46	158	40.20
Total	279	70.99	114	29.01	393	97.04
Chi-square df p fe<5% fe=0						
4.018 1 p<.05 0 0						

When students were asked whether they used different word or word abbreviations from another language in their e-mail correspondence, 85.61% of the female students and 81.08% of the male students answered as 'no'. There is a relationship between the gender of the students and the number of average short text messages they sent daily (χ^2:16.66 df:4, p<.01). When the answers given to the question "How many text messages do you send per day on average?" were assessed in terms of gender, while 9.22% of the female students and 22.52% of the male students send 1-2 short text messages per day on average, 67.38% of the female students, 61.26% of the male students send 9 or more than 9 short text messages per day on average (Table 8). Female students send more short text messages than male students for communication. Students prefer to text messages instead of e-mail for communication. To obtain this result, the affordability mobile phones can be effective. In addition, reasonable call and text message packages offered by the mobile phone companies especially for the students are one of the important factors for the students to prefer communication via mobile phones. Sending 9 or more than 9 text messages per day supports this result. Information and Communication Technologies, according to the report of Market Findings of The Electronic Communications Sector in Turkey related to the fourth quarter of 2011, the number of the sent text messages via mobile phones in Turkey is described as 161,4 billion in 2011. In 2011, Turkey was ranked as the first among the European countries with an average of 212 short text messages per person in 2011 [URL5]. Taking this finding into consideration again, it can be said that female students are more enthusiastic in written communication and allocate more time.

Table 8. The average number of the short text messages sent per day by the students according to sex

n= 405	Female		Male		Total	
	f	f%	f	f%	f	f%
1-2	2	9.22	25	22.52	51	12.98
3-4	27	9.57	12	10.81	39	9.92
5-6	20	7.09	4	3.60	24	6.11
7-8	19	6.74	2	1.80	21	5.34
9 and over 9	190	67.38	68	61.26	258	65.65
Total	282	71.76	111	28.24	393	97.04
Chi-square	df	p	fe<5%	fe=0		
16.66	4	p<.01	0	0		

There is a relation between the gender of the students and using word abbreviations in short text messages they sent (χ^2:9.78 df:1, p<.01). When students were asked the question "Do you use word abbreviations while writing short text messages?", 82.44% of the female students and 67.89% of the male students stated that they used word abbreviations in short text messages (Table 9). Female students used more word abbreviations in short text messages than the male students.

Table 9. The circumstance of using word abbreviations in short text messages according to sex

n= 405	Female		Male		Total	
	f	f%	f	f%	f	f%
Yes	230	82.44	74	67.89	304	78.35
No	49	17.56	35	32.11	84	21.65
Total	279	71.91	109	28.09	388	95.80

Chi-square	df	p	fe<5%	fe=0
9.78	1	p<.01	0	0

There is no relationship between the gender of the students and the reasons why they use word abbreviations in short text messages. While 39.07% of the students use word abbreviations to save time, 22.95% of the students stated that writing entire word is hard for them (Table 10).

Table 10. The reasons why students use word abbreviations in short text messages according to sex

	Female		Male		Total	
n= 405	f	f%	f	f%	f	f%
To save time	100	39.68	34	37.36	134	39.07
İt is hard to write entire word	70	27.78	19	20.88	89	25.95
Even though I don't write complete form, it is understood	58	23.02	23	25.28	81	23.61
For everyone writes in this way	3	1.19	1	1.10	4	1.17
Other	21	8.33	14	15.39	35	10.20
Total	252	73.47	91	26.53	343	84.69

Chi-square	df	p	fe<5 %	fe=0
4.72	4	-	20	0

89.06% of the female students and 86.36% of the male students stated that they didn't use words or abbreviations that belong to a different language in their short text messages. The majority of the students participated in the survey don't use words or abbreviations from another language in their e-mail, instant messaging (chat) and short text message correspondence. The words used most commonly by the students in their e-mail, instant messaging (chat) and short text messages and their equivalents are presented in the Table 11 considering the frequency of use.

Table 11. Abbreviations most commonly used in the electronic correspondence and their equivalents.

ABBREVIATIONS	EQUIVALENT
nbr (what's up?)	ne haber
slm (hello)	selam
sa (hello)	selamun aleykum
mrb (hi; hello)	merhaba
kib (take care)	kendine iyi bak
iim (i'm fine.)	iyiyim
tmm (okay)	tamam
inş (i hope..)	inşallah
eet (yes)	evet
hg (welcome)	hoşgeldin
hb (thank you: as an answer to 'welcome')	hoşbuldum
cnm (dear,honey,etc.)	canım
gzl (good, fine,nice,etc)	güzel
npyn (what are you doing?/how are you doing?)	ne yapıyorsun
aeo (god bless you)	Allah'a emanet ol
msj (message)	mesaj
bb (bye bye/good bye)	bay bay
öpt (kiss you/kisses)	öptüm
glyrm (i'm coming)	geliyorum
grşrz (see you)	görüşürüz
nie (why?)	niye
hyr (no)	hayır
aro (may god bless you/thank you ,etc.)	Allah razı olsun

dbu (do not forget me in your prayers/ pray for me)	duanda beni unutma

The most attention-grabbing thing in the Turkish abbreviations written above is that words are written omitting the vowels especially all or some of the letters. Only the initial letter of some words was used in several abbreviations. Since the students have frequently used this kind of abbreviations for a long time, they can easily understand and analyze these abbreviations. For example, none of the students recognizes the abbreviation 'hyr'(no) as 'hıyar'(cucumber). Because previous experiences allow this abbreviation to be recognized as 'hayır'(no). Regarding the distinction of being organizational of perception (by Gestalt), the stimulants which affect sensory organs are perceived in meaningful relations but not one by one. When there are gaps between the stimulants affecting sensory organs, these gaps are completed. Thus, a figure or an object which has a clear meaning is perceived instead of a range of meaningless stimulants. The experiences a person had in the past and his/her learning process play an important role in perception. Considering this reality, it is possible to explain how easily young people perceive the abbreviations in electronic correspondence. Most of the students participated in the survey don't use abbreviations from another language in their e-mail, instant messaging (chat) and short text message correspondence. The most widely used abbreviations of words or phrases which belong to different languages and their equivalents in electronic media correspondence are: instead of "see" they use "c", instead of "for" they use "4", instead of "to" they use "2", instead of "you" they use "u".

Conclusion and Suggestions

When considering each of the students participated in the study is a teacher candidate, the difference between their writing habits and how it should be is easily seen. Taking the writing habits of the students in general into consideration, most of them abbreviate the Turkish words and very few of these abbreviations belong to a different language which is English in the correspondence.

Regarding using punctuation marks and obeying spelling rules in the electronic media correspondence, the desired situation is not available. While female teacher candidates participated in the study use abbreviations in the electronic media correspondence mostly with the aim of saving time, male students use abbreviations since the people reading them can understand easily. The remarkable findings of the research are that male students use abbreviations less while writing e-mail compared to the female students and show more care to use punctuation marks than female students.

Using abbreviations, avoiding the discrimination of small/large letters, forming texts ignoring punctuation rules are the major problems for teachers and teacher candidates who are the most important people should use Turkish language accurately. Since the concern of handling electronic media correspondence to real life correspondence has arisen, it has become a serious necessity to educate teacher candidates starting from their early education years about using Turkish language according to its rules. During this training, some competitions can be held to encourage students with the aim of creating awareness about the richness and beauty of Turkish language and some award-winning projects can be given to them. It will be convenient to add a criterion like "using Turkish language accurately" among the assessment criteria for the homework, project, and presentation given to students.

It is known that education continues outside the school walls in the family environment. For this reason, Turkish Education and use of Turkish language activities should be arranged for the families. Furthermore, families should be asked to support their children about the effective use of Turkish language in electronic media correspondence.

Today there are 11.5 billion web pages and more than 2 billion Turkish internet sites in the world [URL6]. The difference between the numbers is easily seen. In this context, international legal regulations can be done to increase web sites having Turkish content.

Young people and children use mobile phones very often for the written communication. Considering this reality, it has become easier to write text messages since the newly produced mobile phones are loaded with T9 predictive text messaging software. With T9 software, instead of pressing buttons repeatedly to write a single word, pressing only one button, many words will be listed to choose the necessary one. In fact in terms of learning correct writing of the words and not being able to use abbreviations, it is a good application, but, since most of the words installed in the software are English and this can create problems. It can be possible to teach Turkish words to young generation that uses mobile phones intensively and make them use properly via this kind of software. English T9 software can be uninstall from the mobile phones offered for sale in the boundaries of the country, and it is possible to install a program including only Turkish words.

It is an important issue that Turkish language which is the constant part of culture should be used accurate and effective by the teachers who have an important role to transfer Turkish culture to new generations. The most important task of the teachers is to be a good role-model in terms of using Turkish language not only in words but also in performance.

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THE IDENTIFICATION OF GIFTED AND TALENTED STUDENTS

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Abstract

The PERMATApintar High School at Universiti Kebangsaan Malaysia (UKM) is the first fully residential school for gifted and talented students in Malaysia. An action research approach has been employed to develop and implement the identification and selection system of gifted students for the school. The participants are 487 Malaysian students aged 15-year-old. After two years, a stable blended assessment system is formulated which consist of three screening approaches: UKM1 and UKM2 online intelligence tests, and UKM3 comprehensive assessment. This system can be enhanced to develop electronic portfolio for planning, monitoring and assessing the gifted and talented students for the enrichment and intervention programs.

Keywords: gifted; talented; identifying gifted and talented; talent search

Introduction

The existence of the gifted or superior individual is undisputable. The science of identifying them has been debated continuously. According to Goodhew (2009, pg.8) "Identifying potentially gifted and talented (G&T) students has never been an exact science", and it cannot be captured by a single number that measures only one domain of the giftedness. However, there are many strategies and policies of identifying gifted and talented students (Brown et al., 2005; Putallaz, Baldwin, & Selph, 2005; Rigby, 2005). A research conducted by Brown et al. (2005) has shown that strategies for identifying G&T students should include the followings: individual expression criteria, ongoing assessment, multiple criteria for identification and consideration of contextual factors. Concomitantly, identification program conducted on gifted and talented students should take a multidimensional approach (Davis, Rimm, & Siegle, 2011) and not restricted to only academic performance.

The various talent search programs established in many countries have used different testing instrument and procedures. Davis et al. (2011) and Percell and Eckert (2006) suggested that effective procedures to identify gifted students must also involve the use of standardized tests that have been researched extensively. However, Callahan, Tomlinson, Hunsaker, Bland, and Moon (1995) and Han and Marvin (2000) suggested that for a successful identification process, it must take into consideration the following recommendations:

clear definition of giftedness,

avoid using a single cut-off score,

consider the multiple manifestations of giftedness,

use separate tools/instruments to assess the different areas of intelligence,

be aware that giftedness may come in different forms,

base identification on students' educational needs and not on program quotas, numbers or slots, and

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repeat assessment over time to identify additional gifted students.

Several researches have shown that gifted students can be found among students who do not perform well in examination (Davis et al., 2011; Goodhew, 2009). These students are grouped under a category known as underachiever. If not identified, they will be a lost to the society and the country which can gain benefits from their existing potentials. Underachievement is defined as a discrepancy between the child's school or academic performance and some index of his or her actual ability, such as intelligence (Davis et al., 2011). As such, by eliminating the non-performing students, the school will not be able to identify gifted students, and thus unable to provide the necessary learning environment that can optimize their full potentials.

Gifted and Talented Education in Malaysia

The Ministry of Education (MoE) Malaysian states that its philosophy is to develop every student's potential to the fullest. "Education in Malaysia is an on-going effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion to God" (Educational Planning and Research Division, 2008, pg. xi). Though the system has put considerable effort to educate special children with disabilities, it has not fully acknowledged the needs of gifted students. These students need challenges that match their abilities, in order to illuminate their full potential. The field of gifted and talented education is not well spelt out in the Malaysian system of education.

There had been several attempts by the MoE to provide educational programs that cater for high achiever students within the national school system. It began with express class program in 1962 until 1970 (Noriah, Rosadah, & Siti Fatimah, 2009). Students who qualified to enroll in this program had to show excellent educational performance. This program was not so much of an acceleration program, but it was indeed grade skipping. Students skipped one year of learning and joined their seniors who were one year ahead. This program was in place for a while before it was put to a stop for some unknown reason. In 1996, the MoE initiated another grade skipping program. Students in year two (8 years old) had to sit for a competency test called Level One Evaluation (*Penilaian Tahap Satu* – PTS). Those who passed PTS at a certain level of competency had been offered to skip year three and proceed to year four. Like the express class program, PTS was abolished in 2002 (Noriah, Rosadah, & Siti Fatimah, 2009). One of the set back was that parents took the effort to coach their children to answer questions similar to PTS. They hoped that their children to score in the real PTS. While conducting those two educational programs to serve the high ability students, the ministry had not mentioned that those were actually an approach of gifted education program.

PERMATApintar High School is the first fully residential school for gifted students aged 16 to 17 year-old. It has been established since 2011. The school prepares students with an early experience of studying at higher education. It utilizes the national curriculum for upper secondary as a basis, several first year university courses and international curriculum to challenge students' intellectual minds. The number of students in the class is not more than 20. The students have to sit for pre-test for each subject in a class. They are grouped for the implementation of differentiated instruction. The curriculum is organized using concept-based approach to enable students to see the relationship of the content knowledge among various subjects and real life situation. The instructors have to prepare lesson and materials to cater the needs of each group. The National Philosophy of Education and National Principles of Malaysia underpin the curriculum to produce the holistic, creative and innovative academic talented students. The school adopts the Development Model for Gifted and Talented (DMGT) by Gagné (2010). It is one of the most comprehensive model that explains the transformation of giftedness to talented. In this model, the domain of giftedness (natural abilities) is categorized as Intellectual, Creative, Social, Perceptual, Muscular and Motor Control. The school provides students with a conducive environment and intrapersonal activities as a catalyst in the developmental process. Every corner of area in the school can be a place for teaching and learning process.

This paper presents a research on how the gifted students for this school are being identified and selected. The aim of the research is to develop and implement the identification and selection of gifted students for the schools. At the moment, the intellectual, creative and social (socio-affective) domains are being considered in the selection process of gifted students.

Methodology

The setting of the study is the PERMATApintar school holiday camp for students aged nine to 15 year-old. It is a three weeks program which has the affiliation with the Johns Hopkins University Center for Talented Youth, Baltimore, United States of America. It has been conducted since 2009. The writers are the active participants in this research involved in the planning, developing and implementing of the identification and selection system. The three researchers are the administrators of Pusat PERMATApintar Negara (PPpN) which is the National Center for Gifted Education at UKM. One of the researchers is from Faculty of Education, UKM who was an administrator at the center in 2009-2010. 487 students aged 15 year-old from various type of schools all over Malaysia have participated in this two years research: 2010 (n=312) and 2011(n=175). An action research approach has been employed to get the in-depth understanding and establishment of the identification and selection system. The data is collected and analyzed based on researchers' reflections, observation, online intelligence tests, and comprehensive assessment.

Findings and Discussion

The Demographic of the Students

The participants were 15 year old students who enrolled in PERMATApintar school holiday camp for three weeks from November until December in 2010 and 2011. They were identified and selected to the camp based on the standardized UKM1 and UKM2 online intelligence tests (Table 1). Most of them have taken UKM1 and UKM2 test every year and attended the camp for two or three times since 2009. Most of the students have increased their scores in UKM2 test. The number of students who sat for UKM1 in 2010 was higher than 2011. This was due to the problem of Internet and ICT facility in schools. Thus, the school administrators and teachers select only high academic achievers to sit for the UKM1 online test with assumption that they could be gifted students in school. Within 15% of the school population could be gifted and talented (Piirto, 1999; Renzulli et al., 2002). Some schools arrange almost 100% of population to sit for UKM1 test.

Giftedness is seen as the possession and use of natural abilities (non-systematically trained) in at least one ability domain to a degree that places an individual at least among the top 10% of same-age peers (Gagné, 2010). Allowing top 10% instead of 5% as suggested will give the school a wider range of gifted students. It is suggested within 10% mildly gifted, the students can be categorized as moderate gifted (top 1%), highly (top 1:1,000), exceptionally (top 1:10,000), and extremely (top 1:100,000) (Bélenger & Gagné, 2006; Gagné, 2010). In Malaysian context, the categorized of giftedness is depended on the number of students who sit for UKM1. Therefore, the number of students who sit for the UKM2 test and UKM3 comprehensive assessment and the selected students to enroll for gifted school are still below 10% of same-age peers. In 2010, two of the students could be the exceptionally gifted students and 19 highly gifted students. In 2011, because the number of students who took the UKM1 was lower than in 2010, only four students could be highly gifted. There are several gifted underachievers in this school. They did not perform well in the standardized academic examination - Lower Secondary School Assessment (*Penilaian Menengah Rendah*) before entering the school. Some students have not performed well in the academic subjects after entering the school, but they do well in other fields such as robotic and arts. They put the concentration and interest on non-academic rather than academic activities.

Table 1. The number of students for each screening process and the enrolment of the school

Year	Screening Process	n	%
	UKM1 online test	21,330	
	UKM2 online test	396	1.86
2010	UKM3 comprehensive assessment	312	1.46
	Selected students	139	0.65
	Enrolment	116	0.54
	UKM1 online test	4607	
	UKM2 online test	366	7.94
2011	UKM3 comprehensive assessment	175	3.80
	Selected students	152	3.30
	Enrolment	125	2.71

As shown in Table 2, the students were from various type of schools and majority of them were from regular schools. Malaysia is a multiracial country. However, the selection to the camp and school is not based on the quota for each ethnic, but the results have shown that the number of students for each ethnic proportionate to the Malaysian population. Based on the final evaluation reports for each student prepared by the instructors of the school holiday camp, they have learned fast when learning about new advanced knowledge and skills. The students have actively engaged in their learning process as well in sosial aspect. They like to explore more by doing activities in group. They have enjoyed learning in this new environment that they never get in their schools.

Table 2. Demographics of the students who sit for UKM3 comprehensive assessment

	2010 (N=312)		2011 (N=175)	
	N	%	N	%
GENDER				
Male	125	40.1	80	45.7
Female	187	59.9	95	54.3
RACE				
Malay	228	73.1	129	73.7
Chinese	37	11.9	26	14.9
Indian	12	3.8	10	5.7
Bumiputera (Sabah)	7	2.2	2	1.1
Bumiputera (Sarawak)	26	8.3	8	4.6
Others	2	0.6	0	0.0
SCHOOL TYPE				
Regular	186	59.6	106	60.6
Full Residential	65	20.8	23	13.1
Religious	42	13.5	23	13.1
Mara Junior Science College	18	5.8	22	12.6
Arts School	1	0.3	0	0.0
Private School	0	0.0	1	0.6

The Identification and Selection Process

Three standardized assessment are used to measure the following group of natural abilities: intellectual, creativity and socio-affective. The standardized tests are useful especially in identifying students with exceptional academic potential who are underrepresented in gifted and talented program (McBee, 2010; Peters & Gentry, 2010). It provides consistency in the selection process. In Malaysian context, the identifying and selecting of intellectual gifted students for PERMATApintar High School, it uses UKM1 and UKM2 online intelligence tests and UKM3 comprehensive assessment.

The first screening process is using the UKM1 online intelligence test that has been used since 2009. It is captured the interest and potential students from different families background and school types throughout the country. The test is used to assess a nonverbal and verbal abilities. The students can choose preferred language either Malay or English. It is an open test, but some schools do the test in controlled environment. The assumption is that most of the students are honest, responsible and well-disciplined when they register and sit for the test. However, there is a filtering system to delete the false records before the data being calculated for the selection to the second screening test. The test is opened for three months every year.

The second screening test is the UKM2 online intelligence test. It measures perceptual reasoning and organization, attention, concentration and working memory as well as the speed of processing. It has 15 modules. The test is in two languages: Malay and English, thus providing enough language flexibility for all students to response to the items (Noriah, Rosadah & Siti Fatimah, 2009). The students sit for the test at the selected UKM2 test centers throughout the country. It is a controlled environment test and there are invigilators to monitor the process. There is an online system to monitor the test virtually by PERMATApintar's administrator. Since, this is an online test, the test center schools have to provide a functional computer laboratory that can access to the Internet with high speed bandwidth. The test is done in batches of 15 to 20 students for each session to avoid congested of data traffic flow at the center.

The third screening approach uses the UKM3 comprehensive assessment. It consists of pencil-and-paper test for mathematics, science and languages competencies tests; Malaysian Emotional Quotient Inventory (MEQI); Torrance Tests of Creative Thinking; students' project presentation; observation in the class, and final evaluation report for academic performance during three weeks school holiday camp. The school emphasizes on the development of academic talent in mathematics and science. Therefore, the students take the mathematics and science competencies tests. The tests consist of extended questions that suitable for the gifted students. The students do not need to prepare themselves for the test because the schools search for natural abilities. The tests measure how they can solve problem using their existing knowledge and skills. The student's creative scientific writing is assessed for the Malay and English Language competencies tests.

The Torrance Tests of Creative Thinking is used to uncover the creative abilities of the students. It consists of three picture-based exercises to assess five mental characteristics: fluency, elaboration, originality, resistance to premature closure and abstractness of titles. It can also uncover the following creative strengths: emotional expressiveness, storytelling articulateness, movement or action, expressiveness of titles, synthesis of incomplete figures, synthesis of lines or circles, internal visualization, extending or breaking boundaries, humor, richness of imagery, colorfulness of imagery, fantasy and unusual visualization (Almeida, Prieto, Ferrando, Oliveira, & Ferrándiz, 2008). The picture-based exercises reduce the culture bias of the items. In summary, the Torrance Test measures Fluency, Flexibility and Originality.

Malaysian Emotional Quotient Inventory (MEQI) is used to uncover the socio-affective abilities of the students. The inventory measures among others perceptiveness, empathy, tact, leadership, communication and persuasion. The inventory has 11 sections with reliability values ranging from 0.91 to 0.97. The inventory has 182 items that was developed based on the Malaysian context. Although MEQI is an on-line test, it also has the paper-and-pencil version that can be distributed to the students. MEQI will produce an index of emotional intelligence of the individual student.

During the camp, the students have to produce a group project and present individually their contributions. The students are being assessed based on the rubric for presentation and cooperation. The inter-raters are the PERMATApintar's administrators and course instructors in school holiday camp. The instructors rate the sensory-motor abilities (strength, endurance, reflexes and coordination) of the students using the behavioral observation form in spreadsheet format. The teaching assistants record the daily assessment. Later, the instructors analyze the data to produce a weekly assessment and final evaluation report for each student. The instructors nominate the students to be candidates for the school.

The mean, standard deviation and percentiles for each component of UKM3 comprehensive assessment are calculated. The percentiles are used to determine the band score from 1, 2, 3 to 4 for each component. The

overall scores are calculated and sorted to rank the students. The enrollment is based on merit. The school is for science and mathematics stream. The high ability students can study and sit for the international examinations. Therefore, the band for Mathematics, Science and English competencies tests are the major aspects in selecting the students. However, other components of UKM3 comprehensive assessment are also being triangulated for the final selection.

Conclusion

This two years study has established the blended assessment of the identification and selection system for gifted students (Fig 1). The information yielded from this system can be used for developing electronic portfolio system for the gifted and talented students. It will help the program to plan, monitor and assess students' progress for the intervention or enrichment programs to overcome their weaknesses and to strengthen their abilities.
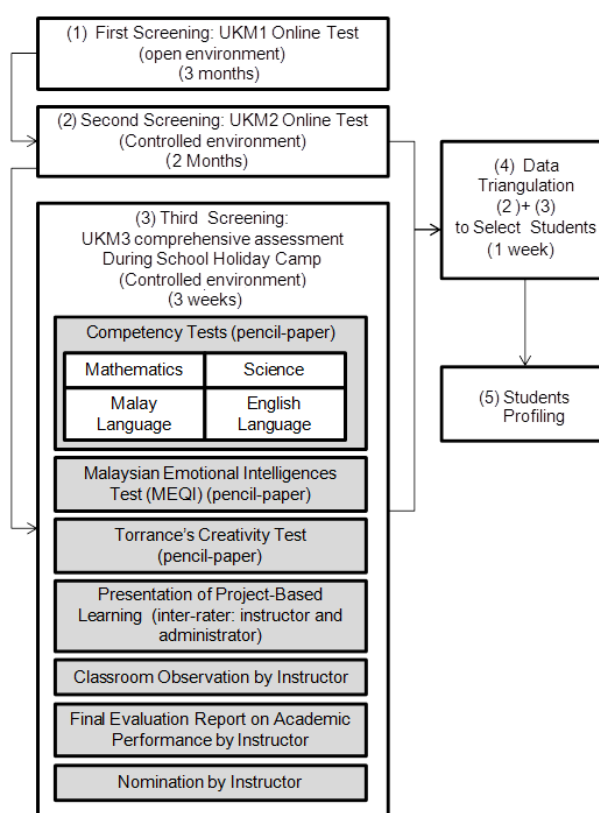
Fig. 1. The Model of Blended Assessment of Gifted and Talented Identification and Selection System

In the future, the analysis part in UKM3 comprehensive assessment can be fully computerized as a decision support system. It can also be integrated to electronic portfolio system. This system can help administrators, instructors and counselors to plan suitable intervention and enrichment programs; monitor students progress in academic and non-academic activities; and assess students' performance formatively in many aspects in school.

Acknowledgements

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THE IMAGINARY ABOUT THE SCHOOL AND THE POSSIBILITIES OF AN EQUALITARIAN SCHOOL: A STUDY ON THE BRAZILIAN STATE SCHOOLS

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Abstract

The main objective of the article is to reflect on the imaginary that the teachers of two public schools have of their students and the school they work in and the ideal of an inclusive and democratic school. In this article, we reflect on the image that the teachers of two public schools in the city of Rio Claro, São Paulo State, Brazil, have of their students and their school as an institution. We use the studies of imaginary sociology as a theoretic reference base. Castoriadis (1986); Taylor (2006); Legros et al (2007) and Baczo (1984) are the referenced authors of this article.

Keywords:imaginary and school; equalitarian school; youth and school; education and democracy

Introduction

In this article, we reflect on the image that the teachers of two public schools in the city of Rio Claro, São Paulo State, Brazil, have of their students and their school as an institution. We use the studies of imaginary sociology as a theoretic reference base.   Castoriadis (1986); Taylor (2006); Legros et al (2007) and Baczo (1984) are the referenced authors of this article.

The main objective of the article is to reflect on the imaginary that the teachers of two public schools have of their students and the school they work in and the ideal of an inclusive and democratic school.

The loss of faith in the legitimacy of the school by poor youths in the city outskirts, indicate a resistance to school derived from a feeling that the knowledge obtained from school and the diploma itself are not enough to allow social ascension. Educators, such as Charlot (2002), Willis (1988), Molpeceres, Lucas and Pons (2000) point out that the loss of faith in the school as a source of relevant knowledge and as an instrument for social mobility leads the school authorities to lose their legitimacy, bringing about a feeling of a lack of sense and of arbitrary imposition of the school norms and activities. Bourdieu (2001) also points to a crisis in the school system that, at the same time as it allows the new echelons of the population to have access to schools, in contradiction, it maintains the mechanisms of social exclusion.

The analytical referential provided by the sociology of the imaginary is a fundamental contribution as a methodological reference in the study of the school institution, as we consider that the concept of the imaginary goes beyond the intellectual constructions that can be formulated by the subjects, manifesting itself concretely in the images, history and legends created by them (Legros,2007). In this manner, the imaginary is as much present in the structure and in the daily acts as it is in the values, principles and culture of each social group.

Taylor (2006) distinguishes the social imaginary and social theory, firstly because he considers the imaginary as being the manner in which people "imagine" their social surroundings presented through culture; secondly, as he considers that the theory is limited to a small minority, while the imaginary is a collective conception of vast groups of people, if not by the society as a whole; and finally, he considers that the social imaginary is what allows for common practices and their legitimacy, giving sense to these actions as a group. According to Taylor,

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the social imaginary is not only an ideology, but it defines concepts and practices that characterize the different historical, economic and social contexts. This author further elucidates that modernity, in its origin as in actuality, with its multiple modernisms, should be understood from the different social imaginaries constructed.

Castoriadis (1986) is another author who works with the concept of the social imaginary and its importance for the understanding of institutions. He tells about the significance of the imaginary in the constitution of institutions, joining the imaginary and functionality as complementary elements in this process. He states that the institution is a symbolic network, socially sanctioned, where a functional component and an imaginary component are combined in varied proportions and relations. (p.159). These statements by Castoriadis reaffirm the role played by the imaginary in the constitution of society's structures, as from human action.

Synthesizing the ideas of these two authors we can come to the conclusion that they emphasize the role of the imaginaries created in the different economic and social contexts, as guides to the design of the social structures, as well as truths, values and actions that are legitimized by the individual. In this manner, at the same time that the imaginary guides the format of the institutions, it is built by the subjects in their day-to-day.

Adopting this referential to analyze the school, we consider that the imaginary about the school construed by its participants is an important element for the understanding of the day-to-day actions, the structures, power relationships established and the conflicts arising from these interactions. In this manner, the relationships that are processed in the school's day-to-day are practices established and legitimated by the imaginary minimally shared and negotiated among its members, that are manifested in daily acts.

Therefore we consider that the relations in the school must be understood in the larger dimension of the individual not only as an individual conscience, but also as a social being that makes and remakes concepts, impressions and feelings based on the relationship with the world he lives in and experiences inside as well as outside the institution.

Social Imaginary and the School in the Current Context: the backing for the Study of school violence

Getting back to the idea of the imaginary of each era as an important element in the constitution of the actions practiced by the different social sectors, we reflect here on some of the characteristics that constitute to imaginary of the current economic, political and social context.

Taylor (2006) brings up the issue that what we imagine can be something new, constructive, something that opens up new possibilities, but it also can be pure fiction, maybe dangerously false. He questions the possibility of the distortion of the imaginary in the sense that this may hide or conceal certain crucial realities. To this doubt, he answers that clearly yes, and he gives as an example our self image as equal citizens in a democratic State, ignoring the exclusion and inequality in our society. His argument is that if we understand "equality" as something more than a legitimizing principle, or in other words, if we imagine this as a totally effective reality, what we have done is a distortion of reality. It is looking the other way so as not to see the various excluded or dispossessed groups or to imagine that they are the only ones responsible for their situation (p.211).

The consequence of social inequality to the production of social violence and its reflection on the life of the young people has been studied by many researchers all over the world. In Brazil, Zaluar, in various articles (2001, 1994, 1998 and 1999), points out the institutional factor in Brazil's inequality, and its consequences on the vulnerability of the young poor. Citing Dellasoppa et al (1999), he emphasizes that the authors consider that the model of social inequality in the country as what best explains the "causes" of violence in Brazil.

In this line of thought, when we analyze the school imagined as an equalitarian and fair institution, we see that we fall into the same distortion of reality described by Taylor, and well expressed by Dubet (2004) and Martucelli (2001). These authors raise questions that lead us to reflect on the role of the school and the imaginary that surrounds the current society which are important for discussions on the production and reproduction of violence in it.

On discussing what a fair school would be, Dubet (2004, p.540) poses the following questions:

- Should it be purely meritocratic, with a fair school competition between socially and individually different students?

- Should it be concerned mainly with the integration of all the students into society and with them being able to use their education?

- Should it try to make sure that the school inequalities do not have too much of a consequence on the social inequalities?

Questions such as these put into check the idea of the model of equality of meritocratic opportunities that assumes that it is fair to offer totally equal and objective schooling, ignoring the social inequalities of the students. This is an issue existent all over the world, Dubet points out, in different countries research show that that the schools that are attended by less privileged students, in general, show similar problems, such as: there are more obstacles for the poorer students, the teaching teams are less stable in difficult neighborhoods, the teacher expectations are less favorable to the less privileged families who seem to be more absent and less informed in guidance meetings, etc.

In this vein, Martucelli raises a thought that contributes to the discussion, which is the expectation that involves the school in terms of its responsibility to the forming of ethical and moral concepts. He states that in modern times, the school, further to its functions of transmitting knowledge and social selection, has been associated with a double process: on the one hand, it should permit the integration of the individuals in their society, guaranteeing the continuity of social life. On the other hand, it is guided by an ideal figure of the individual, a collective representation to which all adhere in one way or the other. (p.258). However, one comes to the conclusion that what has concretely happened is the development of an empty individualism, more and more focused on individual techniques and skills and less and less sure of their ideas.

As a consequence of this process, Martucelli points out the utilitarianism that permeates the education offered by the school system, transforming its inside actions into mere processes for the preservation of the life of the organization.

As a consequence, the actions that are carried out will be restricted merely to the preservation of the school as an organization, making the teachers and the administration abdicate their own tasks of educators, as those who provide the universal values of the human being, further to technical and scientific knowledge.

The imaginary of a school in these molds is that of a school for an ideal individual who fits in or who should perfectly fit into the idealized organizational model as well as into an equalitarian society that is based on the principle that all have the same opportunity and the same economic and social origin. For the teachers, the students fit neither into an imagined equalitarian school organization, nor into the image of the idealized student. This imaginary enters into shock with reality, provoking conflicts that not only put the students into opposition with the school, but also the teachers with the school.

In Taylor's thoughts on the social imaginary, he points out the inseparability of the social imaginary from the time and space in which it is created, in this way, we call attention to aspects of the social imaginary from a perspective that Sennett (2006) calls the "New Culture of Capitalism".

This new culture of capitalism, defined by Sennett, helps us understand the school organization not only as the relationship of the student with the school, but also of the teacher with the school, when we reflect on the characteristics of the teachers in the context of today's school.

Sennett (2006,) makes reference to the three social deficits in this context of new capitalism, as being: the low institutional loyalty; the lessening of the informal trust between employees and the weakening of institutional knowledge. These three deficits are connected by an intellectual tool that is the "social capital", which consists of the relationship networks that the person is linked to. Organizations with higher social capital

have more loyalty and vice-versa, according to Sennett.   The other deficit, the lessening of the informal trust between employees, refers to the issue of knowing on who one can count on in a situation of pressure or necessity.   Sennett states that the informal trust between employees needs time to be developed and in the context where relationships and institutions are "liquid", as Bauman (2004) states, the difficulty in the establishment of this trust is hindered.   The third deficit highlighted by Sennett, the weakening of institutional knowledge, refers to the certainties that went along with the bureaucratic organizational structure, job and social security that were weakened in this new context where work has become flexible and precarious.

Further to these deficits, Sennet calls attention to the concept of the citizen as a consumer, that has permeated the social relationships in the context of what is called the new capitalism.   He considers that when citizens act as modern consumers, they stop thinking as artisans, and as a consequence no longer have the commitment to knowledge and to what they do, in order to become simply a consumer.

Using Sennets's aforementioned thoughts to analyze what happens in the day-to-day of the school organization, we can see that the characteristics described by this author have an intimate relationship with the imaginary about the school and the conflict and violence present within it.   The imaginary of an equalitarian school that is safe and that favors the integration of the individuals into society conflicts with the lack of loyalty, informal trust and of different aspects of organizational knowledge.

Research Methodology and techniques

The research technique utilized was in first place to ask the teachers to answer an individual questionnaire (attachment A).   After the individual responses the answers were collected, groups were formed and the answers were distributed randomly, in such a way that whoever responded the questions would not be part of the group analyzing the answers.   The answers were analyzed by each group and the each group was asked to make a poster using magazine cut-outs, to express the principle responses given by their colleagues.

Due to the above thoughts and to the referential of the imaginary to analyze the state schools in this research, the following main analysis categories were used:

1)   The imaginary about today's school and the real students in this context.

2)   The imaginary about the role the school plays in the life of the students.

3)   The imaginary about the students' families.

4)   The imaginary about the social reality and the school in this context.

The research was carried out in two schools located in a neighborhood in the outskirts of the city of Rio Claro, São Paulo, Brazil.   These schools are attended by students with precarious socio economic conditions who live in the neighborhood.

In the analysis of the data, the answers given to the questionnaire as well as the posters made by each group were taken into account.   The selection of the issues expressed on the posters was considered an important factor form analysis as this corresponded to what the teachers considered to be the fundamental issue.

In School 1, 21 teachers participated in the activity and in School 2, 33 teachers did.

Conclusions

In the two schools where the study was made, we came to the conclusion that the imaginary of school and of student built by teachers is based on the model of school and of students of the times when the school was a place for just a few.   These imaginary students are the students who come to school neat and clean, well fed and

well dressed; they do their homework with the support of their families; they recognize the importance of knowledge in their lives and therefore respect the teachers. The real and concrete school for them, as Dubet & Bellet (2000) state, is an island of order and of culture in the midst of an ocean of disorder and ignorance. The students are disorderly, have "unstructured" families and some of them should not even be attending school.

In this manner, we arrive at the conclusion that there is a vast distance between the school with the imagined student and the concrete reality of the lives of the real students. In our view, this fact creates significant difficulties as much for the learning process as for the human relationships within the school. We propose that activities for the continued development of the teachers be carried out so that they are able to analyze the school, taking into account the aspects presented here.

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THE IMPACT OF THE SYMPTOMS OF SPECIFIC LANGUAGE IMPAIRMENT ON CONTEMPORARY EDUCATION AND COUNSELING – THE NECESSITY OF SPEECH AND LANGUAGE THERAPY APPROACH AT SCHOOLS

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Abstract

The authors would like to stress the importance of diagnosis and intervention of the specific language impairment (SLI). The symptoms of SLI vary and occur in the language-related areas, from specific impairment in language areas (mostly morphological-syntactical, lexical-semantic or pragmatic) to non-language - e.g. motor skills, graphomotor skills, emotionality and adaptability, cognitive functions (memory, perception, in particular hearing perception, attention and cogitation). Lower functional literacy, difficulties in understanding of spoken and written forms of speech, dysgrammatism in expressive language, are typical symptoms, which may persist and become a disadvantage for successful education or success in choosing or maintaining a job.

Keywords: specific language impairment; graphic and orthographic component of writing; dysgrammatism; comprehension difficulties; functional literacy; speech and language therapy; education; school counselling

Introduction

Impaired speech development may be the dominant symptom of language difficulties of a person. In such case it represents specific language impairment (SLI), in the context of Czech and European terminology often narrowed down to the issues of the so called developmental dysphasia, which is displayed by "…reduced ability or inability to learn verbal communication, although the conditions for speech development are adequate…" (Dvořák, 1999, p. 44). In the broader Anglo-Saxon perception of disorders, on the basis of specifically impaired language development, the so called semantically-lexical syndrome or semantically-pragmatic speech disorders and other forms of impairment are also mentioned (e.g. Adams in Bishop, 1989; Griffits, 2007). A disorder on the level of perceiving or expressing mimic representatives of emotional state is frequent (Vitaskova, 2005). However, impaired speech development may be a symptom of another developmental disorder or deficit, as well, often related to e.g. hearing impairment, intellectual disability, or autistic spectrum disorders. In this case we can speak about so called symptomatic speech disorders (see below).

Adequate reception or even assessment of the level and quality of individual's communication ability is one of key prerequisites for successful information presentation in today's communication-demanding society, which works with large amounts of information that are difficult to combine and are presented in different forms, and categorizing, analysis and differentiation of such information requires a remarkable degree of daily concentration and highly advance cognitive activities, which also applies to production and perception of speech. In school settings, in the classroom, all the demands related to information processing and expressing are even multiplied and may strongly influence, either positively or negatively, the evaluation process of the students and perceiving of his/her abilities and learning competencies by teachers in general.

Speech and language therapist can, in terms of his/her basic expertise or extended specialization, significantly participate in identifying abnormalities, specifics or deformation of the communication process in the form of

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input, gradual or output and partially prognostic processes, or possibly even in all of these phases. Speech and language therapist should cooperate on differential diagnosis with specialists – psychologist, teacher, psychiatrist, neurologist, phoniatrist, and audiologist. They identify the aetiology of difficulties in speech development of the child and they specify a proper diagnosis, which is necessary to speech and language therapy. Nevertheless, making a proper diagnosis of specific language impairment may be problematic in some cases. Many symptoms in language areas as well as those not related to the language may resemble autistic spectrum disorder or intellectual disability (see e.g. Říhová, Vitásková, 2011).

In the paper we will, therefore, briefly point out some selected examples where the necessity or primary significance of the input of a specialist in the area of communication – a speech and language therapist (in Czech terminology officially called logopedist) – is often the basic prerequisite for successful capturing of progressive, diagnostically indistinct or hidden pathological conditions in which SLI is present. We would like to emphasize the need of close, effective and intensive cooperation of speech and language therapists with schools, as we consider this cooperation to be essential, or even crucial for the relevant and objective assessment and evaluation of the school achievements and behavior of the student with SLI.

Specific language impairment and its symptoms in school age

General symptoms of SLI

The occurrence of the specific language impairment in school population is stated from 2% (Krejčířová, 2001), up to 7% (Bishop, 2009), or even more, depending on the national recognition and acceptance of the definition of SLI and related types of language impairment. At the forefront deficits in the structure and system of language are obvious, which are dominated by dysgrammatisms displays (Owens J., 2008; see bellow), persisting until adult age, also speech prosody impairment (dysrhythmia, dysmusia) is more pronounced (van der Lely, 2005). The reason for this are probably disorders of processing shortly presented or quickly alternating complex auditory stimuli (especially words) (Dlouhá, 2003; Tallal in Clark et al., 2000; Tallal, Gaab, 2006), disorders of short auditive-verbal memory (Briscoe et al., 1998; Gathercole et al., 2005), phonological deficits (Dlouhá, 2002) and bilateral organic diffusive damage to the cerebral cortex, which often develops as a hereditarily conditioned predisposition (Laie et al. in Merricks et al., 2004).

However, displays of specific language impairment are not only the difficulties in speech; behavioural, emotional and social rarities have been proven (McCabe&Meller, 2004; Willinger et al., 2003). Such stated rarities are e.g. psychomotor agitation, activity and attention disorders, impulsiveness, clinging to routines, eccentric mannerism, organicity signs, inequality in performance owing to individual intellectual functions and discrepancy between verbal and nonverbal elements of intellect. Easy fatigability, attention concentration disorders, retardation in fine motorics development, right-left orientation and seriality disorders, dichotic listening deficits, visual perception disorders, disorders of perceiving physical constellation on the basis of kinaesthetic perception disorders and disorders of spatial and right-left orientation, perceiving of depth and three-dimensional space, colour sense disorders and other deficits are also frequent (compare e.g. Haslum&Miles, 2007; McCabe&Meller, 2004; Moncrieff&Black, 2008; Vitásková, 2004; Vitásková 2005; Vogel, 2003; Willinger et al., 2003;). It is often a case of borderline diagnosis, exceeding from the area of special education to the area of psychology, psychiatry, or others.

The development of speech and language in children with developmental dysphasia (as a specific sub-type of SLI) shows specific features. Mikulajová&Rafajdusová (1993, p. 30) define developmental dysphasia as follows: "Developmental dysphasia is diagnosed if it concerns impaired development of language skills that may not be explained on the basis of mental retardation or physical handicap, hearing impairment, emotional deprivation or emotional disorders, or negative impacts of the environment and upbringing." To a varied extent, the disorder affects understanding and speech and language production; the child has difficulties with processing semantic information. The symptoms are varied and occur in the language-related areas - specific impairment in language areas as well as those not related to the language - e.g. motor skills, graphomotor skills, emotionality and

adaptability, cognitive functions (memory, perception, in particular hearing perception, attention and cogitation) (Vitásková, 2005).

Among the significant symptoms of developmental dysphasia, which to a smaller or greater extent continue to exist in children and students with developmental dysphasia even in their adulthood, we include dysgrammatism – inadequate speech production reflected in morphology and syntax. Mikulajová (2009) states that syntax is currently considered the main criterion for speech and language development.

Symptoms of SLI in graphic form of language

Most of students with developmental dysphasia (specific language impairment) have difficulties in graphic and orthographic component of writing. Student with graphomotor (graphic) difficulties, such as excessive pressure on the mat, spasmodic, intermittent, discontinuous, trembling graphical line etc., exerts a lot of effort to form the shape of a line. The student also needs more time for the orthographic component of writing, which includes for example phonemic awareness, the feedback of what had been written, completing punctuation and correct ortography. There is a lack of time for appropriate expressive writing in students with graphomotor disabilities due to the necessity of using the most of the time on forming the graphic component of the written text and therefore they have not enough time to self-check the orthographic component.

Symptoms of SLI related to spoken and scripted speech and their consequences

The second significant symptom that usually continues to exist in adulthood of person with SLI concerns difficulties to understand spoken and scripted speech. Students with developmental dysphasia understand the speech of the communicating partner, e.g. a teacher who speaks fast and uses long and complex/compound sentences, only with difficulties and not accurately. Similarly, they have difficulties in understanding scripted text, especially if the text contains long sentences and complex/compound sentences. Since the problems with scripted text comprehension of many students with dysphasia are usually not fully adapted at primary school, the difficulties with reading comprehension continue to exist at secondary school or even at work and everyday activities of an individual with developmental dysphasia. Persons with developmental dysphasia show lower functional literacy. Průcha, Walterová&Mareš (2009) define functional literacy as a set of skills of a person to cope with activities required by modern civilization, e.g. the ability to understand more complex texts, complete a form, write a written request, understand a newspaper article, understand a washing machine manual and reproduce the meaning of what was read.

What is important to emphasize again is the fact that speaking, writing and reading of persons with SLI reveal an insufficient understanding as so as speaking and writing usually show inadequate morphology and syntax – dysgrammatism (see above). Consequently, difficulties to understand spoken and scripted speech, dysgrammatism in expressive language may persist and become a disadvantage for successful education or choosing a job.

SLI as a symptomatic speech disorder in persons with autistic spectrum disorder

Symptomatic speech disorders (SSD) form a fairly large and heterogeneous group of impaired communication ability. These represent abnormalities in communication, which are primarily or secondarily associated with a specific type of health impairment, disorder or another pathological condition. Symptomatic speech disorders are aetiologically and symptomatically related to them. The term and qualification of this group result from Lechta's classification of ten areas of impaired communication ability (2011), which forms the basis for the most frequently, used classification of forms of communication ability impairment in the Czech and Slovak Republics so far. Even though the issue of symptomatic speech disorders permeates many relatively independent and unique diagnoses, this group of disorders has one common guide line that can be followed. The character of specifics or abnormalities in communication can be defined by certain social symptomatological

categories or markers, which can be perceived as leading, and they enable for them to be taken into account in social as well as educational context. And although this somewhat generalised concept of "typical" signs in the area of communication, which are typical for a certain group of people (e.g. with hearing impairment), can be criticised for its exploitability (risk of simplification and insufficiently individual perspective on a person with symptomatic speech disorders, based on perceiving only summarised knowledge of the given category of a symptomatic disorder), we consider knowledge to be, at the least, the main (or even better the specific, unique) possible symptoms of symptomatic speech disorders to be essential for adequate assessment of the signs in individuals with such disorders. It should also be emphasized that the particularities of communication, its anomalies, specifics or even pathological symptoms can also be a significant diagnostic, differentially-diagnostic or a prognostic indicator of light, medium, or also severe forms of various types of health impairments or illnesses, or other pathological conditions.

Autism spectrum disorders (later also as ASD) represent a heterogeneous, and not always strictly defined, group of specific and non-specific symptoms characterized by pervasive manifestation of the partial symptoms and the cardinal differences in the development of an ASD child when compared to the healthy individual. Despite the given fact, all nosological units of autism spectrum disorder comprise of a markedly deficient field – impaired communication ability. The professional speech and language therapist should play a major or even a key role in ASD diagnosis or differential diagnosis, and such statement seems a relatively natural conclusion (Říhová&Vitásková, 2011). As demonstrated in the study by Conti-Ramsden et al (2009), the ASD prevalence in children diagnosed with specific language impairment (SLI) is ten times higher than in normal population – the approximate coincidence of ASD and SLI is 3.9%; on the other hand, only light or some ASD symptoms were observed in many more adolescents with positive SLI history (as much as about one quarter of the sample). The authors maintain that the risk of coincidence with ASD is higher in persons with SLI; consequently, the current excluding criterion to diagnose SLI, which is the absence of autistic disorders (compare Vitásková, 2005, for instance), should not be accepted, especially in contemporary, modern tendencies facing the issue of establishing and guaranty of inclusive school environment. There are many students with ASD with heterogeneous symptoms of their SLI who are educated in primary and secondary schools in Europe, so the importance of at least basic knowledge concerning SLI is more significant and the collaboration between teachers and speech and language therapists will be probably more frequently mentioned in many legislative and stakeholders recommendations, as well as during professional discussions, as we believe.

This is to corroborate that autistic spectrum disorders are primarily impaired communication skill and that early and effective speech and language therapeutic intervention (including the part of the professional speech and language therapist in differential diagnosis, and prognostic and continual longitudinal diagnostic monitoring) plays an important role in and has a major impact on the comprehensive development of ASD persons and the success of intervention. Nevertheless, as our previous research outcomes revealed, other professionals, even those working at counseling centers, still do not see this interdisciplinary collaboration with speech and language therapists as a priority; also, many speech and language therapists are dissatisfied with what they were taught about ASD at university, having to study these topics on their own to complete their expertise (Říhová, 2010; Říhová&Vitásková, 2011).

Therefore, and in respect to all the symptomatic inter-relations and consequences mentioned above, we decided to continue our research in specific language impairment (even in those forms related to symptomatic speech disorders) in interdisciplinary assessment, educational, and counseling approach as a sub-part of a specific research project nr. Pdf_2012_012 "Impaired communication ability in terms of the impacts of its symptomatology on interdisciplinary co-operation of professionals and family in comprehensive intervention - specific role of a special pedagogue and speech therapist (Main investigator: Vitaskova; co-investigators: Mlčáková, Říhová, Langer, Čermáková, Weilová, Kunhartová). The project focuses on impaired communication ability in terms of the impact of apparent as well as more difficultly identifiable or hidden symptomatology on the everyday diagnostics and education of individuals in the context of interdisciplinary co-operation of professionals engaged in their comprehensive intervention. The objective is, based on selected partial surveys, to analyze the specific impact of a priory selected representative types of impaired communication ability and the degree of perception and identification of these impacts on the objectivity, quality and efficiency of interaction

and communication of professionals participating in their diagnostics, education and comprehensive intervention. The selected types of impaired communication ability include speech fluency disorders, hearing impairment and autism, and combined impairments (in the context of the so-called symptomatic speech disorders). For the purposes of the project, the principal objective has been divided into 4 partial tasks, the fulfilment of which will enable the comparison of collected data in order to establish a synthetic perspective of the monitored objective. The research methodology will be combined as both quantitative and qualitative methods will be applied - exploration (questionnaire, interview), diagnostic testing, diagnostic interview and casuistic method, and the analysis of video recordings of conversational and communication samples. The individual parts correspond with the specialization of doctoral studies students, i.e. the principal members of the team who focus on very specific areas in their research. The project is based on the results of our previous research activities (see e.g. Říhová, 2010; Říhová&Vitásková, 2011)

The partial research on SLI and symptomatic speech disorders

The methodology of the partial research

In our partial research related to the SLI we individually tested three respondents – one girl and two boys - with specific language impairment (Čechová&Mlčáková, 2010). The number of the respondents is relatively small, but we concentrated more on a qualitative and individual analysis then a statistical data. The respondents were represented by 6-year 5-month-old girl (R1), and two boys; one was 8-year 4-month-old (R2), and the second was 9-year 3-month-old (R3).

In fact, the whole examination of the respondents included several tests focused on: auditory analysis and synthesis, rhythmic reproduction test, phonemic differentiation, picture naming, sentence forming, and laterality. However, in order to more clearly demonstrate the symptoms of SLI in language expression at the moment, we chose some specific results of The Sentence Repetition Test by Grimm. The Sentence Repetition Test by Grimm is as a set of ten sentences adapted from German into Slovak (Mikulajová&Rafajdusová, 1993). We translated those sentences into Czech language. The sentences were arranged in order to have increasing grammar difficulty. The requested task for each child was to repeat the sentence they had listened to. The precondition of sentences repetition is processing them into the grammar system of a child. We have to realize, that repeating sentence is not only a simple mechanical reproduction. Seven-year old children should deal with these tasks properly and well (Mikulajová, 2003).

The Sentence Repetition Test by Grimm contains these sentences: 1. Is the kitten nice? 2. George is giving a chocolate to children. 3. There is not good weather today. 4. Martin visited his aunt yesterday. 5. You pang to the finger! 6. A dog was chained. 7. Do not step into a puddle! 8. Mother has a lot of washing, ironing and cooking. 9. He plays with little Mary's doll. 10. I would rather have a bigger car.

Children with SLI have specific symptoms while doing The Sentence Repetition Test. We can observe skipping words in the sentence, particularly prepositions, conjunctions, changes in the morphology of words, incorrect syntax and dysgrammatism. In our research we evaluated each properly repeated sentence by one point. Incorrect repetition of the sentence was evaluated by zero points.

The results of the partial research

R1 repeated properly two of all sentences, her result was two points. Other eight sentences were incorrect, she missed a noun, missed an adverb, missed first three words in the sentence, she repeated the same word two times, she changed the meaning of the sentence and she changed the structure of the spelling word.

R2 repeated properly four sentences and his result was four points. In other four sentences he missed a noun. He changed an adjective by another adjective with similar meaning of the word in two sentences.

R3 repeated properly five sentences and his result was five points. He missed one word in a sentence three times – a noun, an adverb, an adjective. He added one word in one sentence and he did not repeated two of the words but replaced them by another word.

We analyzed the results of all children in The Sentence Repetition Test using proportional percentage evaluation to get more explicit information concerning the achievements of the respondents. As we can see in Figure 1, 6-year 5-month-old girl (R1) properly repeated 20% of all sentences, 8-year 4-month-old boy (R2) correctly repeated 40% of the sentences and 9-year 3-month-old boy (R3) achieved the best result. He was successful at 50% of all repeated sentences. All the three children with specific language impairment have difficulties in expressive language – verbal skills (see Fig 1).

Fig.1 Results of the children in Sentence Repetition Test

Figure 1 Results of the Children in The Sentence Repetition Test - Percentage of Properly Repeated Sentences
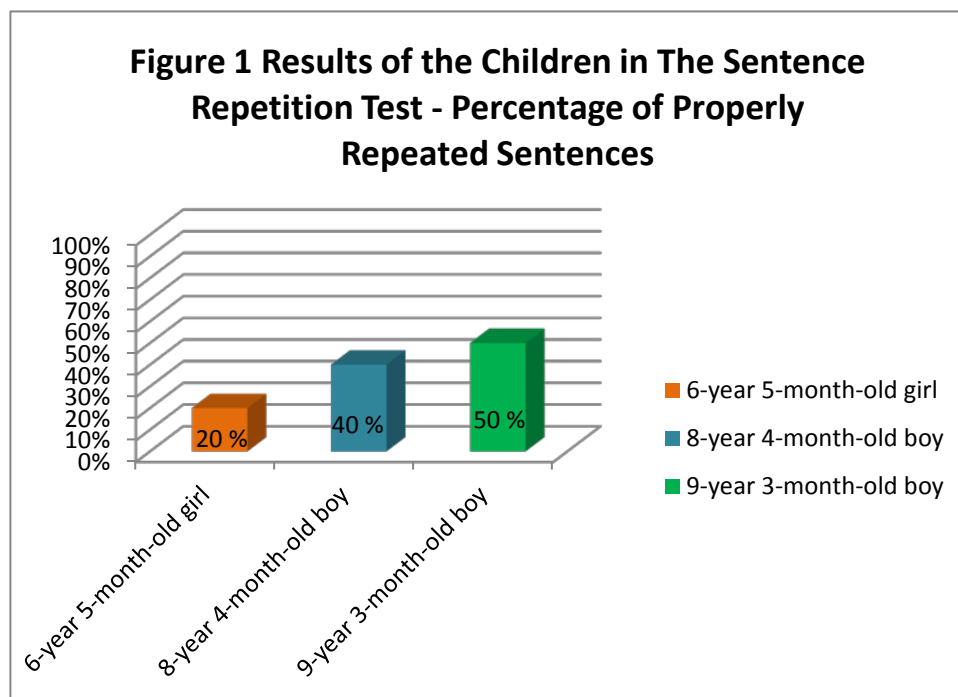
Discussion of the partial results

The test we used is an example of assessment material enabling speech and language therapist to detect the deficits on the morphological-syntactic language level in children with impaired language development. Grimm, Schöler & Mikulajová (1997) state that sentence repetition can be used for the identification of adequate developmentally specific syntactic rules, e.g. sentence reducing. As we mentioned above, in 7-year old children hardly any difficulties in sentence repetition should be present. However, in our respondents the individually variable deficits in syntactic rules were proved.

Such deficits could cause many consequent problems of the students during school attendance. Moreover, it is needed to be point out that regular teachers or even special educationists without the specialization in speech and language therapy are usually not familiar with such kind of tests, and moreover, without proper knowledge and training they are not able to use them for assessment of the student. Therefore the student expressive and impressive language difficulties may be easily mistaken misunderstood and consider as being a consequence of general intellectual deficits. If 9 year-old boy cannot repeat properly 50% of simple sentences, his ability to understand the content of the learning presented by the teacher in an ordinary way and with common speed of

spoken speech is endangered. He would be hardly able to fulfil all other educational demands, and may fail at school very easily. His primary learning competence based on the ability of using his language ability is disturbed, and he needs an adequate, specific and professional assessment and treatment.

Conclusion

To conclude, we would like to highlight the necessity of linking the contents of pregradual education of not only speech and language therapists but also other experts with special education knowledge and knowledge from related disciplines, which fall into the group of the so-called symptomatic speech disorders connected to specific language impairment, or developmental dysphasia itself. In this sense, a speech and language therapist has a very significant, although also very responsible, role. He/she can be the first person to detect and identify these disorders, which in consequence can have a negative reflection on the overall development of a student, especially if the significant markers are not recognized and evaluated in time. However, he/she must be prepared for this role within his/her pregradual or continuing educational framework, which not only includes theoretical and practical knowledge of the subject of communication disorders and impairments (from areas of special education, psychology, linguistics, medicine and other disciplines), but also awareness of his/her role in interdisciplinary teams and the need to keep promoting his/her part in the process of diagnostics and intervention within specific language impairment. On one hand, the partial results of our research reveals that SLI symptoms are easily misunderstood or neglected by teachers, on the other hand they show that the transdisciplinary educational and counselling involving primary and secondary teachers, speech and language therapists and special educationists can positively influence the effectiveness and quality of educational process and protect the student of the failure in a learning activity and school achievement, as well as in his/her social inclusion and professional career.

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THE IMPORTANCE OF ICT SECTOR AND ICT UNIVERSITY EDUCATION FOR THE ECONOMIC DEVELOPMENT

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Abstract

ICT (Information and Communication Technology) industry is an important contributor to growth almost every economy. Its contribution to the growth represents 5% of GDP and ICT also drive 20% of overall productivity growth in European Union (European Commission, 2010). In order to hold such portion of ICT sector on total GDP in the future, continuous supply of relevant qualified ICT professionals into this industry is required. These new jobs will have to be saturated by adequately qualified ICT specialists but this is not supported by the number of live births. This paper identified the most important factors that influence economic growth through ICT sectors in EU and especially in the Czech Republic.

Keywords: tertiary education; ICT related study programs; ICT specialists; economic

Introduction

ICT is one of the most important factors for development and economic growth in the globalized economy. Currently is our community solving following questions: How much are we depended upon ICT? What will happen after losing ICT support for our processes?

In the context of the previous questions we have to mention that ICT (Information and Communication Technologies) industry seems to be also an important contributor to growth of European economy. Its contribution to the growth represents approximately 5 % of GDP (€592.6 billion in 2007) and ICT also drives 20 % of overall productivity growth (European Commission, 2010). The ICT industry includes ICT services and ICT manufacturing from general point of view. ICT manufacturing contributes by approximately 1 % to GDP (€130.6 billion in 2007) and ICT service sector is responsible for a little less than 4 % of GDP (€462 billion in 2007). These contributions seem to be quite effective, but in comparison to other big players in world economy it is not enough. For the USA is the contribution of ICT manufacturing 1.33 % of GDP and ICT services represent 5 % of GDP. For Japan is the value of this indicator 2.9 % for ICT manufacturing and 3.95 % for ICT services (European Commission, 2010). Other Asian countries as Korea or China etc. show growing specialization in ICT manufacturing. Using ICT is important step for competitiveness of each economy. ICT are key drivers for innovation putting into work. Improvement of ICT and related innovation activities are permanent processes that combine business processes, organizational structures, competencies and responsibilities, human resources, personal skills, knowledge, hardware, software and other components of organization (European Commission, 2010). These components represent only elements of system, new quality and innovation potential takes with it rethinking of the whole system applying appropriate ICT principles.

One of the main problems of ICT adoption in global society and in corporations is caused by lack of ICT professionals (European Commission, 2010) with appropriate knowledge (Maryska, Novotny & Doucek, 2010) in networked economies (Kelly, 1998). Low number of ICT experts in economies of European countries cause lower innovation activities in this region in the comparison to USA, Japan and Canada. Low number of ICT experts in economies of European countries cause lower innovation activities in this region in comparison to USA, Japan and Canada. One way, how to limit this disadvantage of European countries is to increase investments into ICT education. (European Commission, 2010), (Doucek, Maryska &et al., 2012)

Knowledge of ICT specialists are in the current situation of the existing information technology world characterizes the increasing demand for different roles of Information and Communication Technology (ICT) specialists in different countries and regions. "Fundamental" ICT skills (e.g. programming, development and testing) are more required in countries with emerging economies as opposed to stable and developed countries where the demand is not so massive. In some regions, for example in Australia the rate of unemployment in these professions is permanently increasing according to some sources (Vorisek & Feuerlicht, 2006). In contradiction is (Hagan, 2004). On the contrary, there is an increasing demand for "new" ICT skills (e.g. sourcing, business analysis, multimedia working out, presenting information on social network) (Helfert & Doucek, 2010). We cannot forecast mechanically the demand for ICT specialists – each country and region has its own features and specific character.

As a reaction to the relatively low flexibility of the institutional education system in the ICT skills area, the research team on Faculty of Informatics and Statistics decided five years ago to initiate research activities in order to map:

- ICT education offered in the Czech Republic,
- Demand for ICT skills in the Czech Republic,
- Influence of ICT graduates and ICT sector on GDP.

University education (tertiary education) forms an important component of the education system in each country in the world and this level should be one of the most effective and required in the area of ICT. Other aim of these research activities was to motivate universities and formulate recommendations for further development of the Czech university education in the area of ICT. To set up and formally pass the accreditation process of a new study program takes in minimum one year (only under conditions that relevant school or university has enough experts in required knowledge areas).

The last goal was to carry out a survey of the ICT graduates skills requirements in the Czech business. This survey was performed for three times (2006, 2009 and 2011). Further facts are presented as result of the last survey in year 2011.

Problem formulation

Several new questions without answers appeared in our research team during our survey work. How many ICT professionals will be needed in the Czech economy in oncoming years? At what degree are the domestic universities able to cover this need? Does the lack of ICT professionals endanger Czech economy in the period of recovery after economic crisis? Is the knowledge of graduates in ICT study program appropriate for companies? The aim of this article is to present possible scenarios in requirements on ICT specialist up to 2015 in the Europe with methodology that is presented on the example of the Czech Republic and to evaluate impact of this fact on the Czech ICT job market.

Based on these facts, our team started to formulate the model of possible requirements on numbers of the ICT professionals (Doucek et all, 2007), (Maryska, Novotny & et al. 2012). Relations in this model are based on actual economic trends in ICT sector, partially taken from literature and partially based on our survey's results of Czech reality. The first part of this model is presented in this contribution.

Methodology

The first activities for this model formulation focused on number of required ICT professionals in the Czech economy in the future. We had three main sources. The first one - results of our surveys. For this model we used results from 2011 surveys, although actual data from 2011 were not completely evaluated by statistical (cluster analysis) methods yet (some other facts will be presented on conference event in September of this year). Methodology: There were identified main ICT business roles, their key competences, in business informatics in the first phase of the project. After this role definition phase were defined knowledge domains and metrics for measurement level of knowledge in each knowledge domain. The level of knowledge was graduated in relation to ECTS credits on HEIs and in relation to number of necessary training days for appropriate position by business organizations – details in (Doucek et all, 2007), (Maryska, Novotny & Doucek, 2010), (Doucek., Maryska & Novotny, 2012).

The second main source is the future economic development scenarios prognosis (McCormack, 2010) and data concerning ICT industry in the Czech Republic, collected by European Commission in Digital Competitiveness Report 2010 (European Commission, 2010). Data from UIV (Institute for Information on Education) are the last source of information in this contribution. These data deal with number of students and graduates in ICT - related study programs in the Czech Republic's HEIs (Higher Education Institution). Prognostic model was formulated based on demographic projection applied on data from surveys - ICT related study programs enrolled students and required numbers of ICT specialist for ICT business roles now and in the future. Results of this model are combined with conclusions of McCormack's (McCormack, 2010) prognosis in this contribution.

The third main sources are data provided by the Czech Statistical Office (CSU, 2010), Eurostat (Eurostat, 2010) and UIV (UIV, 2010) that are connected with number of tertiary education students, trends in population etc.

Results

During our research we find out three factors that are mutually interconnected and strongly influence economic development of each country through evolution in the ICT sector. These factors are:

- Investment into ICT,
- Knowledge of ICT specialists,
- Number of ICT specialists,

Investments into any sector of economy represent essential instrument for its further expansion. Some aspects of ICT investments are presented in (Delina & Vajda, 2005).

Another, more detail, synthetic indicator of the ICT sector contribution to the economic growth is share of added value of the ICT sector on the whole GDP. Evolution of the added value of the ICT sector to the Europeans countries and to Czech economy is presented in (Doucek, Nedomova & Novotny, 2011). „Productivity" of Czech ICT sector and its portion on GDP is shown in comparison to other selected countries on Fig. 1. Other general aspects of productivity of Czech Economy are presented for example in (Vltavska & Fischer, 2010).
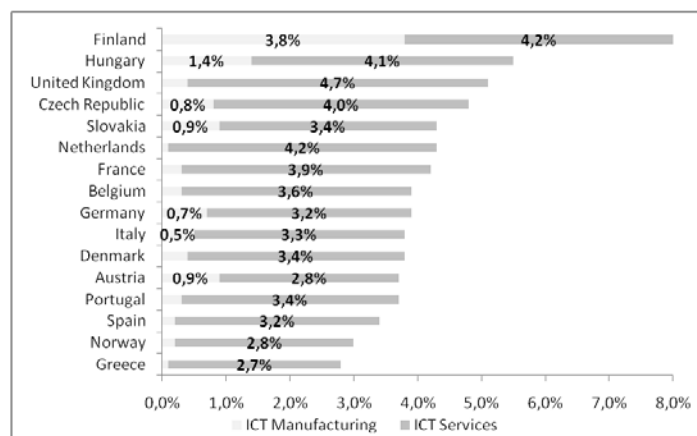
Fig. 1. Comparison of ICT Sector Added Value in Per cents of GDP for Selected European Countries, source: (CSU, 2010)

The largest contribution of ICT sector to GDP in EU is in Finland – 8 %, where is also large ICT manufacturing industry. The largest ICT service industry is in the United Kingdom – 4.7 % of UK's GDP. From the Figure 5 is visible that there are only few countries, where the share of ICT services on GDP is more than 4 %. Behind the UK are with 4.2 % Finland and Netherlands, followed by Hungary 4.1 % and Czech Republic 4.0 %. For other countries is the share lower than four per cents. Detailed analysis of ICT sector´s influence on economic development and how can be measured costs on ICT are in (Novotny & Doucek, 2010), (Novotny & Doucek, 2007), (Maryska, 2008, 2009) and (Sudzina &Kmec, 2006).

These figures prove our statement, that investments into the ICT in the economy are really important because portion of ICT sector on GDP is high and still increasing. If we want to hold this portion and make stronger increase of GDP through ICT we need enough ICT specialists with appropriate knowledge and education.

The second one factor is total number of ICT specialists and trends in their numbers. Majority of developed countries (China don´t show up) can be characterised by decreasing population rate in the EU 27 countries. The same situation is in the Czech Republic (see Fig. 2.). Graph presented in the Fig. 2 is number of live births in the Czech Republic (dotted line on right axis) in time series from year 1980 to year 2009. These numbers are important for future situation in the tertiary education system. We see that future years will be difficult for universities and also for quality of tertiary education system as a whole because numbers of potential students (based on number of live birth) was decreasing until year 2001. When we take into account average entering age to the tertiary education system, the difficult times will be for tertiary education system till year 2020. Trends in this indicator are the same as in the Czech Republic also in the EU 27 countries. Really interesting is similarity both curves in the Fig. 2.
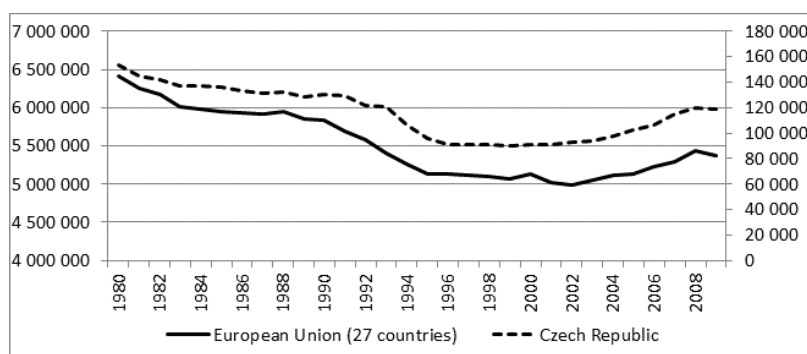
Fig. 2. Time Series of Live Births in the EU 27 countries and in the Czech Republic   source: authors, (Eurostat, 2010)

This findings don´t give us to good prospect in tertiary education in general and also in education of new ICT specialists. In the situation the population rate and number of live births is decreasing we cannot increase number of student at universities.

These findings provide important data for another analysis that is based on McCormack book (McCormack, 2010). In this book are also noted that countries have one of the last opportunities to make arrangements to prevent the lack of ICT specialists. In the case that they find out no solutions, they can expect difficulties in providing ICT services in the future that also influence GDP and other indicators describing analysed country.

We have said that the information society requires sufficient number of ICT specialists with adequate knowledge and education. A fulfilment of this requirement is based combination of these three factors (Doucek, Kunstova & Maryska, 2011):

- People – to make an ICT related study programs more attractive for students,
- Knowledge – to better up and raise up knowledge of people working in ICT and also people working in other sectors. This is closely connected with the third factor - education,
- Education – this is the most important opportunity to change current trend and the fill the gaps that were shown in (Doucek, Maryska & Kunstova, 2011). Education can be provided in various forms:
  ○ Lifelong learning.
  ○ University education at public and private universities.

The second and the third point influence the third factor. Detailed analyses of these factors are devoted for example (Doucek et all, 2007) and (Maryska, Novotny & Doucek, 2010). In this place we can mentioned that the situation in the Czech Republic is not good because knowledge expected by companies aren´t fulfilled by university graduates in ICT related study programs. On the defence of the tertiary education system we have to accent that business sector usually doesn´t define requirements on knowledge future graduates. One of examples for this is dynamical changes in internet technologies and mobile application (Apple, Google).

Our analysis of the situation in the Czech Republic in the context the Digital Competitiveness Report 2010 (DCR) (European Commission, 2010) takes into account above mentioned facts. In DCR is mentioned that the share of Czech work force in ICT sector on the whole European ICT sector work force is approximately 2.8 %. Because the number of ICT professionals in the Czech Republic is, from this "European" point of view, constant, we propose the same share for oncoming years also. Applying this approach on data presented in (McCormack, 2010), (CSU, 2010), (Eurostat, 2010), the following prognosis of the gap between supply and demand in ICT professionals till the year 2015 in our country could be expected. McCormack (McCormack, 2010) distinguishes five scenarios in the evolution of economy. These scenarios are presented in the Table 2 that compares demand and supply of ICT specialists.

The Czech education system is very strong limited in ICT area. The first limit is real number of HEIs realizing ICT study programs. From other point of view this fact represents a lack of ICT teachers in ICT tertiary education. The number of students involved in the ICT study programs in 2004 – 2009 is presented. These data are adequate to our contribution, as we are not so much interested in students, but in the graduates and the students of 2009 will graduate on bachelor level in 2012. If they start their master studies, they will graduate as masters in ICT in 2014.

In UIV database the number of graduates of ICT-related study programs since 2001 was identified. In Table 1, the numbers of graduates since 2007 – 2009 are presented.

Table 1. Number of Graduates of ICT Related Study Programs, Source: (UIV, 2010), authors

Study program/Year	2007	2008	2009
Bachelors	3,636	4,137	4,194
Masters 5 years	1,165	894	510
Masters 2 years	982	1,672	2,123
Total	5,783	6,703	6,827
Reduced number of graduates	3,359	3,945	4,031

Numbers presented in Table 1 show that Czech education system offer approximately 7,000 ICT professionals in Czech economy in year 2005. In the book (Doucek et all, 2007) is mentioned that required number of graduates covering reproduction is 4,200 annually. There are identified two main problems in the table. The first problem is all the more important, as not all the bachelor graduates do enter the labour market. Approximately 2/3 of them enter master study level in ICT - related study programs (see row "Reduced number of graduates" in Table 1) (conclusion from survey 2011). Also, the **bachelor-level qualification of graduates is not commonly accepted by all corporations looking for ICT professionals**. **Especially in ICT corporations, the master level of graduation for higher managerial positions is strongly required.** Approximately one third of graduates in all ICT-related master study programs are not sufficiently qualified for business informatics, but reports finished tertiary education formally.

"For what scenarios do our politicians prepare Czech economy?" The Czech Republic's education system delivers approximately 4,000 ICT graduates annually according to the information from UIV (Table 1). Our demand for reproduction of existing level of ICT services and manufacturing is approximately 4,200 ICT professionals. Comparison of these two numbers gives us a warning that the actual gap between supply and demand on ICT professionals is approximately 200 persons annually. Future scenarios in ICT professional's requirement development represent another aspect: increasing gap between supply and demand. Missing numbers of ICT professionals on the Czech labour market up to 2015 are presented in Table 2.

Table 2. Missing Number of ICT Professionals in Czech Economy for Different Scenarios, Source: authors

Year	Turbo Economy	Investing in the Future	Back to Normal	Traditional Wins	Stagnation
2010	1,180	200	-1,060	-1,200	-1,480
2011	2,440	1,600	200	200	-1,480
2012	4,400	3,000	1,600	760	200
2013	5,800	5,240	3,000	1,600	1,040
2014	12,240	10,700	7,200	2,720	1,740
2015	19,240	16,720	11,120	3,840	2,860

Numbers presented in the Table 1 informs us (positive numbers in the table take with them negative information) that the Czech Republic is not prepared neither for real evolution of information society in our country (number of ICT professionals reproduction is 4,200 annually) nor for any of the above presented scenarios. Numbers in Table 2 represent real gap between demand and supply in ICT professionals on our labor market (negative bold number represents overhang of qualified ICT professionals entering Czech economy in certain year). We have enough ICT professionals up to the 2011 in case of the "Stagnation" scenario in our economy. There is no efficient number of qualified ICT professionals for other scenarios at all. These numbers of well qualified ICT professionals will be missing on Czech market annually and no matter what scenario will come true.

Conclusions

All of developed countries are depending on ICT. This dependency is represent by increasing investment into the ICT, and also increasing required number of ICT specialist. Still increasing are also requirements on knowledge of non-ICT employee.

The Czech Republic would like to be developed information society supporting dynamical trend in increasing of GDP. Current situation in the tertiary ICT education doesn´t support this aims because the gap of ICT

specialists is increasing and potential number of tertiary ICT related students is on the contrary decreasing. General trend in Czech education system is stagnant number of ICT students. These facts have following consequences.

Lack of ICT educated professionals will have an impact on decreasing competitiveness of the whole economy, decreasing global innovation potential and this could start degeneration of our population.

Without adequate number of ICT specialists cannot be achieved required increase in GDP not only produced by ICT sector but all sectors in the Czech economy.

The Czech Republic has opportunity to change education system with accent on tertiary education in order to prepare the ICT professionals in ICT business and for the roles of key users in public administration and in business corporations as well. These changes are connected with financially abilities of the Ministry of Education, Youth and Sports that is responsible for education in the Czech Republic and that is providing financially support to the universities for providing education.

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THE INFLUENCE OF ENVIRONMENT EDUCATION ON CRITICAL THINKING AND ENVIRONMENTAL ATTITUDE

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Abstract

The purpose of this study is to investigate the influence of environmental education on students'critical thinking and environmental attitudes. The sample of the study included 8th grade students from five schools which were randomly selected from different districts of Sakarya.

Survey research method was employed in the study. The Critical Thinking Test in Environmental Education (CTTEE) was used in order to measure critical thinking skills of the students in environmental education. The test is comprised of three lower dimensions titled as "Conclusions, Inferencesand Identifying Bias". The environmental attitude scale, which was also used in the study. In this study, it was attempted to determine the variability in the outcome variable and to question whether critical thinking is attributable to gender, socio-economic status and school type. The results of the study suggested that the subjects in the sample have an average critical thinking skills level in environmental education. Ancova and t-test results also showed a meaningful statistical significance in the students' critical thinking skills and attitudes towards the environment in terms of gender, socio-cultural level and school type.

Moreover, in accordance with the results obtained from the study, it could be stated that The Critical Thinking Test in Environmental Education (CTTEE) may be used to identify critical skills of primary school students and the Environmental Attitude Scale may be employed as a useful measurement tool to determine the attitudes of the primary school students toward the environment.

*Keywords:*Environmental Education, Critical Thinking, Environmental Attitude

1. Introduction

Developments about economics, society, science and technology have affected our life styles to a great degree. Especially the effects of scientific and technological developments in our lives and enviroment can be seen in present day more than it was the case in the past (Kaushik & Kaushik, 2010). New dimensions which the notion of the enviroment (Bary, 2007) carry have exposed that the enviroment should be examined not only at the national level but at the international level with new approaches.

Enviromental problems (Bonnett, 2007; Mert, 2006), have reached to the important points in 21 th century and continue to grow rapidly. Global warming, deterioation of the natural life, perferotion of the ozon layer, conservatory effect, rise in the solid waste, nuclear pollution, decrease in green areas, extinction of some kind of animals and plants can be showed as some enviromental problems. Moreover, parallel to the rise in the population of the World, increase in the necessities of the people and their consuming of the natural sources uncounciously, and again uncouncious works in order to save the nature can be seen as reasons of the enviromental problems (Symth, 2004). In 1972 Stocholm Conference which was orginised by the UN the enviromental problems were put forward for the first time and from that time onward te enviromental problems have become one of the most important topics which preoccupies the world agenda (Young, 2009).

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The most effective way in order to solve the enviromental problems (Pooley & O'Connor, 2000; Stevenson, 2007) is the education of the societies. Education about enviroment has become an individual and social necessity which was caused by the enviromental problems that have been at the top on the world agenda all the time. As the problems about enviroment grow and as the sensitivity about the enviroment increases, the importance of the enviromental education also becomes more important. (Alım,2006; Dunlap & Liere, 1978). The education about enviroment aims not only an increase in the educational knowledge of the individuals but also turning the positive attitudes about the enviroment into behavior.

While the education about the enviroment gets more importance in the changed world, as a natural consequence of it, enviromental education gets higher attention in the educational curriculums of the countries (Jensen&Schnack, 1997). However, it is impossible to say that the point we have reached is enough.

It can be seen that (Palmer,1998; Shapiro,2005) both in the world and in Turkey there have been an important developmency about the enviromental consciousness about the understanding, preveting and solving of the enviromental problems in last years. At last we know that in the origin of the enviromental problems, there are social, economic and cultural factors and they will not be able to be solved by using technology solely. So, the basic tenet for the enviromental education is to continue to educate people about their values, attitudes and behaviors which they hold towards the enviroment (Rempel, 2009; Wilson, 2004).

When the new educational programs about the enviroment is examined, it can be seen that in Turkey the education about the enviroment takes an important place in programs. In primary school educational program, the enviromental education starts with the grade 4 and it aims to make the students gain the very consciousness and knowledge of the enviroment.

In the new education programs about the gainings of the enviromental education are the representing the enviroment in phisical, social and biological sense as a whole. Moreover, finding the factors that affect the natural enviroment, the negative results of the having damaged enviroment on people and societies, teaching the bad results of the wasteful behaviors and preventing them are the main targets.

Furthermore, critical thinking which has an important place in the programs of the primary schools is a subject that has been worked on for a long time in Turkey. Critical thinking (NAS,1996) is an ability that is among the abilities studied in the primary school programs. By changing the educational programs, teaching approaches that increase the critical thinking are given importance. With renewed primary school programs, growing critical, creative, searcher, inquiring, entrepreneurial individuals are targeted.

Among these basic abilities (Bailin, 2002 & Phan, 2010) critical thinking provides people looking at the subjects with suspicion, making interpretaion about them, deciding and teaching the learning effectively. When the relationship between the place and importance of the critical thinking in education is described clearly (Nolan, 1997) the necessity of the critical thinking in education shows up itself naturally.

2. Research Method

The sample of the study was composed of 346 students of eight grade secondary schools in Sakarya, Turkey. A sample of classes of five middle school representing five demographically different schools were included in the study. The schools included in the study ranged from low socio-economic status to high socio-economic status. 173 male and 173 female subjects took part in the study.

The Critical Thinking Test in Environmental Education (CTTEE) was used in order to measure critical thinking skills of the students in environmental education. CTTEE was developed by Chiek (1999). CTTEE was adapted in Turkish by the researcher. The test was comprised of three lower dimensions titled as "Conclusions, Inferences and Identifying Bias". The CTTEE covered three of many broad areas of critical thinking skills and abilities in the domain of environmental education. Section one measured students' critical thinking ability in the area of conclusions. Section two measured students' critical thinking related the area of inference making.

Section three measured students' abilities to identify the bias. The length of time for taking CTTEE was set at 45 minutes to fit into a course.

Before conducting the research necessary permissions were taken from the instititons in charge. The field test of the CTTEE was conducted during one class period at each of the respective schools. The field test of the CTTEE was conducted during one class period at each of the respective schools where the sample was formed by random sampling . Specific directions were given to the eigth grade teacher for administration of the test to ensure that the testing environment and procedure was identical for all participants. Participants were informed of the purpose of the study and understood that any data collected had no bearing on their course grade and would be kept confidential by the researcher. Respective teachers were unaware of any individual participant's score on the CTTEE or other data collected on the subject. Data collected via the test which could damage the reliability and validity of the research were eliminated and were not used for analysis.

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This research attempted to address the effects of specific published environmental education curriculum guides on secondary school students' (eighth grades) critical thinking skills. Two paired sample t test and ANOVA was used to compare the differences in variables in question which are gender,socio-economic status and school type. Effect size was also calculated for differences between independent and depended variables and the significance level of the research questions was set at .005. Before the statistical analyses were conducted, distributions of the data were examined for underlying assumptions and it was concluded that distribution of data met the assumptions of normality and linearity. These analyses were carried out via SPSS 13.0

3. Results

An item analysis of the CTTEE was accomplished using a point-biserial correlations on each item, determination of the difficulty level of each item and descriptive statistics. This involves a process of reviewing each individual test item as a way of informing the contribution of that item to the quality of the test as a whole. Data were gathered to determine the difficulty level of each item. The difficulty level should range between .25 and .75 for the purpose of norm-referencing the test. The difficulty level refers to the proportion of subjects who respond correctly to an item. The point-biserial is a special case of the Pearson r, with one variable a quantitative variable measured on an interval scale (score on the CTTEE). Descriptive statistics were calculated to give a measure of the high and low score, the range of scores on the test, the mean and the standard deviation for primary school.

Table 1: Analising the results of the items		
İtem N	P	rjx
1	.70	.65
2	.55	.50
3	.88	.51
4	.77	.40
5	.82	.47
6	.38	.40
7	.78	.39
8	.59	.50
9	.38	.40
10	.74	.42
11	.55	.54
12	.73	.57
13	.88	.51
14	.67	.38
15	.74	.45

When hardness indexes and differentiations of the items were examined, none of the items were put out of the test. If the value of the differentiation of an item is above 30, it shows that the item differentiates the students who know and who do not know.

A measure of reliability is important information to gather on a test to determine the quality of the internal consistency. In this sense, reliability is a measure of the extent to which the CTTEE measures one underlying ability. Acceptable reliability estimates on critical thinking tests range from .65 to .75 and tend to increase with the level of sophistication of the examinees. The Cronbach's alpha was used to determine the reliability of the CTTEE for primary school.

Table 2: Analising results about the critical thinking in enviromental education

N	$\overline{X}$	S	P	Realibility	Differentation
73	10.15	3.03	.67	.73	.63

When the Table 2 is examined, the analising results of the test according to 73 students can be seen. The arithmetical average of the test is ( )=10.15, Standard deviation is (s)=3.03. the average value of the hardness of the questions in the test is (p)= .67 the level of the hardness in the test shows that the questions are hard in the medium level, that is they are neither difficult nor easy for the students. Generally the average value the hardness of the item is wanted to be .50 in the tests that measure the success, this very value is highly suitable for the students that have been tested. The reliability of the results is .73. that means the test is highly reliable. In the studies it is expected that the value of the differentiation of the test is .40. The analising reports has showed that value of the differentiation of the test is .63. with this value it can be said that the differentiation value of the test which differentiates the students who know and who do not know is quite well.

The research also investigated the extent to which middle school students' critical thinking was influenced by students' gender, socio-economic status and school type. An analysis of variance was used to test assumption that the variances of mean scores between groups were different. To investigate whether the CTTEE test scores of students differ according to gender, a t-test for an independent sample was applied to the data and the results are shown in table 2.

Table 3: Independent Sample t-test results regarding CTTEE test score according to gender

Variable	School type	N	$\overline{X}$	Sd	t	df	p
CTTEE test score	Female	173	10.5	3.12			
					1.48	344	.000*
	Male	173	8.3	3.38			

p<.05 *

The results of t-tests indicated that, the mean values of importance were different when average scores of female participants were taken into consideration. A significant and meaningful difference was found in female students' average scores of critical thinking skills in environmental education. For the girls, a independent sample t test revealed a significant difference.(t (344)=0,00, p < .05). The mean scores of critical thinking skills in environmental education of the girls was 10.5, whereas the mean scores of male students' skills of critical thinking in environmental education was 8.3.

The results of ANOVA indicated that there was a significant difference between groups according to students socio economic variable as measured by the scores on the CTTEE. Levenes's test of homogeneity of variance test was conducted and it was concluded that variance of dependent variable was equal across groups when controlled for the effects of the test scores.

Table 4: ANOVA test results regarding the CTTEE test score according to students socio-economic variable

Source of Variation	Sum sq	df Mean sq	F	Sig.(p)	Tukey HSD(Sig.Dif.)
Between Groups	254,299	4 431,735	6,33	,000	L.I.-M.I. L.I-H.I M.I. H.I
Within groups	3421,458	341	115,964		
Total	3675,757	344			

L.I .low income, M.I. Medium income, H.I High income, p<.05 *

The results of ANOVA indicated that there was a significant difference between groups as measured by the test scores on the CTTEE (F(4;341) =6,33; p < .05).At the end of the analysis conducted by using Tukey HSD test to determine the direction of this meaningful difference, it was concluded that the Cttee test score of high income level students (x=10.2) were significantly higher than the medium income level students (x=7.6). Cttee test score of medium income level students were significantly higher than low income students (x=5.4).

To investigate whether the CTTEE test scores of students differ according to school type, a t-test for an independent sample was applied to the data and the results are shown in table 5.

Table 5: Independent Sample t-test results regarding CTTEE test score according to school type

Variable	School type	N	$\overline{X}$	Sd	t	df	p
CTTEE test score	S.S.S.	201	7.6	3.4			
					4.3	344	.000
	P.S.S	145	10.3	2.8			

S.S.S. State school students, *P.S.S.* Private school students p<.05

The results of t-tests indicated that, the mean values of importance were different when average scores of private school were taken into consideration.. As seen in table 5, private school students' have a mean CTTEE test score of 10.3 and state school students' have a mean CTTEE test score of 7.6. A significant and meaningful difference was found in private schools' students average scores of critical thinking skills in environmental education (t(344)=0.00, p < .05)

4. Conclusion

The purpose of this study is to investigate the influence of environmental education on students' critical thinking. The findings of the research are extremely significant for educators and elementary school students. A

significant difference was found between students' socio-demographic variables and their critical thinking skills in environmental education. Socio-economic level of the individual with the rise of the social environment was effective in this result.The extent and range of facilities provided by the families make it easier for the individuals to have the opportunities that they desire. The socio-economic levels of students (Buntod, Singseevo & Suksringam,2010; Cheung, Rudowic, Kwan, Lang, & Yue, 2001; Öztürk, 2006) affects critical thinking skills. There was a positive correlation between socioeconomic levels of students and their critical thinking skills in environmental education. In this case, the results revealed that there were differences between children belonging to upper socioeconomic level and lower socio-economic level families in terms of opportunities they had. Thanks to the technological tools which give the opportunity to explore and ease access to information children can develop themselves, participate in educational activities, become more self-confident, have the ability to think critically and catch up with the latest advancements.

A meaningful difference was found between students' gender and their average scores in critical thinking in environmental education test. It can be concluded due to some features of cultural and social constructs female students become much more attentive to the environment and the events happening around them when compared to the male students. Also it could be said that another impact of social and cultural constructs on female students is that, female students show a tendency to use crtitical thinking skills in dealing with the problems and situations related to environment. Several studies (Bartosh, 2009;Shepardson,2005; Yıldırım, 2009) examining the issue also revealed similar findings. Because social identity, once formed, after the detection of individuals styles and forms of motivation, attitude and behavior patterns can lead to differences in terms gender. Approaching the issue from this perspective, it could be said that the social structure and social learning, may help girls grow up as individuals who have to deal with more problems when compared to men, become more attentive to details, have more confidence in themselves and their thinking processes and possess the abilities to think flexibly

At the end of the analysis conducted, a meaningful dfference was found between students school type and their average scores in CTEE test in terms of independent sample t test results. Besides the facilities provided by private schools and the endeveour to use existing resources for the benefit of students, the quality of teaching staff that private schools have could be said to have an effect on the difference in results obtained from two groups. It can also be concluded that facilities conducted to increase students awareness towards nature and environment and encouraging the students to participate in such kind of activities improved students critical thinking abilities. Besides, success of a primary school program formed taking general aims of environmental education into consideration is directly related with undergraduate education and pedagogical formation that the teachers have received. It is of great importance the pre-service and in-service education that the teachers receive in order to help the students develop active critical thnking skills in environmetal education at the utmost level. It could be said that teachers' pedagocial formation on the subject, the extent they believe in its importance and the attitudes they hold towards it, are probably the most crucial features of the issue. In order to set students critical thinking skills in environmental education permanent, environmental education should be given in such a way to help the students recognize the environment and culture in which they are living, should be relevant to real life experiences and sequenced from concrete to abstract and should include techniques such as thinking big, thinking linking, thinking for decision making and analytic thinking.

The reasons for this kind of result can be showed as disapplication of the educational activities in the way of developing some abilities of the students like critical thinking, logical thinking, inquiring etc. The most important reason of this disapplication is the inefficiency of the teachers who were educated in traditional schools in traditional ways. Moreover, the study has showed clearly that the teachers who are the applicators of the educational programmes that target critical thinking and other important values in students must be having these very features for themselves. The results of the study also have showed that all lessons are responsible for teaching the critical thinking to the students but it has been emphisized wrongly that especially the lesson of science and technology is made responsible for the such kind of abilities.

5. Recommendations

In the light of this study, some suggestions can be offered for both education and future studies in this field.

Teaching programs written for enviromental education should not just teach qualitative information but it should increase the awareness of the students towards nature and enviroment. Beginnig from the preschool period, practical enviromental education should be given more importance. In educational programs, beside introducing the enviroment to students, giving messages that makes students love the enviroment, especially the danger that the enviromental problems cause should be emphisized. In primary schools, again practical enviromental education programs should be given importance, at the level of units practical education should be practiced.

In the education of enviroment, individual differences, needs, abilities, viewpoints of the students should be realised and teachers who apply these teaching programs should be having great task. Teachers should develop programs about the enviromental education, they should be giving importance that these programs are increasing the awareness of students about the enviroment. The strategies that are suitable to the needs and abilities of the students should be selected. Democratic enviroment should be formed by supporting activation of the sudents and their solutions developed about the enviromental problems

Furthermore, voluntary establishments should be take a part in this education. Various civilian establishments, associations, clubs, unions shoıuld arrange some activities in order to increase the awareness of the students towards the enviroment. By providing the active involvement of the induviduals and taking attention of the public opinion, some applicable activities and competitions sholuld be arranged. seminars, symposiums, open sessions, panels and likewise meetings should be organized and the public should be made conscious about the subject. By using the mass communicative instruments, enviromental education should be extended and the big amount of the society can be reached especially through internet and media.

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THE PROFILE OF ACADEMICALLY TAUGHT TRANSLATORS AND THEIR ROLE IN THE PRACTICE

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Abstract

The translator's profession is not limited to a linguistic knowledge. A translator needs other qualifications so that he can produce qualified and reliable translations in the translation practice. These qualifications are academically taught in translation departments. An improvement in translation practice can only be possible through the influence of the translation studies on the practice.

Keywords: translator, education, qualification, profession, theory, practice, foreign language, responsibility, task

Introduce

To be able to make regulations to standardize translations and translatorship, it is necessary to change the common idea that anyone who knows a language can translate easily. Changing this idea does not necessarily mean that only translators with an academic education will translate. If each translation type and field could go through a certification or an accreditation process, this could contribute to the solution of commonly mentioned '' unqualified translations'' and translators '' with no work ethics'' (Parlak, 2011:88).

Translators complain that their occupation is not considered as a profession, they want translations to be done by competent translators and they want the readers to look for good translations and to criticize the unqualified ones on the other hand they do not want the readers to buy bad translated works.

Such complaints of the profession and bad translators are related to translators' qualifications and how people see translation. What does it mean to become a professional? It is not that hard to answer that question. When people need the translation of an official paper, they go to professionals, which is enough for us to understand the importance of translation as a profession. However it is not possible to see the same situation in unofficial establishments. It is not the professional translators but the ones who do not know the translatorship and qualifications of a translator which should be responsible for the complaints about unqualified translations.

In the market it is not regarded if a translator is professional of if he is competent in translation, which makes it hard to define translatorship as a profession. For an occupation to be a profession, the performers of that occupation should have academic education. Translatorship is not an artisanship as bakery or hairdressing rather it is an academic profession. It requires a diploma in the field, being an expert on texts and theoretical knowledge.

Unless there is a standard for the quality and the profession, neither the value people give to translators nor the value translators give to the works to be translated will change. The quality of translators is reflected on the reputations of translatorship as a profession and on the payment. The unqualified translations are the results of the uneducated translators with no competence in the profession; furthermore unqualified translations even affect the reading rate in Turkey.

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2. Translator Profile Targeted In Translation Education

As long as translation departments are considered to be restricted to foreign language teaching, the approach on translation and translation departments will not change. Until they start academic education in translations, for different reasons the students do not have a solid basis neither for their mother tongue nor for the foreign language. Students should have overcome grammatical issues by the time they start academic education. For this reason there is preparatory class in most of the departments. The language acquisition is supported with related classes throughout the education process.

It is a great misconception that teaching foreign language and culture is more important than other information in the field. The translator will need his mother tongue and culture and the terminology of the relevant field in his own mother tongue more than source language and culture. Improving mother tongue, foreign language and world knowledge is not limited to the years before academic education so during five years of study, students are given classes related to improving both mother tongue and foreign language, other than those lessons about both cultures and history of culture, communication and other specialized field topics are given along with translation theory and methods. Furthermore the departments aim to create a translator profile with applied translation lessons together with theoretical knowledge and they integrate the studies with project works.

The way to translation competence is comprised of basic equipment and an improvable array of broad knowledge on culture in other words culture competence and expertise. Expertise can be examined in two categories. The first is the knowledge on translation theory, translation methods and translation studies and the second is the knowledge on other fields as translation studies is interdisciplinary. Translator has to acquire field information and text culture as well. For example one who does law translations has to be equipped with knowledge on law and the text tradition of the field (Eruz, 2004:158).

In academic translation criticism, errors occurring from foreign language deficit are not taken into account; this indicates that translation is more than merely a language transfer. According to H. G. Hönig translation errors arises from the inefficiency of mother tongue, time pressure, lack of motivation and concentration and inefficient knowledge of theory or method but he does not mention inefficient foreign language knowledge (Snell-Hornby, 1994:232-233). Foreign language knowledge cannot be the sole element in interpreting the translation process.

3. The Features And Qualifications Of A Professional Translator

Translation process starts with the need of communication of the society or the individual who needs the translation. Translator is not the one in need of communication, but the other people who need translation. In other words translator conducts a job arising from social needs. In this case translator is the expert who is assigned to provide the communication between the one who needs the translation and the source-text writer, and to fully understand the relevant text, interpret it and re-write it in the target culture with the similar communication goal. Translators and interpreters are text experts who produce texts in order to provide communication (Maenttaeri, 1984: 155). If translator regards its assignment as merely restricted to foreign language knowledge then his translations cannot go beyond language transfer. What is determinant in translation process is not the language knowledge but other factors. The translator is capable of handling the foreign language issues of the text he is assigned. The responsibility of the translator is to understand the source-text and the rest is about target-text production. There are some qualifications for the translator to be able to understand the source-text, interpret it and produce a new text with the relevant targets and functions.

When we define the qualifications of a translator, we can better understand the importance of the task he is carrying:

Broad world knowledge, culture. Translator should also have experience in specific fields. He has to have a general knowledge and culture on technique, public relations, business administration, economy, law, literature and arts.

A wide knowledge on literature and arts

An ever improving mother tongue and cultural knowledge

An ever improving foreign language and cultural knowledge

Knowledge on translation theory and methods

Ability to analyze source and target-texts, knowledge of translation strategies and terminology, ability to produce target-text and handle criticism

To have knowledge of applied translation field (Kautz, 2000: 18).

The abovementioned qualifications clearly indicate that just foreign language knowledge is not enough to perform translation task which is complicated and which requires extended experience. We can also say that language and culture knowledge are not enough to lead the translation process. A translator who is equipped with competences that can only be taught by academic education and theoretical knowledge is ready for the translation market as a professional. Translation requires expertise and it is gained through academic education. The expertise in the field cannot be obtained without academic knowledge. It is surprising that many professions such as hairdressing, cooking and repairing requires certificates of education but in Turkey translation is performed with no education at all. Translation in that sense can only be compared with engineering, law and medicine where you need to complete an academic education.

Translator is a qualified expert of communication, a conveyer of knowledge and culture and he carries social responsibility and has to be accountable. Ethics and responsibility is crucial for the profession. There is a few professions where you need to take an oath and translatorship is one of them. Translator signs a paper to guarantee the accuracy of his translation, he makes an agreement with notary and each of his translation is sealed by the notary. In publishing houses translated texts are controlled by a redactor or the editor. Even if the controllers do not have enough foreign language knowledge they can examine the translated texts with their proficiency of mother tongue and expertise with relevant texts. The controller of the interpretation is the speaker of the source-text and the audience. The speaker himself and the audience and their interaction are the keys to the control mechanism of the accuracy interpretation.

There are also some individual qualifications for a translator to perform translation task. These qualifications are as follows:

The translator should be reasonable and have the ability to analyze and assess. These qualifications are necessary in order for the translator to analyze the source-text. The translator and the interpreter can use these qualifications to make sound solutions, to keep the subject in mind and develop the subject and to foresee the expectations of the target audience.

Strong analysis ability is the precondition for creativity. Creativity is indispensible both for the translator to rewrite the target-text and for the interpreter. Such factors as individual abilities, motivation, interests, feelings and the environment where the translation is being done affect the translator's creativity. Creativity is a relative concept which changes according to different texts. Each translator can pick up a subject that is suitable for his own creativity. Curiosity, interest, stability, readiness for risk taking, being innovative rather than having a traditional approach are as important as the creativity itself. The creativity of the translator should be encouraged during education and in profession.

Intuitional experiences play important role in understanding the subject and transfer. Strong sense of intuition is important for a translator. To have such an intuition the translator has to have a good knowledge on the related subject.

For unconscious thinking and comprehension the translator should rely on his intuition, he should be able to criticize himself and his decisions consciously.

The translator can only integrate with new subject areas and the task he is doing if he has enough motivation and good world knowledge.

A wide knowledge and readiness to perceive the new one and transfer of language are indispensable for his profession as the translator and the interpreter will never come across the same subject and area of expertise. As a result he has to be open to innovations.

Translator's ability to express himself and to present arguments and his feelings are crucial for communication and communicative competence (Kautz, 2000:21-22).

4. The Importance of Responsibility and Ethics in Translation

Ethics and fidelity in translation is a sophisticated subject and is open to different approaches. What is important is that the translator does not translate word for word with goal of fidelity but he transfers the information without misconceptions and falsification. If the translator is faithful to the words of the source-text we can say that he is not faithful to the idea in general. When the translator is faithful to the message of the text rather than the words, he is usually blamed of not being faithful to the text. What is more important? The words of the source-text or the message they are conveying?

Translatorship brings about duties and responsibilities for the translator. Translator is an expert conscious of his profession and he is faithful to his task. It is important for the translator to fulfill the expectations of target audience. What determines the faithfulness and the responsibility of the translator is his faithfulness to the source-text and his ability to combine this bond of faithfulness with other factors while producing the target-text. The translator has to be equipped with academic knowledge about the possible subjects he might encounter so that he can create such a responsibility and work ethic.

Holz-Maenttaeri (1984) describes translation as an action and process where the translator fulfills specific targets in specific conditions and has a responsibility for the initiator. According to Maenttaeri the translator places his action and task in the center of all translation processes. Translator's action is goal-oriented and it is an analyzing process. In this context, faithfulness is an important concept that comes to the fore. Faithfulness in translation process is not the faithfulness to source-text or to writer but to the profession of the translator. In that sense the translator has to be faithful to the translation task he is doing. Therefore we can categorize translations into two; the first is the 'faithful translations' in which translator is faithful to the initiator, in other words to his audience and common goals of the translation and the second is the ''unfaithful translations'' where the translator is only faithful to source-text and ignores translation competence and the functions of translation. In this regard, fidelity gains a different approach than Schleiermacher's '' the spirit of the original''. It is important to convey the spirit of the writer's message rather than the spirit of the original language. When the translator follows this path he will shape the target-text according to the spirit of the initiator and the spirit of the translation.

In fidelity the translator cannot just set aside the source text writer because the most important thing here is the faithfulness of the translator to his profession, his personality and honesty. This concept of faithfulness is crucial for a healthy translation. Translator should not do a translation that he thinks is inaccurate and he should not make deliberate changes in a concept in the source-text, translator should be doing this with the consciousness of his task. Translator's responsibility and faithfulness can be named as such:

Translator should have a sense of responsibility. Sense of responsibility means discipline, reliability and punctuality. A responsible translator will correct the faults in the source-text while producing the target-text, either by talking to the writer or in some other ways.

Faithfulness and honesty is expected from the translator. Translator should be honest to the initiator, target-text audience and the source-text writer and this is not an easy task. The interpreter should be honest to his audience as well; in general the translator should be impartial.

Some translators are expected to change the idea and style of the source-text, the concept of '' customer oriented'' behavior is a complex issue. Even though sometimes translators know the subject better than the writer and can express in a better manner, translator should keep his individual thoughts to himself and should remain his ideal translator behavior. This behavior would not harm the translator's self-respect. In some extreme cases the translator has the right to expect some behaviors for himself and his work ethics. (Krşl. Kautz, 2000, 24-25).

The translator should have a balance between modesty and self-confidence; he should be confident in what he is doing and of expectations and he should rely on his own capability. If needed translator should be able to defend his work like an expert when he comes across criticism. The interpreter should not put himself in the speaker's shoes but rather stay as the mediator. It is an advantage if the translator has a healthy ego.

5. The Effects of Translation Education in Translation Market

As a profession translatorship requires a lot of qualifications; a translator should have knowledge in different fields such as economy, business administration, communication sciences, engineering, medicine, law, pharmacy, language and literature etc. The translator should have an expert-like knowledge sometimes in one or a couple of these fields. Translators working in a translation bureau can become experts in law because they are constantly comparing law system of a foreign country and theirs, they can become more equipped than a lawman as they are exposed to law all the time, they can even offer consultancy and gain expertise in law texts tradition since they are producing them continuously. It is a fact that Turkish counselors and translators in Germany, do more than translating for their Turkish clients and they represent their clients in courts, state offices and in trade affairs. For people working in abroad and seeking their rights, the translators become lawyers and counselors. Translators learn the law tradition of a foreign country and they use their knowledge and interpret law for other people. In that case people consult to translator rather than lawmen.

It is a fact that some interpretation and translation tasks are given to experts of that field such as engineers and scientists because translators do not have efficient knowledge in the field. As a result people are unsatisfied with the translation, because a translator should have undertaken the task in the first place; this unsatisfaction is a major disadvantage for translators. Translatorship has never fully acquired the respect it deserves in almost any country. In many professions the faults of the inexperienced people are easily noticeable for example if a doctor is mistaken the result is obvious or if a lawyer loses the case he can be blamed for his inefficiency even an unqualified cannot open a barbershop or bakery, but it is sad to see that even though translation affects the life, future and the culture of a society people with no qualification can easily perform a translation task. Even the publishing houses, state offices and in academic publications the situation remains the same.

As a result there is no distinction between qualified and unqualified translation and people come to the conclusion that translation is an easy task so there is no need for an expert. In translation market qualifications of a translator do not come into question at all. This tendency is the result of the inefficient number of graduates from translation and language departments. The need for qualified, professional translators is more than these departments can meet. The qualified translators are equated with unprofessional and unqualified people and as a result they do search for work in different fields; the books are translated by unqualified people and the role a translator can play in the international communication is ignored. When translators prove the value of a professional with the works they have done, they will find a chance in the market and the need for professionals will rise. This is a mutual requirement. Employers working with professional translators will see that they will have a better share in the market while the translators become more conscious that quality of their work serves to the recognition of their profession and value within the interests of the country as well.

Only in this way the public opinion about translators will change and they will widely be recognized. Professionals, who do qualified translations and fulfill the needs of their employers or somehow contribute to business connections, can change the opinion about their profession and they can also prove that translatorship is as important as medicine or law etc. Therefore translators should take this responsibility for serious. As in many business affairs translation market has a competitive environment. The rival of the translators is himself and the establishments which do not value his profession.

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THE RELATIONSHIP BETWEEN ELEMENTARY TEACHER CANDIDATES' ATTITUDES TOWARDS PROBLEM BASED LEARNING AND PROBLEM SOLVING SKILLS

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Abstract

The purpose of this research is to determine the relation between elementary teacher candidates' problem solving skills and attitudes towards problem based learning. Furthermore this research intend to determine if there is a significant difference in elementary teacher candidates' problem solving skills and the attitudes towards problem based learning according to the variables of gender and their education program, or not. The research was carried out with a total of 199 third and fourth grade teacher candidates (100 female, 99 male) from Elementary Department of Faculty of Education at Siirt University in Turkey. It was used the "*Problem Solving Inventory*" which was developed by Heppner and Peterson (1982) and translated into Turkish by Şahin, Şahin and Heppner (1993) to determine the problem-solving skills of the teacher candidates' and the "*Problem-Based Learning Attitude Scale*" which was developed by Turan and Demirel (2010) was used to determine their attitudes towards problem-based learning. In our research, it was calculated that the Cronbach alpha reliability coefficient of problem solving skills as .78 and the scale of attitudes towards problem based learning as .93. As a result of this research, the problem solving skills (M=87.91) and the attitudes towards problem based learning mean score (M=68.15) of elementary teacher candidates' were found as medium level. It was found that there is no significant and negative relation between the elementary teacher candidates' problem solving skills and attitudes towards problem based learning (r= -.54; p>0.05).

Keywords: Attitudes, problem, problem-solving skills, problem based learning;

Introduction

In our day individuals are spending their energy and most of their time on problem solving and decision making progresses because of even more complicating social structure, technological developments, political, social and economical problems. D'Zurilla (1971) determines the term problem as a situation, where the individual experiences difficulties on answering internal and external missions. According to King (1981) the term problem is a situation that leads to doubt uncertainty. Morgan (1999) claims that the problem is a conflicting situation, where the individual encounters some obstacles on the way to his target. Semerci (2001) defines the problem as a situation, which the individual is unable to solve with his present reactions. According to Karasar (2004) every situation, that disturbs the individual physically and mentally and where indecision and more than one solution exists. Accordingly, a solution requires the use of the most complicated mental skills. In other words. Problem solution is an activity made for revealing the "unknown" in a systematic and analytic way, where the start point is the "known". Heppner (1982) uses problem solving as a synonym of dealing with problems. Aksu (1998) describes problem solution as a progress of winning the difficulties encountered in the way of a purpose. Problem solution is a quite complicated progress, that covers the cognitive skills, but also affective and behavioral features. Saygılı (2000) approaches the affective factors on problem solving as; individual factors (intelligence, motivation, foreknowledge-installation, function hesitation) and sociological factors (socio-economic, level and sociological development of child, child raising applications and manners of families, physical conditions of school and class size). Problem solving is closely related to psychological harmony(Bepner & Anderson 1985), confidence (Erden & Akman, 1995), communication skills and decision

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making styles (Hunsakler and Alessandra 1980), academical and social self-respect (McCobe, Balnkstein & Mills, 1999) of the individual. The lack in problem solving skills may cause in young people to results like aggression (Dodge & Feldman 1990), behavior disorders (Joffe et. al. 1990) drug use (Platt, Scura & Hannon, 1973; Korkut, 2002). Problem solving depends on the type and complication of problem. While some problems can be solved logically, some requires emotional maturity. In order for a situation to be considered as a problem, the individual must ponder upon it and perceive it as a problem (Morgan, 1995). According to Gagne, the purpose of training programs should be to teach to students own to solve the possible problems both on their branch and on real life (Yapıcı & Yapıcı, 2006; Karataş & Güven, 2003; Çalışkan, Selçuk & Erol, 2006; Polat & Tümkaya, 2010). The education mentality of today expects from students to extract distinctive meanings from their experiences and to structure what they learned with distinctive strategies by proceeding them (Açıkgöz, 2007). Problem Based Education is an approach, that aims to have students gain the skills of learning with self-governance, independent studying, questioning and problem solving, is an approach that provides the students to self-research and learn whenever they encounter similar situations during their lifetime. This approach is based upon from real situations forming problem situations and scenarios. Learners, under the guidance and management of the teacher, learn to discover, analyze, solve the problem and to gather the required data to learn both individually and in groups. Problem Based Education plays an effective role in revealing the before learned dates of student, providing the learning to happen and obtaining the permanent data by organizing and giving meaning to the data. Teacher are the main source t help the students to improve their problem solving skills. This situation provides the students with opportunities of problem solving, and helps them to raise as good problem solvers in future. In this situation teachers' understanding, belief and approaches problem solving is important. Therefore it is believed that revealing teacher candidates' skills of problem solving and approaches problem solving is important.

Purpose of these studies is to determine teacher candidates' problem solving skills and problem based learning oriented approaches. In pursuance of this purpose answers for following questions were sought:

1. What kind of relation is there between teacher candidates' problem solving skills and problem based learning oriented approaches?
2. Is there any difference between teacher candidates' problem solving skills and problem based learning oriented approaches, based upon gender and the program they study in?

2. Method

Participants

The study was conducted in the spring of 2009-2010 academic year at Siirt University in Turkey. Participants were 199 candidates of teachers who were attending at primary class and sciences education departments in faculty of education.

Data Collection

A descriptive survey research design was used in this study. As a mean of data collection; person information forms developed by the researcher and problem solving inventory which is developed by Heppner & Petersen (1982) and adapted to Turkish by Sahin, Sahin & Heppner (1993) and the attitude scale towards problem based learning which is developed by Turan & Demirel (2010) are used. Problem solving inventory aims to measure the reactions against the problems, individuals face in lifetime how they perceive their own problem solving skills. From 35 items, attained by positive and negative formulas in the scale 32 of them are taken into evaluation. Items have answers suitable for six point gradation. Confidence in problem solving skill, self control and approach avoidance subscale take place. High points indicate how low isperception of problem solving skill (Şahin, Şahin & Heppner, 1993). The results obtained from the studies of adaptation, validity and reliability show that the scale can be used for research in spite of some restrictions (Taylan, 1990, Savaşır & Şahin 1997).

Content of the inventory is consisting of 35 items as a six pints Likert scale. Some of the items are positive while some are negative. Scale shows the scores relating to the total scores of problem solving skill perception and subscales. Given answers are scored from 1 to 6. During the scoring 9th, 22nd, 29th items are excluded; therefore scoring is made out of 32 items. Items numbers 1, 2, 3, 4, 11, 13, 14, 15, 17, 21, 25, 26, 30 and 34 are scored adversely. The range of the inventory scores is between 32 and 192. Highest scores obtained from the scale indicated that individuals percept themselves inadequate in problem solving. Oppositely if the scores are low then it is the sign of positive perception of problem solving skill. The Cronbach alpha coefficient of reliability of the original scale was calculates as .88. In this study made by us the Cronbach alpha coefficient of reliability of the scale was calculates as .78. The attitude scale towards problem based learning was developed by Turan & Özdemir (2010) and consists of 20 items in 5 points likert type. Cronbach alpha coefficient of the scale was indicated as .95. in our study, the Cronbach alpha coefficient of reliability of problem based learning attitude scale was found as .93.

Data Analysis

SPSS 16.00 statistic program is used for the analysis during the analysis arithmetic means and standard deviations of the problem solving skills and attitudes towards problem based learning level scores are calculated. t-test are applied in order to find whether the differences between the arithmetic means are relevant or not and Pearson Moment Correlation Coefficient was used. The significance levels for the statistical analyses is accepted as $p < .05$.

Results

Findings of the study that aims to determine of relationship between the problem solving skills and the attitude towards problem based learning are given below.

Table-1. Pearson Moment Correlation Coefficient results about the problem solving skills and the attitude towards problem based learning of elementary teacher candidates.

		Problem solving skills
The attitudes towards problem based learning	r	-.054
	p	.448*
	N	199

As seen in Table-1, it is determined that there is a no meaningful relation in negative direction between the problem solving skills and the attitudes towards problem based learning of the teacher candidates (r= -.054; p> .05),

Table-2. Arithmetic mean and standard deviation of teacher candidates' problem solving skills and the attitudes towards problem based learning

	N	Minimum	Maksimum	$\overline{X}$	SS
Problem solving skills	199	55.00	128.00	87.91	15.65
The attitudes towards problem based learning	199	20.00	100.00	68.15	20.64

As seen in Table-1, the mean of the teacher candidates' problem solving skills 87.91; mean of the attitudes towards problem based learning 68.15. Accordingly, it is seen that the mean of the teacher candidates' problem solving skills and the attitudes towards problem based learning are the medium level.

Table-3. t-test results of teacher candidates' problem solving skills and the attitude towards problem based learning according to gender

	Gender	N	$\overline{X}$	SS	t	p
Problem solving skills	Female	100	85.99	15.11	-1.75	.081*
	Male	99	89.85	16.02		
The attitudes towards problem based learning	Female	100	69.73	20.65	1.08	.281*
	Male	99	66.56	20.62		

* p> .05

As seen in Table-3, the mean of male teacher candidates' problem solving skills (89.85) was higher than female teacher candidates (85.99). This means female teacher candidates' problem solving skills are higher than male ones. The mean of female teacher candidates' attitudes towards problem based learning (69.73) was higher than male teacher candidates (66.56). This means of female teacher candidates' attitudes towards problem based learning was positive than male teacher candidates. It was determined that problem solving skills and attitudes towards problem based learning of the teacher candidates show no meaningful difference in the dimension of gender (p> .05).

Table-4. t-test results of teacher candidates' problem solving skills and the attitude towards problem based learning according to department

	Department	N	$\overline{X}$	SS	t	p
Problem solving skills	Elementary class	123	89.91	16.11	.862	.390*
	Elementary science	76	87.73	14.39		
The attitudes towards problem based learning	Elementary class	123	68.22	18.69	.280	.780*
	Elementary science	76	67.27	22.15		

* p> .05

As seen in Table-3, the mean of elementary class teacher candidates' problem solving skills (89.91) was higher than elementary science teacher candidates (87.73). This means elementary science teacher candidates' problem solving skills are higher than elementary class teacher candidates. The mean of elementary class teacher candidates' attitudes towards problem based learning (68.22) was higher than elementary science teacher candidates (67.27). This means of elementary class teacher candidates' attitudes towards problem based learning

was positive than the elementary science teacher candidates. It was determined that problem solving skills and the attitudes towards problem based learning of the elementary teacher candidates show no meaningful difference in the dimension of department (p> .05).

Conclusion and Discussion

In the study, no statistically meaningful relation in negative direction between teacher candidates' problem solving skills and problem based learning oriented approaches was found. In a similar study made by Serin (2004) it is indicated that there is a meaningful relation in negative direction between the problem solving skills and the approaches for the sciences of the students of Faculty of Education, while there is a statistically meaningless relation in negative direction between problem solving skills and sciences successes of the students. Kocabaş et. al. (2006) stated in a study, that there is a highly meaningful relation between the problem solving skills and the approaches for the program of Class Teaching Master Students, while there was no meaningful relation found for Doctorate Students. In our study, teachers' s and teacher candidates' skills of problem solving and their approaches to problem based education was determined as mid-level. Saracaloğlu, Yenice & Karasakaloğlu (2010) have indicated that class teacher candidates' skill level of problem solving is sufficient. İnel, Evrekli & Türkmen (2011) have stated that class teacher candidates' skill level of problem solving is high. Aslan (2007)stated that Turkish lesson teacher candidates' skill level of problem solving is sufficient. It was determined that teacher candidates' problem solving skills and problem based learning oriented approaches do not differ in regard to gender variables, that female teacher candidates' problem solving skills and problem based learning oriented approaches are higher than male ones. In similar studies, besides the studies that show there is no meaningful difference for teacher candidates' skills of problem solving in regards to the gender (Çam, 1995; Kasap, 1997; Erdem, 2001; Güven & Akyüz, 2001; Serin, 2001; Özkütük et.al., 2003), there is also some studies that contradict (Korkut, 2002). Study of different subjects might have caused to current situation. There is no statistical meaningful difference confirmed between teacher candidates' study program, problem solving skills and problem based learning oriented approaches. As conclusion, problem solving skills and approaches for problem based education of teacher candidates must be determined and time must be taken for improving the problem solving skills and problem based education oriented approaches of low level teacher candidates. If needed, training programs should be prepared in a fitting way with the purpose of improvement of problem solving skills and problem based education activities.

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THE RELATIONSHIP BETWEEN THE LEARNING STYLES OF STUDENTS AND THEIR ATTITUDES TOWARDS SOCIAL STUDIES COURSE

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Abstract

The objective of the study is to determine the relationship between the attitudes of primary school students towards social studies course and their learning styles and to put forth the change between their learning styles and attitudes towards social studies course according to their classes. Descriptive scanning model has been used in the study. The research group consists of 320 primary school students. Perceptual Learning Style Preference Survey and Attitude Scale for Social Studies Course have been used as data acquisition tools. As a result of the study, a positive and medium scale statistically significant relationship has been determined between the learning styles of students and their attitudes towards social studies course. In addition, whereas there is a statistically significant difference between the auditory kinesthetic and tactile learning styles between classes, no difference has been determined between other learning styles.

Keywords: Elementary education, social studies , learning style, attitude, grade level

Introduction

Knowing the way students think and how they learn are critical during the design and application of education systems in order to get the best output. To this end, "learning styles" stand out as an important concept. It is expected to see that knowing how individuals think and learn along with the elements that effect these processes will ease the effective learning process (Güven & Kürüm, 2006).

The concept of learning styles first put forth in 1960 by Rita Dunn has been examined many times since then and is still one of the topics that is studied (Boydak, 2006). Researchers who have put forth various models regarding learning styles have defined learning styles in different ways. Whereas Kolb (1984) who has been a resource for many studies that develop the theory of experimental learning by taking the process of learning as the basis, defines learning style as, "ways that the individual prefers in acquiring and processing information" and has explained the learning styles of individuals in four groups as divider, converter, accommodator and assimilator. Whereas Rita Dunn (1993) who has conducted long studies on learning styles has defiend it as the usage of specific ways by students when learning and remembering. According to Cesur and Fer (2009), learning style is the method that the individual has come to get used to for acquiring, processing and storing new information and skills. In other words, learning style represents the approach of the individual to the learning process and his/her general attitude. What determines style in this process is the unique style of perception of the individual and his/her interaction with the learning mediums.

Learning styles are inborn character traits. They have effects on each moment and dimension in the life of an individual. They affect individuals while walking, lying down, sitting, talking, playing, writing and individuals carry out these actions according to this trait (Boydak, 2006). Determining the learning styles of individuals and arranging their learning mediums will undoubtedly increase their success (Dunn & Dunn, 2002). Learning style is the method with which students learn best. The perception of a student, his/her relationship with other people

and the cognitive, auditory and physiological structures that affect his/her behavior define the learning style. There is no good or bad learning style. What matters is to arrange learning activities that are in accordance with the learning style of the student. If the learning styles of individuals are determined, it can be better estimated how they can learn and what kind of a learning activity should be applied. Thus, the teacher can prepare mediums that are suitable primarily for themselves and secondarily for their students (Sünbül, 2004).

The determination of learning styles is important the determination of the dimensions of learning methods that are suited to them through the use of their individual traits and to prepare proper learning mediums for them. In addition, the student who is aware of his/her learning style will be more successful and will have more self-esteem. Another factor that affects the success of students in a particular course is the attitude of the student towards that particular course. Attitudes which are defined as learned positive or negative responses towards certain objects, situations, institutions, concepts or other people (Tezbaşaran, 1998) have direct effects on the learning process and shape the future lives of individuals (Seferoğlu, 2004; Sünbül, Yağız & Arslan, 2003). The negative attitudes of students towards courses like social studies which is considered to be boring by many students can be prevented by carrying out learning style determination studies starting from the first stages of primary school while also increasing the success of students.

The concept of learning style has recently become one of the most examined research topics among studies carried out on science and mathematics education in Turkey. However, the same is not true for the area of social studies (Şeker & Yılmaz, 2011). The objective of this study was to determine the learning styles of primary school students along with the relationships between their learning styles and their attitudes towards the social studies course and to put forth the change in their attitude towards the social studies course according to their class level. In line with the objectives of the study, answers have been sought for the following questions:

1. What are the learning styles of primary school students and how are their attitudes towards the social studies course?
2. Is there a statistically significant difference between the learning styles of primary school students and their attitudes towards social studies course according to their genders?
3. Is there a statistically significant relationship between the learning styles of primary school students and their attitudes towards the social studies course?
4. Do the learning styles of primary school students significantly predict their attitudes towards the social studies course?

Method

Model of the study

Descriptive scanning model has been used in the study. Descriptive scanning is a model in which it is tried to define events, objects, institutions, groups and various areas and thus help to make them be more understood, be grouped and also to determine the relationships between them (Kaptan, 1998).

Group of the study

The study group consists of a total of 62 fourth grade, 96 fifth grade, 78 sixth grade and 84 seventh grade primary school students for a total of 320 attending primary schools within the city limits of Sakarya. 53,8 % of the participants were female whereas 46,2 % were male.

Data Collection Tools

"Perceptual Learning Style Preference Survey" and "Attitude Scale for Social Studies Course" have been used as data acquisition tools.

The "Perceptual Learning Style Preference Survey" has been developed by Reid (1987) and has been adapted into Turkish by Tabanlıoğlu (2003). The scale has a five point Likert type structure with six factors of kinesthetic, auditory, visual, tactile, individual and group learning styles with five items for each for a total of 30 items. During the adaptation study, Tabanlıoğlu (2003) has determined the internal consistency coefficient of the scale as .82, whereas in a study carried out using this scale, Bengiç (2008) has determined the reliability of the scale as .73. Whereas in this study, the internal consistency coefficient of the scale has been determined to be .87. Whereas the internal consistency coefficients for the sub-dimensions of the scale are as follows: .71 for visual learning dimension, .78 for tactile learning dimension, .62 for auditory learning dimension, .64 for kinesthetic learning dimension, .82 for individual learning dimension and .79 for group learning dimension. It can be stated that the reliability coefficients of the scale have much better values in comparison with other studies.

The learning style preferences of students can be determined by using the scoring table in the Perceptual Learning Style Preference Survey. The statement "I certainly agree" gets a score of 5, "I agree" gets a score of 4, "I am indecisive" gets a score of 3, "I don't agree" gets a score of 2 and "I certainly don't agree" gets a score of 1. After writing down the scores of the statements according to the scoring table, these values are added and the result is multiplied by two to determine the score obtained from each learning style. The primary learning style (scores of 38-50), secondary learning style (scores of 25-37) and negative learning style (scores of 0-24) preferences are determined by comparing the results with the intervals in the scoring table.

Another data acquisition tool used in the study is the five point Likert type "Attitude Scale for Social Studies Course" developed by Çalışkan (2009) including 21 positive and 12 negative attitude statementsThe scale has a four factor structure for the attitudes towards the importance, attraction, content and course activities. The internal consistency reliability coefficient of the scale is .93. Whereas the internal consistency reliability coefficient calculated from the data of this study is .89, .69 for the attraction dimension of the course and as .68 for the importance, content and activities of the course. The fact that the obtained values are smaller than those obtained by Çalışkan (2009) can be explained by the difference and variety of the age groups of the participants.

The analysis of the data

The data obtained from 4th, 5th, 6th and 7th grade primary school students using data acquisition tools were transferred to the SPSS package software. In line with the objective of the study, required statistical calculations have been made using correlation, variance analysis, t-test and regression analysis methods.

Results (Findings)

This section includes results obtained as a result of statistical analyses on the acquired data.

Table 1. The learning preferences of students and their attitude levels towards the social studies course

Learning Style Preferences/Attitude	4th class		5th class		6th class		7th class		Total	
	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S	$\overline{X}$	S
Visual	39.04	7.34	38.74	7.68	39.98	7.48	37.96	7.58	38.46	6.56
Tactile	41.42	7.86	40.82	8.30	43.46	6.06	40.60	8.30	40.28	8.60
Auditory	42.36	6.22	43.60	6.22	43.66	5.36	41.60	5.20	40.70	7.48
Kinaesthetic	42.94	6.22	43.52	4.88	44.26	5.46	42.50	6.04	41.40	7.10
Individual Learning	35.32	9.86	35.20	10.30	36.60	9.22	35.34	8.88	33.92	11.34
Group Learning	38.52	8.52	37.34	8.20	39.10	8.38	37.36	8.50	39.82	8.80
Attitude	3.92	.51	4.11	.56	3.92	.48	3.74	.59	3.93	.55

When Table 1 is examined, it is seen that the primary learning style preferences of students are comprised of kinesthetic (41.40), auditory (40.70), tactile (40.28), visual (38.46) and group (39.82) learning styles; whereas the secondary learning style preferences are comprised only of individual learning style (33.92) and that there is no negative learning style. When this is evaluated in terms of class levels, it is observed that 5th grade (37.34) and 7th grade (37.36) students show similarities – apart from the fact that they prefer group learning style as the secondary learning style.

It is seen from the same table that the average attitude levels towards the social studies course of the students is 3.93; that the highest average among the classes is that of the 5th grade (4.11), the lowest average is that of the 7th grade (3.74) and that the 4th and 5th grades have the same average (3.92).

Table 2. T-test results of the learning style preferences of students and their attitude levels towards the social studies course according to gender

Learning Style Preferences/Attitude	Gender	N	$\bar{X}$	S	df	t	p
Visual	Famale	172	39.32	6.70	318	.710	.48
	Male	148	38.72	8.02			
Tactile	Famale	172	42.86	6.78	318	3.59	.00
	Male	148	39.74	8.68			
Auditory	Famale	172	43.04	5.42	318	2.10	.04
	Male	148	41.58	6.98			
Kinaesthetic	Famale	172	43.30	6.14	318	1.12	.26
	Male	148	42.52	6.32			
Individual Learning	Famale	172	35.84	5.52	318	1.01	.31
	Male	148	34.72	10.44			
Group Learning	Famale	172	38.30	8.48	318	.51	.61
	Male	148	38.78	8.58			
Attitude	Famale	172	4.01	.55	318	2.95	.00
	Male	148	3.83	.55			

When Table 2. is examined, it is seen that the tactual [$t_{(318)}$=3.59, p<.05] and auditory [$t_{(318)}$=2.10, p<.05] learning styles and the attitude levels towards the social studies course [$t_{(318)}$=2.95, p<.05] of students differ significantly according to gender in favor of females; whereas there is no difference for the other learning styles [p>.05].

Table 3. The correlation values between the learning style preferences and attitude levels towards the social studies course of students

Learning Style	4th class	5th class	6th class	7th class	Total

Preferences	r	p	r	p	r	p	r	p	r	p
Visual	.20	.12	.15	.16	.42	.00	.26	.02	.26	.00
Tactile	.28	.03	.43	.00	.31	.01	.09	.40	.28	.00
Auditory	.43	.00	.36	.00	.39	.00	.37	.00	.40	.00
Kinaesthetic	.19	.15	.36	.00	.23	.04	.05	.66	.23	.00
Individual Learning	-.05	.70	.10	.32	.20	.08	.24	.03	.16	.01
Group Learning	-.04	.75	.21	.04	.18	.11	-.09	.44	.06	.06

When Table 3 is examined, it is seen that there is a positive correlation between all learning styles and attitude levels towards the social studies course of primary school students except for group learning style, that there is a significant but medium relation between auditory learning style and a low but significant relation between other learning styles [p<.05]; whereas there is no relationship between group learning style and attitude levels towards the social studies course.

Table 4. Regression analysis results for the prediction of the attitude levels towards the social studies course of students by their learning style preferences

Grade Level	Learning Style Preferences	B	Std. Error	Beta	t	p
4th class	Visual	.88	.56	.20	1.58	.12
	Tactile	1.14	.51	.28	2.25	.03
	Auditory	2.36	.63	.43	3.73	.00
	Kinaesthetic	1.08	.73	.19	1.48	.15
	Individual Learning	- .17	.42	- .05	- .39	.70
	Group Learning	-. 17	.53	- .04	- .33	.75

R = .55   R2 = .30   F = 3.97   p < .05

Grade Level	Learning Style Preferences	B	Std. Error	Beta	t	p
5th class	Visual	.71	.50	.15	1.42	.16
	Tactile	2.59	.57	.43	4.57	.00
	Auditory	2.43	.66	.36	3.68	.00
	Kinaesthetic	2.43	.65	.36	3.75	.00
	Individual Learning	.41	.41	.10	1.00	.32
	Group Learning	.92	.44	.21	2.08	.04

R = .51   R2 = .26   F = 5.07   p< .05

Grade Level	Learning Style Preferences	B	Std. Error	Beta	t	p
6th class	Visual	1.74	.44	.42	3.99	.00
	Tactile	1.16	.42	.31	2.79	.01
	Auditory	2.35	.65	.39	3.63	.00
	Kinaesthetic	1.20	.59	.23	2.05	.04
	Individual Learning	.71	.40	.20	1.76	.08
	Group Learning	.68	.42	.18	1.62	.11

R = .48	R2 = .23	F = 3.50	p < .05			

7th class	Visual	1.52	.63	.26	2.40	.02
	Tactile	.43	.50	.09	.85	.40
	Auditory	1.92	.53	.37	3.60	.00
	Kinaesthetic	.27	.61	.05	.45	.66
	Individual Learning	.81	.37	.24	2.20	.03
	Group Learning	- .38	.49	- .09	- .77	.44

R = .43	R2 = .18	F = 2.88	p < .05			

Total	Visual	1.27	.27	.26	4.69	.00
	Tactile	1.32	.25	.28	5.29	.00
	Auditory	2.36	.30	.40	7.83	.00
	Kinaesthetic	1.35	.32	.23	4.22	.00
	Individual Learning	.57	.20	.16	2.80	.01
	Group Learning	.27	.24	.06	1.12	.26

R = .42	R2 = .18	F = 11.23	p < .05			

When Table 4 is examined, it is seen that the learning styles of primary school students is an important variable in the prediction of the attitude levels towards the social studies course [R=.41, R^2=.18, F=11.23, p<.05] and that the learning styles explain 18 % of the variance regarding the attitude levels towards the social studies course. When this result is evaluated in terms of classes separately, it is seen that the result for 4th grade is [R=.55, R^2=.30, F=3.97, p<.05], for 5th grade is [R=.51, R^2=.26, F=5.09, p<.05], for 6th grade is [R=.48, R^2=.23, F=3.50, p<.05] and for 7th grade is [R=.43, R^2=.18, F=2.88, p<.05] giving similar results.

Discussion and Conclusion

As a result of the study, it has been determined that the primary learning style preferences of students consists of kinesthetic, auditory, visual, tactile and group learning styles; whereas the secondary learning style preferences consist only of individual learning style; and that there are no negative learning styles. The results obtained are in accordance with the study results of Bengiç (2008) except for the fact that the visual and group learning styles have come up to be secondary. When this is evaluated in terms of classes, a high level of similarity has been determined between the 5th and 7th grades apart from the fact that they prefer group learning style as a secondary style. When the relationship between having different learning styles and learning (Kolb, 1984) is considered, it can be stated that it is very important for many learning styles to be in the primary

category and that students have no negative learning style. The results of this study and the study carried out by Tabanlıoğlu (2003) in which it has been stated that the primary learning styles of students are individual and auditory and that there is no secondary learning style but that all the other learning styles create the negative learning styles conflict with each other. This result can be explained by the difference and smallness of the sample group of Tabanlıoğlu (2003). In addition, the study results also do not overlap with those of Kaya (2007) and Biçer (2010). This difference between the study results can be explained by the fact that learning styles of students are an inner structure that develops until the age of 16 (Kolb, 1984).

It has been determined that the attitudes towards the social studies course of primary school students is at the level of "I agree". In many studies (Özkal, Güngör & Çetingöz, 2004; Tay & Tay, 2006; Sidekli, 2010; Kaya & Şeker, 2011; Coşkun & Samancı, 2011) it has been put forth that the attitude levels towards the social studies course of students is positive and high. It has been determined that in terms of classes, the highest attitude is that of the 5th grades ("I totally agree" level) and that the lowest attitude is that of the 7th grades ("I agree" level). This can be explained by getting used to the lesson and the course intensity. Because it can be stated that the attitude levels of students decrease towards this course that they first got in the 4th grade and got used to in the 5th grade decreases due to a more comprehensive content and abstract topics (especially in the 7th grade). In addition, many studies carried out regarding the attitude levels towards the social studies course of students (Corbin, 1997; Moroz & Baker, 1997; Özkal, Güngör & Çetingöz, 2004; Uzun, 2006) put forth that as the learning level progresses, the attitude of the students towards the course tends to decrease.

Whereas important significant differences are found in terms gender for both the auditory and tactile learning styles in favor of females, no statistically significant difference has been determined for other learning styles (kinesthetic, visual, individual and group). This result is parallel with the result obtained by Reid (1987) and Tabanlıoğlu (2003) stating that females prefer tactile learning more than males. In the study carried out by Bengiç (2008), gender based differences have been determined among learning styles except for tactile and audio auditory learning styles. The results about the differentiation of learning style preferences based on gender have also been obtained by Matthews (1994), Matthews (1996), Smith (2001), Honigsfeld and Dunn (2003), Güven (2004) and Yenilmez and Çakır (2005). The differentiation in the learning styles of students based on gender can be explained by the opinion of Kolb (1984) that the differences between social life and experiences may cause learning style differences for individuals, that is with individual differences. In addition, there are also results showing that learning style does not differ according to gender (Gencel, 2006; Kaya, 2007).

A statistically significant difference in favor of females has been determined regarding the gender of students and their attitude levels towards the social studies course. In various studies in literature (Corbin, 1996; Özkal, Güngör & Çetingöz, 2004;), it has been determined that the attitudes of female students are more positive in comparison with that of the males. However, there are also conflicting results obtained by various studies that examine the relationship between gender and the attitude levels towards the social studies course. For instance the studies carried out by Çalışkan and Turan (2010), Gencel (2008), Güven (2008) and Şahin, Şahin and Çakır (2001), no statistically significant difference has been determined between the attitude levels towards the social studies course for males and females.

According to another result of the study, it has been determined that there is a positive and moderate significance between the learning styles of students and their attitude levels towards the social studies course. In addition, a moderate and positive relationship has been determined between the auditory learning style preference and their attitude levels towards the social studies course; positive relationships have been determined between kinesthetic, tactile, visual and individual learning styles and it has also been determined that there is no statistically significant difference between the group learning style preferences. Accordingly, it can be stated that students that prefer auditory learning primarily and those that prefer kinesthetic, tactile, visual and individual learning styles are more inclined to social studies. Even though the results of the study are in paralle with those of Güven (2008)'s findings, it is in conflict with the result of Azizoğlu and Çetin (2009) that learning styles do not affect the attitude of students towards studies course. The reason for this conflict can be stated as the difference between the study groups and the courses.

It has been determined that the learning style preferences of primary school students are significant variables in both predicting the attitudes of students towards social studies course both in general and for class levels. It has been determined that especially the auditory learning style preferences has the highest positive affect on the prediction of the attitude levels towards the social studies course in all class levels (4th, 5th, 6th and 7th) and that in general tactile, visual, kinesthetic and group learning styles follow it and that the group learning style preference is not a statistically significant variable for the prediction of the attitude level towards the social studies course. Since education given in accordance with the learning styles affect the attitude levels towards the course (White, 1999), trainings that will be given during the learning-teaching stages keeping in mind the learning styles of students will increase the attitude levels towards the course and hence the success of the students.

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THE ROLE OF HISTORY-THEMED NON-EDUCATIONAL COMPUTER GAMES ON PRIMARY SCHOOL CHILDREN' (AT GRADES 6TH, 7TH AND 8TH) PERCEPTIONS OF HISTORY

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Abstract

As it is known, the computer games are occupying a large part of children's daily life. In this study, we primarily aimed to put a framework based on the gender variable, and additionally how many hours a day children spend on computer games, which historical games they play and how their attitudes are towards these games.

The main purpose of the study is to understand the role of the history-themed non-educational computer games on elementary students' perceptions of history. Participants of the study are primary school children at grades 6th, 7th and 8th, who attend the Information Technologies course in the academic year of 2011-2012. The data collected from the participants is analyzed quantitatively.

As a result, the role of history-themed non-educational computer games on students' perceptions of history is interpreted in terms of positive and negative aspects and suggestions are made regarding how these games could be adapted to history education in primary years.

Keywords: Perception of history, non-educational computer games, history themed computer games, education

Introduction

Today, the computer games have become an important part of children's daily lives. However, on the other part, most of the educators and parents generally believe in that the non-educational computer games waste the time of children ineffectively and uselessly (Garris, Ahlers, and Driskell, 2002). And even, the non-educational computer games are thought to teach many harmful concepts such as "killing" etc. (Prensky, 2002). However beyond these prejudices, today, the power of computer games on children is discovered and special games are designed for educational purposes and also, these games are integrated to the academic lives of children effectively (Tüzün, 2006). Especially in the field of Mathematics, and English, the power of computer games is quite evident (Demirbilek andYücel, 2011). However, these computer games, which are planned and designed as a part of education, do not lead any decrease on children's interest towards the non-educational computer games and therefore, the non-educational computer games continue to take part in daily lives of children.

In this respect the aim of the study is to demonstrate; the role of the history-themed non-educational computer games on perceptions of history of primary school children at grades 6th, 7th and 8th, and to discuss the beneficial and harmful aspects of the non-educational games.

To reach this purpose, primarily we tried to draw the general outline of the situation by determining which computer games in general and historical games in special do the students prefer to play, how much of their time do they spend on non-educational computer games. Following that, how their attitudes towards these games are, what the role of playing these history-themed non-educational games on the history perceptions of students in terms of preference to visit historical places and having an opinion of being knowledgeable on history when they see movies or documentaries on TV etc. is determined.

In conclusion, in the light of emerging data the role of history-themed non-educational computer games on students' perceptions of history is interpreted in terms of positive and negative aspects and suggestions are made

regarding how these games could be adapted to history education in the future. In that way, this study is expected to be informative for both education specialists and computer game designers.

Method

Sample

The sample is consisted of 102 female (46.6 %), 117 male (53.4 %) in total 219 primary school children and the mean age of the sample is M=13.15 with standard deviation of SD=.97. The participants of the study attend to 6th (36.5 %), 7th (12.3 %), or 8th (46.1 %), grade levels (11 participants (5%) did not state the grade level) of a local primary school in Istanbul in 2011-2012 academic year.

Measures

A *demographic information form* and *a 11 items questionnaire* designed by the researcher, in order to gain information on the participants' computer usage, computer game and history themed non-educational computer games preferences, is applied.

Procedure

In the study the participants are applied the measure in the 2011-2012 academic year spring semester. The data collected online during the *Information Technologies Course* the students attend. Statistical analyses are applied after the data collection phase.

Results

In this part, the statistical analyses related to the data gathered by means of the measures are reported. The mean and standard deviation of daily computer usage length of the sample are M= 2.55 hours, SD= 1.20 hour. When the students asked for the usual rivals in the games they play, they reported playing against computer (59.4 %), unknown online players (20.1 %), or a group of friend in the same internet cafe (16.9 %). Three point seven percent of the participants left this question unanswered.

The sample is also questioned on what would be their reaction whether their computer usage in terms of games is rectricted. Besides, the results revealed that although 21% of the participants reported being *restless and unhappy*, 33.4 % of them stated *less unhapiness but a bit miss of the game* and most of the students (44.7 %) reported *feeling nothing against being restricted*.

When the students asked to report the computer games they play it is found that sports games like FIFA and war games like Call of Duty, which is about the Second World War, are very popular among the students. In addition Super Mario and Metin 2 seem very popular. On the otherhand, when we asked specifically which history-themed games they play, the students mentioned the following games; Assasin's Creed, Call of Duty and similar war themed games, Age of Mythology and Age of Empires.

As for the statistics related to the students computer game and history-themed non-educational computer game preferences, the results are as follows. There is a significant relationship between gender and students preference to play history-themed non-educational computer games (X^2 (1)= 12.374, p<.005). The male students are more likely to play history-themed non-educational computer games than do females.

Aside from the finding related to gender, students who reported to play history-themed non-educational computer games also found to be more enthausiastic to visit museums or other historical places (X^2 (1)= 15.241,

p<.005). Additionally, they reported an opinion of being knowledgable on history when they see movies or documentaries on TV(X^2 (1)= 15.241, p<.005). These students more likely to think that these games assist to improve students' knowledge on history (X^2 (1)= 20.448, p<.005).

A remarkable finding of the study is related to truthfulness of the knowledge given in these games. That is the truthfulness of the historical knowledge given in these non-educational computer games is found to be important for both the group of students who either play these games or not (X^2 (2)= 6.463, p>.005). That is the chi-square test failed to indicate a significant difference between these two groups of students.

Discussion

The existing literature about the non-educational computer games generally focuses on the hazardous effects of the games such as being time consuming and involving killing, violence (Anderson and Bushman, 2001; Bartholow and Anderson, 2002; Gentile, Lynch, Linder and Walsh, 2004) and on the other hand it usually overlooks the beneficial aspects of these games.

Firstly we can easily say that today the computer games are one of the most popular media tools. Then what makes them so popular? Being in competition and in challenge are stimulating for the players and thus computer games easily attract the players and makes them dependent to itself (Worderer, Bryant, Pieper and Weber, 2009). In the same line with this, in our survey we found out that children spend average 2.5 hours a day in playing computer games.

Starting from this point, we should move on by the assumption that computer games consists an inseparable part of children's daily life. In accordance, it should be stated that non-educational computer games similar to TV or Internet, which are also easily reached information sources. Then the idea comes to mind that these games could become effective tools for teaching because of their covered effects on learning. In this respect, Gee (2004) makes an important comment by mentioning the similarities between computer games and education: "You cannot play a game if you cannot learn it. If noone play a game, it does not sell. Of course, designers could keep making the games shorter and simpler to facilitate learning. That's often what schools do."

Therefore, by taking these similarities in consideration, computer games can be utilized in education depending on their features as attracting attention and interest, and they can also be used for supplying true historical information related to their subject matters. Supporting this point of view, it is reported that computer games are more effective in learning than oral instruction alone and the resistance of the knowledge is higher in the case of computer games (Kavaklı, Akça, Thorne, 2004).

In our study, students are asked which computer games they play, in relation to that question they reported generally preferring sports, war and action games. As for the history-themed ones, they mostly play games such as Call of Duty, Age of Empires, Age of Mythology, Assasin's Creed. These games main themes are war and action. By playing these games the students stated that they gain knowledge on Mesopotamia, Rome, Eastern Culture, Byzantium, Ottoman and Silk Road. It is obvious that the themes students choose to play and the history-themed non-educational games overlaps in terms of being action and war oriented. This junction also leads us to think that non-educational games can be integrated to history education.

Besides, as for the students history themed non-educational game preferences, we distinguished that they play games which take place in the civilizations existed in Anatolia or near districts in history. This preference of children could also be utilized in designing an effective history curriculum, which is supported by use of computer games.

Overall, the analyses of the present study paint a picture of the roles of the non-educational computer games on student's perceptions of history. Accordingly, the male students are more likely to play history themed non-educational computer games than do females. And the students who reported to play history themed non-educational computer games also found to be more enthusiastic to visit museums or other historical places. Additionally, they reported an opinion of being knowledgeable on history when they see movies or

documentaries on likely to think that these games assist to improve students' knowledge on history. And the most remarkable result of the truthfulness of the historical knowledge given in these non-educational computer games is found to be important for both the group of students who either play these games or not.

These findings can be interpreted in a way that the students are tend to accept the historical themes and characters as real. This tendency could be assumed as a power in terms of curriculum design, which is supported by computer games. That is the students are ready to learn history when the subject matter is presented in an enjoyable and attractive way. In doing so, the game designers could design games, which are away from racist perspectives, but instead supplying a historical understanding, which stand on realities, and designed in an entertaining fashion. In this respect, the game designers, educators and historians should cooperate in order to produce non-educational but historically real games. So the students could have a chance to learn history in a daily and enjoyable activity. Additionally, teachers should monitor their students' computer game preferences and by doing so they may manipulate the interest and curiosity of the students in history. In accordance with that they can arrange visits to museums and other historical places related to the ancient civilizations taking part in the games.

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THE ROLE OF IDIOMATIC EXPRESSIONS IN TEACHING LANGUAGES AND CULTURES AS PART OF A MULTILINGUAL APPROACH

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Abstract

This research aims to examine "*The role of idiomatic expressions in teaching languages and cultures as a part of a multilingual approach*" enlightening common idioms with the same meanings of different cultural aspects in class of French, English and Turkish. In this research, we tried to gather expressions in three different languages; French, English and Turkish on three feelings universal; "love, fright and sadness" which they can use in a class of language of secondary education (11-13 age) to benefit from multilingualism. Thanks to this research our learner may discover idioms with cultural differences about the same feelings.

ords: Idiomatic, language teaching, multilingual approach, motivation, interactive learning

Introduction

The purpose of this study, examining which cultural elements are used in Turkish, French, and English in expressing three feelings peculiar to humans making use of the meanings of idioms that are an important part of oral and written culture, is to build a cultural bridge in foreign language teaching to be used by secondary school students for conveying their knowledge of grammar into their lives by comparing the idioms used by three different languages through analogy.

According to Aksan (A. Doğan, 1998), idioms – if not taken or adopted from another nation as a result of cultural relations with it – are words that reflect the world view of a nation that speaks a language, its lifestyle, environmental conditions, customs and beliefs, the assets and concepts it gives importance, briefly its material and spiritual culture; displays the way that nation thinks, even its jokes and inventions, and these words are important from the aspects of literature and folklore, as well as linguistics. Besides, these elements reflect the inner structure and semantic features of each language.

Thanks to these features, the idioms constitute the distinctive, unique aspect of each language; they show the way a language expresses and understands the facts. Linguists and folklorists can analyze the whole culture of a society, and make important deductions depending solely on idioms.

On the other hand, it has been emphasized in Common European Criteria accepted by the European Council in recent years that in order to be competent in a language one has to know about the uses of that language as well as the formal features of it. Learning a language requires to learn about the social and cultural characteristics about the nation speaking that language. Considered within the scope of the relation between language and culture, it is an obvious fact that a person learning another language besides his mother tongue also learns the culture of that society which speaks that language. If idioms, the cultural heritage of languages, are

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considered as the reflections of culture in a language, then it would be clearly understood how important is using idioms and proverbs in foreign language teaching.

In this study multilingualism was taken as the basis and the role of idioms in teaching different cultures and languages was analyzed in the light of concrete activity samples from lessons. In order not to get lost among the abundance of idioms and arouse interest in students, idioms about fear, sadness, and love which are frequently seen in the daily life of every society were used in three different languages, Turkish, English, and French. It was especially paid attention that the chosen idioms have cultural differences. For example a person who falls in love frequently is called "*Ayran Gönüllü Olmak*" [to have a heart of "ayran"], while the same idiom is expressed like "to have a heart of artichoke" in French. Another example is "*Dara Düşmek*" [to have trouble] which is an idiom used for someone that is in deep sorrow, while its French equivalent is "to drown is sorrow" and English equivalent is "to get in a jam," all having cultural differences.

Learning the cultural differences that are reflected on the called idioms facilitates learning the target language to a great extent and enables the student to use that language fluently. It would be useful to mention the semantic features of idioms before analyzing their cultural features.

1. Idioms and their semantic features

Aksoy (1988) defines idioms, which are used for expressing the traces, subtleties, and cultural nuances of a language in an agreeable way, as "clichéd word groups or sentences comprised of words that express the concepts, and situations with a pleasant narrative or a special structure or within a syntax, and usually have a meaning other than their literal meanings in linguistics. Idioms, which are a kind of language expression made of two or more words, are linguistic structures that look like nouns, adjectives, adverbs, or combined verbs that express the feelings and ideas in an interesting way."

Idioms, which carry the traces of a certain cultural heritage and experiences of a society, generally have a specific meaning other than their literal meanings. Therefore they may not seem meaningful when translated into another language. For instance, the idiom "*Battre le briquet*" used frequently in French is translated into Turkish as "*Çakmağı yakmak*"[Burning the lighter] and does not have a special meaning. Yet in French it means "To like someone, to have a crush on someone." Another example is the translation of a frequently used English idiom "*get in a jam*" into Turkish as "Kavanozun içine girmek" [Getting into a jar]. However, its idiomatic equivalent is "*Dara düşmek*" [Having trouble].

While the idioms might have special meanings due to cultural differences, the same objects are used in some idioms to convey some universal feelings. For example, "*Kalp kırmak*" which is used very commonly in Turkish among the idioms that express sadness is used as "*Briser le cœur*" in French and "*Break a heart*" in English, employing the same verb "*kırmak*" [to break] and the same object "*kalp*" [heart] in three languages.

As mentioned above, the students' knowing the semantic features of idioms are very important for cultural education in foreign language or mother language. Because as Delisle (2001) emphasizes, it is not enough to know grammar and vocabulary for the efficient use of mother language or foreign language. The important thing is to be aware about the idioms and special uses in that language.

2. Idioms and their cultural features

It is a well-known fact that speaking a foreign language and mother language cannot be possible only by knowing the grammar rules by heart. Grammar only enables us to combine the right words and sentences structurally. However, the idioms learned during language teaching-learning process enables learning the culture of the target language being learned.

A feeling or idea that we want to express by idioms is provided with the peculiar cultural indicators of each language. For example, when we are afraid of something we use the idiom "*Tüyleri diken diken olmak*" in

many situations in Turkish. Her the indicator "diken" [thorn] is inspired from the flora structure of Anatolia. Because your skin swells when a thorn pricks your arm. This means, the swellings that occur on your arms as a result of sudden fear or excitement are likened to a thorn prick. The same idiom occurred in France using "chicken meat" indicator, "*Avoir la chaire de poule*"; and in England using "goose feather" indicator, "*To have goose pimples.*" The reason for the chicken indicator to be used in France stems from the fact that chicken is widely consumed in that country, and the goose feather indicator to be used in England stems from the fact that beds and quilts are made of goose feather. As a result, knowing the cultural features and specific meanings of idioms facilitates communicating in target language to a great extent. Reflecting the similar and different uses of idioms in the target language planned to be taught and mother language over foreign language teaching creates cultural awareness and providers learners the opportunity to make comparisons between cultures.

On the other hand, students who have received language teaching with the classical language method, grammar-translation method, are only successful in tests and exams but unfortunately have problems in speaking and oral expression. The language learned by students through a grammar focused approach is not only comprised of grammar rules but also the idioms, which are parts of effective communication in daily life, are widely used.

In this article, idioms which are used frequently, arouse interest, and support inquiry-based education in the teaching of French, and English as foreign languages, and Turkish as the mother language were chosen. The idioms were chosen among samples that express universal feelings like "fear, sadness, an love." Both the general meanings and specific meanings of the called idioms were tried to be explained in a table in English-Turkish and French-Turkish comparison, in order to convey the cultural differences between them to students in a better way. The idioms chosen are mentioned in the tables below (Kelly, 1974).

Table-1 English Idioms about "love, sadness, and fear"

English idioms about LOVE	Turkish Translation	Equivalent
1. Fall in love at first sight	İlk görüşte aşka düşmek	Yıldırım aşkı olmak [to be struck by a thunderbolt]
2. Carry a torch for someone	Birisi için meşale taşımak	Abayı yakmak
3. Fall in love	Aşka düşmek	Âşık olmak [to fall in love]
4. Have a crush on someone	Bir çarpışmaya sahip olmak	Abayı yakmak
5. To be fickle	Vefasız/karasız olmak	Ayran gönüllü olmak

English idioms about SADNESS	Turkish Translation	Equivalent
1. Be in blue funk	Mavi bunalım	Melankolik [melancholic]

2. Be down in the mouth	Ağız altında olmak	Karadeniz de gemileri batmak [sink one's ships in the Black Sea]
3. Break a heart	Kalp kırmak	Kalp kırmak
4. Get in a jam	Kavanoza girmek	Dara düşmek
5. Cry one's heart out	Birinin kalbinin ağlaması	İki gözü iki çeşme ağlamak

English idioms about FEAR	Turkish Translation	Equivalent
1. Curl somebody's toes	Birinin ayak parmaklarını bükmek	Korkudan Tüyleri diken diken olmak [(hair) to stand on end]
2. Curl up in a ball	Topun içinde bükülmek	Korkudan ölmek [to die of fear]
3. Turn as white" as chalk	Beyaz tebeşire dönmek	Beti benzi atmak [to have white skin]
4. To be chicken-hearted	Tavuk kalpli olmak	Gölgesinden korkmak [to be afraid of own shadow]
5. Scare someone out of their wits	Birinin korkudan aklını çıkarmak	Dişleri titremek [to have one's teeth chatter].

When we translate the idioms at the table above into Turkish in their general and specific meanings, a majority of them reveals cultural differences stemming from the English language. These cultural differences attract the attention of students and lead them to inquire. For example, when somebody cries hardly, we use the idiom "*İki gözü, iki çeşme ağlamak*" in Turkish and its English equivalent is "*Cry one's heart out.*" In the Turkish idiom, the severity of crying is likened to "water flowing down a fountain" which is used commonly in Anatolia. Fountain is an important part of the Anatolian culture. However, the same situation is expressed with a different object in English. The reason for this is the lack of "fountain" culture in England or America.

While there are cultural differences between idioms of different languages, some idioms have cultural similarities. In these idioms, the same feeling and object is used in all languages. For example, the idiom "*kalp kırmak*" [break a heart] which is used in Turkish for making someone sad is made of using the same object, heart, and the same verb, break, in English "*Break a heart*" and in French "*Briser le cœur.*"

Another example is the use of "aba," a type of fabric, and the verb "yakmak" [to burn] in Turkish used for expressing the situation of falling in love with someone. In French, the equivalent idiom is "***Battre le briquet***" involving "lighter used for starting a fire" as the object, and "to light" meaning start a fire as the verb. The idiom "***abayı yakmak***" comes from the old times when the dervishes used to burn the woolen vests called "aba" during religious conversations taking place in winter nights. The dervish is so fascinated by spiritual conversation that he longer feels the hot fire, he has burnt his aba. Later on, this feeling was identified with love and began to be used as falling in love.

Table-2 French Idioms about "love, sadness and fear"

French idioms about LOVE	Turkish Translation	Equivalent
1. Avoir un coup de foudre	Yıldırım darbesine sahip olmak	Yıldırım aşkı olmak [to be struck by a thunderbolt]
2. Battre le briquette	Çakmağı çakmak	Abayı yakmak
3. Tomber amoureux de quel qu'un	Birisine aşık düşmek	Aşık olmak [to fall in love]
4. Croquer la pomme	Elmayı yemek	Abayı yakmak
5. Avoir un cœur d'artichaut	Enginar kalpli olmak	Ayran gönüllü olmak

French idioms about SADNESS	Turkish Translation	Equivalent
1. Avoir le cafard	Hamam böceğine sahip olmak [to have a cockroach]	Melankolik [melancholic]
2. Se baigner dans la tristesse	Üzüntüde yüzmek [to swim in sorrow]	Karadeniz de gemileri batmak [sink one's ships in the Black Sea]
3. Briser le cœur	Kalp kırmak [to break a heart]	Kalp kırmak
4. Etre dans la purée	Pürenin içinde olmak [to be in the puree]	Dara düşmek
5. Se mettre à pleurer gros de l'eau	İri sularla ağlamak [to cry with large water]	İki gözü iki çeşme ağlamak

French idioms about FEAR	Turkish Translation	Equivalent
1. Avoir la chair de poule	Tavuk etine sahip olmak [to have chicken skin]	Korkudan Tüyleri diken diken olmak [(hair) to stand on end]
2. Attraper la chienne	Köpeği yakalamak [to catch the dog]	Korkudan ölmek [to die of fear]
3. Avoir une peur bleue	Mavi bir korkuya sahip olmak [to have a blue fear]	Beti benzi atmak [to have white skin]
4. Etre une poule mouillée	Islanmış bir tavuk olmak [to be a wet chicken]	Gölgesinden korkmak [to be afraid of own shadow]
5. Trembler comme une feuille	Yaprak gibi titremek [to shake like a leaf]	Dişleri titremek [to have one's teeth chatter].

3. Multilingual approach

Franz-Jospeh Messner, the most important figure of multilingual approach in Germany, defines multilingual approach as "a pedagogical purpose for teaching European Union citizens more than one living languages and having them acquire a multilingual identity" in his book titled "EuroComRom" (Meiβner et al. 2004:135).

In his article titled "Teaching French and multilingual approach" Meißner (2002:17) suggest that "the concept of multilingualism appeared in 1995 and is a language teaching approach that is still in progress."

The notion of language teaching in Europe has shifted towards "multilingualism" especially in recent years. The European Union which involves people from different languages and cultures requires the individuals to learn at least two of the modern European languages. Therefore, the most important concern of modern linguists is to develop the most effective learning methods that can teach learners more than one language.

As Ağıldere (2011) states it's an inevitable truth taht a language can't be learnt indepently without teaching and learning idioms which arae parts of the cultures with which they belong to. In this context, "The Eupean Framework of Language Portfolio, which is very important in the name of learning and teaching a foreing language, emphasizes that people who can use the oral and written language effectively have enough knowledge of idioms an vocabulary. For this reason, recent linguists try to develop effective methods in teaching foreing languages.

3.1. Idioms within the Scope of Multilingual Approach

Since secondary school students (12-14 age group), which constitute the basis of this article, absorb knowledge like a sponge, there are no limits to the number of languages they can learn and they are of the age

group that can yield the best results in multilingual approach. Therefore, the language teaching approach of many private schools in Turkey should focus on "Multilingual Approach."

It a well-known fact that foreign language teaching brings in the cultural features of the target language. For example, a student who learns Turkish also learns about the Turkish hospitality, tea drinking ceremony, Turkish customs, Turkish festivals, and many cultural values that are specific to Turkey indirectly through language learning. A person who learns English also learns about the English breakfast, Halloween, or five o'clock tea. Or someone who learns French also learns about eating croissants at breakfast, the wine culture, cooking crepes, or French festivals.

According to Richard and Rodgers (2001), an efficient idiom teaching process should involve activities that enable the students to identify the idioms in and out of the classroom by themselves. Therefore, it was planned in this study to make the students prepare an idiom poster and thus they were offered the opportunity to examine the idioms, and comprehend their meanings better outside the classroom. In this study, language and culture teaching was applied in the classroom atmosphere through developing a different course material. Firstly, two different classes were chosen for the activity. One class is given French idioms about love, fear and sadness, and their Turkish meanings; the other is given English idioms about love, fear, and sadness. The students were required to work in small groups. First, only the idioms were given to these groups and they were required to translate them into Turkish. After that, the literal meanings of the idioms were written on one side of the board, and figurative meanings were written on the other side. The students then drew the literal and figurative meanings of idioms on paper. Then these pictures were drawn together with their Turkish meanings as seen below. For example, the French idiom "Avoir la chair de poule" was first drawn with its literal meaning "to have a chicken's skin" and then its figurative meaning "hair stand on end because of fear" was drawn next to it. Thus, the students were able to see how the same idiom was expressed with different objects.
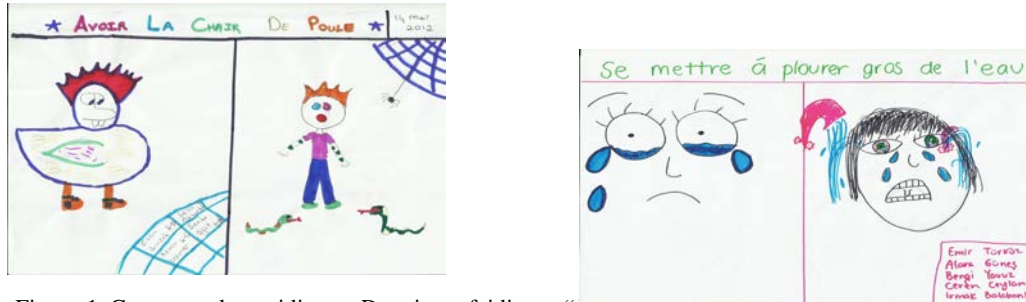
Figure-1 Group work on idioms. Drawing of idioms "Korkudan tüyleri diken diken olmak and iki gözü iki çeşme ağlamak" together with their French translations.

This activity revealed that multilingual approach was used very effectively in the classroom and the students made interlingual transfer. The fact that visuality was attached great importance ensured that the idioms are learned with a lasting effect and the new vocabulary is also learned with the same effect. Besides, students' learning new cultural differences in foreign languages reinforced their desire for communicating in the foreign language, and decreased their fear of not being able to understand a foreigner.

Figure-2 Group work on idioms. Drawing of idioms "*Melankolik and Korkudan beti benzi atmak*" together with their French translations.

Figure-3 Group work on idioms. Drawing of idioms "*Kalp kırmak and Korkudan ölmek*" together with their French translations.
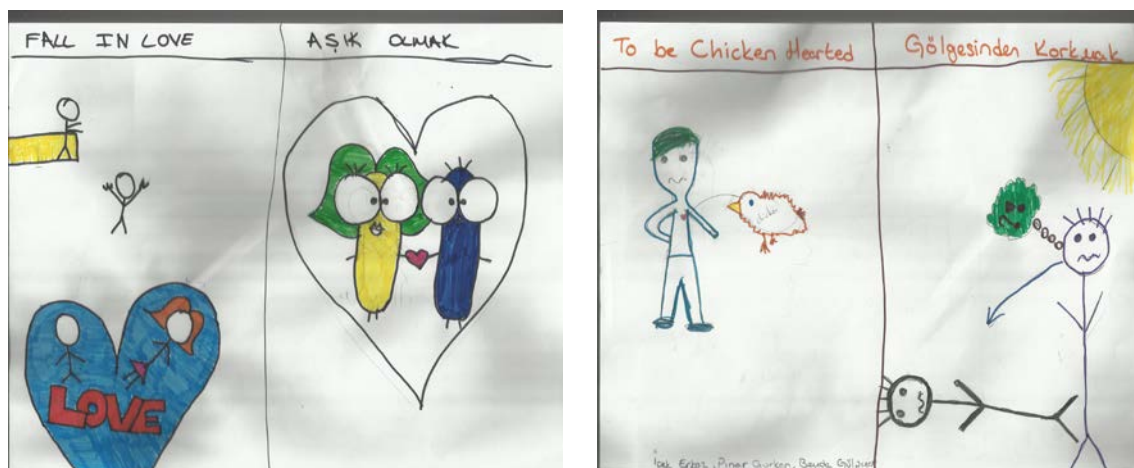
Figure-4 Group work on idioms. Drawing of idioms "*Fall in love and To be chicken hearted*" together with their Turkish equivalents.

Figure-5 Group work on idioms. Drawing of idioms "*Get in a jam and Carry a torch for someone*" together with their Turkish equivalents.

CONCLUSION

It has been seen at the end of this study, in which we focused on the use of idioms in language teaching, that many linguists and theorists highlight the special importance of idiom use within the scope of multilingual approach. Thanks to the activities we had carried out with students, we had the opportunity to observe the role of idioms in language teaching in multilingual approach. Thus, we could test how a language lesson is applied with and without using idioms.

On the other hand, our studies on the role of idioms in culture teaching have revealed that cultural differences between languages attract the attention of students to a great extent and lead them to inquire, i.e. acquire new aspects of the language. It should be kept in mind that the most important indicator of progress in language teaching process is the learners' beginning to inquire.

The students produced quite successful results at the in-class idiom activities. Especially the game of "guessing the meaning of idioms" both enabled them to learn new vocabulary in English-French, and actively repeat their previous knowledge, while contributing to discover the subtleties in Turkish language.

Today students definitely desire change in language courses and want to communicate in the target language as soon as possible. The classical grammar-based language courses do not attract the students' attention anymore. Therefore, the idioms have an important role in language teaching as an authentic course material that increases the motivation of students regardless of their age.

As a consequence, we can say that idiomatic expressions play in important role both in Turkish as the mother language, and in multilingual language teaching. The idioms bring in a dynamic aspect to language lessons and facilitate the teacher's job. It should be born in mind that the more the cultural aspects of a language are taught, the easier the students communicate in that foreign language.

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THE ROLE OF LEADERSHIP IN THE SUCCESS OF E-LEARNING PROGRAMS: THE CASE OF SAKARYA UNIVERSITY E-MBA PROGRAM

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Abstract

Developments in information technologies have significant influence on all aspects of modern life. Especially in the area of education, information technologies has a widespread use. In this respect, the concept of e-leaning is gaining acceptance all over the world. Many universities around the World tend to implement e-learning programs for undergraduate and postgraduate programs. But, they face a number of problems in implementing these e-learning-based programs given the fact that the traditional teaching mentality predominantly prefers face-to-face classroom teaching methods which have different assessment procedures and knowledge transfer methods. In order to successfully implement these e-learning programs in traditional education settings, a clear and insistent leadership style plays a critical role. In this study I wanted to examine the e-learning practices carried out for more than ten years at the Sakarya University e-MBA program. To this end, as a researcher, a teacher and a coordinator in this program, I have witnessed the whole evolution of the e-MBA program from beginning up to now. I have done many observations, carried out various interviews with students and professors, conducted many focus group studies and run several surveys on many aspects of this distant education program in order to sort out problems, develop solutions for problems, seek for new ways to improve the program. Findings indicates that a clear and sound leadership is critical in establishing and implementation of e-learning programs successfully. Also, many of the factors affecting student satisfaction and the success in e-learning based programs are discussed in the study.

Introduction

Developments in information technologies have signifcant influence on all aspects of modern life. Education is no exception to this indfluence. In this respect, the concept of e-leaning is gaining acceptance all over the world. Many universities around the World tend to implement e-learning programs for undergraduate and postgraduate programs. But, they face a number of problems in implementing these e-learning-based programs given the fact that the traditional teaching mentality predominantly prefers face-to-face classroom teaching methods which have different assessment procedures and knowledge transfer methods. In order to successfully implement these e-learning programs in traditional education settings, a clear and insistent leadership style plays a critical role.

In an increasingly digitized society, both the profile of universities, as well as the role of its faculty, are experiencing profound changes. Universities and other education institutions as both providers and consumers of educational services have no other option but to adapt to new ways of teaching and learning across time and space. In today's job market workers at all levels and capabilities are seeking additional competence and

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certification through more flexible and convenient part-time study programs. In this vein, many universities around the World are searching new ways to establish and implement new education programs not only in their own markets but on a global scale.

Changing Education Environment

Many years ago, as Kurt Lewin had pointed out that "*Every organization structures itself to accomplish its goals in a way that is in tune with or responsive to its environment*", in today's changing education environment, all institutions and universities will be successful as long as they adapt the environmental changes (Lewin, 1936). It is clear that different problems require different solutions at different times.

In today's highly dynamic and turbulent times, we have to look at the higher education with a different paradigm in mind. Traditional teaching paradigms in education is clearly lacking to meet the needs and requirements of the new era which is characterized as the era of information and knowledge. Instead, we have to be adept in the new learning paradigm of teaching. Hence, this new education environment requires new set of methods, materials and approaches to teaching in higher education. This is a difficult and threatening situation for teachers, most of whom are themselves products of classroom-bound education and whose professional identities are linked. Rather than transmitting information in person, many faculty will have to make the adjustment to monitoring and evaluating the work of geographically distant learners. Those faculty accustomed to more conventional teaching modes will have to acquire new skills to assume expanded roles not only to teach distance learners, but also to organize instructional resources suitable in content and format for independent study. This represents a major shift from the European model of the teacher as the exclusive source of information to being one of several resources available to learners who become more active participants in the process.

In the new millenium, a new role for the academics has been recognized and encouraged, especially as technology-assisted instruction has proliferated and changed the way teachers and students interact, as well as the manner in which educational entities must now do business to meet the demands of a digitized society. The literature describing the rapid evolution of distance education delivery systems over the past twenty years has frequently categorized it into three stages, from correspondence education, to technology-assisted education and, more recently, networked education.

In traditional teaching practices and methods courses were designed as an intimate roundtable seminar involving a dozen students or face-to-face instructional teaching in a 50 minute classical classroom context. The emergence of increasingly student-centered learning activities in the 1970s, facilitated by new instructional technology introduced in the 1980s, is contributing to a dramatic evolution in faculty roles, and raises fundamental questions within the professoriate about how it will contribute to the teaching-learning process in the 1990s and beyond. Information technologies can assume many of the roles that instructional staff have traditionally played, thus freeing them for new roles in assisting students. But the members of faculty often do not understand partnership roles they can play when allied with technology in the teaching-learning process. Indeed, many simply conclude that technology has usurped their function as educators.

Faculty need assistance in order to understand and adapt to new roles; if they resist, the technology probably will not be used effectively and learning goals will be compromised. But this does not mean the teaching function is becoming obsolete, but the role is being transformed dramatically. In addition to being adept at both content and process, faculty must recognize the role of instructional technology as a learning resource. The teacher is increasingly an intermediary between students and available resources. Teachers must know something about the potential of technology to facilitate learning and to enhance their own effectiveness. They must come to recognize how technological applications can create greater access to education by overcoming time and distance problems, and how it provides for diverse learning needs because it has the capacity to deliver material in many different formats.

Despite significant progress in the use and suitability of technology for educational purposes- computers are more user friendly and more compatible; there is more available software and increased access, etc. - technology still remains complex, especially when media are combined (e.g., visual, text, audio, data). Significant difficulties remain, particularly for those new to these modes of instruction, in effectively integrating the latest technologies with pedagogy and curricula (McNeil, 1988).

Distance Education and Leadership

Distance education means that the learners are physically separated in space and time from the teaching institution and its staff (www.openpraxis.com). Distance education revolves around a learner-centered system with teaching activity focused on facilitating learning. The teacher augments prepared study materials by providing explanations, references, and reinforcements for the student. Independent study stresses learning, rather than teaching, and is based on the principle that the key to learning is what students do, not what teachers do. It is a highly personalized process that converts newly acquired information into new insights and ideas. This new process has distinct features and needs to be carried out and managed carefully in order to succeed.

Leadership and management are both important functions, but they have different purposes and they seek to obtain different outcomes. These two terms are indispensable to each other. Bush (1998) links leadership to values or purpose, while management relates to implementation or technical issues. Leadership and management need to be given equal prominence if university programs are to operate effectively and achieve their objectives. While the tasks and functions of management and leadership are unique, there is a link between them. Rather than being mutually exclusive, these two competencies are interdependent. For example, once a leader articulates the intended direction, plans must be put in place to provide concrete ways to move in that direction. Once people have been hired into an organization, a leader must align those people with a vision. Furthermore, the leader must motivate and inspire people to overcome the challenges that management processes of controlling and measuring have uncovered (Adamchik, 2005).

Leadership is not so much about technique and methods as it is about opening the heart. Leadership is about inspiration. Great leadership is about human experiences, not processes. Leadership is not a formula or a program, it is a human activity that comes from the heart and considers the hearts of others. It is an attitude, not a routine. Similarly, Drucker indicates that leadership is not magnetic personality, it is not about making friends and influencing people. Leadership is lifting a person's vision to higher sights, the raising of a person's performance to a higher standard, the building of a personality beyond its normal limitations (Drucker,2005). According to well known management guru Warren Bennis, management is getting people to do what needs to be done. On the other hand, leadership is getting people to *want* to do what needs to be done (Bennis, 1994). Leaders are likely to ask questions like, "What is really going on here? How do we become relevant again? How do we fulfil our goals in these new times? What will prompt people to think that what we do is meaningful?"

In relation to formal education quality covers different components of face-to-face teaching like the infrastructure and basic facilities, social and geographical environment, professional aptitude in teaching, administrative and finance staff, suitability and significance of the curriculum, teaching-learning materials, teaching and learning processes, community support to the institution, performance evaluation of the teachers, students and the entire system. Distance education is different from formal education. The profile of the distance learner has different profile: their main objective of higher education through the distance mode of education is always different from the 17-23 age-group of other formal students. Hence, five areas of quality concerns need to be dynamically applied to the following elements of distance education to guarantee that no element lacks the probable degree of quality: (1) curriculum design, content and organization, (2) teaching, learning and assessment, (3) student progression and assessment, (4) student support and guidance.

The task of the distance instructor or mentor is much more than merely grading students' submitted material. Ideally, the instructional process should involve:

- Diagnosing the student's readiness to learn,

- Monitoring student progress toward objectives sought,

- Recognizing and discovering a student's learning difficulties,

- Stimulating and challenging students to further efforts,

- Evaluating the quality of a student's learning, and

- Assigning a grade to estimate learning outcomes (MacKenzie, Christensen & Rigby, 1968, p. 137).

Beaudoin (2002) argues for the research and examination of the specific type of leadership needed in distance education leadership. Distance education has been based both on traditional education leadership and business/industry leadership. He points out some specific characteristics that a distance education leader needs: (1) creating conditions for innovative change, (2) enabling individuals and organizations to share a vision and move in its direction, and (3) contributing to the management and operationalization of ideas. While these traits are implicit in transformational leadership, the method of applying and utilizing them is unique for the distance education leader. Leaders do not appear overnight. An effective leader will be able to foster change and be able to move large numbers of staff in the same positive direction. Leaders in traditional academia and online academia share equal responsibility.

In transformational leadership, only focusing on information will not be enough to implement transformation in an institution. Leading in a culture of change does not mean placing changed individuals into unchanged environments. Rather, change leaders work on changing the context, helping create new settings conducive to learning and sharing that learning. Most organizations have invested heavily in technology and possibly training, but hardly at all in knowledge sharing and creation. And when they do attempt to share and use new knowledge, they find it enormously difficult. Take the seemingly obvious notion of sharing best practices within an organization. Identifying the practices usually goes reasonably well, but when it comes to transferring and using the knowledge, the organization often flounders (Brown and Duguid, 2000). Besides, Goleman, Boyatzis and McKee (2002) claim that emotionally intelligent leaders and emotionally intelligent organizations are essential in complex times. They identify 18 competencies around four domains: self-awareness, self-management, social awareness, and relationship management. Such leaders are aware of their own emotional makeup, are sensitive and inspiring to others, and are able to deal with day-to-day problems as they work on more fundamental changes in the culture of the organization. Blase and Blase's (1998) indicated that there are three aspects of effective instructional leadership behaviour. These aspects are, (1) talking with teachers (conferencing), (2) promoting teachers' professional growth, and (3) fostering teacher reflection.

The origin of the term 'instructional leadership' is North America and it has been superseded in England and elsewhere by the notion of 'learning-centred leadership'. Rhodes and Brundrett (2010) argue that the latter concept is broader and has greater potential to impact on school and student outcomes. Southworth (2004) says that leaders influence learning through three main strategies, namely, modelling, monitoring and dialogue.

In order to ensure excellence in distance education we have to establish an education environment fostering information and experience sharing among the whole distance education system partners. Digital technologies in association with new teaching methods can help develop new approaches to distance education possible and support excellence in teaching. To this end, we have several challenges to overcome. First, we have to create rich learning environments which progressively enhance resourcing for production of high quality distance learning material and the development of excellence in teaching in digital spaces. Second, we have to make wise choice decisions in relation to technology. We have to select an effective suite of core digital learning tools and support innovation and research activities. Third, we have to provide a coordinated and systematic support for the widely distributed distance education participants such as staff and students, and sustain it across the institution. Lastly, we have to develop processes and implement them to ensure appropriate and consistent standards of course quality and student experience across all distance education offerings.

The case of Sakarya University e-MBA program

As John Dewey said "if we teach today as we taught yesterday, we rob our children of tomorrow", we need to think about our teaching methods and assessment tools for student success at our universities. In today's complex education environment, the goal of university education is no more information transfer, but the ability to create, use and manage knowledge.

For over fifteen years of experience in teaching, managing and coordination at the Sakarya University, I have witnessed the evolution of eMBA program and experienced many challenges and helped sort out problems and bring solutions to the problems in the design and implementation stages of the program. Here I try to share some of these experiences in order to help others in the implementation of distance education programs.

My experience has shown that the most important thing in such an endeavour like distance education is the change management. Distance education is not something that is an extension of existing teaching education system. Although we were trying to implement the distance learning system which has its own paradigms and methods, with an instructional education mind-set into the traditional face-to-face classroom education environment, we did not thought we needed a change management plan. Throughout the years we have developed some guidelines in order to eliminate the hurdles we face when implementing new programs and improving existing distance education programs at the university. All these guidelines were tried-and-tested procedures and principles designed and developed during our 15 years of experience in our eMBA distance education program.

In the implementation of our distance education program we had encountered various problems which can be classified under three headings: teaching methods and assessment problems, managerial problems and regulatory problems. The most difficult to overcome and the most frequently encountered problem is related to teaching methods and assessment of student performance. Although distance education requires different teaching methods, different materials and different assessment methods, our lecturers have a tendency to use traditional classroom methods in the new programs. But the result was failure and dissatisfaction from the point of student satisfaction point. At this point, the role of leadership was utmost importance in taking responsibility and the initiation in order to lead the change in the minds of lecturers and in the methods of teaching adopted in traditional classroom settings.

As the program coordinator (and leader), the most difficult part was to persuade lecturers to become an intermediary in the transfer of information rather than the source of the information. In addition to this, lecturer tend to use traditional assessment methods, use general textbook materials and teaching methods lecturing have led to various undesirable outcomes leading to unhappiness for both lecturers as well as students. Furthermore, many of the lecturers were not adept at using information technology and education technologies. This has led us to train lecturers by developing applications and exemplary contents and lecture materials suitable for distance education. On this matter, a support from an experts from the education faculty would shorten the time required to train the lecturers and other support staff.

The second type problems were related to managerial issues. Especially the lack of leadership in motivation, technology selection, setting up operational guidelines and the organization of the programs.

The third type problem was related to lack of rules and regulations at national level established by the Higher Education Council of Turkey. Since the distance education is different from traditional instructional education system, all regulations and rule should be revised and developed in order to meet the needs of distance education systems.

In distance education, lecturers should play the role of coordinator and organiser in the learning process. Hence, the directors or managers, whatever is called, in distance education must see themselves as educational leaders who, through less directing and more motivating, facilitate the articulation, development, implementation and stewardship of a visionary of learning that is shared and supported by a wider academic community.

In distance education, program leaders or managers need to pay attention to various areas of the program. These areas can be briefly summarised as follows:

- Needs assesment: distance education leaders must assess the needs of students, lecturers and support staff.
- Selection of right technologies: distance education is technology bound system. In the market there are a number of vendors supplying various software and hardware technologies, selection of right technology is of critical importance for the success of the program. Sometimes purchase of different technologies may lead to lack of communication between the existing systems and new technology, hence causing problems in the conduct of the live lectures and other teaching methods.
- Development of best practice exemples: these type of practices help lecturers and other support staff give direction and vision in the design and implementation of programs, lecture contents ve presentations.
- Resource mobilization: program coordinators and leaders need to take initiative in the mobilization of resources halping improve the effectiveness of distance education programs.
- Establishment of good online infrastructure: the performance of a distance education program is very much highly dependent on the availability of a fast and effective online infrastructure.
- A good strategic plannig: since the education technology is rapidly changing and the competition among institutions is intensifying, all institutions should have strategic plans for the future of the distance education programs. In that respect, especially the attractivenes, currency, ease of use, usefulness, effectiveness and the interactivity of these programs should be updated frequently.
- Continuous market analysis: as mentioned above universities and other institutions compete with each other in enrolling students to their programs. Hence, program leaders need to assess the needs of the market and the developments in distance education area.
- Policy formulation: the success and seriosness of a distance education program is determined by the seriousnes of the program owners in following the rules and requlations developed for distance education.
- Program evaluation and assseement: leaders need to reassess and reevaluate their programs with respect to student satisfaction, program effectiveness and material apropriateness.
- Collaboration with partners: since the education technology is expensive and there is a lack of expertise in some areas, different institutions may collaborate in conducting and implementing distance education programs in order to capture economies of scale and resource utilization.
- Continous training and support programs for program improvement.

Hence, in today's complex education environment, the success of distance education programs will depend on:

- learning how to cope with the change taking place in education environment,
- have a transformational leadership mentaility
- the adoption of new teaching paradigm – networked learning,
- the adoption of an interdisciplinary perspective in thge selection and use of teaching and assesment methods and tools
- driving the change in distance education practices, methots and techniques, not driven by the change.

Conclusions

As a result, the challenges of change associated with the issues of technology and distance education can be handled through the planning and implementation of a comprehensive professional development program that is grounded in well-established, basic principles of effective leadership. All participants may never be comfortable with technology, computers, or distance education. With the guidance of sound principles of leadership, all faculty should feel ownership of the vision, mission, and values of the organization.

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THE ROLE OF THE SIGNIFICANT OTHERS IN THE TRANSITION OF CZECH PUPILS BETWEEN THE LOWER AND UPPER SECONDARY EDUCATION

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Abstract

The paper deals with the evaluation of the role of the significant others in the transition of Czech pupils between the lower secondary education (ISCED 2A) and the upper secondary education (ISCED 3). In the theoretical introduction, attention is paid to the importance of choosing a further course of education in human life, the specifics of the decision in the context of the Czech educational system and the maturity of adolescents for independent decision-making. The core lies in an empirical investigation designed by the National Institute of Education, School Counselling Centre and Centre for Further Education of Teachers carried out in 2011 at forty Czech primary schools. The instrument of data collection was paired questionnaires for pupils of the 9th grade of lower secondary school and their parents (N = 779). Presented here are the views of pupils and parents as to who the expert in choosing a secondary school is, i.e. who in the family should decide in the choice of a secondary school, whether pupils or their parents. Furthermore, social influences reflected in the students' decision-making (parents, siblings, peers, friends from social networks, teachers, educational consultant, school psychologist and other counselling staff) and the most frequently used information sources are specified, and their significance is evaluated from the perspective of students as well as their parents.

Keywords: secondary school choice; career choice; career decision-making; lower-secondary school; upper-secondary school; family; significant others

Introduction

The present empirical study deals with the role of significant others in the transition of Czech pupils between lower secondary education (ISCED 2A) and upper secondary education (ISCED 3) with emphasis on the role of parents and family.

This topic has received considerable attention in economically developed countries. This is evidenced by a number of studies, mainly in the United States, Great Britain, Germany, Switzerland, Austria, France, etc. (cf. Hlaďo, 2010b). The number of published works that focus primarily on the investigation of the influence of parents and families in this decision-making process is increasing. Important works are overviews by Schulenberg, Vondracek and Crouter (1984) and Whiston and Keller (2004) that provide a complex evaluation of studies published in 1984—2004 in the United States; White (2007) maps studies in Great Britain and Görtz-Brose and Hüser (2006) present the most important research projects in Germany.

The choice of upper-secondary education determines not only the individual educational trajectory of pupils, but it can also represent a potential risk of exclusion in the economic, individual, social, group or spatial dimension (e.g. long-term unemployment and a related loss of self-confidence, self-esteem and income, social isolation, exclusion in certain social groups, socio-pathological phenomena, etc.). Whether the chosen educational path corresponds to the possibilities and interests of an individual is also important in terms of healthy personality development, individual satisfaction, success and use of his or her social potential, which may be reflected in the mental health of the individual.

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Although the choice of a secondary school (*note:* secondary school throughout the paper means upper-secondary school at level ISCED 3), which pupils are to make at the end of compulsory schooling, is not an irreversible act, any revision or change of the original decision is associated with expenditure of considerable effort. The transition between lower and upper secondary education therefore rightly draws the attention of many teachers, career consultants, educational consultants, psychologists, sociologists and researchers, but also parents, the professional public and other interested persons in many countries around the world. Secondary school choice is a specific and unique process that takes place in the given circumstances in which an individual lives. The theoretical and empirical evidence presented in this paper will therefore focus on clarifying the issues discussed with Czech pupils, whose decision is carried out primarily in a family context, but at the same time it is limited by the Czech education system and its characteristics.

Decision-making in the context of the Czech education system

The Czech education system features a high degree of stratification and professional specialization, which makes matters difficult for pupils deciding on the further course of education at the end of compulsory schooling (*note:* a detailed description of the Czech education system is available in the publication *The Education System in the Czech Republic*, see The Ministry of Education, 2011). Pupils terminate compulsory school attendance mainly at *primary school* (lower secondary school—ISCED 2A). In the 9th grade, i.e. approximately at the age of 14—15, an adolescent individual has to answer the serious question of whether he or she wants to study or seek employment. The fact remains that in the Czech Republic and abroad, most students continue in education at different types of upper-secondary schools and only a small part directly enter the working process (cf. Organisation for Economic…, 2011; Organisation for Economic…, 2010).

After finishing ISCED 2A, most Czech pupils choose branch-oriented secondary education completed by a school-leaving examination (ISCED 3A) or a vocational/apprenticeship certificate (ISCED 3C). This is also evidenced by the current statistical data. In the academic year 2010/2011, almost 72% of pupils enrolled in secondary vocational education with a school-leaving examination or secondary education with a vocational/apprenticeship certificate. Approximately 18% of lower secondary school graduates enrolled in general education at secondary general schools, *gymnázium* (Statistická, 2011). The data indicate that the choice of secondary school also means for the majority of Czech pupils a choice of a profession which is carried through the choice of a specific field of study. This trend is different from other countries of the Organization for Economic Cooperation and Development *(OECD)* where a greater part of the population than in the Czech Republic goes through general education at the upper-secondary-school level (see Organisation for Economic…, 2009).

Maturity of pupils for independent decision-making

Psychologists agree that pupils are, given the specifics of adolescent development, not yet sufficiently mature for a responsible choice (e.g. Hirschi & Läge, 2007; Nilsson & Åkerblom, 2001; Super, 1990). Young people lack information about educational possibilities and the world of work and due to their low level of self-knowledge they do not know how high their individual potential is (cf. Gati, Krausz, & Osipow, 1996). They are incapable of fully embracing and understanding all important objective determinants of such decision-making and do not know themselves very well. The result is that in the transition between lower and upper secondary education they often do not make an optimal choice and soon recognize that their decision was not correct and in many cases they have to re-orient themselves. The cause of dissatisfaction is not usually the level of chosen education but preparation in a field which does not correspond to their interests or represents certain restrictions of the choice of further studies in tertiary education (Trhlíková et al., 2008). The overall unfavourable situation is also evidenced by the fact that the proportion of secondary-school students who stay after graduation in their field, is decreasing (cf. Křížová et al., 2008).

Empirical survey methodology

The empirical survey focuses on the role of significant others in the transition of pupils between lower and upper secondary education with an emphasis on parents and family. Partial findings of the presented research are based on a quantitatively oriented survey designed by the *National Institute of Education, School Counselling Centre and Centre for Further Education of Teachers*.

The instrument of data collection was paired questionnaires for pupils of the 9th grade of *základní škola* and their parents. The questionnaires were administered in 2011 at forty primary schools in four of the fourteen regions of the Czech Republic. The first half of the regions is characterized by long-term problems with unemployment among the population and the second half of the regions has average or higher employment. Ten primary schools were randomly selected in each region. The sample consisted of 779 pupils and the same number of parents. When designing the questionnaires, we drew from the findings of earlier studies (e.g. Walterová, Greger, & Novotná, 2009; Walterová et al., 2009; Hlaďo, 2009; Trhlíková, Vojtěch, & Úlovcová, 2008; Katrňák, 2004; Smetáčková, 2005).

The data were first analysed using descriptive statistics. Subsequently, hypotheses were tested. Dependencies between variables were determined by a goodness of *fit chi-square test*, the closeness of the relationship by *Cramér's contingency coefficient* and the strength of differences using *odds ratios*; the right-sided alternative was tested. All statistical tests were performed on the asymptotic significance level of 0.05.

Opinions of pupils and parents: who is an expert when choosing a secondary school?

As mentioned in the introduction, the decision-making processes related to various stages of choosing a further course of education are considered one of the most difficult and most complicated in one's life. With regard to this assumption we raised the question of who in the family is considered an *expert* in this area.

Pupils consider themselves experts in the choice of a secondary school. With them expressing their attitudes, it was possible to observe a high degree of radicalism and refusal to compromise due to ongoing emancipation from dependency on the family. Pupils are not willing to accept a subordinate position of themselves, neither a superior position of an authority. On that basis, they declared that they wanted to decide themselves, regardless of the parents. 87% of surveyed pupils believe that the choice of secondary school is their affair and their parents should not interfere in it at all. Only 12% of pupils think that school choice should be influenced mainly by parents. An explanation can be found in the findings of a qualitative study conducted by Hlaďo (2009). In the view of pupils, parents intervene in the decision-making to very little extent. Their task is to help pupils if they need this kind of help. Pupils are willing to attribute this particular role to parents only if they are aware of their own insufficient ability to deal with the challenges related to secondary school choice.

Hlaďo (2009) in a longitudinal case study also found that parents intensively think about the matter of expertise and they feel that they bear a great deal of responsibility in secondary school choice. These findings were also confirmed in a representative sample of respondents in our empirical survey. 33% of surveyed parents think that they as parents should decide on the choice of a secondary school for their child and 67% of parents stated that the choice of secondary school is the child's concern. A comparison of parents' and pupils' responses showed that pupils more often than parents think that the choice of secondary schools should be their autonomous affair ($\chi^2(3) = 126.048$, $p < .000$, OR = 3.293).

Parents' attitude towards the choice of upper-secondary education and the strategies used are largely influenced by the *socioeconomic status of the family*. Parents from the middle class, professionals with higher education are more active in the selection of secondary school and leave the choice of education to pupils less often than parents of lower socioeconomic status (David, West, & Ribbens, 1994). In our study, however, the hypothesis that fathers with higher education often believe that as parents they decide on the choice of secondary school of their child was not confirmed ($\chi^2(2) = 4.592$, $p = .101$). We had similar findings with mothers, where a statistically significant relationship between educational attainment and claiming that as parents they decide on

the choice of secondary school of their child was proved. The interval (0.9728; ∞) of *odds ratios* included the value 1, therefore we rejected the right-sided hypothesis that mothers with higher education more often believe that as parents they decide on the choice of secondary school.

Differences in opinions were identified between fathers and mothers. With a margin of error of 5% it was proved that fathers were more likely than mothers to believe that as parents they decide on the choice of secondary school for their offspring ($\chi^2(1) = 4.922$, $p = .027$, OR = 1.551; the interval of right-sided hypothesis did not include the value 1, therefore the null hypothesis was rejected in favour of the right-sided alternative).

A deeper understanding of the issues discussed is provided by a description of strategies applied by parents in the transition of pupils between lower and upper secondary education. Hlaďo (2010a) found that parents not only take into account the fact that the chosen secondary school should be of interest for the pupil and should correspond to his or her skills, but they also try to anticipate future risks. In steps therefore a critical assessment of the pupils' ideas about his or her further course of education and on that basis they select one of the parental strategies. Besides the factors mentioned, there are other influences on the parents' strategies. These include the parents' educational aspirations, the perceived role of a parent in secondary school choice, assessment of the materiality of the decision for the future life of the pupil, the career maturity of the pupil, the degree of distinction of his own ideas about his own future, his own activity during the decision-making process, etc.

The role of the significant others in the decision-making process

Some researchers in their studies of the transition of pupils between lower and upper secondary education distinguish between sources of influence and sources of information. However, in reality it is very difficult to isolate the two components (cf. White, 2007).

In order to determine what *influences* actually interfere in the decision-making of Czech pupils, they were presented with a scale question of what and to what extent influenced them in making a decision of where to go after primary school. To map the most important *sources of information*, pupils were asked where they got the information needed for their secondary school choice, and thus also the future profession, and how it helped them. We investigated the same information in the questionnaires for parents in order to compare views of both actors in the decision-making process.

Social influences on the pupils' decision-making

Pupils attributed the greatest influence in deciding where to go after the primary school to *their own decisions* (91.2%). Approximately 40% of respondents attributed a great influence to *parents*. In decision-making, pupils are influenced by their own decision more than by the influence of parents ($\chi^2(2) = 446.693$, $p < .000$, Cram. $V = .537$, OR = 15.207), which corresponds with the findings of Czech studies (e.g. Walter, Greger, & Novotná, 2009; Trhlíková, Vojtěch, & Úlovcová, 2008) as well as studies carried out abroad (e.g. Beinke, 2006; Smyth, 1993; Forster, 1992; Walford, 1991; Thomas & Dennison, 1991).

This fact was also investigated from the perspective of parents. With the question of who influenced the pupil in secondary school choice and how, 78% of parents responded that pupils were influenced by their own decisions and 34% of parents think that it was them who influenced the pupil. With a margin of error of 5% it was proved that according to parents, pupils are in their secondary school choice influenced by their own decision rather than by their parents' ($\chi^2(2) = 290.825$, $p < .000$, Cram. $V = .441$).

In earlier studies carried out abroad, there are also different empirical findings stating that neither pupils nor parents have a dominant role and the decision is a result of consensus (cf. Hirsch, 1994; Smyth, 1993; Devlin & Knight, 1990), or the decision is made by their parents (cf. David, West, & Ribbens, 1994). White (2007) concludes that the published studies cannot clearly identify how the roles of individual players change over time and the extent of the influence of parents on the final decision is not sufficiently apparent. According to his

findings, parents do not decide but rather create imaginary boundaries within which decision-making is carried out by pupils.

Other social sources had an influence on pupils' decision-making to a lesser extent. The descriptive statistic shows that parents are followed by friends ($M = 2.32$, 9.6%), siblings ($M = 2.58$, 7.4%), teachers ($M = 2.60$, 4.2%), form teachers ($M = 2.62$, 2.3%), educational consultants ($M = 2.63$, 5.2%), pedagogical-psychological consultants ($M = 2.70$, $M = 2.09$, 5.9%), the employment office expert ($M = 2.75$, 2.6%) and other subjects (details are given in Table 1).

We found that pupils are in their secondary school choice influenced more by parents than siblings ($\chi^2(2) = 651.001$, $p < .000$, OR = 8.508), friends ($\chi^2(2) = 389.331$, $p < .000$, OR = 6.349) and form- and other teachers ($\chi^2(2) = 941.352$, $p < .000$, OR = 20.105). We got the same results by testing responses of parents.

Table 1. Social influences on the pupils' decision-making (evaluation by pupils)

Social source of influence on decision-making	Relative frequencies (in %)			Arithmetic mean (M)	Rank order according to arithmetic mean
	Great influence (1)	Little influence (2)	No influence (3)		
My decision	91.2	8.2	0.5	1.09	1
Parents	40.3	55.5	4.1	1.64	2
Siblings	7.4	27.5	65.1	2.58	4
Friends	9.6	48.5	41.9	2.32	3
Friends from social networks	2.0	11.2	86.9	2.85	10
Teachers (other than form teacher)	4.2	31.3	64.5	2.60	5
Form teacher	2.3	33.9	63.8	2.62	6
Educational consultant	5.2	26.4	68.4	2.63	7
School psychologist	1.6	7.1	91.3	2.90	11
Pedagogical-psychological consultant	5.9	18.1	76.0	2.70	8
Employment office expert	2.6	19.8	77.6	2.75	9

Another issue that appears in studies is the influence of *peers, peer groups and friends*. Beinke (2006) believes that the influence of peers and peer groups on the choice of further course of education has been increasing lately. The research shows that peers play a major role especially in providing information relevant to pupils' secondary school choice, although also this has been dominated by parents for a long time (Taylor, 1992). In connection with the influence of peers, Beinke (2006) points out the possible transmission of distorted information, but also the positive influence of peers in stabilizing the emotions of pupils in a period of uncertainty, which relates to the secondary school choice.

The data analysis also shows that pupils' decision-making is influenced by friends more than by teachers ($\chi^2(2) = 117.750$, $p < .000$, OR = 3.167) and siblings ($\chi^2(2) = 82.902$, $p < .000$, OR = 1.340).

For today's generation, known as the computer generation, new media and the Internet are a normal part of their everyday life. For this reason, we investigated how the pupils' decision-making is influenced by friends with whom they communicate through social networks (e.g. Facebook, Google+, Myspace, Twitter, etc.). We found that friends from social networks have no influence for almost 87%. Pupils are therefore far more influenced by friends with whom they interact face to face rather than by friends from social networks ($\chi^2(2) = 339.491$, $p < .000$, OR = 5.352).

Another issue discussed in connection with the pupils' decision-making in the transition between lower and upper secondary education is the role of *teachers* and *career advisers*. Several studies have emphasized the marginal role of teachers (Harris, 1992), career counsellors (Lawrence, 1992) and career education and counselling in general (Bates, 1990). The findings about Czech pupils correspond with those studies. The influence of advisers and teachers ranked not only below that of parents, but also of siblings and friends. Despite these findings, teachers' support of pupils is important, because together with parents they aid in shaping educational and professional aspirations. Since pupils spend a great deal of time at school, teachers and career advisers have a considerable potential to become the key source of information, advice and assistance.

Sources of information

A sufficient amount of information, its relevance, accessibility and clarity are the key conditions for making a successful choice of the further course of education. From interviews with pupils, Hlaďo (2009) found that they use a variety of formal and informal information sources in their secondary school decision-making. Formal sources have an institutional form and provide objective information, while informal sources have a non-institutional form and provide information based on a subjective basis. *Formal sources of information* used are magazines, newspapers, school websites, databases of educational institutions, secondary school fairs, open days at secondary schools, information provided in the formal curriculum or during career guidance, information available on bulletin boards at school, etc. *Informal sources of information* are parents, siblings, friends, friends and acquaintances, classmates and other significant others of the pupil.

We investigated the structure of formal and informal sources of information used by pupils in secondary school decision-making (see Table 2). *Information provided by the secondary school where they want to apply* is of the greatest help ($M = 1.57$, 39%). In terms of pupils' decision-making, open days at schools seem to be very important. Visits during open days are discretionary and according to circumstances, pupils come accompanied by their parents, often alone or together with classmates. Such a visit is a unique opportunity for pupils to get personally acquainted with the environment and atmosphere of the school, the staff, to learn specific information about the school, study conditions, admission procedures, the degree of selectivity of the school, the educational programs taught there, etc.

Table 2. Information resources used by pupils in secondary school selection (evaluation by pupils)

Sources of information	Relative frequencies (in %)				Arithmetic mean (*M*)	Rank order according to arithmetic mean
	Helped a lot (1)	Helped partially (2)	Did not help (3)	I did not have the information		
Parents	39.1	51.2	4.6	5.1	1.64	3
Classmates and friends	11.5	50.6	23.9	14.0	2.14	5
Základní škola (lower secondary s.)	18.9	47.4	22.2	11.4	2.04	4
School where the pupil is applying	48.6	37.2	8.3	6.0	1.57	1
Information and counselling centre at the employment office	3.9	20.8	29.1	46.3	2.47	6
Pedagogical-psychological counselling	4.5	13.4	25.8	56.4	2.49	7
Television	0.8	7.1	31.0	61.2	2.78	9
Internet	44.7	41.5	7.8	6.0	1.61	2
Newspapers and magazines	4.8	15.9	31.0	48.2	2.51	8

Pupils positively assessed information obtained from the Internet ($M = 1.61$, 45%). Pupils use mainly official websites of secondary schools and databases of secondary schools, where they search for specific information about particular educational institutions (educational programs, conditions of admission, number of students accepted, success of secondary school graduates in entering tertiary education, etc.). In addition to these Internet resources, pupils also consult Internet sites with information on how to proceed in secondary school selection and how to prepare for entrance exams. They also consult personality tests, which provide pupils with self-knowledge important for the choice of secondary school as well as future profession.

The most important informal source which greatly helped pupils is *parents* ($M = 1.64$, 39%). Information for the secondary school choice provided to pupils by their parents helps nearly 8 times more than the information supplied by classmates or friends ($\chi^2(1) = 137.304$, $p < .000$, OR = 7.603) and nearly 7 times more than the information provided by the primary school ($\chi^2(1) = 115.614$, $p < .000$, OR = 6.626).

A positive finding is that the choice of secondary school is a frequent topic of family discussions. According to the pupils' statements, 96% of their parents talk to them about what they would like to do after primary school. Only 3% of pupils stated that this topic had been the subject of discussion with their parents only once. Only a small part of parents do not talk to their offspring about secondary school choice at all. Almost three quarters of pupils (74%) believe that their parents provided them with as much information as possible for the decision on where to go after primary school. 20% of pupils surveyed looked up all information about post-primary education and 6% looked up some of such information. Information related to secondary school choice

obtained from family members is of greater help for pupils living with both parents than pupils living with only one parent ($\chi^2(3) = 8.725$, $p < .05$, OR = 1.791). This fully confirms the importance of family not only for the healthy development of the human personality, but also for one's career.

Although pupils tend to disparage their parents' influence on their decision-making, they in fact use their advice in their decision-making. Approximately 20% of pupils are fully advised by their parents in their decision on where to go on to after primary school and 69% of pupils use their advice in part. Only 8% of pupils do not use their parents' advice at all. The remaining 3% of pupils either did not receive any information from their parents or were not able to answer the question.

In everyday communication, parents pass their life experience, knowledge of the education system and the world of work onto pupils. Parents explain to them what the requirements of certain types of secondary schools are and what each occupation involves. The objectivity of the information provided is disputable, because some parents do not have up-to-date information, or the information transmitted from parents to pupils is filtered on the basis of subjective criteria.

Information sources that *do not help* pupils include television ($M = 2.78$, 31%), newspapers and magazines ($M = 2.51$, 31%), pedagogical-psychological counselling ($M = 2.49$, 24%) and information and counselling centres at employment offices ($M = 2.47$, 29%). The comparison of earlier Czech studies and findings from our research confirms the long-term low degree of use of counselling services provided by information and counselling centres and pedagogical-psychological counselling. We see the causes of this trend in the lack of awareness among parents and pupils of the counselling opportunities at both institutions, little or negative experience with their use and unsatisfactory accessibility.

Conclusion

The research shows a significant influence of the family on the choice of secondary school. We concluded that it is not only the pupil who should receive grounding and information necessary for decision-making, but also parents. In addition to career education at schools, education and information support to the parents should also be emphasized (cf. Watson & McMahon, 2007). One partner which has the potential for systematic collaboration with parents is in particular the primary school. The school should motivate parents for a responsible approach to the choice of secondary school, provide them with basic information and acquaint them with opportunities for career counselling. Pedagogical staff and consultants should also thoroughly inform parents how, how regularly and in what depth they prepare pupils for such decision-making. Strengthening of constructive cooperation and regular communication between the primary school and parents therefore seems essential.

The survey suggested possible directions of investigation and provided information which can be a constructive basis for designing studies with narrower scope of content and more depth. If there is success in targeting the research so as not to replicate surveys carried out earlier in the Czech territory, it will be a contribution not only from a scientific point of view, but especially for the practice of teaching and counselling at schools and education of pupils in families.

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THE SELECTED ASPECTS OF EDUCATION PURSUED BY DIVORCED FATHERS

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Abstract

A person's increased interest in education is motivated by different life situations: the loss of job, the necessity to improve one's competence, and the willingness to pursue one's interests. Yet another factor that may influence people's need to develop their knowledge and skills is parenthood as it makes them realize how important it is to display high level of competence in the process of upbringing. It should be also noted that the growing number of divorces causes fathers to take interest in the family law. The aim of the research was to analyse divorced fathers' motivations and the forms of education they pursue in connection with their claim for custody or their need to establish contact arrangements. The study revealed that fathers claiming custody were interested mainly in gaining knowledge concerning the court requirements and completing the divorce documents. They also wanted to acquire knowledge and skills needed to be successful in court. Moreover, the study group sought to improve their social competence, especially dealing with stressful situations that are caused by loneliness, or lack or weakening of their emotional bond with the child. Among the forms of support most often chosen by the members of the study group were legal and psychological counselling, support groups and the internet portals.

Keywords: Fatherhood, divorce, custody of a child, educational pursuit

Introduction

Contemporary world forces people to constantly improve their competence, to expand their knowledge in various areas, and to pursue different forms of education. One of such forms is lifelong learning discussed by many researchers, among others by Kargul (2008), Aleksander (2008, 2010), Banach (2008), and Kwiatkowski (2008). Another issue more and more often dealt with in numerous publications is the family education. According to J. Kargul, the interest in this field stems from the specificity of family life in the contemporary world, which is full of offers, services and novel phenomena, social changes and processes, as well as intense political and cultural activity. Kargul states that contemporary world "is a world of new meanings brought about evoked by the transformations in virtually all spheres of social life" (2001, 51). He adds that family life is determined by new situations and this triggers the need to pursue education. These situations, with their unpredictable or upsetting influence on everyday life, often result in tension and stress, and they can cause crises between the family members. One of such situation is family break-up. Many researchers consider divorce to be a critical event in one's life and claim that it is characterized by "destabilization in the relation between the subject and the surrounding, the necessity to change one's functioning, the risk of pathology, significant emotional tension, and by the disorganization of the subject's habits" (Beisert 2000, 44). Beyond doubt, both parties face the consequences of a divorce: they need to deal with stress and adjust to the new reality. However, the situation of fathers seems more difficult. The custody of the child is usually granted to the mother (in Poland only 7% of fathers have custody), therefore fathers also have to deal with the feeling of loneliness and the weakening of the emotional bonds with the child. This situation is particularly difficult for the fathers who are aware of their parental role and want to actively participate in the process of upbringing. Changes in the stereotypical division of parental roles encourage more fathers to gain knowledge and acquire skills necessary to

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fulfil their roles properly. The increasing number of divorces and the growing interest in the situation of single fathers and their difficult experiences connected with seeking custody of the child have caused the emergence of different organizations and associations offering an array of educational services, among others legal and psychological counselling. These organizations are most active and popular in the United States and they include: Parents Without Partners Association, Father United for Equal Rights, American Divorce Association for Men; American Society of Separated and Divorced Men; Free Man; Men`s Resource Center; Men`s Rights` Association; National Congress for Men; National Association for Widowed Persons (Stojanowska 2000, 25). Their main aim is to support parents in their struggle for the custody of the child. There are also organizations such as Child and Family Centers, Solo Parents and Preschool Nurseries that offer courses on caretaking and upbringing.

In Poland, there are also several institutions providing help to fathers claiming custody of children, for instance Fundacja Akcja (Action Foundation), Stowarzyszenie na Rzecz Dzieci Rozwiedzionych Rodziców "Tato" ("Dad" Association for Children of Divorced Parents), Stołeczne Stowarzyszenie Obrony Praw Ojca ("Metropolitan Association for the Defence of Fathers' Rights), Stowarzyszenie Centrum Praw Ojca i Dziecka (Centre for Father and Child's Rights Association), Stowarzyszenie na Rzecz Poszanowania Prawa Dzieci i Rodziny (Association for Respect for Children and Family Rights), Stowarzyszenie Obrony Praw Ojca SOPO (SOPO Association for the Father's Rights), Fundacja Cyryla i Metodego (Cyril and Methodius Foundation), tato.net initiative, Komitet Przestrogi Przed Oddzieleniem Rodzica (Committee of Warning Against the Separation of the Family), Fundacja Ojców Pokrzywdzonych przez Sądy (Foundation of Fathers Wronged by the Court), Stowarzyszenie Ochrony Praw Dziecka SOPD (Association for Protection of the Child's Rights), Centralne Stowarzyszenie Obrony Praw Ojca i Dziecka CSOPOiD (Central Association for Protection of Fathers' and Children's Rights), Inicjatywa społeczna „Porozumienie Rawskie" ("Rawskie Porozumienie" social initiative), Stowarzyszenie Przeciw Bezprawiu Sądów (Association against the Lawlessness of Court), Forum Matek Przeciw Dyskryminacji Ojców (Mothers Against the Discrimination of Fathers Forum), Stowarzyszenie na rzecz równouprawnienia i poszanowania prawa ojca (Association for Equality and Respect of Fathers' Rights).

The aim of the empirical analysis was to discuss the educational pursuits of fathers who claimed the custody of the child after a divorce and wanted to establish contact arrangements. The research focused mainly on the issues concerning the motivations behind educational pursuits and on the forms of counselling chosen by fathers wanting to gain or expand their knowledge. The analyses presented below continue and expand the research undertaken by the author in 2009 (See Dudak 2010).

Method

The research material was collected in a poll using the author's questionnaire. It was conducted in cooperation with Stowarzyszenie Centrum Obrony Praw Ojca i Dziecka (Centre for Father and Child Rights Association) and Fundacja Akcja (Akcja Foundation) that offer support in the field of family law, as well as psychological counselling to fathers seeking custody of children. The research was carried out among 115 fathers seeking custody of a child or wanting to establish contact arrangements after the divorce. The men were 19-59 years old, and the average age for the study group was 38.52. The majority of men had a university diploma and one child. The research revealed that the majority of the respondents were divorced (33.92%) or married but going through a divorce (20.87%). 19.13% were bachelors, 15.64% were remarried and wanted to establish contact arrangements, and 10.44 were separated. Over half of the respondents were deprived of custody by the court and the rest, despite having parental authority, were undertaking educational pursuits in the field of family and custody law in order to prepare for the proceedings, which may stem from the fact that many fathers expect an unfavourable court decision as far as custody is concerned. It is undoubtedly connected with the stereotypical belief that after a divorce the child should stay with the mother.

Results

The research into the motivations and forms of educational pursuits undertaken by fathers who claim custody of their children revealed that fathers are aware of their role in the child's life and of the necessity to improve their knowledge not only to regain custody but also to develop their parental competence.

The research aimed to analyse the educational pursuits of fathers who aspired to improve their post-divorce situation mainly in order to regulate the contacts with their children. The results of the empirical analysis (Table 1) allowed for identification of the motives behind fathers' decisions to pursue education. It has been established that 95.65% of the study group wanted to expand their knowledge of family and custody law and to acquire new skills, such as how to complete court documents, especially responses to court decisions or collecting certificates and evidence (photos, recordings) that may prove helpful in changing the unfavourable court decisions. The vast majority of fathers benefiting from the help (85.22%) wanted to expand their knowledge about proper behaviour during the divorce proceedings. It should be emphasized that the organizations providing reliable educational courses for fathers seeking custody of their children stress that the father's behaviour during the trial may significantly influence the court decision. They also point to the fact that, according to their experience, the least effective way to defend oneself and claim parental authority is to attack one's ex-wife.

The publications discussing the problem of men going through the post-divorce crisis emphasize that fathers face a very difficult situation (Dudak, 2010ab, Baskerville, 2002, Hetherington & Kelly, 2002, Wallerstein & Blakeslee 1989). Not only do they feel defeated, lonely and stressed (it also proves true for the ex-wives), but they also have to deal with the pain of separation with the child, longing, and the weakening or even lack of the emotional bond with the child. The empirical analyses showed that less than one-third of the respondents admitted that they pursued education to find new ways to deal with stress. This relatively low percentage may point to the fact that men are not willing to express their emotions and show their weaknesses. The research also proved that over half of the respondents decided to pursue education to increase their parental competence. Despite numerous opinions, fathers claiming custody of their children after a divorce are not driven by revenge against their ex-wives, but by the willingness to gain knowledge and parental skills that will provide protection for the child and a relatively stable situation during the divorce conflict.

Table 1. Motivation of fathers behind pursing education

Motivation of fathers behind pursing education	N	%
Gaining knowledge about completing court documents	110	95.65
Gaining knowledge about dealing with stress	32	27.83
Gaining knowledge about proper behaviour during the divorce proceedings	98	85.22
Developing parental competence	58	50.43

The research presented in the article attempts to discuss the forms of education most often chosen by fathers who want to gain or expand knowledge in certain fields. The research revealed that all fathers seeking custody or establishment of contact arrangements benefitted from legal and psychological counselling (Table 2) as it allowed them to receive the necessary help and support from the experts. Over two-thirds of men were members of support groups in which they could share their problems with fathers in similar situation. This form of support, however, was least popular among the study group. Little interest in the support groups may be

connected with the traits of men's personality, for instance with the fact that they are not willing to express their emotions in public. On the other hand, however, this form of activity proves to be extremely helpful in overcoming difficult life situations. The majority of respondents were quite satisfied with the internet portals; two-thirds regarded them <u>as</u> sources of information about single fatherhood, about family court proceedings, or about ways of fighting for one's rights. The respondents considered this form of activity to be a quick way to find some general tips and possible solutions. It should be stressed, however, that men treated the pieces of information available on the net as the inspiration to gain more knowledge and as a confirmation that other men experience similar problems.

Table 2. Forms of education pursued by fathers seeking custody of their children

Forms of education pursued by fathers	N	%
Legal and psychological counselling	115	100.00
Support groups	42	36.52
Using the internet portals for fathers	78	67.83

Conclusions

The aim of the research was to analyse the motivations and forms of education pursued by fathers claiming custody of a child. Their pursuits are an example of informal adult education in the contemporary society and show the importance of this form of education in the world that constantly undergoes changes and transformations. What is more, it also illustrates the contemporary people's willingness to gain knowledge in order to protect one's rights, fight with discrimination, and improve one's living conditions. The educational pursuits undertaken in order to become a better parent are exceptionally significant in the case of fathers who are aware of their important role in the process of upbringing and shaping proper behaviour in children. First of all, these pursuits increase fathers' chances to be granted the custody of a child and help them develop parental competence. What is more, the activities contribute to the changes in the image of a contemporary father who no longer wants to be "an absent father" but aspires to become "an involved father." The results of the empirical analyses presented in the article show that fathers' activities do not usually stem from the need to revenge themselves on their ex-wives (such motivations, however, cannot be excluded), but are connected mostly with the drive to maintain relations with the child and with the necessity to overcome the stereotypical attitude towards men as less competent and less needed parents.

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THE USAGE OF ALTERNATIVE ASSESSMENT TECHNIQUES IN DETERMINATION OF MISCONCEPTIONS ABOUT ELECTROMAGNETIC FIELD-MAGNETISM CONTENTS AND EFFECTS OF VIDEO-BASED EXPERIMENTS ON PRE-SERVICES' ACHIEVEMENT

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Abstract

In this study at the first stage, alternative assessment techniques were constructed to determine students' misconceptions in the electromagnetic field-magnetism contents and at the second stage, effects of video-based experiments on students' achievement were examined. The participant of this study was 55 first-year students from science teaching department. Students' misconceptions were determined using by alternative assessment techniques which are branched diagnostic trees, structured grid and concept map constructed and used as pre-test. Then, video-based experiments were used and the alternative assessment techniques were conducted to students. Paired-samples t-test results indicate that video-based experiments have significant effect on students' achievement.

Keywords: Physics education; Computer Education; Alternative Assessment Techniques; Electromagnetic field; Magnetism; Misconception.

1. Introduction

Assessment is formally defined as a measure of performance (Gagne et al., 2005). Educational assessment is the process of documenting, usually in measurable terms, knowledge, skills, attitudes and beliefs. Assessment is a mechanism for providing instructors with data for improving their teaching methods and for guiding and motivating students to be actively involved in their own learning. As such, assessment provides important feedback to both instructors and students. In addition to providing the instructors with valuable information about our students' learning, assessment should assist the students in diagnosing their own learning (Angelo & Cross, 1993). Traditional testing methods have been limited measures of student learning, and equally important, of limited value for guiding student learning. These methods are often inconsistent with the increasing emphasis being placed on the ability of students to think analytically, to understand and communicate at both detailed and "big picture" levels, and to acquire life-long skills that permit continuous adaptation to workplaces that are in constant flux. The new studies are more focused on alternative assessment and evaluation approach and include techniques that consider not only the product but the process along with it (Taşdere & Ercan, 2011). Three of these techniques are the concept map, branched diagnostic tree and structured grid.

"Concept map" is graphical tools in order to summarize understandings acquired by students (Mintzes et al., 2000). "Branched diagnostic tree" can utilize much of the information content in quantitative measurements to make efficient and accurate diagnoses (Jolly & Zalondek, 1989). "Structured grid" is an important assessment tool in that it provides assessment of meaningful learning and manifests the shortcomings and defects in knowledge network and in misconceptions in student cognitive processing (Johnstone et al., 2000).

One of the frequently studied topics in science teaching is misconceptions. There are identified student misconceptions related to many learning field and topic (solubility, electric, photosynthesis-respiration, diffusion, osmosis etc) (Chambers& Andre, 1997; Mikkila, 2001; Çalık & Ayas, 2003; Sencar & Eryılmaz, 2004; Köse & Uşak, 2006). Bahar et al (2002) identified levels of student understanding and student misconceptions regarding Newton's law of motion, work, force and energy in 10th grade physics topics by using structured grid technique. According to the results and misconceptions in understanding the effect of force on motion (Bahar et al., 2002). Bahar & Hansell (2000) prepared a structured communication grid of 16 items in order to identify student views on vitality and questioned 1000 students in primary and secondary level students about the items on the grid. Results displayed that a substantial number of students had misconceptions.

Undergraduate students and in-service teachers have some difficulties especially in alternative assessment methods at learning and application (Ozen, 2006; Birgin & Gurbuz, 2008). Science teachers prepare alternative measurement tools according to students' levels. But, there are difficulties in the effective usage of the alternative assessment tools such as project, performance task, portfolio, concept map, structured grid, branched tree, rubric, interview, etc.. To overcome application problems, 3 different teaching and assessment techniques were used in this study. When studies in literature are reviewed, we find some application of alternative assessment techniques. However, we cannot find the application of three alternative assessment techniques together in higher education. In this context, in our study we applied three alternative assessment techniques in higher education for the purpose of alternative assessment in higher education and determining of misconceptions.

In this study at the first stage, alternative assessment techniques were constructed to determine students' misconceptions in the electromagnetic field-magnetism contents and at the second stage of the study, effects of video-based experiments on students' achievement were examined.

2. Methods

2.1. Purpose of the research

The purpose of this study is to determine science education pre-services' misconceptions in the electromagnetic field-magnetism contents using by alternative assessment techniques and to examine the effects of video-based experiments on pre-services' achievement. In the context of this study, the following research questions were investigated.

Do students have misconceptions about electromagnetic field and magnetism?

Are the alternative assessment techniques effective to determine pre-services' misconceptions?

How effective is video-based experiments in preventing pre-services' determined misconceptions about electromagnetic field-magnetism contents?

2. 2. Participant

The participant of this study was 55 first-year undergraduate students (average age 19-20years) at Department of Science Teaching in a public university in Istanbul, Turkey. The socio-economic status of the undergraduates was similar and the majority of them are coming from middle-class families. According to Turkish Educational Curriculum students learn electromagnetic field and magnetism subjects under general physics II course at the second semester.

3. Instruments

In this study; alternative assessment techniques which are branched diagnostic trees, structured grid and concept map were selected to identify students' misconceptions about the electromagnetic field - magnetism contents. Many physics educators have indicated that students' knowledge plays an important role on conceptual learning (Bodner, 1986). Therefore, many researchers have investigated students' knowledge known as students' misconceptions (Osborne, 1983). They reported that the most important significant things that students bring with them to class ideas, notions and explanations of natural phenomena that are inconsistent with the ideas accepted by the scientific community (Osborne, 1983; Ausubel, 1968; Ausubel, 2000; Driver, 1986; Driver, 1978). If students' these existing conceptions are scientifically incorrect, they are called as "misconceptions" (Driver, 1978).

Students' misconceptions were determined using by alternative assessment techniques which are branched diagnostic trees, structured grid and concept map constructed and used as pre-test by researchers electromagnetic field-magnetism concepts. The prepared alternative assessment techniques' scores classified as correct (1 point), incorrect (0 points) and blank answer (0 points). Each of the answers was evaluated by the researchers and the scores were compared and discussed until an agreement was reached. Then 3 different experiment videos which are prepared by researchers were used to teach more detailed for each concept. After the video-based experiments, the alternative assessment techniques were conducted to students as post-test.

4. Findings

Paired-samples t-test results was used to compare pre-services' pre-test and post-test scores. The analysis showed that there was statistically significant difference between pre-test and post-test scores (p= ,001*). Paired-samples t-test results indicate that video-based experiments have significant effect on students' achievement.

Table 1. Comparison of pre-test and post-test scores of pre-services according to paired samples t-test results.

Groups	Mean	N	Std. Deviation	Std. Error Mean	Paired samples t test		
					t	SD	p
Pre-Test	33,44	55	6,256	0,844			
Post-Test	38,75	55	8,327	1,123	-3,673	54	,001*

Responses of the students to the pre-test and post-test showed that they had 7 misconceptions about magnets, magnetic field, magnetic poles, charged particle in a magnetic field, magnetic field of a wire, magnetism properties of the matter, magnetic field effect of electric current concepts (Table 2.). These misconceptions were not seen as much as after the detailed video based instruction.

Table 2. Percentages of students' misconceptions determined at the pre-test and post-tests in experimental and control groups.

Students' Misconceptions	(N=55)	
	Pre-Test (%)	Post-Test (%)
1. Magnitude of the magnetic force does not depend on velocity	47.0	23.0

of charged particle.		
2. Magnetic force is parallel to the plane formed by magnetic field and velocity vectors.	45.0	30.0
3. The magnetic force acted a positive charge is the same direction with the magnetic force acted a negative charge.	53.0	29.3
4. Two wires conducting in the same direction current pull each other.	34.8	12.0
5. Two wires conducting in opposite direction current attract each other.	38.3	24.5
6. A magnet attracts all metals.	51.3	32.3
7. Right-hand rules.	63.1	25.5

5. Conclusion

Gilbert, Osborne and Fensham (1982) suggested that students brought their views to science lessons. These are logical to students and have a considerable influence on how and what they learn from their classroom experiences. For meaningful learning, one alternative way is to change the instruction using a constructivist approach. In the conceptual change based instruction, several instructional tools or strategies can be used frequently for determining and eliminating misconceptions in science called as alternative assessment techniques.

The purpose of this study is to determine science education pre-services' misconceptions in the electromagnetic field-magnetism contents using by alternative assessment techniques and to examine the effects of video-based experiments on pre-services' achievement. To determine students' misconceptions about the electromagnetic field - magnetism contents, alternative assessment techniques which are *branched diagnostic trees, structured grid and concept map* were used. In the beginning of the study, alternative assessment techniques conducted to students as pre-test and misconceptions were determined.

According to the results, students had 7 misconceptions about magnets, magnetic field, magnetic poles, charged particle in a magnetic field, magnetic field of a wire, magnetism properties of the matter, magnetic field effect of electric current concepts. In this study, alternative assessment techniques were used to determine students' concepts in detailed. After the determination of the misconceptions, 3 different experiment videos which are prepared by researchers were used to teach more detailed for each concept and alternative assessment techniques were conducted to students as post-test. The results showed that determined misconceptions were not seen as much as after the detailed video based instruction.

This study makes a huge contribution using by three alternative assessment techniques together in higher. In this context, in our study we applied three alternative assessment techniques in higher education for the purpose of alternative assessment in higher education and determining of misconceptions successfully.

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THE USAGE OF ALTERNATIVE ASSESSMENT TECHNIQUES IN DETERMINATION OF MISCONCEPTIONS ABOUT ELECTROMAGNETIC FIELD-MAGNETISM CONTENTS AND EFFECTS OF VIDEO-BASED EXPERIMENTS ON STUDENTS' ACHIEVEMENT AT DISTANCE LEARNING COURSE

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Abstract

In this study at the first stage, alternative assessment techniques were constructed to determine students' misconceptions in the electromagnetic field-magnetism contents and at the second stage, effects of video-based experiments on students' achievement were examined at distance physics course. 60 second-year students were enrolled in this study from computer education and instructional technology department. Students' misconceptions were determined using by alternative assessment techniques which are branched diagnostic trees, structured grid and concept map constructed and used as pre-test. Then, video-based experiments were used and the alternative assessment techniques were conducted to students. Paired-samples t-test results indicate that video-based experiments have significant effect on students' achievement at distance physics course.

Keywords: Distance Education; Computer Assisted Learning; Physics education; Alternative Assessment Technique; Electromagnetic field-Magnetism.

1. Introduction

Nowadays, the multidimensional and complex character of the domains to be assessed is clearly recognized in distance education. And so is the need to assess them in combination with the application contexts in distance education (Sangra, 2007). However, today's distance education systems, learning has been traditionally measured quantitatively, basically through written examinations, objectives and contents (Brown et al., 1997). Today, the paradigm in distance education assessment has changed. Some of these changings are "tool to certify" to "tool to promote learning", "academic disciplines" to "professional competencies", "uniformity of techniques" to "diversity of techniques" and "final assessment" to "continuous assessment". Under the basis of the mentioned emerging trends in distance education, we would assume these trends are making the scenario change when using technology in education (Badía, 2002). Therefore, theorists tried to find the most recommendable assessment approaches to open and distance education (Morgan & Reilly, 1999). Web-supported materials and assessment tools are of great importance in technology-supported science education. But, studies have been focused on technology supported material development. It has been reported that these types of materials have positive effects on learning (Gabbard, 2000; Wen et al., 2004; Chuang & Tsai, 2005). The new studies are more focused on alternative assessment and evaluation approach and include techniques that consider not only the product but the process along with it (Taşdere & Ercan, 2011). Three of these techniques are the concept map, branched diagnostic tree and structured grid.

"Concept map" is graphical tools in order to summarize understandings acquired by students (Mintzes et al., 2000). "Branched diagnostic tree" can utilize much of the information content in quantitative measurements to make efficient and accurate diagnoses (Jolly & Zalondek, 1989). "Structured grid" is an important assessment

tool in that it provides assessment of meaningful learning and manifests the shortcomings and defects in knowledge network and in misconceptions in student cognitive processing (Johnstone et al., 2000).

One of the frequently studied topics in education is misconceptions. There are identified student misconceptions related to many learning field and topic (solubility, electric, photosynthesis-respiration, diffusion, osmosis etc) (Chambers& Andre, 1997; Mikkila, 2001; Çalık & Ayas, 2003; Sencar & Eryılmaz, 2004; Köse & Uşak, 2006). These studies have often made use of similar type tests (multiple choice, open-ended questions, two-stage tests, interviews etc) in order to identify misconceptions. According to Çalık & Ayas (2003) although multiple tests provide us with information related to student misconceptions, they do not allow for deeper understanding of the issue. In this context it becomes more important to use alternative assessment techniques that evaluate meaningful and deeper learning and that expose the relationships among concepts in the cognitive structure (Taşdere & Ercan, 2011).

When we look at the literature in distance education, we find some application of these alternative assessment techniques in distance education. However, we cannot find the application of three alternative assessment techniques together in distance education. In this context, in our study we applied three alternative assessment techniques in distance education for the purpose of alternative assessment in distance education supported by video based instruction and determining of misconceptions.

2. Methods

2.1. Purpose of the research

The purpose of this study is to determine distance education students' misconceptions in the electromagnetic field-magnetism contents using by alternative assessment techniques and to examine the effects of video-based experiments on students' achievement. In the context of this study, the following research questions were investigated.

Do students have misconceptions about electromagnetic field and magnetism?

Are the alternative assessment techniques effective to determine distance education students' misconceptions?

How effective is video-based experiments in preventing distance education students' determined misconceptions about electromagnetic field-magnetism contents?

2. 2. Participant

The participant of this study was 60 second-year distance learning students (average age 20-21years) at Department of Computer Education and Instructional Technology in a public university in Istanbul, Turkey. The socio-economic status of the students was similar and the majority of them are coming from middle-class families. According to Turkish Educational Curriculum, students learn electromagnetic field and magnetism subjects under distance general physics II course at the second semester.

3. Instruments

In this study; alternative assessment techniques which are branched diagnostic trees, structured grid and concept map were selected to identify students' misconceptions about the electromagnetic field - magnetism contents. Many physics educators have indicated that students' knowledge plays an important role on conceptual learning (Bodner, 1986). Therefore, many researchers have investigated students' knowledge known as students' misconceptions (Osborne, 1983). They reported that the most important significant things that students bring

with them to class existing ideas, notions and explanations of natural phenomena that are inconsistent with the ideas accepted by the scientific community (Osborne, 1983; Ausubel, 1968; Ausubel, 2000; Driver, 1986; Driver, 1978). If students' these existing conceptions are scientifically incorrect, they are called as "misconceptions" (Driver, 1978).

Students' misconceptions were determined using by alternative assessment techniques which are branched diagnostic trees, structured grid and concept map constructed and used as pre-test by researchers electromagnetic field-magnetism concepts. The prepared alternative assessment techniques' scores classified as correct (1 point), incorrect (0 points) and blank answer (0 points). Each of the answers was evaluated by the researchers and the scores were compared and discussed until an agreement was reached. Then, 3 different experiment videos which are prepared by researchers were used to teach more detailed for each concept. After the video-based experiments, the alternative assessment techniques were conducted to students as post-test.

4. Findings

Paired-samples t-test results were used to compare students' pre-test and post-test scores. The analysis showed that there was statistically significant difference between pre-test and post-test scores (p= ,000*). Paired-samples t-test results indicate that video-based experiments have significant effect on students' achievement.

Table 1. Comparison of pre-test and post-test scores of pre-services according to paired samples t-test results.

| Groups | Mean | N | Std. Deviation | Std. Error Mean | Paired samples t test | | |
					t	SD	p
Pre-Test	42,9667	60	6,36986	,82235			
Post-Test	47,7833	60	5,14235	,66387	-10,934	59	,000*

Responses of the students to the pre-test and post-test showed that they had 7 misconceptions about magnets, magnetic field, magnetic poles, charged particle in a magnetic field, magnetic field of a wire, magnetism properties of the matter, magnetic field effect of electric current concepts (Table 2). These misconceptions were not seen as much as after the detailed video based instruction.

Table 2. Percentages of students' misconceptions determined at the pre-test and post-tests in experimental and control groups.

| Students' Misconceptions | (N=60) | |
	Pre-Test (%)	Post-Test (%)
1. Magnitude of the magnetic force does not depend on velocity of charged particle.	37.0	12.0
2. Magnetic force is parallel to the plane formed by magnetic field and velocity vectors.	33.0	10.0
3. The magnetic force acted a positive charge is the same	37.0	13.4

direction with the magnetic force acted a negative charge.

4. Two wires conducting in the same direction current pull each other.	28.7	10.0
5. Two wires conducting in opposite direction current attract each other.	32.4	22.0
6. A magnet attracts all metals.	45.6	26.4
7. Right-hand rules.	33.6	21.8

5. Conclusion

There is a direct relationship between technology and constructivism. According to constructivism, an individual does not accept the knowledge without any qualification, but constructs discursive, defending opinions, hypothesizing and questioningly (Hendry, 1999; Shunk, 1996). Constructivist learning predicts a rich and interactive learning environment. To provide this, students requires reaching the knowledge, results and data using by analyzing arranging and using them. In this regard, constructivist learning theory encourages the students doing about something instead of learning about something (Demirci, 2009). This learning approach is a consistent way with alternative assessment techniques.

The purpose of this study is to determine students' misconceptions in the electromagnetic field-magnetism contents using by alternative assessment techniques and to examine the effects of video-based experiments on students' achievement at distance physics course. For the purpose of determining students' misconceptions about the electromagnetic field - magnetism contents, alternative assessment techniques which are branched diagnostic trees, structured grid and concept map were used. In the beginning of the study, alternative assessment techniques conducted to students as pre-test and misconceptions were determined.

According to the results, students had 7 misconceptions about magnets, magnetic field, magnetic poles, charged particle in a magnetic field, magnetic field of a wire, magnetism properties of the matter, magnetic field effect of electric current concepts. In this study, alternative assessment techniques were used to determine students' concepts in detailed. After the determination of the misconceptions, 3 different experiment videos which are prepared by researchers were used to teach more detailed for each concept and alternative assessment techniques were conducted to students as post-test. The results showed that determined misconceptions were not seen as much as after the detailed video based instruction.

This study has a great importance and makes huge contribution using by three alternative assessment techniques together in distance education. In this context, in our study we applied three alternative assessment techniques in distance education for the purpose of alternative assessment in distance education and determining of misconceptions.

Acknowledgements

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THE VALIDITY AND RELIABILITY OF THE TURKISH VERSION OF EDUCATIONAL STRESS SCALE FOR ADOLESCENTS (ESSA)

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Abstract:

The purpose of this study is to examine the validity and reliability of the Turkish version of Educational Stress Scale for Adolescents (Sun et al., 2011). Participants were 340 (160 were female and 180 were male) secondary school students. ESSA loaded on five factors. The results of confirmatory factor analysis for ESSA indicated that the four dimensional model was well fit and Chi-Square value (x^2=123.49, *df*=88, p=0.00001) which was calculated for the adaptation of the model was found to be significant. The goodness of fit index values of the model were RMSEA=.037, NFI=.97, NNFI=.99 , CFI=.99, IFI=.99, RFI=.96, GFI=.95, AGFI=.92 and SRMR=.041. The Cronbach alpha value of the scale was .87. The corrected item-total correlations of ESSA ranged from .40 to .60. Factor loadings ranged from .68 to . 95.

Overall findings show that SASS had high validity and reliability scores and that it may be used as a valid and reliable instrument. Nevertheless, further studies that will SASS important for its measurement force.

Keywords: Academic Support, Validity, Reliability.

THE VALIDITY AND RELIABILITY OF THE TURKISH VERSION OF SOCIAL-EMOTIONAL LEARNING SCALE (SELS)

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Abstract:

The purpose of this study is to examine the validity and reliability of the Turkish version of Social-Emotional Learning Scale (SELS) (Coryn et all., 2009). Participants were 350 (193 were female and 157 were male) elementary students. SASS loaded on three factor. The results of confirmatory factor analysis for SELS indicated that the three dimensional model was well fit and Chi-Square value (x^2=264.67, *df*=153, p=0.00000) which was calculated for the adaptation of the model was found to be significant. The goodness of fit index values of the model were RMSEA=.049, NFI=.96, NNFI=.97 , CFI=.98, IFI=.98, RFI=.95, GFI=.92, AGFI=.89 and SRMR=.095. The Cronbach alpha value of the scale was .90. The corrected item-total correlations of SELS ranged from .30 to .64. Factor loadings ranged from .33 to . 78.

Overall findings show that SELS had high validity and reliability scores and that it may be used as a valid and reliable instrument. Nevertheless, further studies that will SELS important for its measurement force.

Keywords: Social-Emotional Learning, validity, reliability

THE VALIDITY AND RELIABILITY OF THE TURKISH VERSION OF STUDENT ACADEMIC SUPPORT SCALE (SASS)

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Abstract:

The purpose of this study is to examine the validity and reliability of the Turkish version of Student Academic Support Scale (SASS) (Mazer & Thompson, 2011). Participants were 300 (173 were female and 127 were male) university students. SASS loaded on four factors. The results of confirmatory factor analysis for SASS indicated that the four dimensional model was well fit and Chi-Square value (x^2=140.62, df=79, p=0.00002) which was calculated for the adaptation of the model was found to be significant. The goodness of fit index values of the model were RMSEA=.051, NFI=.98, NNFI=.99 , CFI=.99, IFI=.99, RFI=.97, GFI=.94, AGFI=.91 and SRMR=.044. The Cronbach alpha value of the scale was .92. The corrected item-total correlations of SASS ranged from .50 to .75. Factor loadings ranged from .52 to . 90.

Overall findings show that SASS had high validity and reliability scores and that it may be used as a valid and reliable instrument. Nevertheless, further studies that will SASS important for its measurement force.

Keywords: Academic Support, Validity, Reliability.

TRAINING FUNCTION OF MEDIA: A RESEARCH ABOUT UNIVERSITY RADIOS IN TURKEY

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Abstract

Today, radios which began gradually to lose importance, one of the most important function is public service broadcasting. Public broadcasting, public service point of view, one of the most important elements is education. The purpose of the study, university radios in Turkey, as a result of the investigations in accordance with program content, radios adequately perform the function of the implementations of education will be put forward.

Education, Radio, Public Service Broadcasting

Introduction

The human being is in need of education as a requirement of his nature. The education plays an effective role in the transmission of beliefs and values as well as modes of behaviours of adult generations into new generations related thereto. It teaches the individuals the art of living, namely his beliefs and modes of behaviours, within the society. The education begins within family and in the meantime, continues at school and social environment.

At our current period, all sorts of information, views and opinions are transmitted to large group of people through the media covering the visual, oral and printed media (press) communication, used for the description of mass media as a whole, namely, radio, television, books, magazines, cinema and theatres and so on. The media offers the modes of various feelings and behaviours to the large group of people with rich alternatives and by doing so, it also fulfils the educational function in the meantime.

The radio playing an effective role among the mass media has entered in the life of societies for a period of time exceeding fifty years and it turns out to be a means trying to set up the connection with the universe beyond it through by way of sound. Individuals are taken out of their worlds through the radio and are able to experience what have been happening throughout the world either instantly or after a short period of time. The aim of the research will be to evaluate the role of the program contents of the universities, engaged in radio broadcasting in Turkey, within the educational process by taking the effective role of the media in the socialization and education into consideration. Relevant field scanning has been carried out is made as a research method and following this, university radios are determined and their program contents evaluated accordingly. In the evaluation of findings and conclusion part, however, new idea pertaining to the subject matter thereof is discussed and relevant assessments are made on the proposal of an effective program model.

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Public Service Broadcasting

The broadcasting is a public activity! This is because the frequencies are the property of the society. The "Public Service broadcasting" concept starting from this reality is based on the principle pertaining to the messages, transmitted by these frequencies, for the provision of service to everybody at different socio-economical level, raising their standards of living and getting information and expressing themselves freely (Aziz, 2009). Public service broadcastings are the broadcastings of autonomous and impartial institutions or establishments that are established by the state in accordance with applicable laws and have a public legal entity and of which financial sources are provided by public income. The fundamental principles of these broadcastings are as follows: to provide news and information, transfer of education and culture, entertainment, and respect to plurality in ideologies. Notwithstanding that private broadcastings take up these kinds of functions, the entertainment in this broadcasting understanding is transformed into magazine and constitute two third of the programs. Since the public broadcasting is designed for the entire population of country, the programs take place predominantly for enlightenment of the viewers on social, economical and political matters and especially in interactive communication, education and cultural services. The collection of any advertisement (commercial) does not take place in the programs of an institution that is under the administration of the state. The public service broadcasting cannot be in the service of any person/party, organization and ideology (http://www.iletisimarastirma.org/haberler/48-kamu-hzmet-yayincilii.html, 15.04.2012).

According to the social responsibility theory dwelling upon the functions of the fact that the mass media have responsibility in the social lives of individuals, it is necessary to grant right to everybody, who want to reveal an important matter, to express their opinions. As a requirement of the theory, the mass media are obliged to constitute principles such as authenticity, definiteness, objectivity, equability and so on and professional criteria that will provide the functionality of them while they carry out duties that they may have responsibility towards the society. It is also necessary to attain the principles such as giving opportunity to the revelation of opinions of different sections compatible with the principles of plurality-participation, permitting the same to give answer within this framework an so on, as a mission. It is also necessary for the media to keep the educational function in the forefront and provide the transmission of culture and art. Along all these, they must not give coverage to any broadcastings that may encourage the involvement in crime and violence, and humiliate any individuals and groups (Tüfekçioğlu, 1997: 63-64).

The Democratic participation approach concentrating on the requirements, interests and wishes of active receivers are mostly seen in liberal societies. It refuses the media under the control or guidance of the state, standardization, central structuring, theory supporting the interaction and reach to the entire society and location of plurality. According to the theory defending the fact that the groups and local communities should create their own media, the mass media has to make a viewer-focused broadcasting (Tüfekçioğlu, 1997: 71-74).

Mr. Özden, who emphasizes the importance of a public in a democratic and participative society, defends the fact that it is necessary to grant a share to the section, which does not have financial capacities or opportunities within the society to set up a radio and television, from the field of the public broadcasting under the inspection and supervision of the state. It is a necessity in the broadcasting model, suggested by Özden, to transmit the problems of the institution that is engaged in the public broadcasting, create an atmosphere for discussion and vest a right of broadcasting to different sections of the society (Cankaya, 2003: 338).

From the point of view of a general aspect, the public institutions providing services are established and administered (managed) as organizations that may be autonomous and independent from the state (central authority). The state that especially takes up the transmission section of broadcasting service does not have to go beyond the boundaries of its duty of inspection in the determination of budget and general policies of the institution and appointments, made by the broadcasting organization (Pekman, 1997: 15).

Radio Broadcasting on the Basis of Mass Media as a Field of Application of University

While the 21st century witness innovations in revolutionary nature in the field of the mass media, the grounding of the radio in these mass media is based on the 20th century. The works pertaining to the radio began in advance of television and radio has been the first electronic means offering services for public (Aziz, 2006: 5). The radio together with its participation in the social life in 1920s contained a much stronger competence of persuasion in its own structure than those of mass media available in advance of that era.

Following the launch of first regular radio broadcastings in 1920 in the USA and in 1922, however, in Europe, "it was decided in our country just a short while after as long as 4 years to launch radio broadcastings in the first years of the foundation of the Turkish Republic" (Aziz, 2008: 86) and the first radio broadcasting was initiated in 1927 in Istanbul. (Cankaya, 1997: 2).

Radio Broadcasting at Universities

The educational structures of the universities ranking among the most important institutions within the transformation process to the information society are described in Article 5 and the subparagraph no. d of the Higher Education Law no. 2547, entered in force in 1981, saying "The education-teaching plans and programs shall be prepared and permanently developed in short and long term according to scientific and technological principles, and requirements of the country and local areas" (http://www.yok.gov.tr/ content/view/435/, 08.05.2012). In this context, the universities are expected to make contribution to the social structure and way of living as a requirement of their main principles, objectives, structuring and activities. As a consequence, it is necessary for the universities to take up and support the functions with the understanding of social responsibility of being an educational institution taking place within the scope of public service understanding such as setting up ties and communication with regional environment and society where they are located, not only for its students. The development of the publication structure of the university beyond fundamental concerns such as rating, listener increase of commercial publication gives opportunity to the approaches of the public service model.

It is seen that the first university radios in our country have gone back to 1946 when the matter is taken into consideration in respect of radio broadcasting. Pursuant to Article 2 of the Wireless Law and based on the principle of ability to engage in radio broadcasting by the educational institutions, the Istanbul Technical University Radio was established in 1946, Istanbul technical School radio in 1950 and Radio of the Faculty of Science of the Istanbul University, however, in 1951 and they have taken place among the first university radios in Turkey. The university radios have the potential of some sorts of values be acquired by its listeners that are the important natures of the public service broadcasting such as pluralism, diversity, critical view and so on by means of alternative broadcasting understanding that they developed within the scope of localization. (Saran&Tunç, 2004:650).

The university radios were regarded as illegal pirate radios in Turkey at the beginning as it used to be in other countries as well and then, the university radios were given permission through relevant legal arrangements, made in subsequent periods (Özer, 2006:73). The legal arrangement that allowed the universities in Turkey to have and use the mass media opened the door to allocate frequencies and free of charge channels by the Law no. 3984 on the Establishments and Broadcasts of Radio and Television on local basis to the related faculties (http://www.rtuk.org.tr/sayfalar/IcerikGoster.aspx?icerik_id=8e56c98d-e0fd-4c25-a9c4-1c615a431b71 08.05.2012). However, the Law no. 6112 on the Establishments and Broadcasting Services of Radios and Televisions that was newly arranged at the beginning of 2011 abolished this right, given late by the Law no. 3984.

However, it is known that the university radios create a ground where it will be possible to be able to offer the functional structure of the mass media, which can assure democratic participation away from the understanding of commercial broadcasting to the society in correct, accurate and proportional manner for the

society as of its positioning within a structure both as a field of education-application of the students of the universities and attached to the university especially in this progress of becoming an information society.

Radio Programming and Features of Radio Programs, Designed for Education

The main starting point of the radio programming begins with the determination of the characteristics and requirements of the listener mass. However, this structure will contain features varying in parallel with the coverage area and location of the radio. The structure of the radio programs within this scope have to be handled basically from the point of view of the functionalities of the radio and the listener-mass and other features of the radio – technical specifications, coverage zone and so on – have to be mixed and formed accordingly. The functionalities of the radio, however, are taken into consideration under following topics:

- Provision of news, informing,
- Educating, acculturation,
- Introduction of goods and services,
- Entertainment,
- Persuasion and mobilization.

While the provision of news and informing takes the priority among all these functionalities, the use of the radio and television as an educational means especially in the countries that could not achieve so far to complete their national developments is regarded as the most effective mode of education of the last 30-40 years (Aziz, 2006: 70). The duty for the realization of programs, designed especially for educational function, of the radio in our country is granted upon the TRT by Article 121 of the 1961 Constitution as is indicated in the Radio Broadcasting section in Turkey.

Notwithstanding that frequent amendments were made in the radio and television broadcasts from the establishment of the TRT up to the private radio-television broadcasting process, the programs, designed for education, have continually find place at these arrangements even if their scope and form might show changes.

Article 4 of the Law no. 3984 on the Establishment and Broadcasts of Radios and Televisions explains the idioms, mentioned (experienced) in the application of the regulation related thereto. According to this Article, the educational programs:

Educational Programs: These are the sorts of programs that are formed up in order to contribute to the development of individuals, who form up the society, in terms of social and cultural aspects and make possible for them to have knowledge on social, cultural, economic and legal developments and contain educational elements in the context of relevant subject matters, presentations, modes, methods and techniques. The principles pertaining to the educational programs are indicated in Article 26 of the same Law: The educational programs are the types of programs that aim the information and development of the indicated group of people where it is addressed and made in accordance with the principles of broadcasting, provided to be designed for children, youngsters, families, general listeners and/or audiences, farmers and peasants as well as for various business and profession groups. It is necessary for the educational programs within this scope to be prepared by taking advantage of consultants having expertise on the matter whereof and to allocate 5 % of the total weekly broadcasting period to the education contents. (http://www.rtuk.org.tr/ sayfalar/IcerikGoster.aspx?icerik_id=f512243b-b2c1-4a77-9d93-d6d2aa5b5543, 08.05.2012)

The program structure with educational content can comprise the basic education or auxiliary, enhancing-promoting education (Aziz, 2006:176-177). While the educational broadcasts with narrow-scope cover the content of formal education, it is possible for the educational broadcasts to be consisted of contents that are related to the social life, all knowledge and information beyond the boundaries of basic education and in the meantime, they cover the program features supporting the individuals as of its general culture aspect.

No clear arrangements pertaining to the education, programs, designed for education, and their rates of broadcasts are not available on the Law no. 6112 on the Establishments and Broadcasting Services of Radios and Televisions, entered into force finally with relation to the radio and television broadcasts.

Research

Importance and Objective of the Research

The importance of universities and mass media cannot be denied within the process of formation of the information society. The inclusion of a mass media (instrument) such as radio especially in the broadcasting structure through the universities bears a significant importance within the social education process.

Private radios operating under the dominance of commercial broadcasting offer contents for entertainment within the framework of concerns such as program contents and broadcasting structures as well as rating, profitability, more listeners and so on. In this context, it is extremely important for the university radios to become a part of the broadcasting field from the point of view of the social education and public service model.

The aim of the research is to assess the role that the program contents of the universities, engaged in radio broadcasting in Turkey, play within the education process by taking the effective role of the media in the socialization and education into consideration. It is aimed to make evaluations on the proposal of an effective program model by assessing related evidences and discussing new ideas pertaining to the subject matter hereof.

Assumptions of the Research

The university radios are also within a structure away from a public service broadcasting model even if for causes different than the radios, engaged in commercial broadcasting.

They leave the entertainment function behind the educational and cultural functions and adopt a broadcasting understanding, predominantly music based.

Methodology of the Research

Relevant field scanning has been made in summer as a research method and afterwards, the flows of broadcast and program contents of the universities pertaining thereto were reached. The broadcasting periods of the programs and classifications of program contents have been made and they are examined comparatively.

All university radios operating in Turkey have been taken into consideration at the research as a main mass. Since the number of the main mass is limited, sampling have been used, research has been applied the whole main mass. Thirty university radios that are on air over internet and FM band have been determined and reached twentyeight of those radios.

Programme contents and broadcast streams of twentyeight radios are seached on the internet first. Remainings were studied through phone call with the radio officials. Radio programme contents are classified into two main groups as verbal and musical programmes in this article.

The verbal programmes are studied in the category of magazine, culture-art, education, news and sports headlines.

Model Proposal in the Context of Findings

That 20% of the pragrammes are verbal, 80% of them are musical has been determined in the research. The percentages of programme kinds in the category of verbal programmes are presented in Graphic 2.
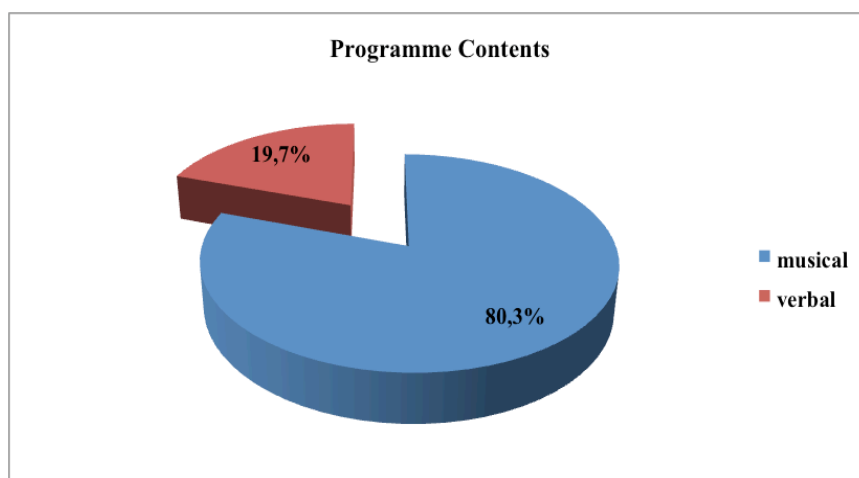
Graphic 1. Programme Contents
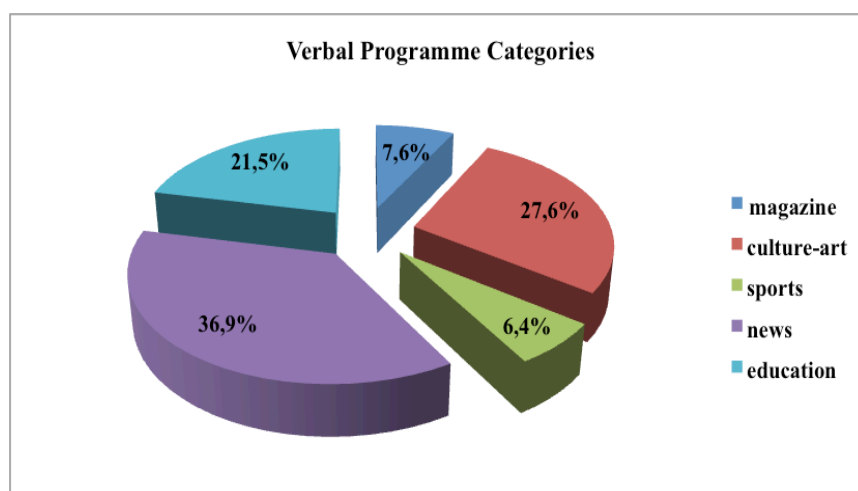
Graphic 2. Verbal Programme Categories

When it is taken into consideration of the fact that 20 % of the content, determined within the scope of the research, consisted of talk (oral) programs and remaining 80 %, however, of music programs, it is seen that the radios are converted into music boxes that commence to lose their educational and cultural functions gradually. However, on the basis of the fact that this structure exhibits a behaviour away from the corporate structure of both the university and radio, an opinion has been created that a university radio due to be structured under the proposed topics will take the social merits into consideration more.

It is necessary for the university radios to exhibit a closer standing to the public service broadcasting differently from private radios, engaged in local, regional and national broadcasting being structured with commercial broadcast understanding. In this context, they should arrange the broadcasting contents by taking the cultural, artistic and educational aspects of the society into consideration and in a direction to meet the expectations in these fields.

An understanding of broadcasting that may constitute an example to other radios should be adopted within the framework of the public service broadcasting.

It is necessary to give coverage to the programs attaching importance to the people's voice, participation committed to the principle of democratic participation, apart from unique broadcasting being a consequence of globalization within the framework of an understanding of a democratic broadcasting.

It is necessary to increase the publications that contain periodical activities, sporting and cultural activities, developments on environment, art and health as well as renewals, and bring forward the problem of the university youth as well as any changes and transformations in the training and education.

It is necessary to concentrate on the contents supporting social life by mentioning about the problems of the region, city and people.

It is also required to prepare related research results that the universities may determine according to the country and local requirements and develop within scientific and technological framework and also various programs where they may offer information therein, and the information has to be shared with the society through the programs due to be conducted by university experts at independent institutions.

Within the light of all proposals, brought forward in this respect, the university radios should not be perceived as institutions that contribute only to the social life and do not have to give place to any other content apart from the implementation of educational functions, and the duty, taken up within the scope of its students being the requirement of being an university unit, should not be taken into consideration within the scope of contribution only to the social living. The demands and expectations of the students, academicians and their requirements or studies as well as institutional successes should be presented to the society. A mode of broadcasting where an excessively boring and didactic structure becomes predominant should not be adopted by keeping the "comprehension of educating while entertaining" in the preparation and presentation of all program contents especially.

Conclusion

The importance of education that gains an effective function during the life is significant to transfer the beliefs and values certain modes of behaviours to the new generations. The education that is one of the most important functions of the mass media should effectuate the entertainment function jointly with it in order to get away from a didactic mode. The education within a narrow scope transmits the information allowing the integrity of individual with society; it takes up a function for the socialization of individual, facilitation of his life and provision of necessary information to allow him to make his living. When the matter is evaluated out of the radio broadcasting that especially constitutes the main subject matter of the research, the information and cultural programs comes into the scope of education in its broad meaning. At this point, the education in broad meaning contributes to the education in a narrow sense, and takes its place from time to time. The radio ensures the transmission of information that will replace basic education and teaches occupation and knowledge.

At our current period, the offer of only service by mass media to the society is not seen as sufficient. It is necessary for them to constitute a participation that will ensure the individuals within the society to put forward their opinions within the framework of democratic participation and social responsibility theories. The radios should express the good tastes and problems of the mass (group of people) that they may address at local and regional arena, and take place within the comprehension of programming that will ensure the individual to integrate with the society. However, it appears that a great proportion of the radios, examined within the scope of the study, get away from the understanding of necessity making broadcast towards the educational function within the scope of public service broadcasting.

The radios should offer alternatives to the private radios along with the public service understanding on the basis of the concepts of public service understanding, educational and cultural functions of the mass media - information society. It is necessary to bring the local matters on the agenda more often with the purpose of the development of local one in the radio broadcasts in order to prevent the uniformity that becomes prevalent within

the framework of globalization. The number of the music programs in Turkish should be increased as well along with those of programs in foreign music.

In conclusion, the university radios, engaged in public broadcasting, should make contribution to the formal and informal education, and adopt a broadcasting comprehension reflecting the plurality that invite the people for participation where the democratic participation is kept in the forefront, "education with entertainment" by giving place in the culture-art, news-sporting, magazine and so predominantly beyond the music programs.

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TÜRKÇE METINLERI TÜRK İŞARET DILINE ÇEVIRME

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Özet

Bu çalışmada, Türkçe metinler, işitme engellilerin konuştuğu Türk İşaret Diline dönüştürülmektedir. 3B sanal bir insan modeli kullanılarak işaret dili kelime ve harf animasyonları gerçekleştirilmiştir. Türkçe metindeki aktif kelimenin işaret dili karşılığı Tük İşaret Dili (TİD) veritabanında araştırılmakta, eşleşmesi durumunda da geliştirilen ara yüzde kelimenin animasyonu oynatılmaktadır. Kelime veri tabanında bulunamadığında, işaret dilinde heceleme gerçekleştirilir. Önerilen sistem televizyon yayınlarında, konferans ve okullardaki ders sunumları gibi ortamlarda kullanılarak işitme engellilerin yaşam kalitesi artırılabilir. Sistemde 40 kelime bulunmaktadır, ancak işaret dili hecelemesi ile bütün kelimeler hecelenebilir durumdadır. Yeni kelimeler ve animasyonlar eklenerek sistem kolaylıkla genişletilebilir.

Anahtar Kelimeler: Türk İşaret Dili; Yazıdan İşaret Diline Dönüştürme; İşaret Dili Heceleme

Abstract

In this paper, Turkish texts are converted into Turkish Sign Language which deaf people speaks. Sign language word and letter animations are carried out with using a 3D virtual human model. Sign language corresponding the current word in Turkish text is searched in Turkish Sign Language (TSL) database, in case of a match, the animation of the word is played in the designed interface. When the word is not found in the database, spelling is carried out in sign language. The quality of life of deaf people will be improved with the use of the proposed system such as telecasts, conference presentations and lecture presentations in schools. 40 words exist in the proposed system, but all words can be spelled with sign language spelling. The system can be easily expanded by adding new words and animations.

Keywords: Turkish Sign Language; Text to Sign Language; Finger Spelling

Giriş

Türk İşaret Dili işitme engellilerin kullandığı görsel, karmaşık hareket yapısına sahip doğal bir dildir. İşaret dili evrensel bir dil değildir. Hemen hemen her ülkenin kendine özgü bir işaret dili vardır. Örneğin Amerikan İşaret Dili (ASL), Alman İşaret Dili (GSL), farklı alfabe ve kelimelere sahiptirler. İşaret dilleri arasındaki benzerlik sağ el, sol el ya da her iki el hareketleri gibi insan vücudunun karmaşık hareketleri ile oluşturulmasıdır. Konuşmacı yapmış olduğu işaretleri yüz ifadeleri ve gözleri ile de destekler (Öz, 2004).

İşaret dilinin yapısı hakkında yapılan ilk çalışmalarda, Amerikalı Wilbur (1987), işaret dili işaretlerinin oluşumunu analiz etmede ASL yapısını kullandı. Amacı el şekillerini, ellerin konumlarını ve hareketlerini içeren sembolleri kullanarak bir ulusal işaret dili yazma sistemi geliştirmekti. Daha sonra Stokoe (1978), işaret dilini analiz etmede üç önemli özelliğin; el şekilleri, el konumu ve hareketinin dikkate alınması gerektiğini belirtmiştir. Battison da (1978) dilin yapısını anlamada ilave olarak avuç içi yönünün dikkate alınmasını önermişlerdir. Bu ve benzer işaret dili çalışmaları sonraki işaret dili araştırmacılarına yardımcı olmuştur.

İşaret dili çalışmaları iki farklı ama birbirlerini destekleyici yönde yürütülmüştür. Birincisi, işitme engellilerin vücut hareketleri ile konuştukları dili işitme problemi olmayanlar için sese ve yazıya dönüştürme yönündedir. İkincisi ise sesi ve yazıyı işitme engellilerin anlayabilmeleri için animasyon şeklinde işaret diline dönüştürmedir.

Algılayıcılar ve bilgisayar teknolojilerindeki gelişmelere paralel olarak bazı başarılı bilgisayar görmesi tabanlı işaret dili araştırmaları yapılmıştır. İlk işaret dili tanıma araştırmaları 1990'lı yıllarda görülmeye başlanmıştır. Charahpayan ve Marble (1992) Amerikan İşaret Dilinin işaretlerinin oluşturulmasında elin hızını kullanarak bilgisayar görmesi tabanlı bir sistem geliştirmesi üzerinde çalışmışlardır. Takahashi ve Kishimo (1991) ise VPL veri eldiveni ve range sınıflandırması kullanarak 46 Japon İşaret Dili alfabesini tanıma üzerinde çalışmışlardır. Bu çalışmalar basit olarak eklem açıları ve el yönelmesinin kodlanması şeklindedir.

1990'da, Kramer ve Leifer veri eldiveni kullanarak Amerikan İşaret Dili heceleme sistemi geliştirmişlerdir (Kramer 1990, Kramer 1996). Murakami ve Taguchi (1991) 110 farklı Japon İşaret Dili işaretini tanımayı gerçekleştirmişlerdir. 1995'de Waldron ve Kim yapay sinir ağları metodunu kullanarak, el şekli, el konumu ve oryantasyonunu kullanarak 14 Amerikan İşaret Dili kelimesi tanıma gerçekleştirmişlerdir (Waldrom, 1995). Wysoski ve arkadaşları 2002'de görmeye dayalı bir Amerikan İşaret Dili tanıma sistemi gerçekleştirmişlerdir (Wysoski, 2002). Yapay sinir ağı kullanarak 26 sabit el şekli tanıması gerçekleştirmişlerdir. Allen ve arkadaşları Amerikan işaret dili için heceleme sistemi gerçekleştirmişlerdir. Bu sistem 26 el şeklinden 24'ünü tanıyabilmekte idi (Allen, 2003). 2004'de Wang, ÖZ ve arkadaşları, Amerikan İşaret Dili el şekilleri tanıma sistemi gerçekleştirdiler. Sistem veri eldivenleri ve motion traker kullanmakta sınıflandırmada ise yapay sinir ağları ve markov modeli kullanılmıştır (Wang 2004).

Konuşma dilinin işaret diline dönüştürülmesi çalışmaları, modelleme programlarının ve ses tanıma sistemlerinin gelişimine bağlı olarak literatürde 1990'lı yıllarda görülmeye başlamıştır. Önce basit iki boyutlu figürlerle yapılırken günümüzde 3B insan modelleri ile gerçekleştirilmektedir. Bu çalışmalar genellikle hava durumu sunularının, hava yollarındaki uyarıların çevirisi vb. konulardadır (San-Segundo, 2008, Reyers, 2006).

Bu çalışmada, Türkçe metinler, işitme engellilerin konuştuğu TİD dönüştürülmektedir. Bu çalışmada sanal insan modeli kullanılarak TİD kelimeleri ve harflerinin animasyonları gerçekleştirilmiştir. TİD'nde 750 civarında kelime bulunmaktadır. Bu kelimelerden 40 tanesinin animasyonu oluşturulmuştur. TİD kelime listesinde yer almayan kelimeler, işaret dili alfabesi ile hecelenerek gerçekleştirilebilmektedir. Bu yüzden 29 harfin de animasyonu oluşturulmuştur. 750 kelimenin tamamının animasyonu oluşturularak sistem daha verimli hale getirilebilir. Uygulamada geliştirilen ses tanıma ara yüz programı ile gerek mikrofondan alınan sınırlı ses ile gerekse kayıtlı dosyadaki sesler Türkçe yazı diline ve karşılığında TİD animasyonuna dönüştürülmektedir.

Türk İşaret Dili

Türk İşaret Dili (TİD) Türkiye ve Kuzey Kıbrıs Türk Cumhuriyet'indeki işitme engelliler tarafından kullanılan dildir. İşaret dilleri birbirinden farklıdır. Genelde her dil için bir de işaret dili geliştirilmiştir. İşaret dili aynı zamanda yörelere göre kendi içerisinde farklı kelimelere de sahip olabilmektedir. İşaret dilleri farklı olmakla birlikte türetildikleri işaret dili ile benzerlikler göstermektedir. Türk İşaret Dili İngiliz İşaret Dilinden etkilenmiştir. Bu yüzden de İngiliz işaret dili ile benzerlikler göstermektir. Amerikan İşaret Dili ise Fransız öğretmenler tarafından geliştirildiği için Fransız İşaret Diline benzemektedir. Diğer işaret dilleri gibi Türk İşaret Dili de Türkçenin gramer yapısından farklı olarak kendine özgü bir gramer yapısına sahiptir.

Türk İşaret Dili kelime listesinde yaklaşık 750 işaret bulunmaktadır. Bu kelime listesi, çoğunlukla İstanbul'da kullanılan işaretlerden oluşmaktadır. Bunun nedeni işaret dili bilen kişilerin çoğunun İstanbul'da doğmuş ve okula gitmiş kişiler olmalarıdır. Kelime listesi kategorileri; alfabe, sayılar, zamanla ilgili kavramlar, görsel kavramlar, hayvanlar, meslekler, yer isimleri, zamirler, anlatımlar olarak gösterilebilir (http://www.turkdeaf.org/01turkisaretdili/01AnaSayfa/inind01.asp).

TİD'nde bir kelimeye karşılık birden fazla işaret olabilmektedir. Bu, yöresel değişikliklere ve konuşmadaki ağız ifadelerine benzetilebilir. İşaret dili kelimelerle konuşulur. Bu kelimelerle konuşmak hızlıdır. Ancak kelimelerin yeterli olmadığı, özel isimlerin söylenmesi gerektiği gibi durumlarda harf işaretleri ile heceleme yapılmaktadır.

Konuşma dilindeki bazı kelimelere karşılık işaret dilinde bir işaret belirlenmiştir. Bunlara işaret dilinin kelimeleri denir. Bu kelimeler kısıtlıdır. Amerikan işaret dilinde 6000 tane, Türk işaret dilinde 750 civarında toparlanmış kelime vardır. İşitme engelliler genellikle bu kelimelerle konuşurlar.

Heceleme ise konuşma dili kelimelerinin, konuşma dilinin harflerine karşılık gelen el şekilleri ile tek tek yapılmasıdır. TİD'nde yer alan 29 harf Şekil 1'de gösterildiği gibi iki elin çeşitli şekilleri ile oluşturulmaktadır. Ancak tek el ile de alternatif bir Alfabe ifadesi söz konusudur.
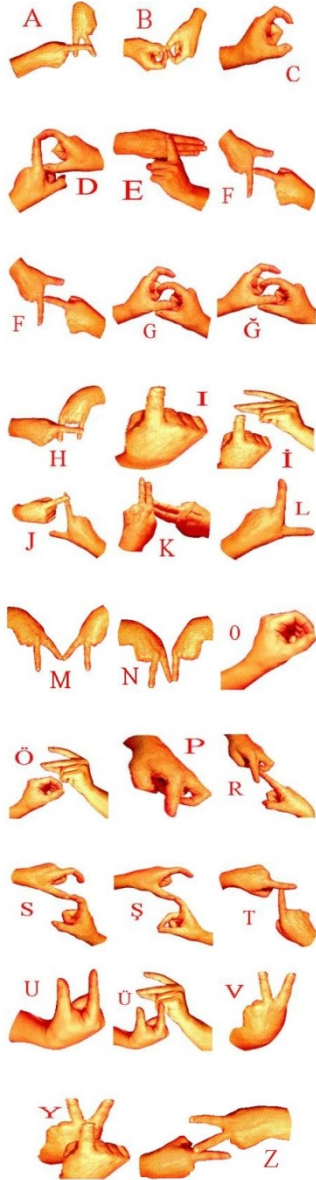
Şekil 1: Alfabe işaretleri (Hazırlayan: İşitme Engelliler ve Dostları Kulübü)

Sanal Model Oluşturma

Video oyunları, animasyon film geliştiricileri ve simülatör gerçekleştiricileri, 1970'lerin sonundan beri gerçeğe yakın sanal karakterlerin oluşturulması ve bunların kaplanması problemleriyle uğraşmaktadırlar. Sanal modelleri geliştirmek, sırası ile iskeletlerinin oluşturulması, kaplanması, anime edilmesi ve grafik motorlarının kabul edeceği formatta sunulmasıdır. Bu, modelin işlevi ve özelliklerinin belirlenmesi, modelin karalama çizimlerinin oluşturulması, modelin 3B model tasarım programları ile gerçekleştirilmesi, görüntü işleme programları ile kaplamaların hazırlanması, modele kaplamanın giydirilmesi ve grafik motorunda etkileşime izin verecek şekilde animasyon ve sıralamalarının gerçekleştirilmesi gibi sıra ile takip edilecek çok sayıda ara işlemlerin yürütülmesini gerektirir [5]. Bu aşamaların genel yapısı Şekil 2'de verilmiştir.
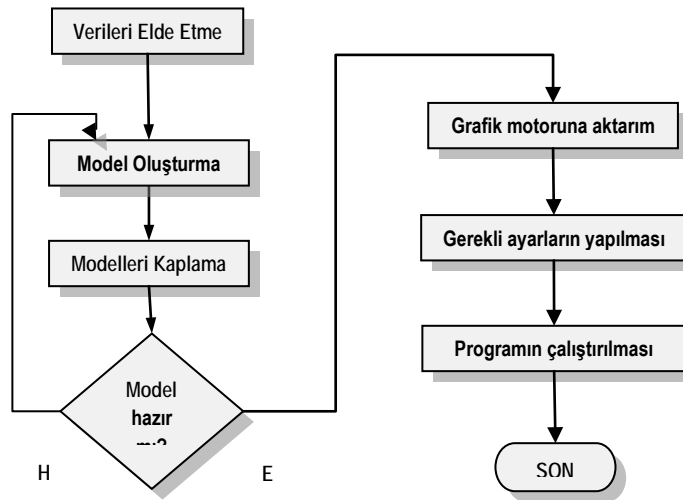
Şekil 2. Sanal modellerin oluşturulma aşamaları

Sanal İşaret Dili Konuşmacı Tasarımı

Türk işaret diline ait kelime ve harflerin sunulması için 3B sanal bir kadın modeli oluşturulmuştur. Bu model ile işaret dilinin kelimeleri, rakamları ve alfabedeki tüm harflere ait animasyonlar tasarlanmıştır. Sanal kadın modeli ve animasyonu için 3B insan modelleme programları kullanılmıştır.

Günümüzde 3B modeller oluşturmak için çok sayıda program mevcuttur. Bu programlar, film ve oyun sektörü için hızlı model oluşturmayı sağlayan birçok bileşenle gelirler. DI-Guy, DAZ 3D, Poser vb. programların yanında MAYA, 3DStudio MAX, MultiGen Creator programlarıyla 3B modeller üretilmektedir. Ancak bu programların birçoğu yüksek maliyetlidir. Bu çalışmada Poser ve Daz 3d programlarının demo versiyonları kullanılmıştır. Poser, üç boyutlu insan figürü modellerini tasvir için optimize edilmiş, daha çok poz ve animasyon yapmak için kullanılan 3D CGI render ve animasyon yazılım programıdır. Poser programının hayvan, robot, insan ve çizgi film kahramanlarının bulunduğu temel bir kütüphanesi vardır. Bu kütüphanede ayrıca pozlar, saç parçaları, sahne, dokular, el hareketleri ve yüz ifadeleri bulunur. Birçok Poser figürü Daz 3D de kullanılabilir. Daz 3D, Poser dosya formatlarıyla uyumlu olacak şekilde tasarlanmıştır. Bu projede Daz 3D ile uyumlu Poser programının kütüphanesinde yer alan "Business Woman" modeli kullanılarak Daz 3D' de animasyonlar oluşturulmuştur.

Gerçekleştirilen Çalışma

Kullanıcı ara yüzü programını oluşturmak için Microsoft Visual Studio 2010 kullanılmıştır. Türkçe metinler, metin dosyası (text) olarak veya kopyala yapıştır şekliyle programın metin penceresine aktarılır. İşitme engelli kişi TİD düğmesine tıklayarak sıra ile metindeki kelimelere karşılık gelen animasyonların oynatılmasını sağlamaktadır. Kullanıcı, sınırlı sayıda canlı veya kaydedilmiş, sesli Türkçe kelime ve cümleyi de programın ses tanıma modülünü kullanarak işaret diline çevirebilmektedir.

Harflere, rakamlara ve belirlenmiş kelimelere ait animasyonların bilgisayardaki klasörü ilgili öğe ile eşleştirilmiş bir şekilde veritabanında tutulmaktadır. Bu animasyonların bilgisayar üzerindeki konumlarının bulunması aşamasında Microsoft SQL Server 2008 ve T-SQL dili kullanılmıştır. Kullanıcı tarafından girilen ses verisinin HTK (Hidden Markov Modelling Toolkit) (http://htk.eng.cam.ac.uk) kullanılarak akustik özellikleri çıkarılır ve daha önceden eğitilmiş saklı markov modeller sayesinde tanınır ve ilgili metne dönüştürülür.

Yazılı metin işaret diline çevrilirken metin içerisinde bulunan her bir kelime sırayla ve tek tek ele alınır. İlk olarak kelimenin animasyon karşılığının veritabanında olup olmadığına bakılır, var ise uygun animasyon oynatılır. Veritabanında kelimenin işaret dilindeki karşılığının animasyonu bulunamadığında ise şu yol izlenir; Türkçe sondan eklemeli bir dil olduğundan bu kelimenin bir kökünün olabileceği ve bunun işaret dilindeki karşılığının veritabanında bulunabileceği düşüncesinden hareketle, kelimenin sonundan bir karakter atılarak tekrar veritabanında aranır. Sondan karakter atma işlemi kelimenin ilk üç karakteri kalana kadar devam ettirilir. Eğer bu işlemler sonunda da kelimenin işaret dilindeki karşılığı bulunamazsa işaret dilinde bu kelimenin karşılığı olmadığı kanısına varılır. Kelimenin hiçbir şekilde işaret dili karşılığı bulunmadığında ise kelimeyi oluşturan her bir harfin işaret dili karşılıkları ekrana basılır, yani heceleme yapılır. Şekil 3'de örnek harf işaretleri verilmiştir. Şekil 4'de ise geliştirilen programın kullanıcı ara yüzü verilmiştir.

(a) (b) (c)
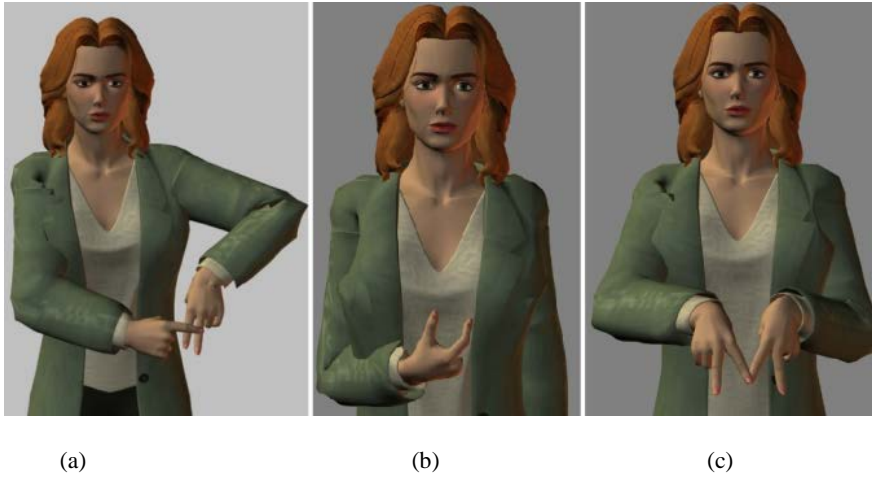
Şekil 3: Türk İşaret Dili harfleri (a) A harfi (b) U harfi (c) M harfi

Şekil 4: TİD için geliştirilen programın kullanıcı ara yüzü

Sonuç ve Öneriler

İşitme engellilerin toplumla bütünleşmesinin önünde birçok sorun bulunmaktadır. Normal insanlarla iletişim kurma, basılı eserlerin okunması, TV programlarının ve sesli sunumların anlaşılması bu problemlerden bazılarıdır. Bu sorunlar, engelli bireylerin içinde yaşadıkları toplumla işlevsel bir bütünlük içinde yaşamalarını güçleştirmektedir.

Bu çalışmada, Türkçe metinler ve sınırlı sayıda sesli kelime, işitme engellilerin konuştuğu Türk İşaret Diline dönüştürülmektedir. TİD vücut hareketleri ile oluşturulan görsel bir dildir. Resimlerle ifade edilmesi anlamayı yavaşlatmakta ve zorlaştırmaktadır. Sanal bir insan modeli ile işaret dilinin gerçekleştirilmesi daha anlaşılır olmaktadır. Bu çalışmada, 3B sanal insan modeli kullanılarak TİD kelimeleri ve harflerinin animasyonları gerçekleştirilmiştir. TİD de 750 civarında kelime bulunmaktadır. Bu kelimelerden 40 tanesinin animasyonu gerçekleştirilmiştir. TİD kelime listesinde yer almayan kelimeler, işaret dili alfabesi ile hecelenerek gerçekleştirilmektedir. Bu yüzden 29 harfin de animasyonları tasarlanmıştır. 750 kelimenin tamamı gerçekleştirilerek sistem daha verimli hale getirilebilir Uygulamada geliştirilen ses tanıma ara yüz programı ile gerek mikrofondan alınan sınırlı ses ile gerekse kayıtlı dosyadaki sesler Türkçe yazı diline ve karşılığında TİD animasyonuna dönüştürülmektedir. Önerilen sistem televizyon yayınlarında, konferans ve okullardaki ders sunumları gibi ortamlarda kullanılarak işitme engellilerin yaşam kalitesi artırılabilir. Sistemde 40 kelime bulunmaktadır, ancak işaret dili hecelemesi ile bütün kelimeler hecelenebilir durumdadır. Yeni kelimeler ve animasyonlar eklenerek sistem kolaylıkla genişletilebilir.

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TURKISH VERSION OF SHORTENED FAMILY RESILIENCY SCALE (FRAS): THE STUDY OF VALIDITY AND RELIABILITY

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Abstract

Walsh (1998) conceptualized family resiliency as strength-oriented family paradigms and proposed three over-arching constructs (family belief systems, organization patterns, and communication processes) with nine sub-constructs. According to the Walsh (1998) model, Sixbey (2005) developed shortened Family Resiliency Scale (FRAS) with total 54 items, including 4 reverse items, formed by 4 Likert type. FRAS which consists of six factors, has α = 0.96. total reliability and has good concurrent criterion validity with three well known scales. The aim of this research is to adapt to FRAS into Turkish and to examine its psychometric properties. The study was conducted on 433 students from Sakarya University Educational Departments. The participants were 304 (70 %) female and 129 (30 %) male, the mean age of the participants was 22 years. Firstly the language equivalency of the scale was found equivalent. Then total reliability was found α is .92 And to confirm the original scale\'s structure in Turkish culture the confirmatory factor analysis (CFA) was executed and found that the model was well fit and Chi-Square value (x2/degree of freedom= 2.18, N=433) which was found to be significant for the adaptation of the model. The goodness of fit index values of the model were RMSEA=.058, CFI=.93, IFI=.92, GFI=.92, AGFI=.93, SRMR=.066). According to these values it can be said that the structural model of Family Resiliency was well fit to the Turkish culture.

Keywords: Family Resiliency, Validty and Reliability

Introduction

Family therapy researchers have recently examined normal family functioning and family strengths and competences instead of family pathology (Walsh, 1996). Based on this premise family resiliency that describes the healthy family functioning in adverse situations has gained importance in mental health research (Sing & Yu, 2010; Walsh, 2003). Although many researchers (Hawley & DeHann, 1996; McCubbin & McCubbin, 1996; Patterson, 2002; Walsh, 1998) have defined different features of family resiliency all of them based their definition on systematic, ecological and developmental views. In consistent with systematic view, the family is seen as a system not only based on dyadic relations but also broader social relations. According to ecological view, family one of the system has mutual interactions with other systems (e.g., school, job settings, peers) and has been impacted by them on its capabilities in problems solving, risks etc. As said by developmental views a family within its life cycle faces many different stressors and uses many different coping and adaptation strategies over extended times (Rutter, 1987; Wash 1996; 1998; 2002).

Based on these premises, McCubbin and McCubbin (1996) offered the Resiliency Model of Family Adjustment and Adaptation and defined family resiliency as the family's capability to use their behavioral and functional resources during the crises. His resiliency model was much more based on ecological view consists of adjustments and adaptation phases. In adjustment phases a family passes through five appraisal process (5: family schema, 4: family coherence, 3: family paradigms, 2: situational appraisals, 1: Stressor appraisal). In adaptation phases a family utilize problem solving strategies and coping mechanisms. In consistent with his model McCubbin and McCubbin developed many valid and reliable scales (e.g., the Family Inventory for Life Events and Changes : McCubbin, Patterson, & Wilson, 1983; Family Hardiness Index : McCubbin, McCubbin, & Thompson, 1986 , etc.) In consistent with McCubbin and McCCubbin (1996), Hawley ve DeHann (1996) indicated that family resiliency includes adaptation of family to stressors in a positive way and growth of family

depending on risk and protective factors and contexts. And also Patterson (2002) explained that a resilient family's adaptation to crises and maintaining its functions, which are related to its competence and coping style (e.g., meaning of significant risk exposure, distinctions between family system competence and protective factors).

Walsh pointed that a resilient family has an ability to recover from adversity in stronger and more resourceful way proposed three over-arching constructs (family belief systems, organization patterns, and communication processes) with nine sub-constructs (Walsh, 1996, 2003). The family belief system construct including making meaning of adversity, positive outlook, and transcendence and spirituality sub constructs has an valuable power to normalize adversity, to make sense of the experience and to mitigate the negative reactions of family members and to build and increase the confidence of family during the crises. The organization patterns construct consisting of flexibility, connectedness, and social and economic resources has a crucial role to prepare a family for many transitions (e.g., divorce, death, remarriage, etc.) and to guide in tumultuous changes and rearrange family structure. The communication processes comprised of clarity, open emotional expression, and collaborative problem solving especially has an essential resource in adversity for family to delineate ambiguous situations, to induce open emotional expression and empathic behaviors, and to increase cooperative problem solving (Walsh, 1996; 2002; 2003).

The concept of the family resiliency has been studied in different problems and adversities [a family living with chronic illness or disabilities (e.g.,Rolland, 1994; Rolland, 2005; Rolland & Walsh, 2005, divorced family (e.g., Hethertingon & Hagan, 1999; Kelly & Emery, 2003; Whiteside, 1998) ; a family encountering with trauma (e.g., Agani, Landau & Agani, 2010; Landau, Mittal & Wieling 2008; Landau & Saul, 2004; Walsh, 2007); a family member suffering with substance addictions (e.g., Launda & Garret, 2008)] . In parallel with these studies, many preventive and developmental family resiliency programs have been developed, especially Chicago Center for Family Health developed and applied many family resiliency programs for serious and chronic, illness, disability, and loss; divorce, lesbian and gay couples, war related trauma, job loss, transition and etc. The family resiliency programs consist of psycho-education, workshops, conferences, periodic consultation with family, intense family therapy. In psycho education, workshop and conferences families get information about crises management, coping with stressful events in a concrete and practical ways. In intense family therapy; families are assessed within their socio-cultural context, the families' problems are defined, families' strengths and hopes are revealed collaboratively, effective coping mechanism against problems are taught (Rolland & Walsh 2005; Walsh, 2002; 2003).

All of these mentioned family resiliency studies have used qualitative methods in their studies (Sixbey; 2005). Therefore Sixbey (2005) has developed Family Resiliency Scale (FRAS) to examine family resiliency with quantitative methods. The original version of FRAS based on Walsh's family resiliency model and nine sub-constructs of his model consists of 66 items, including six reversed items, formed by 4 Likert type (*from (1) strongly disagree to (4) strongly agree)*. The total score of the FRAS can range from 66 to 204. The factor analysis of the original version of FRAS did not confirm Walsh's nine sub-constructs and the original version of FRAS was reanalyzed by decreasing items and high level of the internal consistency and reliability was obtained. The shortened version of FRAS has 54 items, including 4 reverse items, formed by 4 Likert type. The total score of the FRAS can range from 54 to 188. And the shortened version of FRAS comprises of six factors (*family communication and problem solving, utilizing social and economic resources, maintaining a positive outlook, family connectedness, family spirituality, ability to make meaning of adversity)*. The shortened version of FRAS sub-constructs' factor loading is .45-.77 for family communication and problem solving, .54-.78 for utilizing social and economic resources, .53-.63 for maintaining a positive outlook, . 00-.20 for family connectedness, .-01-.14 for family spirituality, .49-71 for ability to make meaning of adversity. The shortened version of FRAS has α= 0.96. total reliability (. 96 for family communication and problem solving, .85 for utilizing social and economic resources, .86 for maintaining a positive outlook, .70 for family connectedness, .88 for family spirituality, .74 for ability to make meaning of adversity) and a good concurrent criterion validity with three well known scales [.91 for Family Assessment Device 1 (FAD 1; Epstein, Baldwin, & Bishop, 1983) , .85 for Family Assessment Device 2 (FAD 2; Epstein, Baldwin, & Bishop, 1983), .85 Personal Meaning Index (Reker & Fry, 2003; Reker, 2005)].

However it was seen that the two factors [the family connectedness (.00- .20) and the family spirituality (.01 - .14] have low individual item factor loading and family connectedness Cronbach alpha level are not quite high comparing with the other factors of the scale, the total reliability and the total internal consistency of shortened version of FRAS was very high level for using in research area and clinical settings . Furthermore, there are many studies (Buchanan, 2008; Plumb, 2011) utilized FRAS for their studies. Thus the aim of this research is to adapt to FRAS into Turkish and to examine its psychometric properties.

Methods

Participants

Adaptation of shortened version of FRAS was executed on two samples. The first group was 30 English language specialist (23 (83%,3) were female, 5 (16,7 % male) and the mean age of them was 28.8 (sd= 2.3) . Language was executed on this group. The second group was 433 university students   (304 (70 %) were female and 129 (30 %) were male) from Sakarya University Educational Departments in Turkey. The mean age of the participants was 21.83 (sd=2,11) In this study, construct validity, and internal consistency reliability coefficients were calculated according to data obtained from the second group.

Measure

Family Resiliency Scale: Family resiliency was measured using the Family Resiliency (Sixbey, 2005). Adaptation of Turkish version of this scale was done by Kaya and Arıcı (2012). This scale is a 54-item self-report inventory (e. g. Our family is flexible to deal with the unexpected) and each item was rated on a 4-point scale *(1=strongly disagree to 4=strongly agree)*. Items 33, 37, 45, 50 are reversed scored and the total   scores ranged from 66 to 204, with higher scores indicating higher family resiliency. The internal consistency reliability coefficient was .96 .And three well known scale scales [.91 for Family Assessment Device 1 (FAD 1; Epstein, Baldwin, & Bishop, 1983), .85 for Family Assessment Device 2(FAD 2; Epstein, Baldwin, & Bishop, 1983), .85 Personal Meaning Index (Reker, 2003; 2005)] have a good concurrent criterion validity with FRAS (Sixbey, 2005).

Procedures

Translation of the shortened version of FRAS into Turkish was based on the recommendations of Sixbey (2005). Primarily three specialists who were a native Turkish speaker and have fluent English translated English version into Turkish. Discrepancies between original version and initial translations were addressed, controversial items were determined and necessary modifications were done with the assistance of three independent translators. Then the completed Turkish version and original version of FRAS was executed by thirty English language specialists who were blinded to the original scale and the objective of the study. In parallel with this, language equivalency of the scale and the correlations between Turkish and English forms were attained with a high correlation. These results confirm that Turkish and English forms of the shortened FRAS might be regarded equivalent. In addition to this the validity and reliability were examined with the assistance of the second group participants of the study. The permission of second group participations was attained from chief of departments. All participants were voluntary in the research and were informed about purposes of the study. Self-report questionnaires were administered in a quiet classroom setting and participants 'confidentiality and anonymity were assured. In this study confirmatory factor analysis (CFA) was executed to confirm the original scale's structure in Turkish culture. Also internal consistency reliabilities, and item analysis of the shortened Turkish version of FRAs were examined. Data were analyzed using LISREL 8.54 and SPSS 13.0 package program

Results

3.1. Language equivalence

Language equivalence study demonstrated that correlations between Turkish and English forms of shortened version of FRAS were high (.99 for entire scale, 99. for family communication and problem solving, .98 for utilizing social and economic resources, .98 for maintaining a positive outlook, .96 for family connectedness, .97 for family spirituality, .93 for ability to make meaning of adversity).

3. 2. Reliability

For reliability studies of the Turkish version of shortened FRAS Cronbach's Alpha internal consistency coefficient were used. The Cronbach's Alpha internal consistency coefficient for the entire scale was .92.

3.3. Construct Validity

Confirmatory factor analysis demonstrated that the model was well fit. Also, Chi-Square value (x2/degree of freedom= 2.18, N=433) which was found to be significant for the adaptation of the model. The goodness of fit index values of the model were RMSEA=.058, CFI=.93, IFI=.92, GFI=.92, AGFI=.93, SRMR=.066). In the factor analysis 4 factors was found as the original shortened version of FRAS. And two factors (the family connectedness and the family spirituality) have low individual item factor loading as the original shortened version of FRAS. The factor loadings for entire scale ranged from .17 to .74 (for family communication and problem solving ranged from .17 to .67 for utilizing social and economic resources ranged from .20 to .59 , for maintaining a positive outlook ranged from .45 to .62 , for ability to make meaning of adversity ranged from .30 to .74). Factor loads of items belonging Turkish version of shortened FRAS are presented in Figure 1.

Figure 1. Factor loadings for the shortened version of FRAS
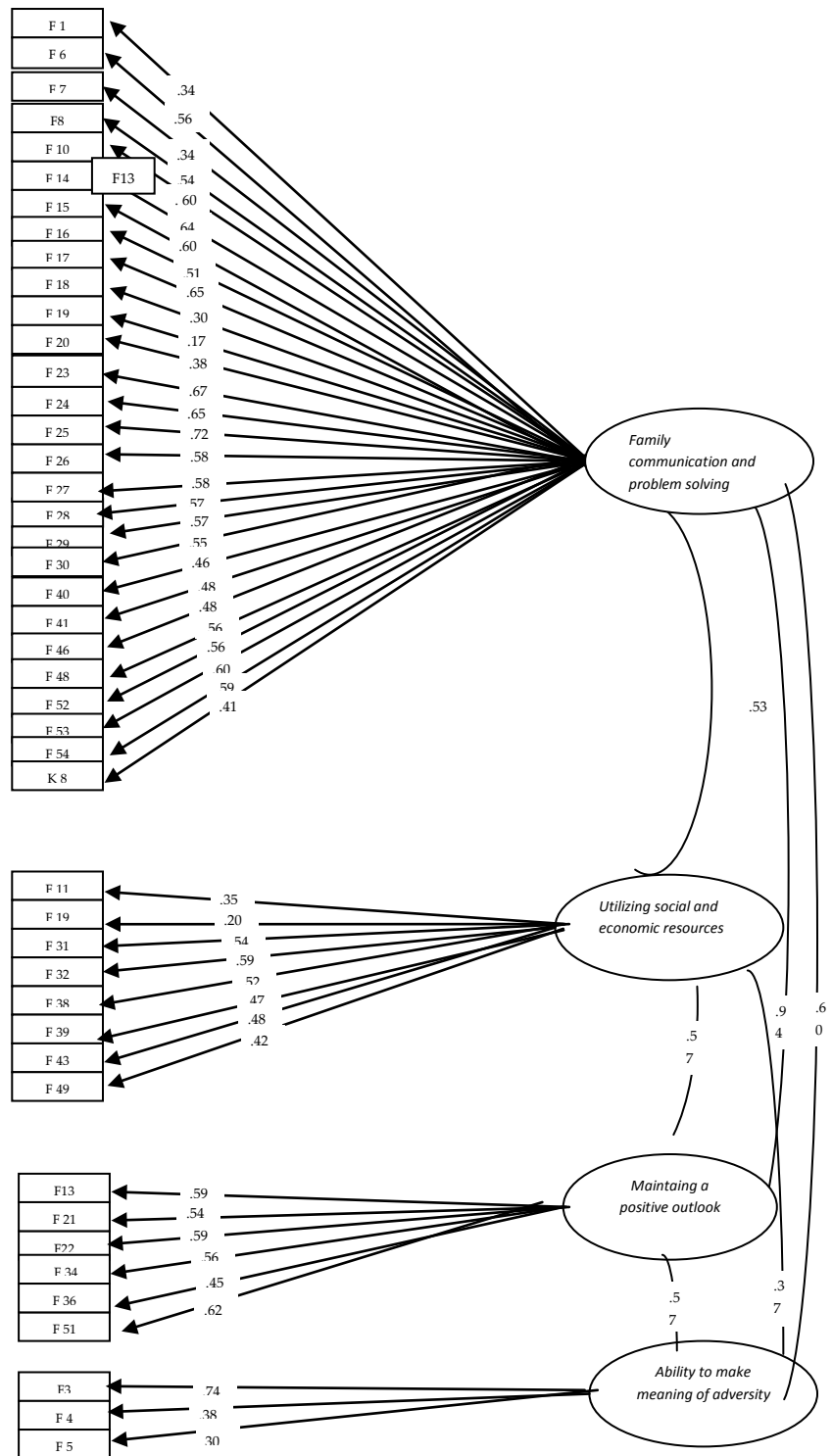
As   above it was
showed that the 4 factors are fairly correlated with each other. The correlation between family communication
and problem solving a   53. The correlation between family
communication and pro   94. The correlation between family
communication and pro   ty were. 60. The correlation between
utilizing social and economic resources and ability to make meaning of adversity were . 37. The correlation
between utilizing social and economic resources and maintaining positive outlook were .57. The correlation
between maintaining positive outlook and ability to make meaning of adversity was .57

4. Discussion and Conclusion

The aim of this research is to adapt the shortened version of FRAS to Turkish and to examine its psychometric properties. Results of language equivalency showed that the correlations between Turkish and English forms were high. These results confirm that Turkish and English forms of the shortened version of FRAS might be regarded equivalent. In this study, the factor structure of the Turkish version of shortened FRAS was examined via confirmatory factor analyses. The confirmatory factor analysis showed that the factorial model of FRAS that consists of 4 factors were at an acceptable degree of goodness of fit for Turkish sample (Hu & Bentler, 1999). The internal consistency of the factors of Turkish version of shortened FRAS showed acceptable reliability. In consistent with these findings Turkish version of shortened FRAS can be termed as a valid and reliable instrument that could be used in fields of in psychology.

Limitation and Implication

The limitation of this study was the reliance on self-report measures. Also, the sample presented here is limited to university students, which makes this study questionable whether the findings can be generalized to different age or student groups. Therefore examination of the factor structure of shortened version of FRAS for targeting other populations should be made..

Another limitation of study was taking total 54 items with six factors although total 44 items with four factors were found valid and reliable . Thus, further studies should use total 44 items of FRAS

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TÜRKİYE' DE KALIPÇILIK EĞİTİMİ SORUNLARININ İRDELENMESİ VE ÖNERİLER

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Özet

Türkiye' de, kalıpçılık sektörü kalkınma ve ilerleme yarışında önemli bir yer işgal etmektedir. Bu sektörün kalıcı katkılarını devam ettirebilmek için meslek liselerinden, mühendislik ve teknik eğitim fakültelerinden mezun olanları istihdam eden kalıpçılık sektöründe çalışanların yeterli bilgi ve beceriye sahip olabilmelerini sağlamak mevcut kalıpçılık eğitim programlarının yeniden yapılandırılması, teknolojik gelişmelere göre düzenlenmesi ihtiyacı bulunmaktadır.

Kalıpçılık sektörünün aradığı nitelikli elemanların Meslek Liselerinde yetiştirilebilmesi için yapılması gerekenlerin belirlenmesi amacıyla İstanbul pilot bölge seçilerek mevcut kalıpçılık eğitiminin öğretmenler ve işverenler tarafından değerlendirildiği bir çalışma yapılmıştır.

Anahtar Kelimeler : Kalıpçılık, Kalıpçılık Eğitimi,

Giriş

Türkiye ekonomisi modern işgücüne ihtiyaç duymaktadır. Bilgi çağı birden fazla dalda uzmanlaşmış nitelikli insan gücünü ön plana çıkarmaktadır. Mevcut iş gücünün yarısından fazlası ilkokul veya ilköğretim okulu mezunudur. Günümüzde, uygulanmakta olan piyasa ekonomisinin ihtiyaç duyacağı rekabetçi pazar taleplerini karşılayacak vasıflı ve uyumlu ve motivasyonu yüksek bireylerin yetiştirilmesi, ülkemizin kalkınma hızının yükseltilmesi açısından son derece önem taşımaktadır. Ekonomisi sağlam, dünya ile rekabete hazır, refah düzeyi yüksek bir Türkiye, ancak "eğitim" ile mümkündür[1].

Uluslararası rekabete duyarlı bir eğitimin sağlanması için uygun teknolojilerden yararlanılmaktadır. Devletin rolü azaltılmakta ve sosyal taraflara belirleyici roller yüklenmektedir. İşçi ve işveren kuruluşlarının mesleki eğitim sistemi içinde aktif biçimde rol alması sağlanmaktadır. Meslek standartları ve sertifikasyon sistemleri sürekli geliştirilmektedir. Türkiye dünyadaki bu değişimlere uyum sağlamak zorundadır.

Kalıpçılık sektöründe faaliyet gösteren firma sayısı Türkiye genelinde 5 bin civarındadır. Bu firmaların yarıya yakını İstanbul'da faaliyetlerini sürdürürken, geriye kalanı ise ağırlıklı olarak Bursa, İzmir, Ankara, Eskişehir, Kocaeli, ve Samsun' da yer almaktadır [2,9].

Bu çalışma ile kalıpçılık sektöründe, Kalıpçılık Eğitimi konusunda sektörün yaşadığı problemler incelenerek, eğitim sorunlarının çözümü için AB eğitim kriterleri de dikkate alınarak eğitim programının hazırlanması için öneriler yapılmıştır.

Araştırmanın Modeli

Araştırma, ilişkisel tarama modeli çerçevesinde ve anket uygulaması şeklinde yürütülmüş; "iki veya daha çok sayıdaki değişken arasında birlikte değişimin varlığı ve/veya derecesi" belirlenmeye çalışılmıştır [5].

Bu çalışmada Kalıpçılık eğitimi problemlerinin tespiti için alan çalışması yapılmıştır. Sektörde sistemin aktörleri olan her grup, araştırma içine katılarak düşüncelerinin ortaya çıkarılması hedeflenmiştir.

Evren ve Örneklem

Mesleki eğitimin yapılandırılmasında özellikle sistemin birer parçası olan öğretmen-öğrenci, işveren-çalışan gruplarından Mesleki ve Teknik Eğitim eğitimin geliştirilmesinde yararlanılmalıdır. Araştırmanın çalışma evrenini; İstanbul ilindeki Plastik ve Makine Teknolojisinin bulunduğu endüstriyel teknik okullarında görev yapmakta olan Teknik Öğretmenler oluşturmaktadır. Yaklaşık 370 öğretmenden, 183 öğretmene ulaşılmıştır. Ayrıca bu okullardaki 50 adet öğrenciye tesadüfi olarak röportaj formu uygulanmıştır.

Veri Toplama Teknikleri

Araştırma verilerini toplamak amacıyla, öğretmen ve işverenlere yönelik "Mesleki ve Teknik Eğitimde Kalıpçılık Eğitimi Problemlerinin Tespiti Anketi" uygulanmıştır. Kalıp bölümü öğrencilerinin sosyal, teorik ve uygulama yeterlilikleri hakkında katılımcılara ifadeler ve yargılar yöneltilmiştir. Bu yargı ve ifadelere katılıp katılmama derecelerini belirtmeleri için, yaygın olarak kullanılan 5'li Likert ölçeği kullanılmıştır. Kesinlikle katılmıyorum, katılmıyorum, kararsızım, katılıyorum, kesinlikle katılıyorum seklindedir. Bu ifadeler değerlendirilerek, kalıpçılık eğitim programlarının vermek istediği mesleğe yönelik beceriler ve mesleki gelişmişlik düzeyi incelenmiştir.

Araştırma öncesinde Kalıpçılığın Eğitim Problemleri hakkında sektör temsilcileri ile mülakatlar yapılmış elde edilen veriler ve literatür taraması sonucunda, konuyla ilgili araştırmaların bilgi toplama ölçeklerinden, uzman görüşlerinden ve araştırmacının tarama sırasında edindiği bilgilerden yararlanılarak anket formları oluşturulmuştur. Bu anket formları geliştirilirken, 50 kişilik gruplara uygulanıp, onların görüşleri doğrultusunda eksik yönler tamamlanıp gerekli düzenlemeler yapılmıştır.

Anketler üç bölümden oluşmaktadır.

Meslek Lisesi Mezunlarının Mesleğe İlişkin Teorik Yeterlilikleri,

Atölye ve Uygulama Ortamına İlişkin Yeterlilikleri

Meslek Lisesi öğrencilerinin Sosyal Yeterlikleri, olmak üzere toplam 67 maddeden oluşmaktadır.

Çözümleme Yöntemleri

İstatistik çözümlemede SPSS 11.5 paket programı kullanılmıştır. Öğretmenlerin demografik özelliklerinde, yüzde (%), frekans(f), Crosstabs analizleri yapılmıştır. Bağımlı değişkenlerin analizlerinde yüzde (%), frekans(f) ve değişkenler arasındaki farklılığın belirlenmesinde, ikili karşılaştırmalarda Mann Whitney-U testi ve üçlü karşılaştırmalarda ise Kruskal Wallis-H Testi analizi yapılarak manidarlık düzeyi $p<.05$ olarak kabul edilmiştir.

Bulgular ve Yorumlar

İşverenlere Uygulanan Anketlerin Değerlendirilmesi

Araştırmaya katılan İşverenlerin, %18,2'si Kuramsal bilgi eksikliğini, 71,1'i teknik donanımı, %75,2'si yetişmiş işgücü eksikliğini, %23,1'i mevcut işletmelerin kurumsallaşamamasını, %95,9'u devlet teşvikinin olmamasını, %76,9' u mesleki örgütlenmenin yetersizliğini, %80,2'si küresel rekabetin olumsuz etkilerini,

%28,9' u küçük işletmelerin yaygın olmasını Türkiye'de kalıpçılık mesleğinin sorunları olarak gördüklerini (Tablo I) belirtmişlerdir.

Tablo I. **Türkiye'de Kalıpçılık Mesleğinin Sorunları Değişkenlerine Göre Yüzde ve Frekans Değerleri [7]**

Türkiye'de Kalıpçılık Mesleğinin Sorunları Nelerdir?	Frekans (f)	Yüzde (%)
Kuramsal bilgi eksikliği	22	18,2
Teknik donanım	86	71,1
Yetişmiş işgücü eksikliği	91	75,2
Mevcut işletmelerin kurumsallaşamaması	28	23,1
Devlet teşvikinin olmaması	116	95,9
Mesleki örgütlenmenin yetersizliği	93	76,9
Küresel rekabetin olumsuz etkileri	97	80,2
Küçük işletmelerin yaygın olması	35	28,9

Türkiye'de kalıpçılık eğitiminin geliştirilmesi için sizce neler yapılabilir sorusunun değişkenlerine göre yüzde ve frekans değerleri verilmiştir. Araştırmaya katılan İşverenler, %43,8' i ders içeriklerini okul ile sanayici birlikte belirlemelidir, %48,8' i kalıpçılık eğitim programları gelişen teknolojiye göre sürekli yenilenmelidir, %86,8' i okullardaki teknik alt yapı iyileştirilmelidir, %25,6' sı sanayiciler okullara temrinlik malzeme desteği sağlamalıdır, %75,2' si sanayideki ustalar/usta öğreticiler tecrübelerini okulla paylaşabilirler, %60,3' ü, öğretmenlere yılın belli dönemlerinde sanayide çalışma zorunluluğu getirilmelidir, %27,3 'ü öğretmenlerin hizmet içi eğitimleri gerçek iş ortamında verilmelidir şeklinde görüşlerini (Tablo II) belirtmişlerdir.

Tablo II. Türkiye'de Kalıpçılık Eğitiminin Geliştirilmesi Değişkenlerine Göre Yüzde ve Frekans Değerleri [7]

Türkiye'de kalıpçılık eğitiminin geliştirilmesi için sizce neler yapılabilir?	Frekans (f)	Yüzde(%)
Ders içeriklerini okul ile sanayici birlikte belirlemelidir	53	43,8
Programlar gelişen teknolojiye göre sürekli yenilenmelidir	59	48,8
Okullardaki teknik alt yapı iyileştirilmelidir	105	86,8
Sanayiciler okullara temrinlik malzeme desteği sağlamalı	31	25,6
Sanayideki ustalar/usta öğreticiler tecrübelerini okulla paylaşabilirler	91	75,2
Öğretmenlere yılın belli dönemlerinde sanayide çalışma zorunluluğu getirmelidirler	73	60,3
Öğretmenlerin Hizmet içi eğitimleri gerçek iş ortamında	33	27,3

verilmelidir.		

İşverenlerin %4,1'i meslek liselerinde verilen eğitimin sanayi için yeterli olduğunu, %95,9' u ise meslek liselerinde verilen eğitimin sanayi için yeterli olmadığını belirtmişlerdir.

İşverenlerin %76' sı meslekte teknik eleman sıkıntısı yaşadıklarını, %3,3' ü meslekte teknik eleman sıkıntısı yaşamadıklarını, %20,7' si ise kısmen meslekte teknik eleman sıkıntısı yaşadıklarını belirtmişlerdir.

Öğretmenlere Uygulanan Anketlerin Değerlendirilmesi

Araştırmanın bu aşamasında; Öğretmenlerin; cinsiyet, yaş, mesleki kıdem, eğitim durumu, meslekle ilgili fuarlara katılım durumları incelenmiştir. Ayrıca; kalıpçılık mesleğinin sorunları, kalıpçılık eğitiminin geliştirilmesi için yapılabilecekler, hizmetiçi eğitime katılma sayıları, okuldaki görevleri ve eğitim verdikleri dallar incelenmiştir.

Tablo III. Türkiye'de Kalıpçılık Mesleğinin Sorunları Değişkenlerine Göre Yüzde ve Frekans Değerleri[7]

Türkiye'de Kalıpçılık Mesleğinin Sorunları Nelerdir?	Frekans (f)	Yüzde (%)
Kuramsal bilgi eksikliği	114	62,3
Teknik donanım	121	66,1
Yetişmiş işgücü eksikliği	124	67,8
Mevcut işletmelerin kurumsallaşamaması	86	47,0
Devlet teşvikinin olmaması	81	44,3
Mesleki örgütlenmenin yetersizliği	88	48,1
Küresel rekabetin olumsuz etkileri	47	25,7
Küçük işletmelerin yaygın olması	61	33,3

Araştırmaya katılan Öğretmenlerin, %62,3 'ü Kuramsal bilgi eksikliğini, %66,1'i teknik donanımı, %67,8 'i yetişmiş işgücü eksikliğini, %47,0 'ı mevcut işletmelerin kurumsallaşamamasını, %44,3'ü devlet teşvikinin olmamasını, %48,1 'i mesleki örgütlenmenin yetersizliğini, %25,7 'si küresel rekabetin olumsuz etkilerini, %33,3 'ü küçük işletmelerin yaygın olmasını Türkiye'de kalıpçılık mesleğinin sorunları olarak gördüklerini belirtmişlerdir.

Öğretmenlerin %65,10'u öğrencilerin; yeterli iletişim becerilerine sahip olduklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %72,50'si ise yeterli iletişim becerilerine sahip olmadıklarını ifade etmişlerdir.

Öğretmenlerin %78,10'u öğrencilerin; takım arkadaşları ile birlikte çalışabildiklerini ifade ederken; bunun tam zıttı olarak, işverenlerin %72,50'si ise takım arkadaşları ile birlikte çalışamadıklarını ifade etmişlerdir.

Öğretmenlerin %77,10'u öğrencilerin; çalışma disiplinine rahatlıkla uyum sağladıklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %70,80'i ise çalışma disiplinine rahatlıkla uyum sağlayamadıklarını ifade etmişlerdir.

Öğretmenlerin %39,40'ı öğrencilerin; sosyal ve kültürel yönden kendilerini sürekli geliştirdiklerini ifade ederken; bunun tam zıttı olarak, işverenlerin %48,30'u ise sosyal ve kültürel yönden kendilerini sürekli geliştiremediklerini ifade etmişlerdir.

Öğretmenlerin %50,90'ı öğrencilerin; çalışma ortamının kurallarına uyum sağlamada zorlanırlar ifadesine katılmadıklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %73,30'u ise çalışma ortamının kurallarına uyum sağlamada zorlanırlar ifadesine katıldıklarını ifade etmişlerdir.

Öğretmenlerin %67,70'i öğrencilerin; bilgilerini paylaşmaktan kaçınmadıklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %48,30'u ise bilgilerini paylaşmaktan kaçındıklarını ifade etmişlerdir.

Öğretmenlerin %83,00'ı öğrencilerin; iş güvenliği kurallarına uyduklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %67,50'si ise iş güvenliği kurallarına uymadıklarını ifade etmişlerdir.

Öğretmenlerin %80,90'ı öğrencilerin; meslek etiğine (ahlakına) uyduklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %64,10'u ise meslek etiğine (ahlakına) uyduklarını ifade etmişlerdir.

Öğretmenlerin %57,90'ı öğrencilerin; Türkçe'yi doğru kullanırlar derken; bunun tam zıttı olarak, işverenlerin %41,60'ı ise Türkçe'yi doğru kullanmadıklarını ifade etmişlerdir.

Öğretmenlerin %54,60'ı öğrencilerin; mesleki konuları öğrenmeye istekli olduklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %80,00'i ise mesleki konuları öğrenmeye istekli olmadıklarını ifade etmişlerdir.

Öğretmenlerin %55,20'si öğrencilerin; iş motivasyonları yüksektir derken; bunun tam zıttı olarak, işverenlerin %79,10'u ise iş motivasyonları yüksektir ifadesine katılmadıklarını belirtmişlerdir.

Öğretmenlerin %85,80'i öğrencilerin; amirlerine ve arkadaşlarına karşı saygılı olduklarını ifade ederken; bunun tam zıttı olarak, işverenlerin %55,00'i ise amirlerine ve arkadaşlarına karşı saygılıdırlar ifadesine katılmamışlardır.

Öğretmenlerin %57,40'ı öğrencilerin; eleştirel düşünebildiklerini ifade ederken; bunun tam zıttı olarak, işverenlerin %60,90'ı ise eleştirel düşünebilirler ifadesine katılmamışlardır.

Öğretmenlerin %49,10'u ve işverenlerin %85,80'i öğrenciler; yabancı dildeki mesleki dokümanları okuyabilirler ifadesine katılmamışlardır. Her iki grupta aynı görüşü paylaşmıştır.

Öğretmenlerin %47,00'ı öğrencilerin; aldıkları eğitim mesleki gelişimlerini sürdürme için yeterlidir derken; bunun tam zıttı olarak, işverenlerin %86,60'ı ise aldıkları eğitim mesleki gelişimlerini sürdürme için yeterlidir ifadesine katılmamışlardır.

Öğretmenlerin %82,50'si öğrencilerin; ölçü ve kontrol aletlerini doğru kullanırlar derken; bunun tam zıttı olarak, işverenlerin %73,30'u ise ölçü ve kontrol aletlerini doğru kullanırlar ifadesine katılmamışlardır.

Öğretmenlerin %79,80'i öğrencilerin; kalıp parçasının görünüşünü çıkarabilirler ifadesine katılırken; bunun tam zıttı olarak, işverenlerin %64,10'u ise kalıp parçasının görünüşünü çıkarabilirler ifadesine katılmamışlardır.

Çalışanlara Uygulanan Anketlerin Değerlendirilmesi

Araştırmanın bu aşamasında kalıpçılık sektöründe hali hazırda çalışmakta bulunan işçi, kalfa, çırak ve CAD CAM operatörü seviyelerinde çalışanlarla anket çalışması yapılmıştır. Kalıpçılık eğitimi alarak işletmede meslek eğitimine gelen öğrencilerde gördükleri eksiklikleri değerlendirmeleri istenmiştir. Belirtilen problemler teorik eksiklikler, uygulamaya yönelik eksiklikler ve genel olarak ifade edilen problemler şeklinde üç grupta incelenmiştir.

Sektörde çalışan ve bu işin temelini oluşturan bu grubun görüşleri son derece önemli olup aşağıda incelenmiştir.

Meslek Lisesi Mezunlarının Mesleğe İlişkin Teorik Yeterlilikleri

%48 oranında; Teknik Resim konusunda yetersizlikleri olduğu ifade edilmiştir. Teknik resim derslerinin EML ve Çıraklık Eğitim Merkezlerinde genelde teorik olarak işlenmesinin önemli bir eksiklik olduğunu ifade etmişlerdir.

%44 oranında; Genel teorik bilgi eksikliğini ifade etmişler, güncel teknolojiye uygun kalıp çeşitlerini bilmediklerini, bu kalıplarla ancak iş ortamında karşılaştıklarını ifade etmişlerdir.

%32 oranında; Plastik hammadde konusunda eksiklik gördüklerini ifade etmişler. Mezunların plastik hammaddeyi tanıyamadıklarını belirtmişlerdir.

%32 oranında; bilgisayar konusunda eksikleri olduğunu ifade ederek, CAD CAM konusunda yetersiz de olsa bilgi sahibi olduklarını ancak takım yolu oluşturamadıklarını vurgulamışlardır.

%28 oranında; Kalıplık çelik hammadde konusunda eksiklik gördüklerini ifade etmişler. Mezunların çelikleri tanıyamadıklarını, özellikle kalıplık çelik seçiminde yetersiz olduklarını belirtmişlerdir. Genel olarak tüm çelikler hakkında malzeme bilgilerinin yetersiz olduğunu belirtmişledir.

%22 oranında; Kalıpçılığı yeterince tanımadıklarını, kalıpların çalışma sistemlerini bilmediklerini, kalıp çeşitlerini tanımadıklarını ifade etmişlerdir.

Matematiksel hesap yapma yönlerinin zayıf olduğunu belirtmişlerdir.

%6 oranında; Kalıp içerisinde plastik hammaddenin akışı ile ilgili çok zayıf bilgiye sahip olduklarını, toleranslar konusunu bilmediklerini, alıştırma çeşitlerini seçmeyi ve kullanmayı bilmediklerini, temel İngilizce bilgilerinin zayıf olduğunu ifade etmişledir.

Atölye ve Uygulama Ortamına İlişkin Yeterlilikleri

%30 oranında; Mezunların, CNC ve erozyon tezgahlarını hiç kullanmadıklarını veya kullanmış iseler çok yetersiz olduklarını belirtmişlerdir.

%28 oranında; Ölçü aletlerini özellikle kumpas kullanmayı bilmediklerini, markalama konusunda yetersiz kaldıklarını ifade etmişledir.

%26 oranında; eğitim ortamında demode olmuş tezgahları kullandıklarını, bazı üretim tezgahlarını ise ilk defa işletmede çalışmaya başladıktan sonra kullandıklarını ifade etmişlerdir.

%16 oranında; Kalıpçılıkta imalat aşamalarında kullanılan tezgahların tamamında çalışmadıklarını belirtmişledir.

%16 oranında; Enjeksiyon tezgahlarını tanımadıklarını, bu tezgahlarda parça basmadıklarını ifade etmişlerdir. Ayrıca baştan sona bir kalıp imalatı hiç yapmadıklarını, imal ettikleri bu kalıplarla üretim yapmadıklarını ifade etmişlerdir.

%12 oranında; İmal ettikleri kalıplarla üretim yapmadıklarını ve üretim aşamalarında meydana çıkabilen problemleri bilmediklerini ifade etmişledir.

%10 oranında; piyasanın şartlarını tanımadıklarını kavrayamadıklarını ifade ederek, kalıpçılık eğitiminin piyasa şartlarından kopukluğunu göz önüne sermişlerdir.

%10 oranında; Pratik bilgilerinin çok zayıf olduğunu, bir çırak kadar bile yetkin olmadıklarını çok yetersiz kaldıklarını ifade etmişlerdir.

%10 oranında; Karmaşık işlemleri yardım almadan yapamadıklarını, bütün bu olumsuzluklara rağmen işe adapte olmak için gayretli olduklarını belirtmişledir.

%6 oranında; Kesici takımları bilemekte zorluk çektiklerini ifade etmişlerdir.

%2 oranında; İş güvenliği kurallarına uymadıklarını belirtmişledir[7].

Değerlendirmeler

Kalıpçılık Eğitiminin gerektiği gibi verilebilmesi için esasen belli bir formasyona ve teorik alt yapıya ihtiyaç vardır. Uzmanlaşmış kalifiye elemanlarla kalıp tasarımı ve imalatı yapılmalıdır. Bu çalışmada sektörde kalifiye eleman sıkıntısının olduğu net bir şekilde ortaya konmuştur. Ayrıca sanayicilerin Meslek Liseleri eğitiminden de habersiz oldukları görülmüştür. Mesleki Eğitim, MEB 'in görevidir. Kalıpçılık eğitiminin en önemli koşulu yatırımdır. Tahta ve tebeşirle Mesleki Eğitim asla düşünülemez. Dolayısıyla gerekli donanımı olmadan açılan eğitim programlarından, eksik yetişmiş teknik elemanları mezun etmek, hem sanayimizi hem de gençlerimizi hayal kırıklığına uğratmak demektir. Piyasanın ekonomik rekabet şartlarından dolayı, işletmeler her yönüyle mükemmel yetişmiş EML mezunu aramaktadırlar. Adeta Meslek Lisesi mezunu değil de; piyasa şartlarında 3 yıl çalışmış tecrübeli eleman seviyesinde EML mezunu istemektedirler. Fakat bu yüksek beklentiye rağmen her tür eğitim yatırımını da devletten beklemektedirler. Bu ise gerçekçi bir davranış şekli değildir. Sanayici son yıllarda şartlarında zorlamasıyla mesleki eğitime sınırlıda olsa yatırım yapmaktadır. Fakat bu yeterli değildir. Mesleki eğitimin yükü MEB ile ortaklaşa paylaşılmalıdır.

Yerel, bölgesel, ulusal ve uluslar üstü yönetimler giderek değişen sektörel taleplere göre bölgesel eğitim olanakları artırılmalıdır. Pek çok ülkede bölgesel yönetimler eğitim ve yetiştirme faaliyetleri ile sektörleri kontrol etmektedirler.Ulusal standartlar doğrultusunda bölgesel farklılıklar meslekî ve teknik eğitime yansıtılabilmeli ve meslekî eğitim faaliyetleri yerel düzeyde de yürütülebilmelidir[6].

Değişen koşullara hızla uyum sağlayabilmek için meslekî ve teknik eğitimcilerin geniş bilgi ve beceri birikimine sahip olmaları gerekir. Geleceğin nitelikli iş gücünü yetiştirmeyi amaçlayan meslekî ve teknik eğitimin geniş tabanlı, meslekî yeterliklere dayalı, yenilenen ya da değişen mesleklere uygun biçimde, öğrencilerin sürekli eğitimi için temel oluşturması gerekmektedir[7].

Birbiri ile ilişkili alanlar ve meslekler bütünleştirilerek meslek grupları oluşturulmalıdır. Meslek grupları, birbiriyle ilişkili birçok meslek alanını kapsayan sektörel bir bütündür. Meslek grupları etrafında planlanan eğitimde, öğrenci kazandığı bilgi ve becerileri geniş bir alanda kullanabilmekte ve değişikliklere kısa sürede uyum sağlayabilmektedir.

Kalıpçılık eğitiminde en temel konularından biri olan Teknik Resim konusunda öğrenciler yetersizdirler. Teknik Resim derslerinin içerikleri gözden geçirilerek, günümüzde geçerliliğini yitirmiş kısımlarının müfredattan çıkarılması gerekmektedir. MEGEP sistemindeki ders modüllerinin sonlarında bulunan Modül Değerlendirme sayfaları son derece yetersiz ve yüzeyseldir. Sadece Modül Değerlendirme sayfaları ile öğrenci piyasanın istediği donanıma ulaşamamaktadır. Her bir meslek dalı için Uygulama Kitapçıklarının oluşturulması son derece gereklidir. Perspektif dersi konulmalıdır. Bu sayede soyut düşünceden somuta geçiş ve karmaşık parçaları kavrama yeteneği artacaktır.

Modüler sisteme geçilmesi nedeniyle hazırlanan ders modülleri yeterince güncel veriyi kapsamamaktadır. Bazı modüller güncelliğini yitirmiş kaynakların fotomontajı olarak karşımıza çıkmıştır. Eğitim programlarındaki teorik kalıpçılık bilgisi çok yüzeyseldir. Şuan kullanılmakta olan bir takım kalıp çeşitleri bulunmamaktadır. Kalıpçılık teorik bilgisi hakkındaki; kalıp, kalıp çeşitleri, çalışma koşulları vb. gibi bilgilerin güncellenmesi için özel sektörün işbirliği sağlanmalıdır.

Kalıp derslerinde malzeme bilgisi konular içerisinde dağıtılmıştır. Bu yetersiz olmaktadır. Plastik İşleme dalında Polimer Kimya ve Polimer Malzemelerin Özellikleri derslerinin olmadığı görülmektedir. Plastik İşleme ve Makine Teknolojisi Alanlarına Malzeme Bilgisi dersi; uygulamalı ders olarak konulmalıdır. Bir önceki sistemde sadece teorik ve güncel olmayan bilgi içerdiği için verimli bir ders değildi. CAD-CAM konusunda Meslek Liselerinde genel bir yetersizlik görülmektedir. Öğrenciler çok fazla uygulama imkanı bulamadıkları için programları yeterince öğrenememektedir.

Ayrıca kullanılan programlar deneme sürümleri olup, lisanlı değildir. Piyasa şartları göz önüne alındığında tek bir programın eğitiminin verilmesi de doğru olamaz. Bunun yerine, öğretilmesi gereken iki ve üç boyutlu tasarım programlarının isimleri belirlenmelidir. Alan zümre öğretmenleri okulun bulunduğu sanayi çevresini dikkate alarak gereken programı seçmelidir. Tüm öğretmenlerin bu programların eğitimlerini almaları gereklidir. Fakat hizmetiçi eğitim başvurularında hizmet puanı dikkate alındığından, hizmet yılı az olan öğretmenlerin bu eğitimlere katılımı mümkün olmamaktadır. Bunun yerine bir alan veya daldaki öğretmelerin tamamının aynı zamanda kursa gitmeleri sağlanmalı ve aynı zamanda bu programları öğrenciye öğretmeleri son derece önemlidir.

MEGEP ile Ölçme Bilgisi Dersi konuları atölye modüllerine dahil edilmiştir. Öğrenci bu ölçme konusunu ayrı bir ders olarak görmediği için yeterince ilgilenmemektedir. Ölçme Bilgisi Dersi tekrar ayrı bir ders haline getirilmelidir. EML' nin bünyelerinde Ölçme Laboratuarları kurulmalıdır.

Modüler eğitim programlarının hazırlanmasında sanayiciden alınan destek ve görüşler gibi: okullara temrinlik malzeme sağlanmasında; özel sektör firmaları kanunla tanımlanacak bir mekanizma ile eğitim sistemine dahil edilmelidir. Okullarda temrinlik malzeme sıkıntısı çekilmektedir. Bu yüzden tüm aşamaları ile birlikte kalıp imalatı yapılamamaktadır. Gerekli temrinlik malzeme sağlanan öğrencilerin başından sonuna kadar kalıp tasarım, imalat ve üretim safhalarında uygulama yapmasının sağlanması son derece önemlidir.

Öğrenciler piyasa şartlarından habersizdirler. Mesleki farkındalık sahibi değildirler. Özellikle 10 ve 11. sınıflarda Teknik Geziler eğitim programlarına dahil edilerek, Teknik Geziler zorunlu hale getirilmelidir.

İşveren ve öğrencinin buluşacağı bu tür etkinlikler, öğrencinin ilk elden bilgi sahibi olmasını sağlayacaktır. Aksi takdirde şuan olduğu gibi; mezun olduktan sonra işveren istekleri ile karşılaşmakta ve yetersiz öğrenme isteklerinden dolayı, başka alanlara yönelmelerine sebep olacaktır.

CNC tezgahı olmayan, CAD laboratuarı yetersiz olan EML' ler bünyesinde, yeni kalıp dalları açılmamalıdır. Öğrenciler okulda güncel tezgah ve laboratuar kullanamamakta, meslekte yetişememektedir.

Öğretmenlerin kalıp tasarım ve imalat aşamalarında bizzat çalışmalarının sağlanması gereklidir. Bunun için gerekli altyapı Mesleki Eğitim Akademisi kurularak sağlanabilir. Kurulacak bu akademideki eğitimler özel sektör ve üniversiteler tarafından verilmelidir.

Gelişmekte olan ekonomiler arasında bir fark yaratabilmek ve buna bağlı olarak da rekabet avantajı sağlayabilmek ve sürdürülebilir kalkınma için, ülkenin sanayi kesiminde üretenlerin iyi eğitim almaları her düzeydeki tüm öğretim programlarının çağımızın şartlarına göre sürekli değiştirilmeli ve yenilenmelidir. Özellikle Mesleki ve Teknik Eğitimde ilerleme ülkemiz için önemli bir stratejik hedef olmalıdır.

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UN REGARD SUR LA CULTURE SOUS L'OPTIQUE DE LA PERSPECTIVE CO-ACTIONNELLE DANS L'ENSEIGNEMENT/APPRENTISSAGE DU FLE.

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Abstract:

In the 21th century, the foreign language teaching fulfills the function of not only informing or being informed as stated in the communicative approach, but also putting into action and interaction as stated in the co-actional approach of Puren. As of 1990s we have been observing that the objectives of foreign language learning are changing. As a result of touristic activities and professional exchange of know-how, in particular, the necessity of learning foreign languages increased continuously between individuals. In this context, The European Council stimulates and supports multiculturalism and multilingualism, respect for other languages and cultures in order to spread mobility among European citizens across the whole continent.

Therefore, exchange of students as well as free movement of goods and services have led to the European Union Language Criteria. Turkey, which would like to be the full member of the EU, has the target of teaching at least two foreign languages to the upcoming generations.

In this study, we will elaborate on the difficulties experienced by students, who learn French as a foreign language and the cultural interaction in the target language.

Key Words: co-actional approach, language teaching, European Council, multiculturalism, multilingualism.

Introduction

Depuis 1990, nous constatons un changement dans les objectifs d'apprentissage d'une langue etrangere. Plus particulierement tant les echanges professionnels que les echanges d'etudiants ont donne naissance a un besoin de « Cadre europeen » dans ce domaine. Cette approche considere en premier lieu, l'apprenant d'une langue comme un acteur social qui doit accomplir des tâches dans l'enseignement/apprentissage de langue etrangere.

Pour ce qui est de cette etude, nous allons essayer de nous pencher sur la notion de culture et de l'etudier d'apres la perspective co-actionnelle en nous basant sur les recommandations du Cadre europeen de reference pour les langues (CECRL).

Le Cadre europeen commun de reference pour les langues et la perspective co-actionnelle.

Le Cadre europeen commun de reference pour les langues (CECRL) est conçu par la division des langues vivantes du Conseil de l'Europe:«Cet organisme, dont le siege est a Strasbourg, mene ses activites en faveur de la diversite linguistique et de l'apprentissage des langues dans le cadre de la Convention culturelle europeenne, ouverte a la signature le 1 er decembre 1954. (...). Son action promeut des politiques visant a approfondir la comprehension mutuelle, a consolider la citoyennete democratique et a maintenir la cohesion sociale » (Goullier, F., 2006 :5). Le CECRL est un document qui repond a la politique linguistique du Conseil de l'Europe. Son but etait de mettre sur pied un cadre commun de reference pour l'enseignement/apprentissage des langues a tous niveaux. Voici la repartition des niveaux de competence dans le cadre (2006:37):

Utilisateur elementaire		Utilisateur independant		Utilisateur experimente	
A1 Introductif ou decouverte	A2 Intermediaire ou de survie	B1 Niveau seuil	B2 Avance ou independant	C1 Autonome	C2 Maitrise

L'objectif de cette politique linguistique est realise autour de 3 axes : favoriser le plurilinguisme et le pluriculturalisme des personnes dans le but d'ameliorer la communication et la comprehension mutuelle entre les personnes, et de lutter contre l'intolerance et la xenophobie.

a- Faciliter la mobilite des personnes et l'echange des idees a travers le developpement de competences communicatives dans une variete de langues, afin de permettre a chacun de cooperer plus efficacement.

b- Developper une conception de l'enseignement des langues en se basant sur des principes communs par le biais de la cooperation internationale, de l'experience et des competences des pays membres en ce domaine (CECRL 2008).

Le CECRL s'adresse aux personnes qui evaluent, c'est-a-dire les ceux qui sont charges d'examens et de diplömes. Ceux qui enseignent et ceux qui apprennent.

Le CECRL plaident aussi pour une approche actionnelle. C'est pourquoi l'enseignement/apprentissage des langues est realise sur l'accomplissement des tâches communicatives et sur les activites de communication langagiere. D'apres le Conseil de l'Europe, l'usage et l'apprentissage d'une langue est : « comprendre les actions accomplies par des gens qui, comme individus et comme acteurs sociaux, developpent un ensemble de competences generales et, notamment une competence a communiquer langagierement. Ils mettent en reuvre les competences dont ils disposent dans des contextes et des conditions varies et en se pliant a differentes contraintes afin de realiser des activites langagieres permettant de traiter des textes portant sur des themes a l'interieur de domaines particuliers, en mobilisant les strategies qui paraissent le mieux convenir a l'accomplissement des tâches a effectuer » (Conseil de l'Europe 2001 :15).

En 2001, le CECR met a la disposition de l'apprenant un outil de travail appele "portfolio europeen des langues" (PEL) qui va l'accompagner tout au long de son apprentissage. Le PEL est une application du Cadre Europeen. Il appartient a l'apprenant et il developpe l'autonomie dans l'apprentissage et favorise le plurilinguisme. Le PEL est compose de 3 parties: passeport des langues, biographie langagiere et dossier.

Comme nous l'avons deja cite dans les lignes precedentes, le CECRL definit une echelle a 6 niveaux (A 1, A2, B1, B2, C1, C2) avec 4 competences de base qui sont declinees sous formes de 5 actes: ecouter, lire, prendre part a une conversation, s'exprimer oralement en continu et ecrire. Ainsi nous constatons que le Cadre definit des niveaux de competences mais n'impose pas une methodologie particuliere mais plaide pour une perspective actionnelle.

La part de la culture dans la perspective co-actionnelle.

Dans l'enseignement/apprentissage d'une langue etrangere, nous remarquons que la notion de culture est indissociable de la notion de langue. Selon Courtillon:«Apprendre une langue etrangere c'est apprendre une culture nouvelle, des modes de vivre, des attitudes, des façons de penser, une logique autre, nouvelle, differente, c'est entrer dans un monde mysterieux au debut, comprendre les comportements individuels, augmenter son capital de connaissances et d'informations nouvelles, son propre niveau de comprehension» (Courtillon 1984

:52). De, cette definition, il en sort que la langue contient en elle tous les elements et les traces culturels d'un pays. Afin de mieux comprendre le mot « culture » voyons la definition faite par Porcher : « une culture est un ensemble de pratiques communes, de maniere de voir, de penser et de faire qui contribuent a definir les appartenances des individus, c'est-a-dire les heritages partages dont ceux-ci sont les produits et qui constituent une partie de leur identite » (Porcher 1995: 55).

Quant a Bourdieu, il divise la culture en deux : la culture cultivee c'est-a- dire la litterature, la musique, la peinture et la culture anthropologique c'est-a-dire toutes les façons de vivre et de se conduire (Cuq, Gruca 2005 : 83).

En prenant compte de toutes ces definitions concernant la culture, nous avons bien vu que la langue d'une nation reflete bien sa culture. C'est pourquoi elle occupe une place primordiale dans l'enseignement/apprentissage d'une langue etrangere.

Pour notre part, en nous basant sur ces definitions, nous allons essayer de voir de pres la situation de « la culture » dans la perspective co-actionnelle lors de l'enseignement/apprentissage d'une langue etrangere. Mais au par avant, il est preferable d'etudier « la culture » dans le domaine de la didactique des langues.

Lorsque l'on observe l'histoire seculaire de la methodologie, nous constatons qu'avec l'approche communicative, dans l'enseignement/apprentissage des langues le but etait «la communication ». Voici la pensee de Puren sur ce point: «(...) apprendre une langue, c'est apprendre a se comporter de maniere adequate dans des situations de communication oü l'apprenant aura quelque chance de se trouver en utilisant les codes de la langue cible » (Puren 1998:372). En prenant cette definition comme point de repere, nous pouvons dire que c'est l'approche communicative qui a devance les travaux interculturels. Car pour cette approche la culture se rapporte a la vie quotidienne telle que les conduites et les regles sociales des gens. Ainsi, lors de l'enseignement/apprentissage des langues vous, en tant qu'enseignant, afin d'empecher les malentendus et les blocages, vous devez prendre en consideration les differences culturelles des differents systemes linguistiques.

Arrivee au XXIeme siecle, avec le CECRL, nous voyons la naissance d'une nouvelle methode intitulee : «Perspective actionnelle». Selon Puren, «la perspective actionnelle » doit etre appelee « perspective co-actionnelle » car: « elle met en avant la dimension collective des actions et la finalite sociale des actions, (...) les progres previsibles de l'integration economique dans l'Europe des annees 2000 exige un objectif [plus] ambitieux, en l'occurrence la capacite, pour chaque citoyen europeen, non seulement vivre mais aussi de travailler collectivement avec des etrangers tout autant dans le cadre de ses etudes que dans sa vie professionnelle. C'est pour cette raison que la didactique europeenne qui va emerger dans les annees 2000 devra sortir de l'approche communicative (...), en passant en particulier du concept d'interaction (qui est un parler avec et un agir sur l'autre) au concept de co-action (qui est agir avec les autres), et du concept d'interculturalite (designant principalement les phenomenes de contact entre les cultures differentes chez l'individu) a celui de co-culturalite (designant les phenomenes d'elaboration d'une culture commune par et pour l'action collective) » (Puren 2004 :11).

En ce qui nous concerne, en nous basant sur la definition de Puren, nous voulons employer dans notre communication l'appellation «perspective co- actionnelle » au lieu de « perspective actionnelle » pour marquer le concept d'interaction qui est « agir avec les autres ».

Quant au concept de culture dans la perspective co-actionnelle, elle est defime par Puren comme «co-culturalite» qui est une notion d'action de collectivite a travers les tâches « designant les phenomenes d'elaboration d'une culture commune par et pour l'action collective». Pour une meilleure comprehension, le mieux serait d'observer le tableau ci-dessous que nous propose Puren concernant «la perspective culturelle» a travers l'evolution de la methodologie. Il dit: «(...) j'aboutis a la modelisation suivante de l'evolution historique des formes d'adequation entre perspectives actionnelles et perspectives culturelles en didactique scolaire des langues-cultures » (Puren 2002 :60):

méthodologie		1. méthodologie traditionnelle	2. méthodologie active	3. approche communicative	4. perspective co-actionnelle co-culturelle
objectif social de référence		compréhension des grands textes de la littérature étrangère	accès à tous documents culturels en langue étrangère	échanges ponctuels avec les étrangers	réalisation commune d'actions sociales
perspective actionnelle	opération	traduction	explication	interaction	co-action
	moyen	reproduire	parler sur	parler avec/agir sur	agir avec
perspective culturelle	type	universaliste	civilisationnelle	interculturelle	co-culturelle
	orientation	valeurs	connaissances	représentations	conceptions

Selon Puren, la perspective co-actionnelle et co-culturelle :« n'est pas seulement necessaire pour mettre notre discipline en adequation avec le nouvel objectif social de reference. Elle est indispensable pour au moins les quatre autres fortes raisons suivantes: (...) la motivation et la responsabilisation des eleves, (...) la realisation d'action conjointe entre l'enseignant et l'apprenant, (...) l'enseignement/apprentissage de la langue pour et par l'action a dimension sociale et (...) aider les utilisateurs a realiser un travail collectif par le biais de l'internet » (Puren 2002 : 65-70).

Toujours d'apres Puren le prefixe « co » employe pour « co-actionnelle et co-culturelle » est utilise pour attirer l'attention sur la notion « d'action sociale » du Cadre europeen. Voici sa pensee concernant ce sujet: « (..) reintroduire clairement en didactique des langues-cultures la dimension collective qu'avait fait oublier dans l'AC le developpement unilateral des notions de «centration sur l'apprenant» et d' «autonomie». L'objectif de l'enseignement/apprentissage scolaire des langues-cultures, en effet, n'est pas seulement la formation d'individusautonomes, mais egalement celle de citoyens tout a la fois creatifs et responsables, actifs et solidaires » (Puren 2002 :71). Car pour lui l'individu vit en collectivite dans une societe ou il en depend.

Apres avoir etudie les traits essentiels du CECRL et la culture a travers la perspective co-actionnelle, nous allons voir comment l'apprenant turc du FLE est influence par la culture française.

L'influence de la culture cible sur l'apprenant turc du FLE.

La Turquie qui est un pays en voie de developpement souhaite un jour entrer a l'Union europeenne. En attendant ce jour, elle fournit des efforts pour repondre aux criteres d'adhesion. Dans le domaine de l'enseignement/ apprentissage des langues etrangeres, elle essaye d'appliquer les criteres du CECRL a travers la perspective co-actionnelle mais n'y arrive comme on le souhaite. Car elle a un systeme educatif different des pays europeens malgre les reformes realisees en 1997 et une derniere fois l'annee courante. C'est une societe particuliere qui merite d'etre observee de pres.

Avant d'entrer dans le vif du sujet, il serait interessant de se pencher sur la societe turque car la Turquie est un pays qui reflete des differences incroyables dans tous les domaines tels que : la cuisine, style de vie, habillement etc. Cette mosaique nous l'avons heritee grâce a la position geographique de notre pays car en tant qu'enseignant on verra que l'apprenant d'Istanbul n'est pas le meme que celui de Van une ville a l'extreme est du pays et c'est pourquoi on sera oblige de suivre differentes strategies d'apprentissage. Nous pouvons dire aussi que la Turquie est un pays de contradictions : par exemple, a l'ouest du pays vous avez des jeunes filles libres dans leurs mouvements tandis qu'a l'est c'est le contraire. Par consequent, l'enseignant de FLE doit tenir compte de toutes ces differences lors de la realisation de son cours de langue. Ainsi cette difference entre les apprenants de langue etrangere va influencer la perception de la culture cible car chacun aura sa propre façon de voir et de capter la culture de la langue etrangere. C'est pourquoi lors de l'enseignement/apprentissage du FLE, pour certains apprenants turcs qui vivent dans des grandes villes, par rapport a ceux des regions moins developpees, meme des le debut du cours, n'auront pas de difficultes a faire la rencontre de la culture cultivee et de la culture anthropologique. On peut meme dire que la presence des particularites culturelles motivera les apprenants car parfois la culture devance la langue en question et attire l'attention du public meme si toutes les nouvelles notions culturelles lui sont etrangeres et qu'elles n'ont pas d'equivalent dans leur culture maternelle. Comme on le voit nous vivons un paradoxe. C'est-a-dire nous essayons d'enseigner le FLE a travers la perspective co-

actionnelle mais nous faisons un transfert culturel par le biais de l'approche communicative. Puisque, comme le mentionne Puren, celle-ci soutient le concept d'interculturalite designant principalement les phenomenes de contact entre les cultures differentes chez les individus et non pas celui de co-culturalite designant les phenomenes d'elaboration d'une culture commune par et pour l'action collective.

Conclusion

Finalement, depuis 1990, le but de l'enseignement/apprentissage d'une langue etrangere n'est plus "s'informer, informer" comme c'etait le cas dans l'approche communicative mais "agir, interagir" comme l'indique Puren dans la perspective co-actionnelle. En particulier, de nos jours, les voyages et les echanges d'etudiants ont incite les individus a apprendre des langues etrangeres et ont donne naissance au CECRL.

Nous avons bien vu que lors de l'enseignement/apprentissage d'une langue etrangere, la langue et la culture sont deux elements inseparables.

En nous basant sur la variete culturelle et educative entre les regions de la Turquie, nous constatons qu'il est difficile pour nous, enseignants turcs, d'enseigner la culture de la langue cible comme le souhaite la perspective co- actionnelle. C'est-a-dire d'obeir au concept de «co-culturalite (designant les phenomenes d'elaboration d'une culture commune par et pour l'action collective) » comme nous l'indique Puren. Quant a nous en tant qu'enseignants turcs, comme les circonstances actuelles l'obligent, nous continuons a faire un transfert culturel par le biais de l'approche communicative qui defend le concept d'interculturalite des phenomenes de contact entre les cultures differentes chez l'individu.

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UZAKTAN EĞİTİMDE KRİTİK BAŞARI FAKTÖRLERİNİN YAPISAL EŞİTLİK MODELİ İLE BELİRLENMESİNDE SAKARYA ÜNİVERSİTESİ E-MBA ÖRNEĞİ

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Özet

Günümüzde F2F(yüz yüze eğitim) eğitim modelleri alternatif olacak Uzaktan eğitim modelleri hızla yaygınlaşmaya başlamıştır. Web tabanlı öğrenme uzaktan eğitimin önemli bir parçasıdır. Web'e dayalı uzaktan eğitim, kısaca eğitimcilerle öğrencilerin aynı mekânda olmadan gerçekleştirdikleri bir eğitim türü olarak tanımlanabilir. Bu eğitim modeli öğrenci merkezli bir eğitim modeledir. Bu modelde öğrenciler zamandan ve mekândan bağımsız olarak verilen dersleri öğrenebilmekte ve eğitici ile iletişimi çeşitli teknolojiler vasıtasıyla kurabilmektedir. Web üzerinden uzaktan eğitimde öğrenci başarısını etki eden bir çok faktör bulunduğu bir gerçekliktir. Başarıya etkileyen faktörlerden ağırlıklı faktörlerin neler olduğu iyi belirlenirse öğrencinin başarısı artırılabilir.

Bu çalışma, Sakarya Üniversitesi E-MBA öğrencilerinin başarılarına etki eden faktörlerinin yapısal eşitlik modeli ile belirlenmesi amacıyla yapılmıştır.

Anahtar Kelimeler: İnternet, Web dayalı uzaktan öğretim, başarıya etki eden faktörler,Yapısal Eşitlik Modeli.

GİRİŞ

Günümüzün gelişen teknolojisi ve değişen ihtiyaçları, yaygın olarak kullanılan eğitim ve öğretim metotlarında sürekli olarak değişikler yapmaktadır. Eğitim ve öğretim talebindeki artış sebebiyle, eğitim öğretim alanında ciddi tartışmalar ve radikal arayışlar ortaya çıkmıştır. Geliştirilen alternatif eğitim öğretim modellerinin birleştiği ortak nokta, sınıfta yapılan geleneksel eğitim ve öğretimin yetersiz kaldığı ya da işlemediği durumlarda daha değişik ve daha elverişli eğitim modellerinden yararlanılması sağlanmalıdır. Uzaktan Eğitim modelleri içinde son yıllarda en revaçta olan modelde WTE(web tabanlı eğitim) eğitim modelidir

Bilgi ve iletişimi teknolojilerinin kullanımının artmasıyla eğitimciler "küresel eğitim"e doğru gidişin kaçınılmaz olduğunu ve küresel eğitim uygulamalarının mutlaka başlatılması gerektiğini belirtmektedirler. İletişim teknolojilerindeki bu hızlı gelişmeler eğitimin yapısını ve biçimini etkilemekte, eğitimcileri yeni eğitim programları ve öğrenme öğretme modelleri geliştirmeye zorlamaktadır. (İşman, 2005).

Web teknolojilerine dayalı uzaktan eğitim modellerinde sitenin ulaşılabilirliği, kolay ve sade oluşu, sayfalar arası tutarlığın olması gibi konuların öğrencisinin başarısına katkı yapacağı düşünülmektedir. Bu nedenle site özellikler ile başarı arasında doğrudan bir ilişki olması beklenmektedir. Buradan hareketle araştırma kapsamında test edilecek birinci hipotez şu şekilde belirlenmiştir.

H_1: Öğrencilerin sitenin özelikleri ile ilgili algıları, başarıları üzerinde doğrudan etkilidir.

Uzaktan eğitim uygulamaları sitelerinde derslere erişim yöntemlerinin ve dersi veren Öğretim elemanları ile iletişimde bulunulmasının öğrencisinin başarısına katkı yapacağı düşünülmektedir. Bu nedenle sitede kullanılan teknolojilerle başarı arasında doğrudan bir ilişki olması beklenmektedir. Dolayısıyla araştırma kapsamında test edilecek ikinci hipotez şu şekilde belirlenmiştir.

H$_2$: Öğrencilerin sitede kullanılan teknolojilerle ilgili algıları, başarıları üzerinde doğrudan etkilidir.

Uzaktan eğitim sistemlerinde kullanılan web sayfaları arasında kolay dolaşacak önlemlerin alınması, kolayca tahmin edilebileceği gibi öğrencilerin başarıları üzerinde de olumlu yönde etkili yapacaktır. Bundan dolayı sitenin kullanılabilirliğiyle başarı oranları arasında doğrudan bir ilişki olması beklenmektedir. Bu nedenle araştırmanın üçüncü hipotezi de aşağıdaki gibi belirlenmiştir.

H$_3$: Sitenin Kullanılabilirliği, öğrencilerin başarıları üzerinde doğrudan etkilidir.

Web teknolojilerine dayalı uzaktan eğitim modellerinde sitenin ulaşılabilirliği, kolay ve sade oluşu, sayfalar arası tutarlığın olması gibi konuların öğrencisinin memnuniyetini artıracağı ı düşünülmektedir. Bundan dolayı site özellikler ile memnuniyet arasında doğrudan bir ilişki olması beklenmektedir. Araştırma kapsamında test edilecek dördüncü hipotez şu şekilde belirlenmiştir

H$_4$: : Öğrencilerin sitenin özelikleri ile ilgili algıları, memnuniyet üzerinde doğrudan etkilidir.

Uzaktan eğitim uygulamaları sitelerinde derslere erişim yöntemlerinin ve dersi veren Öğretim elemanları ile iletişimde bulunulmasının öğrencisinin memnuniyetini sağlayabilir. Bu sebeble sitede kullanılan teknolojilerle memnuniyet arasında doğrudan bir ilişki olması beklenmektedir. Araştırmada test edilecek beşinci hipotez şu şekilde belirlenmiştir.

H$_5$: Öğrencilerin sitede kullanılan teknolojilerle ilgili algıları, memnuniyet üzerinde doğrudan etkilidir.

Uzaktan eğitim sistemlerinde kullanılan web sayfaları arasında kolay dolaşacak önlemlerin alınması, kolayca tahmin edilebileceği gibi öğrencilerin memnuniyetini üzerinde de olumlu yönde etkili yapacaktır. Sitenin kullanılabilirliğiyle öğrenici memnuniyetini arasında doğrudan bir ilişki olması beklenmektedir. Araştırmanın altıncı hipotezi de aşağıdaki gibi belirlenmiştir.

H$_6$: Sitenin Kullanılabilirliği, öğrencilerin memnuniyet üzerinde doğrudan etkilidir.

Şekil 1. Araştırmanın hipotezleri
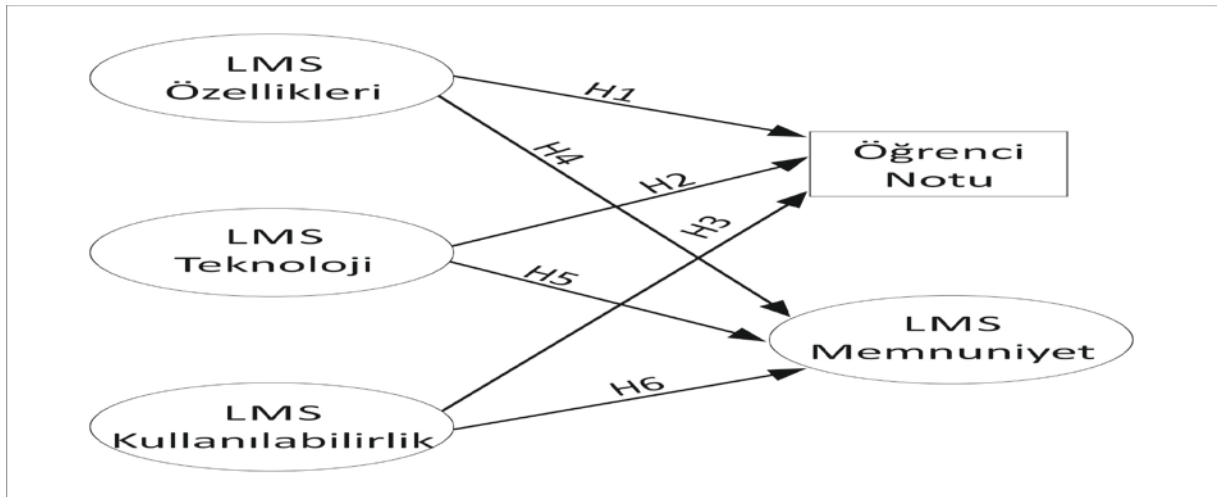
2. ARAŞTIRMA METODOLİJİSİ

2.1 Araştırmanın Amacı

Bu çalışmanın amacı, yüksek lisans düzeyinde uygulanan E-MBA programlarında kayıtlı öğrencilerin kendi görüşlerine, sistemden alınan log bilgilerine ve öğrenci işleri veritabanından alınan öğrencilerin yılsonu notlarına veri madenciliği tekniklerini uygulayarak E-MBA eğitimi alan öğrencilerin başarılarına etki eden faktörlerin neler olduğu belirlemek, E-MBA Programlarındaki **Başarı Faktörleri** tespit etmektir. Ayrıca, bu çalışmanın ikinci amacı da, belirlenen faktörlerle öğrencilerin başarıları ve memnuniyetleri arasındaki ilişkileri incelemektir.

2.2 Örnekleme Süreci

E-MBA programlarındaki başarı faktörlerinin belirlenmesi, bu faktörler arasında ve faktörler ile öğrencilerin başarıları arasındaki ilişkileri belirlemeye yönelik bu araştırma kapsamında, 2008-2009 öğretim yılında, Sakarya Üniversitesi E-MBA programında kayıtlı 350 öğrenciye Internet üzerinden anket uygulanmıştır. Araştırmada kullanılan veri toplama aracı, araştırmacılar tarafından literatür incelenerek oluşturulmuş ve öğrencilerin başarısına etki eden faktör sayısı üç olarak belirlenmiştir. Anketin birinci bölümünde demografik yapı ve olgu soruları sorulmuş, ikinci bölümde faktör sorularına yer verilmiştir. Birinci faktörde teknoloji ilgili 6 soru, ikinci faktörde **özeliklerle** ilgili 7 soru, üçüncü faktörde **kullanılabilirlikle** ile ilgili 6 soru, dördüncü faktörde **memnuniyetle** ile ilgili 6 soru öğrencilere yöneltilerek görüşlerine başvurulmuştur.

Ayrıca, Sakarya Üniversitesi UEYS(Uzaktan Eğitim yönetim sistemi) loglarından, öğrencilerin bir dönem boyunca sisteme giriş sayıları veri madenciliği uygulanarak elde edilmiştir. Öğrenci başarısı bakımından da öğrenci işleri veri tabanından öğrencilerin dönem sonu ortalamaları alınmıştır.

2.3 Veri ve Bilgilerin Analizi

Araştırmada belirlenen hipotezleri test edebilmek amacıyla yapısal eşitlik modeli kullanılmıştır. Araştırma modeli ile veri arasındaki uyumu gösteren yapısal eşitlik modelinin kullanılmasından önce araştırma kapsamında kullanılan ölçeklerin güvenilirlikleri belirlenmiştir. Ölçeklerin güvenilirliklerini belirlemede kullanılan, her bir değişkenin veya göstergenin aynı yapıyı ölçtüğünü gösteren içsel tutarlılıktır(internal consistency). İçsel tutarlılığın ölçümü için bu araştırmada Alfa Katsayısı(Cronbach Alpha) yönteminden faydalanılmıştır. Araştırmada ölçeklerin Alfa katsayısı için alt sınır 0.70 değeri esas alınmıştır. Alfa katsayısı için 0.70 değeri kabul edilen alt sınırdır (Hair vd.,1998). Araştırma verilerinin analizi sonucunda elde edilen Alfa katsayıları ve ölçeklerin değişkenleri Tablo 1'de gösterilmiştir.

Tablo 1. Araştırma Kapsamında Kullanılan Ölçeklerin Güvenlik Katsayıları

Teknoloji	Alfa Katsayısı
C1. Derslere ulaşabilmek için içeriklerin asenkron yöntemlerle sunulması başarıyı etkiler C2. Derslere ulaşabilmek için içeriklerin senkron yöntemlerle sunulması başarıyı etkiler C3. Öğretim üyesi ile e-mail kullanarak iletişim kurulması başarıyı etkiler C4. Öğretim üyesi ile forum aracılığı ile iletişim kurulması başarıyı etkiler C5. Öğretim üyesi ile haftada en az bir defa, önceden belirlenmiş zamanlarda online iletişim kurulması başarıyı etkiler (Chat ,Msn ,Perculus v.b) C6. Sitenin sosyal etkileşimli olması başarıyı etkiler..	0.94
Özellikler	0.89
D1. Sitenin ulaşılabilirliliği başarıyı etkiler D2. Sitenin kolay ve sade olması başarıyı etkiler. D3. İçeriğinin anlaşılabilir olması başarıyı etkiler D4. Sayfa elemanlarının tutarlı olması başarıyı etkiler D5. Platformunun güncellenme sıklığının yeterli olması başarıyı etkiler D6. Platformun unsurlarının simetrik olarak yerleştirilmiş olması başarıyı et D7. Bu site beklentilerimi karşılayacak şekilde olması başarıyı etkiler	
Kullanılabilirlik	0.87
F1. Farklı sayfalarda sunulan öğelerin tutarlı olması başarıyı etkiler F2. Site sayfalarının sade ve basit olması başarıyı etkiler F3. İhtiyaç olan bilgiye kolay ulaşılması başarıyı etkiler F4. Siteye ulaşım hızı başarıyı etkiler. F5. Sitede destek bölümlerinin olması başarıyı etkiler F6. Sorulan sorulara yeterli düzeyde cevap verilmesi başarıyı etkiler	
Memnuniyet	0.91
J1. Sitede bulunduğum sürece kendimi mutlu hissediyorum	

	J2. Sitede olduğum sürece zamanın nasıl geçtiğini fark etmiyorum
	J3. Siteyi kullanmak kolaydır
	J4. Tasarımı modern ve dinamiktir
	J5. Tasarımı hoştur
	J6. Görsel açıdan çekicidir.

Ölçeklerin güvenilirlikleri ortaya konduktan sonra, araştırmada hangi değişkenin hangi faktörden yük aldığını belirlemek amacıyla Açıklayıcı Faktör Analizi yapılmış ve sonuçlar tablo 2'de gösterilmiştir.

Tablo 2: Açıklayıcı Faktör Analizi Sonuçları

	F1	F2	F3	F4
Teknoloji				
C1	0,543			
C2	0,775			
C3	0,834			
C4	0,750			
C5	0,841			
C6	0,765			
Özellikler				
D1		0,755		
D2		0,752		
D3		0,605		
D4	0,687			
D5		0,863		
D6	0,589			
D7	0,574			
Kullanılabilirlilik				
F1			0,755	
F2			0,552	
F3			0,605	
F4			0,755	
F5			0,552	
F6			0,755	
Memnuniyet				
J1			0,823	
J2			0,798	
J3			0,554	
J4			0,723	

J5	0,623
J6	0,523

Ölçeklerin yapısal geçerlilikleri Doğrulayıcı Faktör Analizi ile belirlenmiştir. Doğrulayıcı Faktör Analizi genellikle bir olgunun ölçümüne yönelik olarak ölçek geliştirme ve geçerlilik analizlerinde kullanılmaktadır (Sütütemiz N.,2006). Bu araştırma da Doğrulayıcı Faktör analizi kullanılarak ölçeklerin yapısal geçerlilikleri belirlenmiş ve faktörlere ait değişkenlerin hata değerlerinin, birbirleri ile ve diğer değişkenlerle yüksek oranda kovaryans değerine sahip olanlar analizden çıkartılmıştır.

Teknoloji faktörüne uygulanan Doğrulayıcı Faktör Analizi sonucunda C1 gözlenen değişkenine ait hata değerlerinin, diğer değişkenlerle yüksek oranda kovaryans değerine sahip olduğu gözlenmiş ve bu nedenle C1 değişkeni analizden çıkarılmıştır. Bu değişim gerçekleştirildikten sonra değişkenler arası ilişkiler şekil 2'de, faktöre ait nihai uyum indeksleri tablo 3'de verilmiştir.

Şekil 2. Teknoloji Faktörü DFA(1.Modifikasyon)
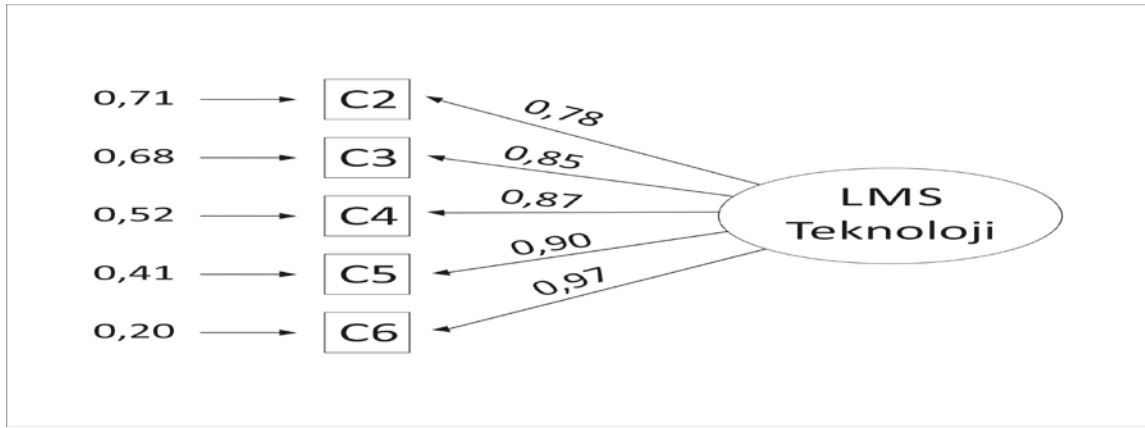
Tablo 3. Teknoloji Faktörü(1.Modifikasyon) uyum indeksleri

	Uyum İndeksleri					
Teknoloji	χ^2/df	GFI	AGFI	TLI	CFI	RMSEA
	6,71 / 2	,947	,927	,930	,919	,093

Özellikler faktörüne uygulanan Doğrulayıcı Faktör Analizi sonucunda d6 ve d7 gözlenen değişkenlerine ait hata değerlerinin, diğer değişkenlerle yüksek oranda kovaryans değerine sahip olduğu gözlenmiş ve bu nedenle D6 ve D7 değişkeleri analizden çıkarılmıştır. Bu değişim gerçekleştirildikten sonra değişkenler arası ilişkiler şekil 3'de, faktöre ait nihai uyum indeksleri tablo 4'de verilmiştir.

Şekil 3. Özellikler Faktörü DFA(1.Modifikasyon)
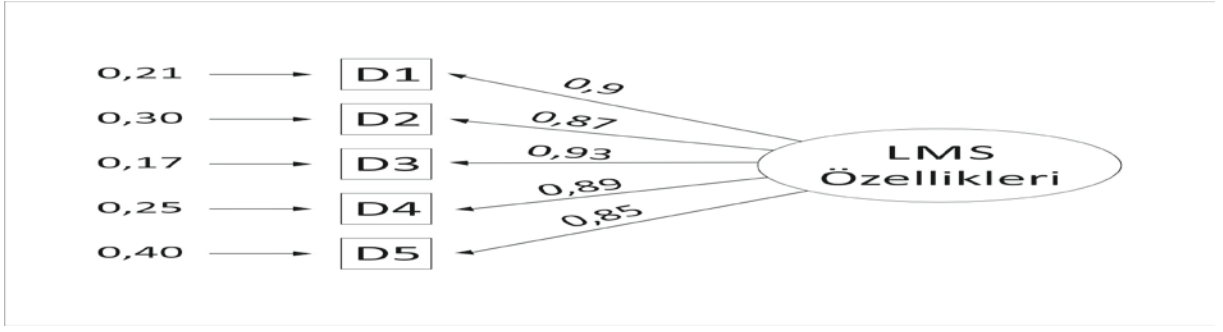
Tablo 4. Özellikler Faktörü(1.Modifikasyon) uyum indeksleri

Özellikler	Uyum İndeksleri					
	χ²/df	GFI	AGFI	TLI	CFI	RMSEA
	6,065 / 5	,911	,924	,938	,921	,038

Kullanılabilirlik faktörüne uygulanan Doğrulayıcı Faktör Analizi sonucunda F2 gözlenen değişkenine ait hata değerlerinin, birbirleri ile ve diğer değişkenlerle yüksek oranda kovaryans değerine sahip olduğu gözlenmiş ve bu nedenle F2 değişkenleri analizden çıkarılmıştır. Bu değişim gerçekleştirildikten sonra değişkenler arası ilişkiler şekil 4'de, faktöre ait nihai uyum indeksleri tablo 5'de verilmiştir.

Şekil 4 Kullanılabilirlik Faktörü DFA(1.Modifikasyon)
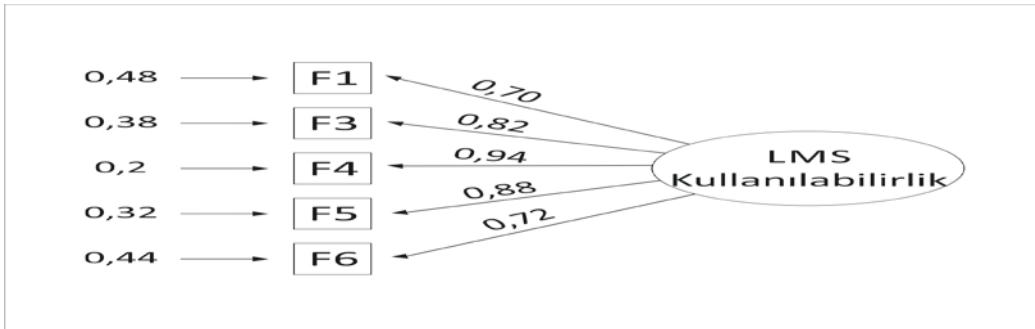
Tablo 5. Kullanılabilirlik Faktörü(1.Modifikasyon)

Presentation	Uyum İndeksleri					
	χ²/df	GFI	AGFI	TLI	CFI	RMSEA
	4,024 / 2	,928	,986	,929	,979	,012

Memnuniyet faktörüne uygulanan Doğrulayıcı Faktör Analizi sonucunda J3 ve J6 gözlenen değişkenlerine ait hata değerlerinin, diğer değişkenlerle yüksek oranda kovaryans değerine sahip olduğu gözlenmiş ve bu nedenle

J3 ve J6 değişkeleri analizden çıkarılmıştır. Bu değişim gerçekleştirildikten sonra değişkenler arası ilişkiler şekil 5'de, faktöre ait nihai uyum indeksleri tablo 6'de verilmiştir.

Şekil 5 Memnuniyet Faktörü DFA(1.Modifikasyon)
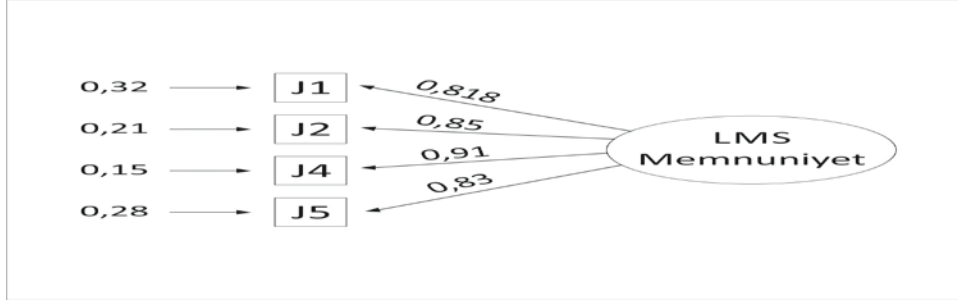
Tablo 6.Memnuniyet Faktörü(1.Modifikasyon) uyum indeksleri

Memnuniyet	Uyum İndeksleri					
	χ²/df	GFI	AGFI	TLI	CFI	RMSEA
	6,065 / 5	,979	,964	,958	,961	,019

Araştırmada kullanılan ölçeklerin güvenilirlikleri ve geçerlilikleri belirlendikten sonra, web teknolojilerine dayalı uzaktan eğitim modellerinde özellikler, teknoloji, kullanılabilirlik,, öğrencilerin başarıları ve memnuniyeti arasındaki ilişkilerin belirlenmesi amacıyla yapısal eşitlik modeli uygulaması gerçekleştirilmiştir. Yapısal eşitlik modelleri ölçülen(gözlenen) ve gizli değişkenler arasındaki ilişkileri sınamada kullanılan kapsamlı bir istatistiksel yaklaşımdır (Hoyle, 1995). Yapısal eşitlik modeli son yıllarda model sınama ve veri analizlerinde, sosyal bilimcilerin gittikçe daha çok kullandığı bir yöntem olmuştur (Sütütemiz, 206). Yapısal Eşitlik Modelinin sosyal bilimciler tarafından yaygın olarak kullanılmasının nedeni, modelde yer alan bütün gözlenen ve gizli değişkenler arasındaki ilişkileri aynı zamanda test etme fırsatı sunmasından kaynaklandığı düşünülebilir.

3. ARAŞTIRMA SONUÇLARI

Araştırmanın bu bölümünde, araştırmaya katılanların demografik yapısına ve araştırma hipotezlerini test etmek için kullanılan yapısal eşitlik modeli uygulamasına ve uygulamanın sonuçlarına yer verilmiştir.

3.1 Araştırma Örneğinin Demografik özellikleri

Araştırmaya katılan ve Sakarya Üniversitesi E-MBA programında 2008-2009 öğretim yılında öğrenci olan katılımcıların demografik özelliklerine ilişkin frekans ve yüzde dağılımları gibi istatistiki bilgiler Tablo 7'da verilmiştir.

Tablo 7. Araştırmaya Katılanların Demografik Yapısı

Cinsiyet	Frekans	Yüzde
Erkek	207	74,2
Kadın	72	25,8
Toplam	279	100
İş durumu		
Çalışıyor	237	88,5
Çalışmıyor	42	11,5
Toplam	279	100
Eğitim Durumu		
İşletme	187	67
Fen	9	3,2
Mühendislik	56	20,1
Diğer	27	9,7
Toplam	279	100

Tablo 10'den de görülebileceği gibi cinsiyet bakımından erkeklerin sayısı yaklaşık bayanlardan üç kat fazladır. Araştırmaya katılanlardan bir işte çalışan öğrencilerin sayısı çalışmayanlara göre yaklaşık 8 kat fazladır. Bu beklenen bir sonuçtur. Çünkü uzaktan eğitim programlarında okuyan öğrencilerin bir işte çalışma fırsatları her zaman vardır. Araştırmaya katılan öğrencilerin E-MBA programına katılmada önce tamamladıkları eğitim bakıldığında, öğrencilerin büyük bir çoğunluğunun(%67) 4 yıllık işletme fakültesi mezunu, olduğu görülmektedir. Öğrencilerin %20,1 'i de mühendislik fakültesi, %3,2 'si Fen Fakültesi ve %9,7 'si diğer fakültelerden mezundur. E-MBA programlarına kayıtlı öğrencilerin mezun oldukları okul türü dağılımlarının bu şekilde olmasının nedeni olarak, E-MBA programının İktisat-İşletme fakültelerinin devamı niteliğini taşımasından kaynaklandığı düşünülmektedir.

3.2. Yapısal Eşitlik Modeli Uygulaması

Sakarya Üniversitesi E-MBA programlarına kayıtlı öğrencilerin, web tabanlı uzaktan eğitim sistemlerinin özellikler, teknoloji, kullanılabilirlik,, öğrencilerin başarıları ve memnuniyet arasındaki ilişkileri belirlemeye yönelik olan bu araştırmanın hipotezlerini test etmek amacıyla yapısal eşitlik modeli kullanılmıştır. Yapısal eşitlik modeli için AMOS programından yararlanılmıştır.

Öğrencilere web sayfalarının Özellikleri ile ilgili algılamalarını **7** değişken, Teknoloji ile ilgili 6 değişken**,** Kullanılabilirlikle ilgili 6 değişken ve memnuniyetle ile ilgili algıları 6 değişkenle ölçülmüş ve öğrencilerin yıl sonu notları da öğrenci işleri veri tabanından elde edilmiştir. Yukarıda da vurgulandığı gibi, araştırma hipotezlerini test etmeden önce araştırma kapsamında kullanılan ölçeklerin güvenilirlikleri alfa katsayısı yöntemiyle, hangi değişkenin hangi faktörden yük aldığı Açıklayıcı Faktör Analizi yöntemiyle ve kullanılan

ölçeklerin geçerlilikleri Doğrulayıcı Faktör analizi yöntemiyle belirlenmiştir. Doğrulayıcı faktör analizi sonunda, hata değerleri birbirleri ile veya diğer değişkenlerle yüksek oranda kovaryans değerine sahip olduğu gözlen değişkenler analizden çıkarılmıştır. Bu şekilde toplam açıklanan varyansın artması sağlanmıştır. Doğrulayıcı Faktör Analizi sonucunda öğrencilerin web sayfalarının Teknoloji ile ilgili algıları 5 değişken, Özelikler 5 değişken, kullanılabilirlik 5 değişken ve memnuniyetle 4 değişken olmak üzere toplam 19 değişken yapısal eşitlik modeline dahil edilmiştir. Şekil 6 'de E-MBA öğrencilerinin uzaktan eğitim sisteminin tasarımı, gezinme, sunum ve öğrenci notları arasındaki ilişkilere ait model verilmiştir.

Şekil 6 'de E-MBA öğrencilerinin uzaktan eğitim sisteminin Özellikler, Teknoloji, Kullanılabilirlik, Memnuniyet ve öğrenci notları arasındaki ilişkilere ait model
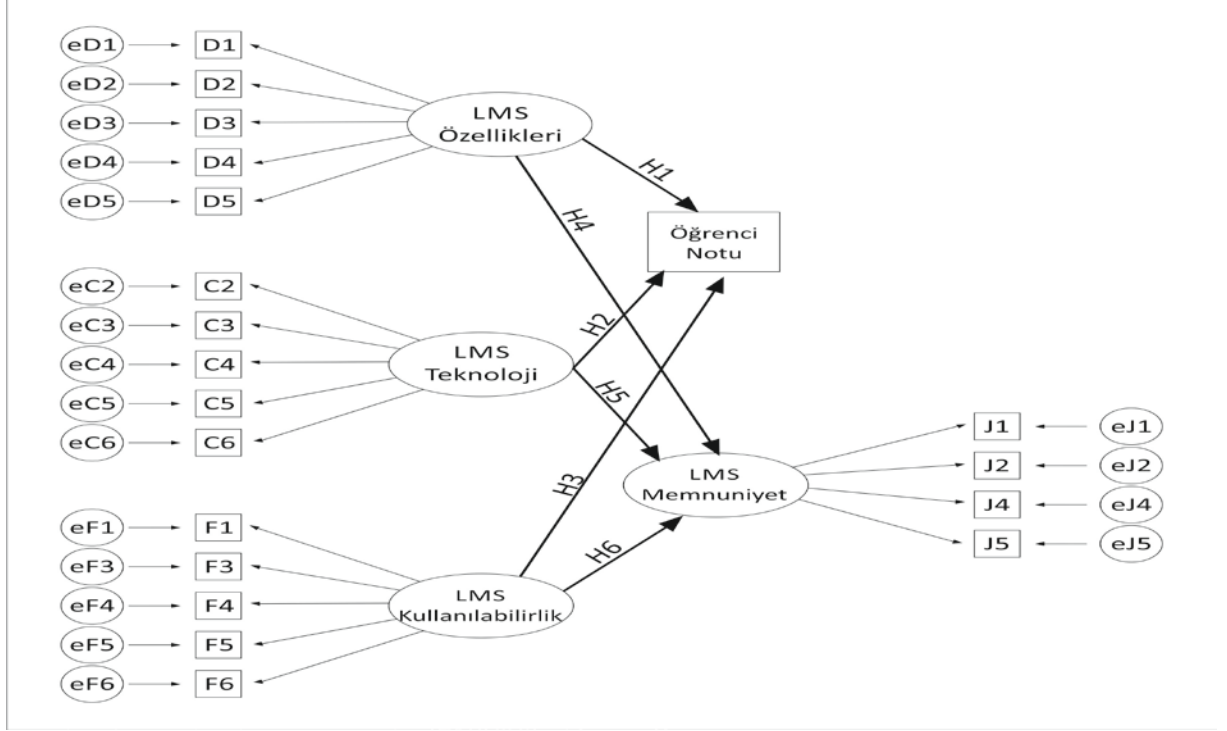
Sakarya Üniversitesi'nde E-MBA programlarına kayıtlı öğrencilerinin uzaktan eğitim sisteminin Özellikler, teknoloji, Kullanılabilirlik, Memnuniyet ve öğrenci notları arasındaki ilişkileri belirlemeye yönelik olarak uygulanan yapısal eşitlik modeli sonuçları Tablo 11 ve Tablo 12'de verilmiştir.

Tablo 8: Araştırma Modelinin Uyum İyiliği İndeksleri Sonuçları

Uyum İndeksleri	Model
X^2 (Chi Square) (Ki-Kare) değeri	112,88
Serbestlik Derecesi	101
p (Anlamlılık Düzeyi)	0,001
x^2/df	1,047
GFI (Uyum İyiliği İndeksi)	0,923
AGFI (Düzeltilmiş Uyum İyiliği İndeksi)	0,891
RMR (Artıkların kök ortalama karesi)	0,026
IFI (Artırımlı Uyum İyiliği İndeksi)	0,938
CFI (Karşılaştırmalı Uyum İyiliği İndeksi)	0,958
NFI (Normlaşmış Uyum İyiliği İndeksi)	0,969
TLI(Tucker-Lewis Index)	0.923
RFI (Göreceli Uyum İyiliği İndeksi)	0,920
RMSEA (Yaklaşım Hatasının Kök Ortalama Karesi)	0,027

Yapısal eşitlik modeli uygulamalarında, veri ile model arasındaki uyum değerlendirilirken üç temel ölçüt incelenir. Bu kriterler; Chi-square/df, uyum iyiliği(goodness of fit) ve RMSEA değerleridir. Analiz sonucunda, bu ölçütlere ait elde edilen değerler, beklenen değerler ile aynı veya kabul edilebilir sınırlar içinde ise veri ile model arasında uyum vardır.

Araştırma modelinin uyum istatistikleri tablo 8 'de yer almaktadır. Tablo 9 'de araştırma modeli ile veri arasındaki uyumu gösteren değerler Araştırma Modeli sütununda, model ile veri arasındaki uyumun mükemmel olduğu durumu gösteren değerler İdeal Model sütununda gösterilmiştir.

Tablo 8 'deki sonuçlar incelendiğinde, analiz sonucunda elde edilen Chi-square istatistiği 0.01 anlamlılık düzeyinde istatistik bakımından anlamlıdır. Ancak, Chi-square değeri örnek büyüklüğüne çok duyarlı olduğu için bu değer tek başına model ile veri arasındaki uyumu belirlemek için yeterli değildir (Baker, Parasuraman, Grewal, Voss, 2002). Bu nedenle model ile veri arasındaki uyumun değerlendirilmesi için diğer uyum ölçütlerine bakmak gerekmektedir.

Model ile veri arasındaki uyumun testinde bakılan değerlerden biri CMIN/DF değeridir. Bu oranın sıfıra yakın olması veya en azından beşin altında olması gerekmektedir (Yoo, Donthu, Lee, 2000). Araştırma modelinde CMIN/DF değeri 3,674 olarak tespit edilmiştir. Bu değer model ile veri arasında uyumun kabul edilebilir sınırlar içerisinde olduğunu göstermektedir.

Veri ile model arasındaki uyumu değerlendirmede kullanılan diğer bir ölçüt ise uyum iyiliği indeksidir (Goodness of Fit Index-GFI). GFI, sıfır ile bir arasında bir değer alır. Ayrıca, GFI değeri dışında model ile verinin uyumlu olduğunu gösteren CFI(Comparative Fit Index), NFI(Normed Fit Index), TLI(Tucker-Lewis Index), RFI(Relative Fit Index) ve IFI(Incremental Fit Index) uyum kriterleri de incelenmelidir. Bu indekslerin değerleri de sıfır ile bir arasında değişir ve bire yakın olmaları model ile verinin uyumlu olduğunu ifade eder.

Tablo 8'den görülebileceği gibi, araştırmada GFI değeri 0.923, NFI değeri 0.969, RFI değeri 0.920, IFI değeri 0.9381, TLI değeri 0.925 ve CFI değeri 0.958 olarak bulunmuştur. Araştırmamızda bu değerlerin bire yakın olması model ile veri arasındaki uyumun olduğunu gösterir.

Model ile veri arasındaki uyum değerlendirilirken kullanılan bir diğer kriter ise RMSEA değeridir. Araştırmamızda RMSEA değeri 0.027 olarak tespit edilmiştir. RMSEA değerine göre de model ile veri arasında uyum olduğu söylenebilir. Hoelter ,05 ve ,01 indeksleri araştırma hipotezinin test edileceği güven aralığındaki minimum örnek büyüklüğünü vermektedir. Araştırma hipotezinin %95 güven aralığında ve 0.05 anlamlılık düzeyinde test edilebilmesi için ihtiyaç duyulan örnek büyüklüğü 99, %99 güven aralığında ve 0.01 anlamlılık düzeyinde ihtiyaç duyulan örnek büyüklüğü 110 olarak belirlenmiştir. Araştırmada yer alan örnek sayısı 350 olduğu göz önüne alındığında örnek sayısı açısından araştırmanın yeterli örneğe sahip olduğu söylenebilir.

Tablo 9   Yapısal Modelin Hipotez Testi Sonuçları

	MLE	Std olmayan MLE	St. Ht.	t	Hipotez Sonucu
Özellikler ➜ Öğrenci Notu	0,228:0307	0,138	2,229		H1 :Evet
Teknoloji ➜ Öğrenci Notu	0,051:0,047	0,148	0,321		H2 :Hayır
Kullanılabilirlik ➜ Ö.Notu	0,208:0,207	0,139	1,229		H3 :Evet
Özellikler ➜ Memnuniyet	0,218:0307	0,138	2,129		H4 :Evet
Teknoloji ➜ Memnuniyet	0,256:0,042	0,141	3,621		H5 :Evet
Kullanı. ➜ Memnuniyet	0,049:0,017	0,122	1,121		H6 :Hayır

H1, Özelikler ile Öğrenci notu arasındaki ilişkiyi test etmektedir. Modele göre, Site özellikleri (r = 0,228) Öğrenci başarısı üzerinde pozitif ve anlamlı etkisi bulunmaktadır (t =2,229; p<0,05). Özellikler faktöründe artış öğrenci başarısını 0,228 standart birimlik bir artış meydana getirir. Dolayısıyla H1 hipotezi kabul edilmektedir.

H2, Teknoloji ile Öğrenci Notu arasındaki ilişkiyi test etmektedir. Modele göre, Teknoloji ile öğrenci notu arasında anlamlı ilişki bulunmamaktadır (p:0,587). Dolayısıyla H2 hipotezi kabul edilmemektedir.

H3, Kullanılabilirlik ile Öğrenci notu arasındaki ilişkiyi test etmektedir. Modele göre, Site Kullanılabilirliği (r = 0,208) Öğrenci başarısı üzerinde pozitif ve anlamlı etkisi bulunmaktadır (t =2,209; p<0,041). Özellikler faktöründe artış öğrenci başarısını 0,208 standart birimlik bir artış meydana getirir. Dolayısıyla H3 hipotezi kabul edilmektedir.

H4, Özelikler ile Öğrenci memnuniyeti arasındaki ilişkiyi test etmektedir. Modele göre, Site özellikleri (r = 0,218) Öğrenci memnuniyeti üzerinde pozitif ve anlamlı etkisi bulunmaktadır (t =2,129; p<0,04). Özellikler faktöründe artış öğrenci başarısını 0,218 standart birimlik bir artış meydana getirir. Dolayısıyla H4 hipotezi kabul edilmektedir.

H5, Teknoloji ile Öğrenci memnuniyeti arasındaki ilişkiyi test etmektedir. Modele göre, Site ö Teknoloji i (r = 0,256) Öğrenci memnuniyeti üzerinde pozitif ve anlamlı etkisi bulunmaktadır (t =3,621; p<0,044). Özellikler faktöründe artış öğrenci başarısını 0,256 standart birimlik bir artış meydana getirir. Dolayısıyla H5 hipotezi kabul edilmektedir.

H6, Kullanılabilirlik ile Öğrenci memnuniyeti arasındaki ilişkiyi test etmektedir. Modele göre, Kullanılabilirlik ile öğrenci memnuniyeti arasında anlamlı ilişki bulunmamaktadır (p:0,637). Dolayısıyla H6 hipotezi kabul edilmemektedir

3.3 Sonuç

Web teknolojileri kullanılarak yürütülen E-MBA programlarında öğrencilerin site özellikleri ,teknolojileri, kullanılabilirlik algılamaları, öğrencilerin başarıları ve memnuniyeti arasındaki ilişkiyi belirlemeye yönelik modelde kullanılan gösterge değişkenleri . Tablo 9 'den anlaşılacağı üzere, tüm gösterge değişkenlerinin regresyon katsayılarına ilişkin değerler oldukça anlamlıdır (p=0.000). Başka bir ifade ile, oluşturulan model için hipotezlerden H_1, H_3, H_4 H_5 hipotezleri kabul edildiği anlaşılmıştır. Ancak model üzerinde H_2, H_6 Hipotezlerininim üzerinde doğrudan etkili olmadığı gözlenmiştir.

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UZAKTAN EĞİTİMDE KULLANILAN TEKNOLOJİLER

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Özet

Uzaktan eğitimde çeşitli teknolojiler kullanılmaktadır. Bu çalışmada uzaktan eğitimde kullanılan uzaktan eğitim teknolojileri, sınıflandırılmış bir şekilde tanıtılmaktadır. Uzaktan eğitim teknolojilerini basılı teknolojiler, işitsel teknolojiler, video teknolojileri ve bilgisayar-internet teknolojileri olarak sınıflandırılmaktadır.

Anahtar Kelimeler: Uzaktan Eğitim, Basılı Teknolojiler, İşitsel Teknolojiler, Video Teknolojiler, Bilgisayar-İnternet Teknolojileri

Abstract

Different Technologies are used for Distance Education. In this study, technologies used for distance education are defined in classified way. Distance Education Technologiesa are classified as Print Technologies, Audio/Voice Technologies, Video Technologies **and Computer-Internet** Technologies.

Key Words: Distance Education, Print Technologies, Audio/Voice Technologies, Video Technologies, Computer-Internet Technologies

Giriş

Sürekli eğitim arayışı geleneksel eğitimin yanında başka eğitim arayışlarına da yönelmeyi gerektirmiştir (Lewis ve Romizsovski, 1996). Bu yönelim sonucunda ortaya çıkan uzaktan eğitim kavramı gün geçtikçe önemli bir hal almaya başlamıştır. Uzaktan eğitim düşüncesinin 18. yüzyılın ortasına kadar uzandığı bilinmekle birlikte, ilk kez 1972 yılında Uluslararası Eğitim Antlaşmaları Birliği (ICCE) tarafından "mektupla öğrenim" tabirinin karşılığı olarak kullanıldığı belirtilmektedir(Moore,1993). Uzaktan eğitim kavramı ise ilk olarak Wisconsin Üniversitesi'nin 1882 yılı Kataloğu'nda geçmiştir. Yaygın olarak ise 1960'lı yıllardan başlayarak kullanılmıştır (Kaya, 1998). Uzaktan eğitim tüm dünyada 1980'li yıllarda televizyon yayıncılığındaki gelişmelere bağlı olarak canlanmış, 1990'ların sonlarına doğru bilgisayar ağlarının gelişmesi ile birlikte ivme kazanmıştır(McIsaac,2002).

Uzaktan eğitim, eğitilen kişi ile eğiticinin coğrafi olarak ayrı olduğu durumlar için kullanılan öğrenme-öğretme düzenlemeleridir (Yates ve Tilson, 2000; Moore ve Thompson, 1997). Çeşitli iletişim araçları ve etkileşim kanalları kullanılarak eğitici ve eğitilecek kişiler bir araya gelir (Moore ve Kearsley, 1996). Bu araçlar, basılı materyaller, kitaplar olabileceği gibi ses-görüntü kayıtları, kablo, uydu vb. etkileşimli telekonferanslar da olabilir (Moore ve Thompson, 1997).

Williams ve Pabrock uzaktan eğitimin geçirdiği evrimlerin üç aşamadan oluştuğunu belirtmişlerdir(Williams ve Pabrock,1999). Birinci aşama (1860-1960), basılı materyallerin, radyo iletişiminin ve video teyplerin kullanıldığı dönemi kodlamaktadır. İkinci aşamada (1960- 1990) iki yönlü ses ve video iletişimi ile bilgisayar temelli eğitim diskleri uzaktan eğitim teknolojisini oluşturmuştur. Üçüncü aşama ise (1990'lardan günümüze)

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hibrit teknolojilerin kullanılmaya başlandığı, uzaktan eğitimde sanal sınıfların oluşturulduğu ve öğretimin büyük ölçüde internet teknolojileri kullanılarak gerçekleştirildiği dönemi temsil etmektedir.

Uzaktan eğitimde yeni teknolojilerin kullanımının artması ile birlikte etkileşimde de pek çok çeşitlilik oluşturulmaya başlanmıştır. Bu da uzaktan eğitimin alanının genişlemesini sağlamıştır (O'Malley, 1999). Yeni teknolojiler, uzaktan öğretimde yeni vizyonların geliştirilmesine yardımcı olmuştur. Teknolojideki değişiklikler eğitimde de bazı değişiklikleri beraberinde getirmiştir. Teknoloji, uzaktan eğitimin en iyi nasıl gerçekleştirileceği ile ilgili geniş yollar sunmaktadır (Berge ve Collins, 1995; Betts, 2002).

Uzaktan eğitimin ilk başladığı yıllarda genelde posta kullanılarak kitap ve basılı materyallerle yapılan eğitim, daha sonra diğer teknolojilerin kullanımını da beraberinde getirmiştir. Radyo-ses kasetleri, televizyon, video, telekonferans, bilgisayar, internet vb. katılımı ile birlikte, uzaktan eğitimde teknolojilerin kullanımı da çok önemli yer tutmaya başlamıştır.

Basılı Teknolojiler

Basılı teknolojiler uzaktan öğretimin başladığı zamandan beri kullanılmaktadır ve uzaktan öğretimde kullanılan diğer iletişim yöntemleri için de temel oluşturmaktadır. Tarihteki ilk uzaktan verilen dersler basılı teknolojilerin öğrenciye posta yoluyla gönderilmesi sayesinde yapılmıştı. Teknolojik gelişmeler uzaktan ders veren eğitimciye ders iletiminde kullanabileceği çeşitli araçlar sağlamış olsa da, basılı teknoloji kullanımı tüm uzaktan öğretim programlarında yaygın kullanımını sürdürmektedir. Uzaktan eğitimde kullanılan basılı teknolojilere örnek olarak kitap, çalışma rehberleri, çalışma kitapları, faks, resim, grafik, şema, broşür, gazete ve dergi verilebilir.

Basılı Teknolojilerin Avantajları

    a.   **Doğallık:** Basılı teknolojiler her ortamda ve çok kapsamlı araçlara gerek duyulmadan kullanılabilir.

    b.   **Öğretimsel açıklık:** Kullanılan iletim yöntemi dersin içeriğini öğrencinin dikkatini çekecek şekilde zenginleştirilmelidir. Yöntem ve içerik birbiriyle karşılaştırılmamalıdır. Öğrencinin iyi bir okuyucu olması durumunda, basılı teknolojiler en iyi öğretim malzemesidir.

    c.   **Kullanım kolaylığı:** Sadece okuma için yeterli ışığın sağlanması ile basılı teknolojilerin zaman ve yer sınırlaması olmadan ve elektrik, özel tasarlanmış sınıf, bilgisayar gibi ek donanımlara gerek duyulmadan kullanılması mümkündür. Kolay taşınabilir olması özellikle kırsal kesimde yaşayıp ileri teknolojiden uzak olan öğrenciler için önemlidir.

    d.   **Tekrar ve başvuru kolaylığı:** Basılı Teknolojiler(BT) öğrenci merkezlidir. Bu nedenle öğrenci gerekli gördüğü ya da özel ilgi gerektiren bölümlere dikkat gösterip bildiği bölümleri hızla geçebilir.

    e.   **Maliyet uygunluğu:** BT diğer öğretim araçlarına göre hazırlama maliyeti en az olandır. Ayrıca çoğaltma kolaylığı ve çoğaltma maliyetinin az olması da önemlidir.

    f.   **Hazırlama ve yeniden düzenleme kolaylığı:** Elektronik ortamdaki öğretim malzemelerinin teknik karışıklığı ile karşılaştırılınca, BT'lerin yazımı ve yeniden düzenlenmesi kolay ve ucuzdur

    g.   **Zaman uygunluğu:** BT hazırlanmasında üreticinin ilk hedefi teknik özellikler değil içeriktir.

Basılı Teknolojilerin Dezavantajları

    a.   **Gerçeğin kısıtlı görüntüsü:** Kelimelere bağlı olunmasından dolayı BT'ler gerçek hayattaki olayların sözsel taklitleridir. Art arda gelen resim ve fotoğraf kullanımı dışında BT'de hareket oluşturmak mümkün değildir. Birçok çalışmanın sonucunda görülmüştür ki BT ile verilen dersleri başarıyla tamamlamak için öğrenci motivasyonunun yüksek olması gerekmektedir. Düzenli bir öğretim tasarımının yardımıyla pasif durumdaki öğrenciyi teşvik ederek BT deki pasiflik özelliğini aşmak mümkündür. Ancak, bir kitabı okumak veya yazılı bir alıştırma üzerinde çalışmak için gerekli motivasyon TV programı seyretmek veya öğretmenle sesli bir ortamda diyalog kurmak için yeterli olandan fazladır.

    b.   **Karşılıklı etkileşim ve dönütler:** Öğrenci-öğretmen arasında bir etkileşim olmadıkça hangi sistem kullanılırsa kullanılsın öğretim sıkıntısı yaşanır. BT'ler pasif ve birey yönetimlidir. Dönüt sağlamış BT'lerde bile, öğrencinin yanıtların bulunduğu bölüme geçmesi engellenemez.

    c.   **Okuma yeteneğine bağlılık:** Okuma yeteneklerindeki eksiklik öğretimsel yönden en iyi basılı öğretim malzemesinin bile başarılı olamamasına yol açabilir. BT'nin başarılı olması bu eksikliğin aşılmasına bağlıdır.

İşitsel Teknolojiler

Uzaktan öğrenme derslerinin geliştirilmesinde işitsel veya ses teknolojileri uygun maliyetli yollar sunar. Uzaktan eğitim derslerinde işitsel bileşenler sesli bir telefon kadar basit olabilir veya mikrofonlu sesli konferans, telefon köprüleri, hoparlörler kadar karmaşık olabilir.

Uzaktan eğitimde kullanılan video teknolojilerine örnek olarak sesli mesaj, ses dosyaları ve optik diskler, sesli konferans, podcastler, radyo ve telefon verilebilir.

İşitsel Teknolojilerinin Avantajları

   a.   **Ucuz olması.** İşitsel/ses teknolojileri nispeten ucuzdur.
   b.   **Kolay erişebilir olması.** Gelişen iletişim teknolojileriyle birlikte çok rahat ulaşılabilir.
   c.   **Kullanım kolaylığı.** Neredeyse herkes bir telefonu ve bir ses kasetini rahat bir şekilde kullanabilir. Ses teknolojilerinde yazılım kurulumu ve donanım konfigürasyonu yoktur.

İşitsel Teknolojilerinin Dezavantajları

   a.   **Programlama gerektirebilir.** Bazı ses teknolojileri(örneğin sesli konferans) senkrondur, bunun anlamı öğretmen ve öğrenci için uygun zamanın planlanmasıdır.
   b.   **Görsel bilgi için elverişli değildir.** Öğrencilerin birçoğu ses girdileri yoluyla odaklanmayı ve öğrenmeyi zor bulabilir.
   c.   **Kişisellikten uzak olabilir.** Sadece işitsel etkileşim ile göz teması ve beden dili yoktur.

Video Teknolojileri

Öğretmenin görülebilmesi ve duyulabilmesi becerisi, davranışların modellenmesi, gösterilmesi ve soyut fikirlerin öğrenilebilmesi için fırsatlar sunmaktadır. Uzaktan öğrenmede video teknikleri için çoğu zaman iletim ortamları (videokasetler, uydular, televizyon kabloları, bilgisayar ve mikrodalga) ile karakterize edilir. Ortamların her biri bağlantılı oldukları video ve ses sinyallerinin yönü ile tanımlanır(Tek yönlü video, çift yönlü video, tek yönlü ses ve çift yönlü ses).

Uzaktan eğitimde kullanılan video teknolojilerine örnek olarak videokaset, uydu videokonferans, kablo ve televizyon yayınları, masaüstü ve internet videokonferans verilebilir.

Video Teknolojilerinin Avantajları

   a.   **Hem ses ve hem de video iletişimine izin vermesi:** video teknolojileri yüz yüze sınıftaki gerçekliği ses ve görüntü olarak sağlar. Genellikle "burada olmanın sonrasındaki en iyi şey" olarak kabul edilir.
   b.   **Kişisel duyguları kolaylaştırması:** Video teknolojileri yüz ifadelerini ve vücut dilini görmede, iletişime kişiselliği katarak öğretmen ve öğrenciyi etkinleştirir.
   c.   **Etkileşimi yüksek düzeyde tutar:** Çoğu video teknolojileri senkrondur. Etkileşimi, soruları cevapları vb. yüksek derecede sağlar.

Video Teknolojilerinin Dezavantajları

   a.   **Çok Pahalı olabilir:** Kamera ve düzenleme ekipmanları çok pahalı olabilir. Ek olarak her yerdeki altyapı ve yerler arasında bağlantı maliyetli olabilir.
   b.   **Oldukça çok planlama ve ön hazırlığa ihtiyaç vardır:** Etkili olabilmesi için, kamera ekibi ve eğitmen pratik yapmalı ve bir ekip olmalıdır. Bu alanda etkili olması için birim elemanları eğitimden geçmeli ve pratik yapmalıdırlar.

c. **Programlı olmalıdır:** Çoğu video konferans spontane değildir. Bunun yerine kaynaklar belirlenme ihtiyacı ve planlanmanın yapılması gerekiyor.

d. **Teknik Destek Ekibi İhtiyacı:** Video kayıt işlemi karmaşık olduğundan karıştırma ve yayın teknik destek ekibine ihtiyaç vardır. Ek olarak Alıcı istasyondaki ekipmanların doğru çalışmadığından emin olunmalıdır.

Bilgisayar ve İnternet Teknolojileri

Gündelik yaşamda her geçen gün "bilgi toplumu / bilgi çağı" sözcüklerini daha fazla duyar olduğumuz bir ortamda bilginin idaresi (saklanması, derlenmesi, işlenmesi) için vazgeçilmez araçlar olarak karşımıza bilgisayar çıkmaktadır. Bunun en önemli nedeni birim zamanda insanın bunca bilgi yığınını kontrol edebilmek, yönetebilmek için kendisinden daha fazla işlem yapabilen araçlara ihtiyaç duymasıdır. Bilgisayarların temel işlevleri ve çıkış noktası da zaten budur. Çeşitli eğitim-öğretim etkinliklerinde bilgisayarın kullanılması giderek yaygınlaşmaktadır [Kaya,1999]. Öte yandan iletişim yöntemlerinin içerisinde de artık vazgeçilmez bir unsur olmaya başlamışlardır. Yoğunlaşan iş ve eğitim akışları karşısında geleneksel posta ve yayın yöntemleri, özellikle bireysel iletişim açısından son derece yavaş ve yetersiz kalmaktadır.

Gelişen teknolojiye ayak uydurabilmek için her geçen gün daha fazla beceriye gereksinim duyulmaktadır. Uzaktan eğitimde şu an gelinen son nokta internet yoluyla öğretim uygulamalarıdır [Önder, 2001,2002].

Son yıllarda, bilgisayar ve İnternet kullanımının yaygınlaşması, gelişen İnternet teknolojileri ve ADSL gibi çevirmeli bağlantılara göre daha ucuz, hızlı ve sürekli İnternet bağlantılarının kullanılmaya başlanması, İnternet üzerinden yayımlanan eğitim ortamlarının oluşmasına neden olmuştur (Doruk, 2005).

Türkiye'de İnternet'in kullanılmaya başlanmasından önceki dönemlerde yapılan uzaktan eğitim uygulamaları tek yönlü iletişime dayandığı için etkileşim eksikliği, bu konuda yapılan çalışmalarda sık sık dile getirilmiştir. Diğer taraftan, bilgisayar ve ağ teknolojilerinin, özellikle İnternet'in giderek yaygınlaşması ve karşılıklı etkileşime olanak sağlaması yeni umutların doğmasına yol açmıştır (Özen, 2001).

Özellikle 1990'ların sonlarından itibaren, öğrenme- öğretme etkinliklerinde yoğun olarak kullanılmaya başlanan bilgisayar ağları Internet ve World Wide Web teknolojileri ile uzaktan öğretimde önemli açılımları sağlamıştır (Aydın, 2002). Bu dönemden sonra uzaktan eğitim geniş bant teknolojilerinin desteği ile hız kazanmış ve web tabanlı uzaktan eğitim öğrenme-öğretme amacına hizmet etmeye başlamıştır.

Günümüzden uzaktan eğitim ağırlıklı olarak çevrimiçi ortamların desteği ile yürütülmektedir. Çevrimiçi eğitime olan ilginin temelinde, Internet ve World Wide Web gibi teknolojilerin, bilgiyi yaratma, saklama, dağıtma ve paylaşmada sağladığı olanaklar yatmaktadır. Eskiden saatler, haftalar ve hatta aylarca beklenerek elde edilen bilgilere şimdilerde birkaç dakika da ulaşılmaktadır (Aydın, 2002).

Teknolojik gelişmeler birbirinden uzaktaki bireysel kullanıcıların yalnız başlarına değil grup halinde ortak uygulamalar üzerinde çalışmalarına olanak sağlamaktadır. Yakın geçmişe kadar yalnızca metin tabanlı olan bu ortak uygulamalar artık eş zamanlı görüntü ve ses paylaşımlı olabilmektedir. Bu durumun farkına varan bazı uzaktan eğitim uzmanları, sanal gerçeklik gibi yöntemleri uzaktan eğitim amacıyla kullanma yönünde uygulamalar başlatmışlardır. Gelişmeler bu tür işbirliğine dayalı benzetimlerin, oyunların uzaktan öğretimde kullanılacağını göstermektedir (Aydın, 2002).

Uzaktan eğitimde kullanılan bilgisayar ve internet teknolojilerine örnek olarak e-posta, sohbet, web tabanlı kaynaklar, videokonferans, bloglar, vikiler,sosyal işaretleme, sosyal ağlar ve öğretim yönetim sistemleri verilebilir.

Sonuç

Uzaktan eğitimde kullanılan teknolojiler, bilgi ve iletişim teknolojilerine paralel olarak gelişmektedir. Uzaktan eğitim teknolojilerine her geçen gün bir yenisi eklenmektedir. Basılı teknolojilerin kullanıldığı uzaktan

eğitimin ilk dönemlerinden, bilgisayar-internet teknolojilerine kadar birçok teknoloji uzaktan eğitimde kullanılmış ve kullanılmaya devam etmektedir.

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URL-5: http://fcit.usf.edu/distance/chap9.htm

"VAKIF UNIVERSITIES" IN TURKEY: SOME PROBLEMS AND PROSPECTS

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Abstract

Vakif universities in Turkey are established and run by some private groups,called as "vakifs",may also be named as the "revolving funds" in terms of financial aspects and being "voluntary" and "non-profit" organizations.They are included within the university system,but,both organizationally and administratively,they have some differences.

Vakif universities in Turkey have been established to meet some of the needs in education. In this small study we discussed the place of these institutions within the regular system of higher education, to illustrate their significance and some of their problems in terms of organization,administration and the other aspects related to the general system.

These institutions are not "special" or "private" universities in their general,or "known"senses.They are more or less,somehow, "original" institutions in Turkish higher education.Naturally,they have been experiencing various problems since their establishment.Some of the problems and issues they have been faced are mostly related to the other problems and issues within the formal higher education, as well as secondary education and the others;such as the ;population growth and financial aspects and demands. In addition,the new and existing legal and practical rules and practices have not been good and functional enough to meet the the needs within the system. So,it seems quite clear that, first, it must be understood that these are and have to be higher education instutitions different from the "formal" and "traditional" ones.Our experienses as well as observations and studies illustrate that there is a need to look at the "vakif universities", their problems and their prospects seriously.Only then they would be able to meet the needs and fulfill their functions in a better way.In this respect,their organizations,administrations and their "academic freedom" may be some of the "main"topics to start with.

Keyvords: Vakif ; university; private,; council

Introduction

Since the establishment of the new Turkish Republic,education in general has been considered as one of the main,vital areas to be dealt with.Even before the establishment,the Founding Fathers,especially Ataturk had serious thoughts and preparation.Because,they knew that they were creating a new, modern and different society and it was naturally required a modern system of education in it.They put native educators as well as well-known foreign philoshopers and educators at work. Istanbul and Ankara Universities were two main institutions to start with and another possible university,a third one, around Van Lake to go ahead. After Einstein's letter to Turkish President during the Second World War,several Jouish scientists were accepted to Turkey and those scientists played very important roles in improvements of Istanbul University. In addition, John Dewey was invited to Turkey (1924) and prepared two reports.Later,Advisor for German Ministry of Commerce and Industry came to Turkey and prepared a report on "Technical Education" (1925)and,specialist in technical education Omer Buyse from Belgium prepared a report on programs of our new vocational and technical schools (1927).Later,Miss Parker's Report (1934), the American Group's Report (1933-1934), prepared by Walker D.Hines and some others on Turkish economy,can be stated among some of the important events in Turkish Education. The years

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were passed by and both the "pictures", problems and issues as well as the "approaches" in education as well as in higher education have been changed and required some different "solutions" rather than thr conventional ones. The vakif universities then came into existence as a hope,or a "new approach" to deal with some of the higher education problems, such as demands, finance and even somewhat an "innovation"or "innovative institutions."

Universities in Turkey

As Sarason also pointed out "The decision making group is usually small and not representative of all those who will be affected by its decision," (Sarason, Boston 1971,p.59).

In addition, according to Okcabol,in Turkish situation, "Members of the Higher Education Council and members in academic councils at the universities,instead of directing the work at these councils,try to be quite and in accord with the higher administrators," and "universities and their administrators are apart from the society." (Okcabol, 2007, p.325). Another point related to these would be the "readyness of both the society and universities,for developing systems such as Turkey.

For instance the following list of the laws related to the universities in Turkey can give us an idea to show the picture of development in this respect.

Table 1 The University Laws in Turkey

31 May 1933	The University Law (# 2252)
13 June 1946	The University Law (#4936)
27 October 1960	The Law for Changes in the Law (#4936, # 115)
20 June 1973	The University Law (#1750)
4 November 1981	Higher Education Law (#2547)

The laws and the other regulations in higher education of course were changed, according to the other changes to meet the needs and solve the existing and new problems in the society and this way to keep up with world-wide developments.For instance, there was only one state university and no vakif university in 1933 inTurkey, but the number of state university became 27 in 1982 and no vakif university again. But, in 2011 there was 103 state and 62 vakif universities.With 17 other higher institutions total numbers became 182 (Table 2).

Table 2. Numbers of Universities in Turkey (Selected Years)

Year	State Universities	Vakif Universities
1933	1	-
1974	13	-
1982	27	-
1992	53	2
1997	53	16

2006	68	25
2008	94	36
2011	103	62

On the other hand,the numbers of students at state universities was 1,869.911 in 2010 (excluding open university). This number became 193.244 at vakif universities (Table 3).

Table 3. Numbers of Students in Turkish Universities (2010-2011)

State Universities (%)	Vakif Universities (%)	Total
1.869.91 (88.9)	193.244 (9)	2.103.163 (x)
		(x)Excluding open university
		By including,total 3.583.834 (%93.59)

When we checked with the numbers of the numbers of teachers (including their assistants),we see that total number in all higher institutions ,at the 2010-11 educational year again, is 111.495.Having 95.831 at state and 12.392 of them at vakif universities (512 members at the other higher institutions). It seems clear that, in order to keep up with the changes , universities in Turkey have been increased quite drastically, especially in their numbers, to meet demands. Along the same line we observe an ever-increasing financial efforts,as well as preparing academic manpower for the new institutions.

Vakif Universities Within the System

Higher education has been a world-wide phenomenon at least for the last fifty or one hundred years. It has different pictures of understanding and development for different countries.But,for those who think of education,as well as higher education, as the right of their citizens universities and higher education in its different forms have been considered and worked on continiously. The situation has been different aspects to be considered by developing and developed nations with different issues and problems, atdifferent levels and types of difficulties. The modern,democratic states in this century aim to provide her citizens equal opportunity and facilities in education. This was accepted as the "equal opportunity" before,but later on it is understood as the "equal opportunity and facilities."In this respect, in relation to the higher education,Turkey is somewhat located below the middle,or "avarege"among the other nations.

As it was stated in a Unesco Report in 2006 (Cepes,Unesco.2006,p.27),the fallowing problems were identified in

Turkish higher education:

1) Resource problem

2) Entrance to the higher institutions

3) Establishin a national "system of quality"

4) The problem of vakif universities

5) Insisting on traditional ways (of curriculum development,autonomy,demands) in higher education

6) Levels of tuition and fees at the vakif universities

Along the same line,it is also important to notice that:

1)It must be undersood that the university entrance exams means only a kind of "ordering",rather than indicating the assumed "success" levels

2) It seems vital to look into the main goals of the secondary institutions and their places and roles in education for the future

3) Establishing a university indicates and means an "investment in education", rather than an investment only directed economical gains and profits.It is very closely related to the future and the goals of the country.

As we know, by considering as a part of the "solution" to the higher education problems,especially in terms of demands and financing, since 1984,vakif universities in Turkey have been establishing.Their numbers became 62 in 2011.

Vakif universities are not "private " or "special " universities in a sense that they are neither "profit" oriented, nor "religious" institutions.They are established according to the article 130,and the item 3 of the Law numbered 2547,by the "vakifs" which also have the same place with the state universities,as public institutions.Only these "vakifs" can establish these universities, after getting permission from the Higher Educational Council (Yök). Administration of the vakif universities is carried out by a council called as the "mütevelli heyet",but this group-especially on administrative and financial aspects- is supervised by the Higher Education Council. Improvements of vakif universities in numbers is illustrated below (Table 4):

Years	Numbers of universities
1984	1
1993	3
1996	8
1997	16
1998	18
2001	23
2006	25
2007	30
2008	36
2009	45
2010	56
2011	62

Table 4. Improvements of Vakif Universities in Numbers (Selected Years)

Vakif Universities have the fallowing financial resources:

Vakif's share (Vakif's financial impact)

Students'share

State's share (State's help)

All of these shares are different among these universities and this affects both facilities and performances seriously.

In addition:

1) Vakif universities are not placed within the studies in strategic plan carried out by the Higher Education Council and the general methods and legal procedures in their supervision are not clear enough,

2) The composition of the "mutevelli heyet", the power and responsibilities of the head of this group are to be questioned and dealt with and improved,

3) Methods of appointment,very limited administrative authority of the rector have some problems,

4) Vakif universities are transferring their teachers and all of their personnel from the state universities, but they do not seem to be planning to prepare their "cadro",especially their academicians,

5) They,in general, stress on the most wanted programs of study and do not have sound scholarship programs,

6) There seems very serious differences in terms of their facilities and quality of education among these institutions,

7) The fees and tuitions they charged in almost all cases are abowe the average,or mid-level incomes of the citizens,

8) Their scientific as well as educaional impacts for the country are questionable.

For these and similar reasons,the country needs the services of these institutions,but it also seems vital to look into these institutions in a serious and scientific way, rather than by "orders" or personal decisions of the higher authorities, to improve for the benefits of the country's higher education,and her education in general.

Another aspect is that,since the Higher Education (YÖK) has the main power and responsibility for entire higher institutions as well as for vakif universities,there is a need to look at her composition,examine objectively if it really fits to carry out her functions. For instance, in 1995 there were 27 universities and 24 full-time officials were working at this council;now,in 2011 there were 130 state and 62 vakif universities. Nine of the 21 members are full-time and 12 of the others are attending the meetings once a month.The numbers of the supervisors of the Council is 11,as it was in 1995. So, it seems quite clear that,vakif universities are not and can not be somewhat entirely "innovative" institutions within the general system of higher education in Turkey and cannot fulfill their functions easily.Because they are expected to fulfill their functions in a way by using "old" and traditional mentality and methods.Yet,the country seems to be in needs of these institutions.namely "vakif universities" and in spite of various problems they have been facing,they actually have potentials for fulfilling their functions and in this respect they seem to be having some "prospects" for the future.

Conclusions

Education and higher education in Turkey have been among the main areas to work on.For this reason,native and foreign experts held responsibilities.It was always considered as a matter of "nation building" and modernization. As the state universities, Istanbul and Ankara Universities became two centers of developments in higher education. The numbers of state universities reached to 130 in 2011.

During those years,population growth,financial burdens,demands for higher education after having an increasing numbers of graduates of secondary schools became important problem areas. Vakif universities,as different and original institutions were established in order to help with solving some of the problems in higher education.Their numbers arrived at 62 in 2011.

These institutions are not "special",or "religiously oriented" universities in their traditional sense.They can be established by a "vakif" by the related Law,responsible to the Higher Educational Council.The vakif is not a profit making organization and "vakif university" is located within the general-public-system of higher organization. For instance some problems like the "autonomy" is the same for public as

well as vakif universities to be worked on.

Since their first years,vakif universities were appeared as "beneficial" institutions within the system,but they have been experiences various problems on the way.For this reason and in order to make them capable enough to fulfill their functions there seems to be having an urgent need to examine their problems and work on them,scientifically.

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WEB-SUPPORTED EFFECTIVE HUMAN RIGHTS, DEMOCRACY AND CITIZENSHIP EDUCATION?[98]

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Abstract

The aim of the study is to investigate the possible effect of web-supported teaching on students' academic achievement in Human Rights, Democracy and Citizenship education. There is a strong emphasis on ICT integration in schools and higher education institutions in Turkey in recent years. Advocates of technology claim that it has a positive effect on students' academic achievement. The research is carried out to understand weather web-supported instruction will improve test scores on achievement test designed for this study to measure citizenship subjects.

To examine weather web-supported instruction would make a difference in attainment level of the subject, Solomon four-group design was employed. Subjects of the study were the student teachers of social studies education attending to school of education of two state universities located at Konya and Usak, Turkey. Second year students were assigned to form two experiment and two control groups in each universities. Thus, each university had its own Solomon four-group design.

An achievement test designed for this study was employed to collect data on dependent measures. The data was analyzed by using t test and one-way ANOVA. There was no statistically significant difference between experimental and control groups in achievement post-test scores.

Keywords: Web-Supported Learning**;** Web-Supported Teaching; Citizenship Education; Teacher Training, Achievement

Teacher Education and Human Rights, Democracy and Citizenship Education

In recent years, Turkey has been under immense change due to both internal and external factors. Among many tiers in societal level, the change process is observed in education and political arena. Turkey is evolving towards a more democratic country especially after its direct negotiations started with EU for the accession as a full member in 2005 (Wilkins *et al., 2011).* This process has an effect on the education system too. There is an emphasis on a democratic education. As part of the democratic education Human Rights, Democracy and Citizenship Education as embedded in social studies curricula and later a separate subject is integrated into school curricula. Instructors in teacher education institutions need to adopt their pedagogy to address student teachers' skills and knowledge on affective domain.

The affective domain in Human Rights, Democracy and Citizenship Education is very important as well as skills and knowledge domain (Kerr, 2010). What educators are trying to do is to provide students with skills and knowledge that will be necessary for them in life. Moreover, they may also try to help them form opinions and attitudes. In order to provide quality education in Human Rights, Democracy and Citizenship Education, it is a must to address affective domain. Otherwise, the education process will be about Human Rights, Democracy and Citizenship Education but not to persuade pupils to uphold the principles of democracy and human rights. Hence, student teachers have to be equipped with the know how to be able to utilize methods, techniques and

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materials in their teaching practice later in service. There are more possibilities to address affective domain with new media, especially with the internet.

Constructivism and ICT

Proponents of constructivist approach argues that the more real life problems integrated into teaching and learning process the more meaningful learning is for pupils (Yucel *et al,*. 2010). Subjects like Human Rights, Democracy and Citizenship Education require students actively engaging in issues such as protection of environment, helping people in need, participating in students' rights action in school etc. There are some social issues can be brought to the classroom but some cannot be. There are restrictions too for students to carry out teaching and learning activities out classroom walls. ICT, and the internet especially, allow teachers and students to carry out activities that were not possible in traditional classroom environments and/or in real life situation Furthermore, students can interact with each other and teachers, do research, and compose their own work by using internet thus making use of higher order thinking skills.

Method

Research Design

The study employs a Solomon four-group research design in order to reduce confounding effects of pre-test (Pedhazur and Schmelkin, 1991). The subject of the study included all the 2nd year students studying at education faculties of Usak and Necmettin Erbakan Universities. The second year students were assigned to form two experiment and two control groups in each universities for a quasi-experiment. Thus, each university had its own Solomon four-group design. Since random assignment of students to the groups was not possible, such variables as university entrance score, was taken as a covariate. Also gender compositions were also examined to see similarity of the groups. Control and experiment groups in each faculty had 30 to 32 students each.

Table 1. Solomon Four Group Design in both universities

Groups in Usak	Pre-test	Treatment	Post-test	Groups in Konya	Pre-test	Treatment	Post-test
Experimental	O	X	O		O	X	O
Control	O		O		O		O
Experimental		X	O			X	O
Control			O				O

Data Gathering Tools

An academic achievement test designed for this study was employed to collect data on dependent measures. Academic achievement test was prepared by a team of experts. First a table of specifications was prepared. Content and the face validity were ensured by the team of experts in accordance with table of specifications. Then, the test items were subjected to difficulty coefficient and discriminant coefficient analysis. The items which had less .30 discriminant indices were omitted. For the remaining 38 test questions Kuder-Richardson (KR_{20}) coefficient was computed, and it was found .84. The test was applied to one experimental and one control group in Usak University and one experimental and one control group in Necmettin Erbakan University at the beginning of the term as pre-test.

For attitudes a-ten-item general attitude measurement scale towards Human Rights, Democracy and Citizenship Education with .82 Crombach's Alpha reliability and a-twenty-one item attitude measurement scale towards ICT with .93 Crombach's Alpha reliability were developed.

Data Collection and Treatment

After subjecting experimental group students to a-12-week-long web-supported learning, the same test (as post-test) was applied to all control and experiment groups in both universities, 8 in total. The treatment lasted 12 weeks. The course was integrated into a teacher training programme for social studies education. The course content covered all the regular necessary elements of Usak and Necmettin Erbakan Universities requirements. In addition to those elements, there were extra themes informed by the international literature and theory. There were 11 themes covering Human Rights, Democracy and Citizenship Education subjects. Student teachers were actively involving group work, web-quests, doing research on the data base, watching movies and documentaries etc. in experimental groups. Student teachers in control groups were also involved in group work and research about the same subjects but in traditional classroom environment with instructor's costmary way of delivery of education.

Analysis

The data was subjected to t-test and one-way ANOVA by using SPSS 19.00. In order to test the two prerequisite for variance analysis is met i.e. the data is relatively appropriate for normal distribution and the

variance between groups is homogenous, the data was subjected to Test of Normality (Kolmogorov-Smirno; p> .05, Stem-Leaf, Skewness-Kurtosis: between -1,+1, Box-Plot, Histogram, Normal Q-Q Plot) and Levene Test (p<.05). It is found out that apart from Kolmogorov-Smirnov test the data is suitable for relatively normal distribution according to all indicators. Thus, it is decided to run parametric tests. Levene test shows that variance is homogenous (see Table 4). Therefore, ANOVA was used.

Findings and Discussion

In order to test the effect of web-supported learning on student teachers' achievement t-test was carried out for control and experimental groups.

Table 2: Differentiation of Achievement Post-Test Scores According to Control and Experimental Groups (t-Test)

Post-test	Group	N	Mean	Std. Deviation	Std. Error Mean	t	p
Scores	Control	140	26,42	3,08878	,26105	1,573	.117
	Experimental	130	25,78	3,63929	,31919		

As seen at Table 2, there is no statistically significant difference between control and experimental groups in terms of achievement post-test scores (t:1,573, p>.05). It means, the treatment i.e. web-supported constructivist teaching of human rights, democracy and citizenship education did not affect students' achievement meaningfully. In fact, student teachers in control groups scored higher on post-test achievement test higher than experimental groups. However, there might have statistically significant differences among groups.

Table 3: Differentiation of Achievement Post-Test Scores According to Control-Experimental Groups with Pre-Test and without Pre-Test (One Way ANOVA-Post-HOC TUKEY)

Post-test Scores	Sum of Squares	df	Mean Square F		Sig.	Differences (Group No)
Between Groups	233,176	3	77,725			1-2
Within Groups	2829,490	266	10,637	7,307	,000	1-3
Total	3062,667	269				2-4

Differentiation of achievement post-test scores according to control- experimental groups with pre-test and without pre-test, created via Solomon Four Group Design is shown at Table 3. According to findings there is a statistically significant difference between at least two groups (F: 7,307, p<.01). According to findings of ANOVA, achievement post test scores of control group with pre-test, is higher than experimental group with pre-test and control group without pre-test meaningfully (Table 4). It means didactic power of pre-test is more effective than the effect of treatment -based on using technology at teaching activity- on the achievement. And the achievement post test score of the experimental group without pre-test is meaningfully higher than the experimental group with pre-test. There is no explanation for this finding.

Table 4: Statistics About Test Groups

		Descriptive Statistics				Levene Statistics	
Nu	Group	N	Mean	Std. Deviation	Std. Error	Value	p
1	Control with Pre-Test	73	27,1096	2,54166	,29748		
2	Experimental with Pretest	64	24,7500	3,85450	,48181		
3	Control without Pre-Test	67	25,6716	3,45704	,42235	2,010	.113
4	Experimen. without Pre-Test	66	26,7727	3,13686	,38612		
Total		270	26,1111	3,37422	,20535		

The data was subjected to correlation analysis. The independent variables such as students' test scores of university entrance exam, grade point average score for 3 terms, parents' education levels, etc. were included into the analysis. There was a positive significant correlation between student teachers' achievement test post-test score and their technology attitude pre-test scores.

Conclusion

The fact that the treatment did not create any statistically significant difference between experimental and control groups, it is worthwhile to be cautious about ICT's impact on students' achievement. It is also worthwhile to explore different ways of testing students' achievement. The fact the matter is that student teachers were subjected to a constructivist learning environment with web support. However, due to scientific reasons to have an objective criterion they were tested with a multiple choice test measure which contradicts with the constructivist idea of formative assessment. The kind of treatment applied for this research may need different kinds of tools for truly measuring students' achievements.

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WHAT IS IT ABOUT FIELD TRIPS? PRAXIS, PEDAGOGY AND PRESENCE IN VIRTUAL ENVIRONMENTS

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Abstract

Teaching Faculty in Humanities and Social Science disciplines often struggle to find ways to facilitate students' understanding of theoretical concepts. In the Higher Education environment, we may neglect the "hands-on" strategies used so effectively in earlier educational contexts—to our students' detriment in some cases.

Recent moves towards situated and problem-based learning in Higher Education offer productive possibilities to incorporate all these modes of learning. In this paper, I argue that one specific pedagogical initiative—the field trip—offers productive opportunities for praxis in disciplines where it is not commonly considered as a teaching strategy. More specifically, I shall suggest that the traditional field trip can be usefully situated within an emerging field—virtual pedagogy—through the delivery of teaching strategies in virtual environments. I shall argue that, far from rebottling old wine, the virtual field trip combines situated, problem-based learning with praxis in excitingly new ways. Further, I suggest that the enhanced sense of presence provided by multi-user virtual environments (MUVEs) offers Teaching Faculty in Higher Education contexts a surprisingly effective way to introduce students to complex theoretical concepts through playful experimentation. To illustrate my argument, I shall draw on personal experience of one such teaching initiative at graduate level—a Sociology graduate field trip to a MUVE called Second Life.

Key words: Multi-User Virtual Environments, praxis, presence, Second Life, situated learning, virtual field trip

Introduction

Those teaching social science disciplines in Higher Education contexts seldom question the necessity of social theory. However, as Silver and Perez (1998) point out, attempting to follow through with that viewpoint in the classroom is often frustrating—even more so when we attempt to encourage students to relate theory to their own experiences. Kindling nascent sociological imaginations requires overcoming student passivity and fear about theory (Rinehart, 1999). Because theory challenges students to question taken for granted assumptions about familiar issues, it is seldom easy. Familiar habits of thought and the emotional ties to these may cause students to resist analysing them in new ways. This resistance can foster 'traditional' teaching, in which instructors lecture about theories drawn from assigned texts. This approach discourages creative thinking. Students may learn theories by rote and thereby fail to connect them to their own lives" (Silver & Perez, 1998).

In my experience these comments are especially pertinent in the micro-sociology classroom where students grapple with identity, subjectivity and complex theoretical concepts. Such concepts are not only harder to achieve "distance" from, but are also often personally threatening. If, for example a class session involves the social construction of gendered identity, how difficult might it be for individuals —who, in their late teens or early twenties, are in the "thick" of constructing such an identity—to engage intellectually with concepts of normativity, gendered hegemony, or performativity? Passive and shallow learning of enough concepts to "pass the test" reduces the threat level, allowing students to demonstrate a degree of mastery without grappling with the underlying, and perhaps threatening, issues.

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As teachers, how do we overcome these problems? Various pedagogic strategies exist to foster active rather than passive learning. Although it lies beyond the scope of this discussion to enumerate these in any depth, many such strategies fall within a broadly constructivist learning paradigm that advocates learners be "immersed in situated, problem-based learning environments that replicate real-world activity structures" (Albon, 2003). Despite the undoubted efficacy of such strategies, within the micro-sociology classroom the problem of personal immersion within the very phenomena under analysis may remain and continue to affect students' willingness to engage in critical reflection. Ainley observes, for example, that students are reluctant to contextualise "the 'choices' they believe they have freely arrived at" (Ainley, 2006 p.74). Despite the slightly different context to which he applies his observations, Ainley's students are remarkably similar those in a micro-sociology class who may reject arguments for the social construction of identity and gender with assertions of individuality and arguments that there are 'always exceptions,' resulting in a superficial engagement with 'just enough' theory to complete assignments.

Pedagogies grounded in preferences for active, reflective, and critical engagement with concepts are, therefore, often in tension with students' reluctance to think about how "you 'Become What You Are'" (as Ainley puts it). Students' immersion in the instrumental logic of their times, and the commodification of contemporary Higher Education[101] may exacerbate this reluctance. Since understanding this "becoming" is fundamental to micro-sociology, finding strategies to overcome such reluctance is vital. If, as Gadamer (1975) suggests, everyday life consists of the challenge posed to the familiar by the unfamiliar then how can we encourage our students to participate in this challenge? What means can we deploy to startle students out of themselves or to offer them the opportunity to re-assess their opinions in unforeseen ways (Kerdeman 1998; 2003)? Whatever strategies we employ to these ends, they must engage the student with theory so that the familiar may be viewed differently and connections between individual biography, history, and social structures that shape the life-course explored. I argue that the quotidian may supply "the bridge between fear and curiosity" (Sutton, 2006, p.209), by making theory less intimidating (Holtzman, 2005). I support this contention by discussing what I call praxis pedagogy and providing a brief overview of the Field Trip as an exemplar. I shall then describe a specific learning task, and briefly evaluate its effectiveness in promoting critical reflective engagement with theoretical concerns.

Praxis Pedagogy

Without doing undue violence to the rich tradition and variety of practice pedagogy, I believe that these varied forms may be combined under the heading of 'praxis'. Within the social sciences praxis is traditionally defined in the interstices between social action, social change, and practice-based reflexivity. A more nuanced definition adds an understanding of praxis as a cycle of activity including philosophical, contextual, needs, and pragmatic considerations forming a framework designed to bridge disciplines and integrate values, research and action (Prillittensky, 2001). Praxis should be based on criteria capable of facilitating completion of the cycle of reflection, research, and social action. It comprises the interconnection between actions of different, dispersed individuals and those socially, politically, and economically embedded institutions within which individuals act and to which they contribute (Jarzabkowski, Balogun, and Seidl, 2007). Praxis has a dual nature as both an embedded concept—able to be operationalized at different levels from the micro to the macro—and also dynamic as it shifts fluidly through the interactions between levels. I am mindful of these varied perspectives on praxis as I deploy the term in a slightly different way refer to the act of putting theoretical or normative assumptions into critical, reflective practice.

With this definition in mind I approach praxis pedagogy as activity-based and inherently reflexive. Keeping practice firmly in view as a strategy, we can augment the insights offered by constructivist learning models to maximise the immersive and collaborative processes, supporting knowledge construction within the classroom learning community as a social experience (Dewey, 1973). Pedagogic strategies drawing upon Dewey's insights include those emphasising experiential learning, authentic learning experiences and problem-based learning

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[101] For further commentary on instrumentality, commodification and the effects of neo-liberal political agendas upon higher Education, see McManus (2006), Naidoo and Jamieson (2003), and Olssen (2002).

(PBL). These strategies have become widespread within all levels of education. Experiential learning makes the education-life-society connection clear, leads to personal growth, puts the learner directly in touch with the realities being studied (Scarce, 1997), and often involves links between out-of-classroom experiences and in-class teaching through "authentic" learning experiences (Wright, 2000). This link is one made strongly by learning experiences that are "authentic". Authentic learning experiences arise in circumstances where the learner constructs meaning and produces knowledge; uses disciplined inquiry to construct meaning; and aims her or his work towards discourse, product and performance creations that have value or meaning beyond specific academic successes. Additionally, an authentic learning experience will involve disciplined inquiry that allows students to engage in higher order thinking and deep knowledge acquisition. Such learning is personally meaningful to the student, relates to the real world outside the classroom, and provides opportunities to think in the modes of particular disciplines (Stoddard, 2009). Opportunities for self-constructed knowledge through experiential and authentic learning contexts often also involve PBL contexts where students engage in self-paced and self-constructed knowledge acquisition by grappling with multifaceted and realistic problems requiring self-directed learning skills.

Earlier I suggested that students might be encouraged to reassess their opinions by creating links between individual biography and social milieux, and by encouraging students to explore the familiar. Such opportunities for self-constructed knowledge may not reduce the inherent threat levels, but one specific strategy might. Whereas talking about personal experience within a classroom setting might be ineffective at reducing such threat, a one-step-removed self-experience may allow just enough distance to allay anxiety. A properly constructed immersive experience such as a field trip (FT) can act in this way, taking students out of the classroom and immersing them in an environment where they can act as observers while simultaneously being participants. I see the FT, therefore, as a remarkably effective context for praxis pedagogy. FTs are exercises in 'walking the sociological imagination talk' in specific contexts beyond the classroom walls. Before discussing this strategy, it is useful to provide a brief pedagogical context.

Field Trips as learning tools

I have argued elsewhere that both the FT and its virtual equivalent, the VFT, arise out of broadly constructivist learning approaches, fostering active rather than passive learning styles (Procter, 2011). The FT also draws on understandings of the social roots of learning developed by Dewey (1973), encouraging students' sociological imaginations by challenging preconceived notions and breaking down stereotypes (Scarce, 1997). During an FT students may be engaged in pursuit of a problem, gathering and analyzing data needed to answer their questions (Boyle, 1995). The benefits inherent in these short-term, experiential learning experiences may be categorized as substantive, methodological, pedagogical and transitional (Wright, 2000). Substantively, FTs assist students to make connections to subject matter at a deeper level than can be achieved with traditional instructional methods (Wright, 2000). Methodologically, FTs allow students to actively test and generate theories (Scarce 1997). Further, observational assignments of the type undertaken during FTs are remarkably effective for research methods that rely upon and validate the use of personal experience. Pedagogically, experiential learning experiences such as the FT combine abstract, concrete, reflective, and active learning styles; encourage participants to actively participate in their own and others' learning; and provide multisensory involvement (Wright, 2000). The FT may bridge formal education and future career settings, exposing students to unfamiliar environments and teaching social interaction skills. FTs can, however, easily become disconnected from the classroom curriculum (Klemm and Tuthill, 2003) or even reinforce students' stereotypes by engaging little more than 'zoo phenomena' approaches. Additionally, unless properly planned, an FT's geographical, psychological and cognitive novelty may hinder the meaningfulness of the learning experience (Robinson, 2009). Encouraging students to make links between their personal lives and the surrounding world may also expose them to potentially traumatic matter (Wright, 2000).

The Virtual Field Trip (VFT) has similar pros and cons to its traditional counterpart and arises from similar pedagogical paradigms. A VFT is most commonly defined as an instructional approach in which a multimedia presentation brings the sights and sounds of a distant place to the learner through a computer (Klemm and Tuthill

2003). Recently, a new development has increased the 'reality quotient' in student experiences, offering increased opportunities to maximize the learning potential of the VTF. These new three-dimensional virtual environments (3-DVEs) should be defined as computer generated displays giving users a sense of being present in, and interacting with, a three dimensional environment other than the one they are actually in (Warburton, 2009; Eschenbrenner, Nah, and Siau, 2008). This sense of 'being there' generates more dynamic environments within which individuals can view objects, simulations and other users in a shared virtual space (Eschenbrenner et al. 2008). Amongst various descriptive terms for 3-DVEs, the one I find most useful is 'multi-user virtual environments' (MUVEs). A 3-DVE offers a simulation of a three dimensional world (Inoue, 2007) and is distinguished from other forms of interactive media by three characteristics: increased immersion; increased sense of fidelity in relation to immediacy of control; and higher levels of active participation (Dalgarno and Lee 2012).

More specifically, MUVEs, as a subset of 3-DVEs, possess recurrent features that reflect their genesis in the gaming worlds of multiple user domains (MUDs) and massively multiplayer online (MMO) contexts (Warburton, 2009). MUVEs are persistent in world environments, which continue to exist even when no avatars are present. Within a MUVE, interactions between individual users and between users and objects, occurs in real time, providing a sense of immediacy of action in a shared space in which multiple users may participate simultaneously. Communication within these environments is both synchronous (allowing real-time interaction through various forms of communicative capabilities such as chat and instant messaging) and asynchronous (through connections between the MUVE and various forms of social networking media such as Twitter). A MUVE possesses similarities to the real world in such features as topography, movement and physics (Warburton 2009). MUVEs allow a range of activities beyond social meetings (DeFreitas and Veletsianos, 2010), frequently promoting first person viewpoints by utilizing avatars as digital representations of users. The avatar is the key to the immersive experience. As the user's bodily representative within the MUVE, an avatar allows both a greater sense of control and a more effective engagement with the experiences as they unfold in real time (DeFreitas and Veletsianos, 2010). Each of these characteristics has significant consequences for the use of such environments as learning spaces.

One such MUVE, Second Life (SL as it is referred to by residents), is the most mature example of a new generation of immersive virtual worlds. [102] In SL, residents have freedom to design their avatars, create unique environments within the world that may either mirror or radically diverge from the real world. Such freedoms provide an environment where social interaction is open-ended rather than a precursor to overt goal oriented action; where transactions may occur via a tangible economic structure (Warburton, 2009); and where boundaries are persistently blurred between corporeality and transcendence, the real and the virtual, where and nowhere, and single and multiple selves (Jones, 2005). Residents do not typically think of SL as a "game," since there is no "win" scenario or any specific objective. MUVEs like SL provide a supportive platform for project-based experiential learning through experimentation, exploration, task selection, creation, and dynamic feedback (Jarmon, Traphagan, Mayrath, and Trivedi, 2009). SL provides a good fit with the constructivist learning philosophies discussed above. In SL understanding is constructed through experience and reflection, and occurs in social situations (Santo 2009), students can explore the subject matter in a sensory-rich environment, direct their own learning, see their own and each others avatars, and interact both with other avatars and with objects. Teachers can utilize various inworld systems of communication to provide prompts for learning, build their own teaching environment, or import audio and video items. All residents can purchase objects, store them in their inventories, or share them in various ways (Jarmon et al., 2009). Experiences avatars have in these interactions can correlate to challenges met outside the MUVE itself due to elided distinctions between real and make believe

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[102] SL is the creation of Linden Lab, a San Francisco-based company set up by CEO Philip Rosedale to launch a 3-D world. SL went live in June 2003 and its growth has been widely cited as exceptional. Numbering still only 180,000 residents in April 2006, SL has grown to over 25 residents worldwide by 2012. Use rates number some 1.3 million log-ins over a 60-day period, with between 45,000 and 70,000 regularly online at any one time (Shepherd, 2011). SL appeals to a very broad demographic: 57.2% of users are male; 42.8% are female; and 72.1% of the population is over 25 years of age (Worldwide, 2011). SL statistics are somewhat unreliable however because more people register than actively participate and many users have more than one account (called "alts" in SL parlance), making the actual demographics of SL questionable. Users online at any one time may also include "bots" which are accounts operated by a computer program rather than human user. For these reasons, user statistics may be inaccurate.

that occurs as a result of playing social roles and imitating others' social roles (Jarmon et al., 2009). SL does have some disadvantages however. To run the software requires a computer system with high-end graphics capabilities, high screen resolution, and a high-speed Internet connection. The platform itself takes time to master even basic skills such as moving and communicating and advanced skill such as building, scripting and animating take further time to acquire (Santo, 2009). The harassment of residents through such activities as shooting, object destruction, or sexual advances—known as 'griefing'—may also expose students to risk (Kluge & Riley 2008; Santo 2009). Despite these issues SL has many characteristics that can facilitate innovation in pedagogy. The richness of the environment maximizes interaction, visualization and contextualization. The immersive 3-D environment, simulation, increased sense of presence and community combine to make content production and identity play inherently social and experiential processes (Macedo and Morgado, 2009).

Presence is a characteristic of persistent, synchronous MUVEs, describing the effect people experience when interacting with a computer-mediated or -generated environment. Presence is the illusion that a mediated experience is unmediated (Lombard & Ditton 1997), involving a sense of being present in the environment. We do not leave the real world behind when we enter a MUVE. Instead we bring our experiences inside the MUVE and integrate it into our experiences there (Carassa, Morganti, and Triassa, 2004). Action and presence are dialectically intertwined as we recognize the meanings of what we see and do through presence and those understandings become integrated into our future. MUVE presence offers users a first person action participation that has an enhanced sense of 'really' being there. The more immersive the system becomes, the more it cuts students off from the real environment and gives them a sense of personal identification with their avatar, favouring the egocentric model for students' representation (Mikropoulos, 2006). Social presence—or co-presence (the sense of being there together)—further enhances this identification. The enhanced sense of presence created by the latest MUVEs allows students to bring their real world with them, identify with their avatars, and yet maintain a sense of real world/MUVE separation. It is in this space, I believe, that critical analysis may flourish.

Taking a virtual field trip

In 2009, 2010, and 2012 I taught a micro-sociology Bachelor of Arts Honours class,[103] that focused on issues of identity and tensions between visible and invisible options for identity construction. The theoretical framework centers on the social constructionist paradigm primarily, but students were also expected to be familiar with the concepts of subalternity and Foucauldian discourses of power. Within this framework the course concentrated upon the interplay of individual agency and social structures at the micro (or individual) level, enabling students to examine the degree of agency individuals might (or might not) have in the construction and maintenance of identity.

In keeping with University regulations for assessment, students in this class were assessed in a range of different tasks. Their final assessment comprises a long essay examining the issues focused upon during the course. Leading up to this essay, students were given opportunities to engage in "field work" to test the theoretical concepts discussed in class, allowing them to begin with personal experience and move from there to a more theoretical understanding of the relevant issues. The fieldwork task required students to create a Second Life account; modify their avatar as they chose and document the decisions they made during this process in their field notes. At the conclusion of this part of the course, students were required to write a Field Report, which included a short description of their experience and an analysis of both the constraining and the enabling factors they experienced. The Field Report was intended to act as an illustrative exemplar for the theoretical analysis required of them for the final essay. The VFT provided practical experience of identity construction, requiring conscious awareness of the choices made during the avatar creation and modification. It was intended to mimic the unconscious choices individuals make in the presentation of their identity in everyday life. By

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[103] In the New Zealand system the Honours year is a fourth year of study, completed after a three-year course of Undergraduate study, and ending with the submission of a short Dissertation on a research topic of the student's choice. Students also complete courses for credit during this fourth year. The Honours year is therefore a mix of guided study and individual research and students are referred to as Postgraduates for administrative purposes although they do not graduate with their degree until the end of this year.

extension, the task aimed to get students to notice the implicit elements at play in identity construction and presentation, and to "bring to life" the theoretical concepts arising out of the set reading for the class.

Prior to undertaking the VFT class time was dedicated to reading and discussing research articles on SL, viewing video tutorials provided by Linden Lab employees, and clarifying the specifics of the task. Students then spent a total of 6 hours of supervised computer laboratory time during which they created their SL account, made basic modifications to their avatar and completed the tutorials provided for new Second Life residents. Once students had learned the basics of moving about inworld and had made some basic modifications to their avatars, they were shown some virtual malls and given "spending money" to further modify their avatars in any way they chose. I remained on site inworld with them to answer any questions they might have but took no part in their explorations.[104] Each lab session was followed by discussions to enable students to reflect on their experience and to take any further notes they felt they might need.

Evaluating The Initiative

My decision to treat this initiative as a scoping study of practical factors and limitations and the small class sizes, meant that I initially chose not to formally evaluate the project through quantitative means. In 2012, however, a slightly larger class (7 students) meant that I could conduct a very limited survey using Likert scale and open-ended questions to gauge their prior MUVE experience and their pre-VFT and post-VFT perspectives on the task. The reflexive nature of the assessment task also allowed me to use the Field Report as feedback on students' experiences during the VFT because they were asked to comment on enabling and constraining features they encountered. Feedback from the students suggests that the practical problems associated with creating their avatar brought the theoretical considerations to life, fleshing out the degree to which social construction guided their choices and opinions in-world. Students also reported conflicts between the normative appearances available to them and their desired identity outcomes. From a teaching perspective the task worked remarkably well in practical terms. Students were quickly engaged in the practical aspects of the task. In 2009 and 2010, only one student in each year had any prior MUVE experience and none had ever had an SL account. In 2012 all but one student had prior MUVE experience and one had briefly created a previous SL account. The pre-VFT theoretical and orientation discussions were valuable preparation and saved time when students were faced with the practicalities of SL existence in the computer lab. Difficulties in mastering basic skills took more time than anticipated, however, and one student was very difficult to keep 'on task', frequently distracting other students. This student had a number of years experience in World of Warcraft and his Field Report indicated that he found the "pointlessness" of SL "annoying."

The Field Reports in each year indicated that significant learning gains occurred. One student wrote: "meanings are constructed as humans engage with Second Life through their virtual selves … I often unconsciously ascribed meanings to the different appearances available and mad conscious choices whether to include or exclude those appearances from my avatar." This student concluded, "My own cyber-ethnographic experience in constructing an avatar in Second Life showed me that the possibilities to create a unique identity are both seemingly infinite and constrained simultaneously". For her, the virtual experience emphasized the continuum between agency and structure that epitomises identity construction in real life. All students were able to reflexively analyse from the particular of their experience to the general of wider societal forces. Thus the VFT successfully overcame any nascent reluctance to engage intellectually with theoretical concerns.

All students commented on the importance of appearance in SL and were able to identify tensions between apparently limitless opportunities and actual constraints. A student from the 2010 class wrote "in my experience in constructing my avatar, it was clear that I experienced definite restrictions on what I could and could not

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[104] Due to the public nature of malls (virtual or real), this exercise did not require ethical approval as it came under the category of naturalistic observation in a public place. However, the author's personal understanding of ethical implications for research in virutal worlds—which are not, as is often assumed by inexperienced researchers, always understood by residents to *be* public space— necessitated instructing the students not to respond to any communication from non-class members; and asking them not to take any screen capture shots that included anyone but themselves or other class members.

fashion her to be … the large majority of my choices were limited to highly provocative, loud items that expressed sexual desire. This supposed liberating form of power that I was meant to be employing was being suppressed by another power above me. The biggest constraint I noticed was the pressure to conform my avatar to absolute, hegemonically normative, femininity". By personalising her avatar experience, this student expresses a willingness to think about ho 'you "Become What You Are'" (Ainley, 2006).

Students reported some anxieties that would need to be carefully managed in a larger class. A student on the 2009 class commented that "as a computer game virgin, I was daunted because I was unsure whether I would have enough technology skills to firstly download Second Life, and secondly to be able to work it. I also felt somewhat worried that I may enjoy it so much I would become 'addicted' to the online virtual world." Another student commented on the speed with which she identified with her avatar—"I wanted to buy lots of different hot outfits for my avatar, who, at this point, I've become quite fond of." These are significant issues not only in terms of the positive elements of "presence" and "fidelity" discussed in the literature as amplifying the sense of immersion in MUVEs, but also as potentially limiting factors on students abilities to engage in analysis.

I was able to compare final essays for this class for 2009, 2010, and 2012 with those from 2008 when no VFT was undertaken. On the basis of this admittedly limited sample I am convinced of the benefit of the initiative, although I would refine the experience further. Students in 2008 had struggled to really understand the course material and to apply it to examples they chose as case studies. In subsequent years, SL was the only case study and all students had practical in world experiences on which to focus as they engaged with the classroom work. A 2012 students commented in the post-FT responses that "for the whole time I've been at Uni [sic] I have never put theory into practice, so I absolutely loved being able to get amongst what we had been learning and better understand it." Another in the same year commented that one of the positive aspects of the VFT was "seeing everything that we had discussed in class from the various readings play out in front of me." As a learning strategy, therefore, the VFT facilitated deeper understanding by placing the learner's experience at the center of the learning process. Students benefited more fully, therefore, from the four steps of the experiential learning cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Jarmon et al., 2009).

Best Practice Suggestions

From past iterations of the SL VFT I can comment on best practice aspects for field trips or immersive experiences in MUVEs. Prior to the VFT, teachers should familiarise themselves with the environment and ensure that they are able to assist students in basic skills as required. Students should be well prepared to engage in actual onsite activities by undertaking orientation discussions and viewing any tutorials provided by the MUVE operators. Purposeful planning of the trip should include a clearly identified purpose for the visit, specific activity guidelines, and careful alignment of the VFT with classroom content. Students should be have enough autonomy during the VFT to effectively engage in the activities, but regular "check ins" are advisable to ensure students remain on task and do not succumb to the distractions MUVEs like SL provide. After the VFT, allow discussion time for students to 'de-brief' and to add to their field notes. These discussions provide valuable opportunities to assist students in interpreting the actual experience and to connect their learning with the classroom curriculum. Finally, it is worth attending to the practicalities of computer lab set-up. Ideally there should be enough terminals for students to have one each, the teacher should be able to move freely around the class to assist where needed, and it is helpful if the teacher's terminal is linked to a large screen that all students can see. One final comment—always allow twice as much time as you think you need!

In conclusion, I found this learning task remarkably effective as a means to engage students in theoretical concepts. The VFT provided students a one-step-removed space, allowing their avatar to operate as a projection of self that protected them from any perceived threat to their personal philosophies, but at the same time also challenged them through the avatar's perspective to confront the reality of those philosophies interacting with social structures. Class discussion prior to the VFT had frequently returned to restatements of the potential for

agency and the exception-to-the-rule argument. After their inworld experience students were able to question these assumptions and their final essays reflected a willingness to contextualize their quotidian in the structural milieu.

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WHAT IS LEISURE FOR TURKISH PARENTS?

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Abstract

In shaping individual's perceptions, attitudes, and participation in leisure, culture has an important role. While Turkish society is undergoing rapid social change from being traditional to modern, it still carries characteristics of traditional norms and values even in urban families. Study explored the role of interdependence within 65 Turkish urban parents' perceptions and participations for leisure. Descriptive analyze was used. Findings indicated that they perceived leisure spending time with family, valued leisure in their social circles and participated in some home-centered activities.

Keywords: Turkish urban parents; Turkish culture; leisure perceptions; leisure participation; interdependence Theory.

Introduction

In recent leisure studies, researchers have begun to investigate leisure paying more attention on cultures being different in their worldviews, and as a result, they recognized that members of different cultures can have different norms and values which shape their leisure. In a cross-cultural study, Markus and Kitayama (1991) compared American culture's emphasis on individual, inalienable rights (life, liberty and the pursuit of happiness) with Chinese culture's emphasis on hierarchy and group harmony.They stated that while people in the U.S., Canada and in Western Europe were more likely to have independent self-construals which means to value being unique, asserting oneself, promoting one's own goals and expressing one's inner attributes; Asian, African and Southern European people were found more likely to have interdependent self-construals that means to value belonging, fitting in, maintaining harmony, restraining oneself, and promoting other people's goals (Walker, Deng and Dieser, 2005). They argue that the type of self-construal an individual has also affects his cognitions, emotions, and motivations. Individuals with interdependent selves may be more attentive and sensitive to others than those with independent ones. In individualist societies, there is an emphasis on individual rights, and the goals of groups are subordinate to the goals of the individual (Yetim, 2003). However, in collectivist societies, the great emphasis is placed on others than on the individual which leads to an emphasis on harmony and conformity and also on subordination of one's own goals to the goals of the group (Üskül, Hynie and Lalonde, 2004). Thus, the characteristics of cultures being individualist or collectivist shape the perceptions, and also participation of an individual as in all spheres of his life including his leisure.What is perceived as leisure, its subjective and behavioral outcomes and the motivation to repeat or continue this leisure will be influenced by the particular nature of the self-concepts supported in a given culture (Mannell, 2005). Because of cultural and developmental differences, individuals in Turkish society have not yet developed an understanding of leisure as it has been in Western societies (Aslan, 2004; 2009; Aslan & Arslan Cansever, 2007; 2009a; 2012- in press). In this study, we are likely to gain significant insight into cultural characteristics of Turkish society by examining parents' leisure perceptions and participations.

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Literature Review

Turkish Urban Family and Leisure

As Turkish society is undergoing rapid changes from being traditional to modern, family structure has been deeply affected in this process. Some researchers (Kağıtçıbaşı, 1996a, 2007, 2010; Duben, 1982) studied the changes in Turkish families within the cultural context. Kağıtçıbaşı (2010) developed a model of family change which involves decreasing material interdependencies but continuing psychological interdependencies with socio-economic development (particularly urbanization) in societies with collectivist cultures of interpersonal connectedness. Despite increased urbanization and industrialization in collectivist cultures, closely-knit interaction patterns continue. Differing from the people in Western individualist cultures, the individuals in Turkish collectivist culture are socialized into gender roles that are strictly defined by cultural norms and values. In Turkish society, the "ethic of care" (Henderson & Allen, 1991) for females is so imposed that whether she is a daughter or wife or mother, she always acts for "others" in her family except for herself. The socially learned ethic of care in this culture prevents females from doing the activities they desire by the belief that doing this would be selfish (Aslan, 2004). It is important to emphasize as Henderson and Allen (1991) stated **"the problem for women is not in the value of care, connection and "other-centeredness"; rather the problem is in *giving only to others* and to consider it "selfish" to care for the self, particularly in regard to basic human activities like leisure, recreation and relaxation."** (p.100). This is a common female attitude in Turkish culture even in modern nuclear families (Aslan, 2004). Besides the clear and strong role difference that explains the family functioning, leisure has not been valued in Turkish society, yet (Aslan, 2004, 2009; Aslan & Arslan Cansever, 2012-in the press). Only some highly educated members of the society started to value leisure. Therefore, within the developmental process, it seems that leisure will take time to become a life-style in Turkey. The activities for leisure being mostly home-based and socially structured as visiting friends and relatives are commonly shared in this culture (Aslan, 2004, 2009). Within the family circle, the individual's choices are not self-determined but depend on the others' in the family (Aslan, 2004). Therefore, usually husband and wife have similar choices and decisions as couples, while the young adult in the family differs a little in their choices (Aslan, 2009).

Interdependence Theory

It has frequently being acknowledged that family members influence each other's behaviors, attitudes and experiences. Influences are two sided in social interactions involving pairs as husband-wife or parent-child. The theory of interdependence emphasizes that the heart of social interaction occurs in dyadic relationships. Rusbult and Arriaga (1997) explained interdependence as the manner in which –as well as the degree to which- interacting individuals act upon or influence one another's experiences, in reference to the fact that the preferences, motives and behavior of the individual are relevant to those of the interaction partner (p.222).

When individuals interact verbally or nonverbally, they influence each other's preferences and choices. In long-term relationships, partners exercise important influence on each other. This can shape attitudes and behaviors in constructive or destructive ways. Being in a family system, individuals have multiple partners with whom they engage in long term relationships as it is with parents and children (Siegenthaler & O'Dell, 2000). Thus, family unit provides an excellent context in which to examine the effects of interdependence on aspects of leisure because of the acknowledged influence of family members on each other.

Parents' (as partners) Leisure Perceptions and Participation

One of the major factors in determining if a relationship will develop appears to be similarity of backgrounds (Kenny, 1996). Choosing a partner is based on suitability of partners, which is often a function of similar values norms and attitudes. As many studies suggested, when a long-term relationship is established, the partners have considerable influence on each other in shaping dispositions (Kenny & Kashy, 1991; Rusbult & Arriaga, 1997; Weigel, Bennett & Ballard-Reisch, 2006). Over time, while they carry on their togetherness and interact in the

same context and are exposed to similar influences, their perceptions and preferences are likely to become more similar (Kenny, 1996). The combination of attitudes may result in the development of behavioral norms, regarding what is acceptable and appropriate within the relationship (Rusbult & Arriaga, 1997). In other words, the arrangement of roles and interaction within the relationship help define who the partners are, and it is within this framework that couples come to interpret their relationships.

However, some research have shown that women with traditional gender role attitudes spend more of their leisure time with kin, whereas men with traditional gender role attitudes spend more of their leisure time with friends (Huston & Geis, 1993). But, coupled partners who had similar attitudes, either both partners with traditional attitudes or both with modern attitudes, reported higher marital quality, and their family leisure increased family satisfaction (Johnson, Zabriskie &Hill, 2006; Aslan, 2009). As in the framework of this study, if the development of leisure perceptions and preferences are influenced through interactions within family, one might theorize that parents would have similar views. So, the purpose of this study was to explore the potential of interdependence theory to explain parents' perceptions and participations in leisure among Turkish urban families. Besides, no previous study has examined leisure perceptions, and participation of Turkish urban parents utilizing the interdependence framework based on the cultural background in Turkey.

Methodology

Sample

The sample consisted of 65 dual parents(65 mothers & 65 fathers) of the second and third class students who were attending Ege University Faculty of Education. All the participant parents of these students were living in Izmir which is the third biggest city in Turkey. The participant mothers' ages ranged from 38 to 60 (M= 45.40, SD= 5.21), the fathers ranged from 40 to 64 (M= 49.91, SD= 5.64). All the participant families (100%) consisted of two-parent nuclear families having two or three children. Educational status of the participant mothers were rather low: 46,2% had only Elementary school education or less (6,2%), some (7,7%) had Middle school education, and 16,9% had High school education. Only 9,2% had College (two year vocational higher education), and 13,8% had University education. The mothers' occupations did not vary much. Few mothers (4,5%) worked as doctors, lawyers or as professionals. 15,4% were officials, 3,1% were workers, 10,8% were retired and 66,2% were housewives – a typical characteristic of the female population in Turkish society. The mothers' monthly income was between 300 TL (Turkish Lira) and 2000 TL. However, fathers were found to have higher educational and occupational status than mothers: One-fourth (25,6%) were Elementary school graduates, 6,2% were Middle School , 27,7% were High school, 10,8% were College graduates, and 24,6% of them were University graduates while 4,6% of them had M.A degrees. The fathers' occupations varied with 4,6% professionals, 10,8% doctors, lawyers or engineers, 12,3% traders or store owners, 23,1% officials, 7,7% technicians, 7,7% workers, 3,1% farmers and 30,8% retired. The fathers' monthly income level was between 1000 TL and 3000 TL.

Instrumentation

The research instrument which was improved by the researchers covered two parts:

a) Demographic questions identifying the characteristics of the sample included age, gender, marital status, educational and occupational status, family structure and monthly income. b) four open-ended questions that analize the individual parent's perception of leisure and participation in leisure activities. The research instruments were sent to the parents by the young adults who were attending the Faculty, and collected back in a week by the same way. The self-administered questionnaire required approximately 20 minutes to complete.

The open-ended questions were: 1-What does leisure mean to you?, 2-What type of leisure activities do you participate?, 3-Why is leisure important for you? 4-With whom do you enjoy sharing your leisure?

After the research instrument was developed, it was consulted by two experts related with the subject to test the validity. The pilot study was applied by 10 parents, and positive feedbacks were taken. According to the expert contribution and the results of the pilot study, the last version was shaped to be applied. For the reliability of the research instrument, the open-ended responses were examined by the researchers and the experts to clarify the unique and different perspectives, and were evaluated according to Miles & Hubermas (1994) formula.

Analysis

Descriptive analysis was used. Within this framework, open-ended responses were grouped and analyzed. The findings were explained and discussed by the tables. In descriptive analysis, the original sentences of the participants were quotated to emphasize the subject (Yıldırım & Şimşek, 2006).

Findings

The open-ended responses were gathered under four themes as: perception of leisure, type of activities participated, importance of leisure participation, and preference for leisure partner. Considering that gender difference will be a discriminator in parents' leisure perceptions and participations, the data were analyzed within this perspective.

Perception of leisure: The descriptive statistics showed that leisure meant as affiliation referring to specifically "spending time with the family" (mothers, 23.0%, fathers 18.0%).

"Leisure is doing something with my children, and sharing time with them" (mother- 42, working, two children).

"Spending time with my family and doing something to make them happy." (mother, 43, housewife, two children).

" The time to spend with my loved-ones; this is leisure for me." (father, 53, working, two children).

Spending time with the family has always been valued culturally in Turkish society (Aslan, 2004; 2009). Besides, some of the parents described leisure "Doing something useful/ functional for home/ family" (mothers 25.0%, fathers 35.0%).

" After work, I come home, rest a while, and enjoy doing something as repairments, I am with my family and I like this." (father, 48, working, two children)

"I think, leisure is being useful for my family" (mother, 43, housewife, two children).

These parents perceived leisure related with home and with their family circle, as well. However, the participants' responses as "Resting, releasing from stress/ doing something. enjoyable" explained leisure as self-expression and self-oriented (mothers 52%, fathers 47%).

Type of activities participated: When analyzing the open-ended responses, leisure activities were grouped as, a) home based and b) cultural and outdoor activities. The home-based leisure activities parents participated were visiting relatives, watching TV, and walking which were similarly stated by these parents, and may be considered as shared/joint activities. However, visiting friends and neighbors were common among the mothers, and spending time in 'kahve' (tea shop) were common among the fathers. Cultural and outdoor activities: Having picnics, nature walking, eating out and travelling were very rare but similarly stated in the responses and are thought to be shared/joint activities among those Turkish parents. However, fathers' popular outdoor leisure was 'going to the matches' which is considered to be a male activity.

Importance of leisure participation: "I can spend time with my family" (mothers 54%, fathers 40%) was stated by more mothers than fathers may be explained by the ethic of care for the family circle (Henderson,

2002). "I can have an opportunity to visit/meet my friends" (mothers 18%, fathers 30%) were more common for the fathers. In traditionally structured Turkish culture, females' activities are mostly home centered (Doğan, 2009; Aslan, 2009). Also, females and males usually spend time separetely within their own gendered social network, except home. However, "Leisure provides me freedom from responsibilities and I feel relaxed" was stated by both parents (mothers 28%, fathers 30%) very similarly.

Preference for leisure partner: Most of the participant parents (mothers 79%, fathers 71%) enjoyed being with their families in leisure. Moreover, some of them very similarly (mothers 13%, fathers 14%) enjoyed sharing their leisure together, and also, some preferred (mothers 8%, fathers 15%) being with their friends in spending leisure time.

Discussion

This study provided some support for the Interdependence theory as Turkish urban parents most likely shared similar perspectives on several leisure measures. In expressing the meaning of leisure, nearly half of the parents described it as affiliation which refers to interacting and sharing oneself with others which is basically other-oriented (Freysinger, 1995). Being members of a collectivist / traditional culture, individuals are socialized into given norms and values of Turkish culture, internalizing the specific gender roles. They are socialized as interdependent selves having choices made by relevant in-group members instead of making their own choices (Kağıtçıbaşı, 2007, 2010). "This seems consistently more intrinsically motivating, because it provides a greater opportunity to promote harmony and to fulfil the goal of belonging to the group (Iyengar & Lepper, 1999; Aslan, 2004, 2009). The reason why comparatively more mothers than fathers described "leisure" meaning as affiliation may be explained with the women's inequality regarding opportunities for leisure (Kay, 1998), being more likely to establish their leisure around their family responsibilities and tasks (Thompson, 1995; Aslan, 2004), feeling guilty when having leisure for themselves when they could be with their families (Peters & Raaijmakers, 1998; Aslan, 2004). This also explains the lack of importance of private time and the lack of personal leisure for women, and reflects the culturally bound meanings of leisure (Henderson, 2002). Consistent with the studies of Henderson & Allen (1991) and Aslan (2004), the women in this study described leisure within the framework of their responsibilities and commitments to others. However, in expressing the meaning of leisure, similarly one-fourth of the parents reported it as "resting, releasing from stress, having good time and doing something they enjoyed" which may be explained as 'self-oriented' (Freysinger, 1995) reflecting self-determination or self-expression. When investigating the parents' home-based leisure activities, "visiting relatives" was found to be one of the most common leisure activities in which parents participate similarly. Mostly, it is imposed by the values in this culture, so, the individuals do it whether they enjoy or not. As Kağıtçıbaşı noted (1996a, 2007, 2010), individual in a Turkish family is embedded in an ever-widening network of close ties, beginning with the nuclear family and extending out to the relatives and close neighbors. Moreover, another similarly participated home-based leisure activity by the parents was "watching TV". The popularity of watching TV may come from being a cheap entertaining facility, and this keeps people staying home together. From this perspective, it may support the values of closeness in Turkish families, but may cause conflict, as well. Besides, "walking" was found to be a very popular leisure activity that shows similarity for the couples. However, within their own social networks, mothers "visited/met their friends and neighbors", but fathers did this twice as much. Gender separation appears to be marked on the dimension of social interaction that reflects the socialization of each individual into male or female identity, respectively from the childhood. Although mothers' participation in this activity was less than fathers, it has always been very popular among urban or rural Turkish women. Because most of the women still do not work in a paid work for cultural and social reasons - traditional gender related values, lacking social status or being uneducated- they are almost isolated from the outside world, so, this activity contributes satisfying their needs to be social (Aslan,2004). This is one of the most important occasions giving them the opportunity for sociability, a feeling of satisfaction and enjoyment. However, the parents' cultural and outdoor leisure activities were so few and rare. This may be explained by the traditional structure of the Turkish families having closed- family socialization (Aile yapısı Araştırması,-Family structure research, 2006) based on   relational   communications (Doğan,2009). Supporting this study, some researchers (Siegenthaler & O'dell, 2000; Kenny, 1996; Rusbalt & Arriaga, 1997) stated that couples were most

likely to have similar scores on the leisure constructs. This is consistent with the idea that in long-term relationships, partners' behaviors tend to merge. Also, similar views about leisure could play a role in the development and continuation of their marriages (Orthner et al.,1994), and spending time with their family may contribute increasing their family satisfaction which is already structured by traditional family values and norms in marriage (Aslan, 2009). However, it is important to state that Turkish society is undergoing rapid social change from being traditional and rural society into an increasingly urbanized, industrial society. In this process, values and attitudes, however seem to lag behind changing social structures and functions, and may be the case in terms of leisure perceptions. As Jeffers and Dobos (1993) stated, "People's leisure perceptions are thought to be deeply related to their values and actual behaviors. Leisure values refer to personal assessments of the worth or utility of leisure" (p.205). Although family bonds are typically strong among Turkish families and some leisure has been common and valued, rapid social change in society has led to concern about quality and satisfaction within Turkish family life today. Thus, further studies are needed to examine the role of the family in establishing values and attitudes and beliefs about leisure.

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WHERE HAVE WE BEEN? WHERE ARE WE GOING? THE EVOLUTION OF AMERICAN HIGHER EDUCATION

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Abstract

American Higher Education has been engaged in a journey from a knowledge-centered focus towards a performance-based emphasis. What does it mean to prepare students to learn as opposed to disseminating the knowledge base? The federal government, accrediting bodies and educational organizations are demanding that higher education critically examine the purpose of a higher education. What does it mean to prepare students to enter into the work force and the citizenry? Comprehending this journey into this realm of measurable outcomes and accountability is critical for understanding the implications for program development and the advancement of higher education.

Keywords: Higher Education; Accreditation; Student Learner Outcomes; Assessment; Accountability

Where have we been?

American Higher Education has its roots in the fundamental Jeffersonian principles of preparing individuals to be informed and active citizens, limiting federal control of higher learning, and fostering the ideas and actions needed to develop an economy that could compete in a global setting (Eckel & King, 2004). Until the late 19th and 20th centuries, higher education was generally limited to an exclusive few who had the means to pay for an education in the United States or who had the pedigree and money to attend elite schools in Europe. With the Morrill Acts in 1862 and 1890, the federal government began to take a more active role in addressing access to higher education. The 1862 Morrill Land Grant Act provided 30,000 acres of land to each state's senators and representatives to establish endowments to support higher education institutions ("Morrill Act", 2003). The focus of these institutions was to provide education primarily in the areas of agriculture, mechanical education, and other practical professions. In the Morrill Act of 1890, these grants expanded to include institutions for black citizens; therefore establishing what we now know as historically black colleges and universities (HBCUs). Through these efforts, access to higher education was vastly increased and resulted in individuals achieving social mobility through education. Access to higher education continued to be addressed on a national level through the passage of the first GI bill in 1944 and the expanded access to federal financial aid through legislation in the 1970s (National Center for Public Policy and Higher Education, 2008).

As access improved, higher education became available to all citizens regardless of income level, gender, race or social class. Community colleges were created as early as 1901 to provide individuals with a two-year associate's degree in a variety of disciplines as well as numerous certificate programs in various trades. The associate's degree enabled students to either enter the workforce or transfer into a four-year institution with the foundation for a baccalaureate degree.

Greater access and choice leads to competition among institutions for students, faculty, and funding. Thus, all four-year institutions must actively engage in recruiting students from high schools, community colleges, and the community at large to maintain their enrollment numbers. The goal then becomes to balance your institutional mission with the need to expand your student base and compete for those tuition dollars.

Social, political and economic influences are constantly shaping higher education as well (National Center for Public Policy and Higher Education, 2008). Costs of higher education are rising; at the same time, having a

college education is increasingly essential for attaining success in the professional and personal arenas. By 2018, the percentage of jobs that will require postsecondary education will rise to 63% and continue to rise. There will be a shortfall of 3 million credentials to meet this need, if we do not change how we are preparing students (Reindl & Reyna, 2011). Institutions must be guided by their missions and visions, while becoming more forward thinking in addressing these demands.

Many state institutions have seen their funding from state legislatures dwindle over the past decades. Instead of referring to themselves as state funded, numerous public institutions see themselves as state assisted or aided. As a result, many state institutions have to adopt a funding model that is more aligned with private institutions with a heavy emphasis on tuition dollars to fund faculty, programs, and administrative costs. Tuition increases have a powerful impact on access as a college education becomes less available to students who are not eligible for financial aid. Student debt can be a barrier to a productive and active life in a career and as a citizen. As evidenced by recent events, there has been a tremendous push by the federal government, state governments, and the general public to reduce the rising costs of higher education while increasing the number of college graduates (Obama, 2012).

As a result of state funding dollars becoming more scarce, there is greater scrutiny of how those public dollars are being spent at all levels. In the United States, one mechanism in place to ensure accountability is regional accreditation. In order for a college degree to be meaningful, a regionally accredited institution must award the degree. This regional accreditation ensures that the degrees granted meet recognized standards and represent a level of rigor in the program of study. There are five regional accrediting bodies in the United States: the Higher Learning Commission of the North Central Association of Schools and Colleges (HLC), The Southern Association of Schools (SACS), Middle States Commission on Higher Education (MSCHE), New England Association of Schools and Colleges Commission on Institutions of Higher Education (NEASC-CIHE), and Western Association of Schools and Colleges Accrediting Commission for Senior Colleges and Universities (WASC-ACSCU). The federal government through the Council for Higher Education Accreditation (CHEA) must approve these regional accreditors.

For the purposes of this paper, the standards of the Higher Learning Commission (HLC) will be the focus of the discussion, though similar standards are emphasized by all of the regional accreditors. Outside influences such as the federal and state governments, media agencies and the general public are making demands on higher education to ensure that funding is well spent; however, the definition of quality becomes clouded by perceptions of relevance and the pragmatics of a college degree in a competitive job market (Eaton, 2010).

The demands for greater productivity and data driven assessments are evident in the scrutiny of higher education institutions. How can we demonstrate that our graduates know what is needed to be successful in their professional and personal lives? The Association of American Colleges and Universities (AACU) has fostered a dialogue of universities and colleges across the country to develop the Liberal Education and America's Promise (LEAP) which champions the benefits of a liberal education that focuses on preparing students for an active professional, personal, and civic life. There are four areas that comprise this initiative: 1) Essential Learning Outcomes, 2) High Impact Educational Practices, 3) Authentic Assessments and 4) Inclusive Excellence. Through LEAP, students are expected to acquire professional, civic, and multicultural knowledge; intellectual and practical skills, and civic and intercultural knowledge. Students must also be able to demonstrate their knowledge and skills through authentic assessments focusing on real world complex problems and challenges (Association of American Colleges and Universities, 2005).

A college degree opens doors for individuals in the job market; however, a college education has to be more than simple job preparation. It is undeniable that programs of study must provide graduates with the knowledge, skills and professional dispositions to be effective in a global and competitive economy. However, the more valuable component of higher education is the goal of creating resilient and flexible learners who can easily adapt to intellectual and creative demands of a fluctuating job market and economy. The cognitive and technological demands of the student's life and career will evolve over the coming decades. In the last three decades alone, the increased and expanded use of the Internet, social media, tablet computers, SMARTPhones, and other digital devices have changed drastically the way we obtain, utilize, and create information. Learners

must be equipped to move effortlessly from one medium to another as well as be able to synthesize and evaluate the information that bombards them through these media.

Higher Education along with the P-12 schools must also take an active role in addressing the disparities that currently exist in educational opportunities. Colleges and universities must address closing the achievement gaps between those students who are advantaged (educationally, culturally, economically) and those who are not (National Center for Public Policy and Higher Education, 2008). This becomes increasingly difficult in the face of skyrocketing tuition and other costs associated with obtaining a degree. In addition, more adult learners are entering or returning to higher education. Their needs are significantly different from the traditional college students. Resources have to be put in place to ensure their success as well. (Reindl & Reyna, 2011). Higher Education must be a beacon of opportunity for all individuals who desire to pursue a postsecondary education, while operating under greater scrutiny and diminishing financial support.

Regarding the role of accreditation in the accountability of higher education, student learning is paramount. The Higher Learning Commission (HLC) has one criterion, Standard 3- Student Learning and Effective Teaching, dedicated to examining the impact of teaching on student learning. This area is targeted under *Core Component 3c*: *The organization creates an effective learning environment*. In the examples of evidence provided by HLC for this component, emphasis is placed on the use of assessment results to inform improvements in curriculum, pedagogy, instructional resources and student services. In order to meet this criterion, institutions must also demonstrate how they provide an effective learning environment that addresses diversity, supports all learners, and provides advising and infrastructure to support and enhance high levels of learning. This process involves targeting key outcome areas that students need assistance in mastering as well as providing services that will directly meet their needs. Effective oral and written communication skills are often targeted by institutions as critical learner outcomes. In order to effectively provide services to students, the institution has to look at where these skills are being assessed across programs; how students are being assessed; how the student's performance is being communicated to the student and to the program; and how are students accessing the services on campus to provide the needed support for success. Providing this range of services is a long term process, not one that can be done haphazardly or sporadically.

Assessment provides the critical link between the teaching and learning process (Parkes, 2010). The focus has shifted from inputs (enrollment, degree programs, course offerings, syllabi) to outputs (student performance on designated learning outcomes, time to degree completion, employment). Institutions and programs have to identify appropriate and measurable Student Learning Outcomes (SLOs). Faculty, alumni, current students, and community members should be involved in identifying the critical knowledge, skills, and dispositions that students are expected to have mastered by the time they graduate. No longer can an institution assume that all of their graduates are well-prepared; the proof will be in the data collected, analyzed and used based on student performance.

Where do we go from here?

Accountability is driving the evolution of American Higher Education. It can be daunting, but it is essential in making informed decisions. Whoever controls the direction of this evolution will determine the directions in which higher education will go. Higher Education must be proactive and engaged in this process or outside forces will define who were are and how we shall educate our students (Eaton, 2010). A college education cannot be defined only as job preparation, but also as a means for preparing individuals to be critical and informed thinkers.

In addressing the demands of greater accountability, it is essential for institutions to define the critical components and learning outcomes of a higher education. The work of AAC&U provides a solid guide for having these conversations regarding the knowledge, skills and professional dispositions we expect of our graduates regardless of their discipline. Not only must the student learning outcomes be identified, but meaningful assessments must be developed and implemented. These assessments must be authentic and tied to performance measures. Passive assessments, such as many paper and pencil tests, do not provide the rich and

multilayered picture of a student's knowledge and skills. These performance assessments cannot be designed by a chosen few individuals. Dialogue within programs and across the disciplines is essential to have consensus on the designated student learning outcomes and the key elements of the assessment. Faculty members, students, alumni and community members should participate in this process. Having these different perspectives during this process will provide for a broader understanding of what it means to be a college graduate. It also promotes the support needed for successful implementation. If the university community feels connected to the overall assessment plan, then there is a strong likelihood that there will be follow-through with the process.

After data are collected on these key assessments, the data have to be analyzed and shared across all constituencies. Designated collection times have to be established and maintained. It is through this process that meaningful data-driven program and institutional changes can take place. Decisions cannot be made solely on a hunch or anecdotal information. The process has to be systematic, data driven and transparent to everyone. Collecting the data is not enough; it is how the data are being used in transformative ways that is critical. Documentation of these data-driven decisions are shared through multiple venues, such as governing boards, accrediting bodies, alumni, potential donors, and current and potential students. For example, a program may want to take a look at the effectiveness of its culminating project. The description of the culminating assessment, a copy of the rubric used to score the assessment and a summary of student performance on that culminating project are shared with the program's advisory board. This advisory board may include alumni, current students, program faculty and community members. The discussion would focus on the expectations of the assignment and the level at which the students performed. Are the expectations of the assignment aligned with the expectations in that discipline? Are students excelling in one area, but having difficulty in another? How can this be addressed in the program? What changes need to be made to strengthen the program? Input from multiple constituents provides for a more in- depth and richer examination of the data and the next steps needed for the program.

Another key component of this accountability process is the strategic review of how programs are designed and delivered. This may involve critically reviewing which programs of study should be added, revised, redesigned, or possibly eliminated. This critical review involves examining the best practices occurring in the field as well as the performance of the students on key assessments that are aligned with the professional standards. Are the assessments designed in such a way that students have to be actively engaged with the material? Are the graduates able to transform and create knowledge as opposed to just restating what is already known? How do the instructors know that the students truly understand and are able to effectively to use the knowledge and skills gained through their program of study.

A careful examination of how courses and programs are being delivered must also be addressed. The manner in which courses are being delivered is changing at a rapid pace. The institution and the classroom are no longer confined to one geographic location. Interactions with students may take place face to face within the classroom, but may also occur face to face with technology eliminating the geographic separation. As stated earlier, these types of transformations cannot take place in a vacuum. Discussion and debate among all of the constituencies must take place in order to generate viable solutions. Change can be daunting, but through open discussions and the brainstorming of solutions, change can lead to rewarding and positive results.

Higher education cannot afford to be stagnant and resistant to the forces of change and accountability. The economic, social and political pressures are not going away; they are increasing as we face more financial challenges. How we engage in the process will ultimately determine our success or demise. It is up to us to be the leaders in this transformation. There is much at stake; however, the opportunities abound to be innovative and creative. By being responsive and focused, Higher Education will continue to be the venue for all individuals to achieve professional and personal success.

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WORKING CONDITIONS OF SCHOOL AND TEACHER TRAINING IN SCIENCE: A STUDY WITH TEACHERS OF BIOLOGY OF BAHIA, BRAZIL.

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Abstract

We identify what are the influences of working conditions for school science teachers training that is sensitive to intercultural dialogue. The study was conducted in 2009, based on semi-structured interview, and involved nine teachers of biology at Bahia, Brazil. The results indicate that several factors of the schools where the teachers interviewed work interfere negatively in their teaching and their training with regard to intercultural dialogue. Mobilizations are necessary to obtain changes in this way, especially by teachers, schools, universities and decision makers in the field of public policy education.

Keywords: Teacher trainig in science; intercultural dialogue; school work conditions.

Introduction

The Brazil, by the proper history of its people formation, is a rich country in the cultural standpoint. However, in fact, it has not been recognized in their education systems that wealth, since the pedagogical practices has not allowed over the years the inclusion of representations of cultural knowledge by students. Even though the documents prepared by the national education policies bring indicative of the importance of recognizing ethnic and cultural diversity that makes up the country, school education in Brazil has not entered a significant attempts of dialogue with different cultures and forms of knowledge in the country, remaining bound to the idea that Western science is the only legitimate source of valid knowledge (Lopes, 1999).

Although the causes for the exclusion of several views of the world beyond the scope of education, factors within schools contribute to the perpetuation of the problem, including among them the conceptions and expectations of teachers (Canen, 2001, p. 208),

(...) teachers' expectations regarding the performance of students from different cultural patterns of the dominant are often permeated with stereotypes that are reflected in teaching practices that, under the veil of technical neutrality, justify the silencing of different "voices" that come to our schools.

According to Cobern & Loving (2001), it is important that teachers consider the students' cultural knowledge, as this will help students broaden their world views and nature. Meanwhile, it is essential a specific teacher training (Canen, 2001; Baptista, 2010). This is, a training that may program pedagogical practices favorable to the intercultural dialogue between the scientific knowledge that are the subject of education and the knowledge from the various cultural and social environments of students. For Lopes (1999), the dialogue in science education is an argumentative process in which the reasons that lead individuals to think as they think are exposed, considered and evaluated by the criteria of validity and legitimacy that are proper and their contexts.

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Considering that teacher training is an ongoing process, which involves everything from his life story and initial training to the conditions of their teaching activities (Selles, 2002), this study aims to identify and discuss the influences of the school work conditions for the continuing education of science teachers to be sensitive to intercultural dialogue. It is understood by continuing education, training stemming from the social relations that are established by teachers in schools with students and peers in education. In terms of school work conditions to understand, the circumstances arranged by schools for teachers to raise their physical, cognitive, psychological and social ties with the specific purpose of achieving the goals of education in these spaces.

It is hoped that the study reported herein may contribute to the discussions in the specific literature on training of science teachers and school work environments, specifically in relation to the consideration of their views, their aspirations and needs, as a form of professional development and improvement of the quality of teaching for cultural diversity and, similarly, for learning in this area.

Methodology

The study, of qualitative nature, was developed in 2009, with teachers of biology at the public schools of the state of Bahia, Brazil, specifically using semistructured interviews. The study included nine teachers whose age will vary between 28 and 41 years. They answered the following questions: - What are the influences of school environment on teaching practice in biology regarding the establishment of cultural dialogues? Specifically, between traditional and scientific knowledge of students in school? The teachers signed Terms of consent, as required by Resolution 196/1996 of the Ministry of Health of Brazil, which deals with research involving humans (Brazil, 2003).

Data were recorded with the aid of a digital recorder and transcribed into a text editor (Microsoft Word ©). The analysis was carried out according to the logic sequence of submission of responses by the teachers, trying to respect their opinions, speculations and feelings in the contexts in which they were placed (Ludke & André, 1986). For each teacher interviewed, codes were created in order to ensure confidentiality, as follows: PE1 (Professor Interviewed 1), PE2 (Professor Interviewed 2) and so on.

The researcher sought throughout the course, leaving participants free to express their experiences, difficulties, needs and ideas since, in agreement with Campos (2005), freedom of expression on the part of teachers contributes to become reflective and thus subject their own formations.

Results and discussions

Overall, the results indicate that several factors of school environments where the teachers interviewed work interfere negatively to teacher training that is sensitive to intercultural dialogue, namely:

- Exhausting working hours. According to the participating teachers the long teaching activities propel the lack of sufficient time for the preparation of lesson plans that consider cultural diversity. Serves as an example the speech of PE5: "*It is not easy for us the life of a teacher. We have many activities to do and it does not allow us to have much free time ...*". To Dos Reis et al (2005), an excessive load of work hours can directly affect the health of teachers, resulting in the low frequency of these professionals for medical leave and permanence of a large number of students stranded in the corridors of schools.
- Classrooms with large numbers of students and excessive amounts of scientific content to be completed during the school year. For De Paula (1999), the school that shows openness to the consideration of cultural diversity present in it, cannot repeat the assimilationist model, which takes place through repetition and simple transfer of content regarded as finished and ready for the student who takes the role of passive recipient. The teachers said their schools overestimate the performance of a large amount of scientific content and therefore they are unable to provide an acceptable time to occur the argumentations of the individuals involved. In speaking of PE1, "*... but how to dialogue if the rooms are always full? It turns out difficult. We have content to meet and how provide a time for reasoning for each student?*" The science education within a multicultural perspective should not repeat planning of teaching as a science, while cultural activity did not

pass through transformations and as the students knew nothing about the issues that are worked in classrooms. It is needed an investigative position by teachers, attention to the pedagogical aspects, including the planning of teaching, the selection of content, strategies, how to assess (Candau, 2002), so that changes occur in order to take account of diversity cultural.

- Inadequacy of didactic materials. For the participants, didactic materials available in their schools difficult the establishment of relationship between the content of teaching and the realities of the students. According to Baptista (2007), a science education that claims to be sensitive to cultural diversity needs of the appropriateness of teaching materials so that it is possible to establish relations of similarity and / or differences between scientific and cultural knowledge of students. Serves as an example of this problem the speech of PE8: "*Another thing I find difficult... is ... the didactic material not allows us to make any relationship with the local reality of our school and students*".

- Violence among students. Finally, the participating teachers have argued that there is violence in schools, especially among students, and this difficult the establishment of peaceful interpersonal relationships in the classroom. Consequently, it ends up interfering in their teaching. For PE3, "*They fight with each other and with us when we try to resolve disputes... This discourages, even discourages people as a teacher. We stressed to the point of not be able to give a lesson of good quality*". On this issue, it is important to note, in agreement with Ferrari & Araujo (2005), that school violence eventually leads the teacher to feel, too, violated, as far as he tries to intervene to resolve conflicts among students, which are disrupting their classes. The feeling of violence on the part of teachers is related to something called "contemporary symptom", which is the declining authority of the teacher, which, in turn, leads to loss of desire to teach and consequently, learning (Ferrari & Araujo, 2005).

Conclusions

The study reported herein showed that for the biology teachers of public schools in the state of Bahia working conditions influence negatively in their school teaching and, tied in their training and quality of given education in relation to the intercultural dialogue.

In fact, the environments of schools are amalgams between the physical and behavioral characteristics of individuals who are part of it. Such mixtures form the school cultures which, in turn, influence the pedagogical practices. However, it should be noted, the school cultures, as well as all others, are neither static nor immutable. In contrast, the cultures may vary according to time and posts (Chartier, 1990). Therefore, it is important the teachers to identify working conditions as part of a culture that may undergo changes. However, it is necessary that they feel committed and want these changes.

The teacher – in front of the problems they face in school regarding the importance of cultural diversity and dialogue - aims to decide whether or not that significant change occurs. In this sense, we suggest actions by teachers and their schools to manage opportunities for teachers to reflect and discuss with their pairs the problems experienced with respect to cultural diversity present in those spaces. Similarly, decision makers in the field of public policy education in the country, to improve the working conditions of teachers, a key variable for the progress in relation to indicators of quality of education that often is left aside in government policies.

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WRITTEN PROMOTIONAL MATERIAL CONCERNING THE THERMAL SPA INDUSTRY IN VISEU: COMMUNICATION STRATEGIES

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Abstract

Today, the spa industry has a crucial role on developing the economy of a region. The Spa industry is surrounded by places for both the treatment of diseases and for the wellbeing of the body, of the mind and of the spirit. Viseu is situated in the centre region of Portugal; it has 38 spas, five of them in Viseu, offering both therapeutic and wellness treatments. Spas in Viseu do not seek for efficacy in its communication, once their promotional materials are only in Portuguese. Its flyers or even their web pages are only in Portuguese, they do not have a second language to communicate their products or services. And as we know foreign clients and the spa industry professionals need to find a common language in order to be able to communicate to each others. According to the Spa Association of Portugal, we need to bring foreign clients to the country once the statistics say that most of the clients are Portuguese. This study presents a brief overview of Communicative Competence and discusses Language for Specific Purposes, as well as the importance of Needs Assessment in the Spa industry in Viseu.

Keywords: Communication Efficacy; Language Learning; Second Language Teaching, Spa Industry.

Introdução (Introduction)

Atualmente estamos perto de tudo e de todos, o turismo é um mercado mais competitivo do que antes, principalmente devido a essa proximidade. Nós viajamos para encontrar culturas diferentes, por isso é importante que sejamos capazes de manter as características locais do nosso país, da nossa cidade, para promover essas mesmas singularidades aos turistas potenciais dentro e fora da nossa terra. A globalização, que pode ser definida brevemente como uma combinação de democracia, mercados livres e rápida comunicação de experiências, liberta a mente, estimula a criatividade e aumenta a prosperidade. Hoje as pessoas deparam-se com uma enorme diversidade de experiências e estão expostos a uma variedade de culturas enorme (Chuck & Gee, 1999 e Church & Coles, 2007). O mundo encolheu, há mais variedade e tudo está mais perto. Isso é benéfico para a indústria do turismo e para o setor do termalismo, pois tem alcançado uma importância significativa como força económica no mundo e especialmente em Portugal.

Revisão da Literatura (Literature Review)

O principal objetivo da Língua para Fins Específicos é o de preparar os alunos para que eles possam se comunicar mais eficazmente numa língua e que eles possam adquirir competências para desenvolver determinada profissão (Halliday, McIntosh & Strevens, 1964, Mackay e Mountford, 1978, Hymes, 2001 e Johnson, 2008). Esta abordagem ao ensino de línguas permite que o professor se concentrar nas necessidades específicas de um grupo de estudantes. As necessidades apresentadas por um determinado conjunto de pessoas são, necessariamente, diferentes da de outro conjunto, revestidas de contextos diferentes.

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A Organização Mundial da Saúde afirma que o indivíduo deve ser visto como um todo, ser saudável é "o completo estado de saúde física e bem-estar mental e não meramente a ausência de doença de enfermidade" (World Health Organization, 2008), hoje, ser saudável é mais do que não ter uma doença, é sentir-se bem fisicamente mas também mentalmente, psicologicamente, espiritualmente e socialmente, "o bem-estar é um processo holístico" (Cohen, 2008, p.31).

A AIDA de Mankletow's aplicada às Brochuras Termais (Spa Brochures and Mankletow's AIDA)

A presente pesquisa tem como objetivo verificar a qualidade dos materiais promocionais escritos atualmente gerados pelas termas da região de Viseu, nomeadamente pelas Termas de Alcafache, São Pedro do Sul Termas, Carvalhal e pelas Caldas da Felgueira e Sangemil. Em termos metodológicos optou-se por aplicar as categorias desenvolvidas por Mankletow, AIDA (2010). A crescente importância da qualidade do serviço leva a uma das fontes de informações não-pessoais, brochuras, quer as institucionais quer as comerciais.

Estes materiais devem ser cuidadosamente preparados (Shimp, 2002) e podemos afirmar que, às vezes, isso não acontece. Está a ser feito um esforço para promover as características físicas do produto, as instalações, o ambiente termal, mas as vantagens pós-tratamento também são relevantes e não estão a ser promovidas. Tanto a descrição detalhada de vários produtos e serviços como a explicação dos benefícios físicos e psicológicos que ocorrem devem ser exploradas.

A fórmula AIDA - Atenção, Interesse, Desejo, Acção (Manktelow, 2010), é importante para captar a atenção dos consumidores, mostrando-lhes os benefícios do serviço, a riqueza e a singularidade do produto, para que se sintam interessados em experimentá-lo, o que os leva a agir, realizando assim o desejo que sentem. Com a globalização, o mercado está cada vez mais competitivo pelo que o modo, a sofisticação com que aplicamos esta sigla - AIDA - é muito relevante (Manktelow, 2010):

• Atenção, através do uso de imagens, frases-chave

• Interesse, levar o consumidor a passar da capa do folheto, levá-lo a lê-lo totalmente

• Desejo levar o cliente a desejar ter um produto ou serviço de qualidade

• Ação, levar o cliente a agir, a telefonar, a fim de reservar um tratamento, ou tão só a visitar o site. Os objetivos comunicativos (Uysal & Fresenmaier, 1993) são muitas vezes esquecidos, não lhes sendo dada a devida importância. O fato de se elaborarem brochuras baseadas na premissa de que o público é geral, não é correta. Diferentes públicos, como crianças, por exemplo, requerem cuidados comunicativos especiais. A fim de avaliar os materiais promocionais termais escritos, foi desenvolvida uma grelha de análise baseada em Fresenmaier e Uysal (1993), Kotler (1998), Poncini (2002) e Manktelow (2010). Foram selecionadas as seguintes categorias:

Conteúdo geral, design, aspectos linguísticos e físicos, tais como a qualidade do papel, por exemplo.

Tipo de abordagem, seja ela direta ou indireta

Público-alvo, se houve uma tendência para generalizar ou se há uma audiência definida

Capa, a primeira página é o que nos leva a ler o resto do folheto.

Título / frase-chave, se a frase é simples e atraente, se é fácil de lembrar.

Cor e fonte, se é contrastante, se é atraente. A fonte usada também é importante e é muitas vezes a identificação de uma empresa particular.

Tipo de vocabulário, se é especializado, se o texto é coerente, se é facilmente compreendido pelos leitores comuns.

Variedade de informações, se fala de alimentação, meio-ambiente, atracções turísticas e atividades disponíveis.

Tipo de discurso, se é meramente informativo ou se é multimodal, se combina no mesmo texto, o discurso informativo com um discurso poético ou argumentativo.

O uso de pronomes pessoais. O idioma Português é pro-drop (Cook & Newson, 2007, p.91),

Gráficos / Design, a verificação da existência de um equilíbrio entre texto e imagem, verificando o tipo de imagem que aparece, se ela está relacionada com a envolvendo, com os tratamentos termais,

Línguas disponíveis além do Português.

Descontos

Depoimentos de outros clientes, saber que há pessoas que tentaram e conseguiram obter benefícios físicos e / ou psíquicos, é muito importante.

Fotos de pessoas conhecidas, o que ajuda a captar a atenção do consumidor, faz com que o folheto se torne mais familiar.

Certificação, é essencial que o cliente se sinta seguro.

Logotipo da empresa, se este está visível.

Contato / Localização. Verificar se os contatos são disponibilizados, para um público letrado as coordenadas GPS podem ser úteis, mas para um público com uma cultura mais elementar, o mapa pode ser melhor. Conhecer o público é fundamental.

Leva à ação, o leitor deve sentir a necessidade de agir, seja através da marcação de uma consulta ou simplesmente para visitar o site, mas tem que ser levado a agir.

Resultados (Results)

A abordagem, em geral, é directa. O público alvo é, em todas generalizado, não especificado. Nas Termas de Alcafache, nas Caldas de Felgueira e nas Termas de SPS existe uma distinção entre os aspectos curativos e os aspetos da saúde e bem-estar. Ao enfatizar a possibilidade de se desfrutar de termalismo, em ambas as vertentes percebemos, claramente, a vontade dessas instituições em promover as duas variantes. A diferenciação dos grupos alvo é de extrema importância porque permite comunicar com os clientes de forma mais eficaz, pois uma brochura geral é para todos, mas ao mesmo tempo, não é para ninguém.

Em Portugal, mais especificamente em Viseu, ainda há alguma resistência da parte de equipas médicas em permitir o acesso à componente de bem-estar de forma rápida, o que pode ser feito tão só com a eliminação, por exemplo, da obrigatoriedade de uma consulta médica.

As frases expostas nas capas de todas as brochuras são atraentes e fáceis de lembrar, o que responde ao A de Atenção (Manktelow, 2010) e leva ao I de Interesse (Manktelow, 2010), e ao D de Desejo, pois leva a que o cliente deseje ler o resto da brochura. A brochura de Alcafache é a exceção, pois não apresenta nenhuma frase-chave.

A cor e o tipo de letra apresentados são contrastantes e atraentes. O tipo de linguagem utilizada por todos os folhetos é atual, fácil. Mas a diferenciação do público, a segmentação do mercado-alvo, requer necessariamente a diferenciação do tipo de discurso utilizado. A brochura para um cliente instruído não pode ser o mesmo que para um consumidor com um menor formação académica ou com pouco poder económico.

Sobre o desporto e gastronomia, áreas-chave em matéria de saúde e nutrição, não há nenhuma alusão em qualquer um dos folhetos. Quanto aos locais a visitar ou atividades de lazer nos folhetos de Alcafache e Felgueira não há menção a tais informações. Quanto ao tipo de discurso, podemos considerar que há um discurso multimodal em todas as brochuras analisadas.

Os folhetos apresentam um atraente conjunto de imagens, de clientes que efectuam tratamentos vários nos arredores. O design da brochura das Termas de SPS foi feita por uma empresa externa, recorrendo ao outsourcing «Comportamento Digital». A brochura com os preços dos tratamentos está disponível em versão em espanhol, quer em Alcafache ou em Carvalhal. SPS apresenta uma brochura multilingue, situação rara, em Inglês, Espanhol e Alemão, mas a qualidade da tradução não é boa. Em Carvalhal, Felgueira e SPS não há referência a descontos.

Nenhum dos textos estudados menciona a certificação dos produtos e serviços, apesar disso sabemos que as Termas de SPS são certificadas por uma organização independente. Não há menção de depoimentos de clientes ou uso de fotografias de pessoas conhecidas. O logotipo da empresa aparece, invariavelmente, na capa, no canto superior esquerdo, com exceção das Caldas da Felgueira, onde este não aparece. Todos os contectos estão presentes, número de telefone, número de fax e o endereço do site.

Conclusion

No geral, podemos concluir que as brochuras são eficazes, adequadas ao conteúdo que desejam transmitir. A linguagem é adequada mas a falta de outras línguas é latente. Note-se que a brochura das Termas de SPS foi elaborada com recurso a uma empresa externa. Os folhetos são considerados eficazes para o público nacional, mas a falta de multilinguismo não permite que turistas de outras nacionalidades percebam a qualidade do parque termal Viseense e se sintam motivados a visitar o mesmo. Tem sido feito algum trabalho, nomeadamente através do Turismo Centro de Portugal, entidade estatal, mas entendemos que há que ser feito um esforço maior, por parte das termas, na promoção dos seus produtos e serviços além fronteiras.

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YABANCİ DİL ÖĞRETİMİ SUNAN WEB SİTELERİNİN DEĞERLENDİRİLMESİ

Elif KIR[108], Selda Kayak [109]

Özet

Yabancı dil öğretiminde en çok tercih edilen ortamlardan birisi de web siteleridir. İnternet erişimin artmasıyla birlikte, internet siteleri popüler eğitimsel kaynaklar haline gelmiştir Bunun sonucunda öğretim amaçlı birçok site geliştirilmeye başlanmıştır. Sayısı giderek artan öğretim amaçlı web siteleri, öğrenenlerin bu web sitelerinden hangisinden daha etkin bir biçimde yaralanacakları konusunu gündeme getirmiştir. Bu nedenle, web sitelerinin nasıl olması gerektiği konusunda değerlendirmenin belirleyici bir rol oynadığı düşünülmektedir.

Bu araştırmada,web sitelerinin dil öğrenimindeki önemi dikkati alınarak "yabancı dil olarak Türkçe" öğretimi için yayınlananüç internet sitesi, öznelliği azaltması ve daha ilkeli ve güvenilir bir değerlendirme sağlaması amacıyla geliştirilen bir kontrol listesi yardımı ile değerlendirilmiştir.

Literatür taraması sonucu dil öğretimi sunan araçların değerlendirildiği çalışmalar incelenmiş ve bu çalışma için özgün bir web sitesi değerlendirme kontrol listesi geliştirilmiştir. Geliştirilen kontrol listesiyle ilgili uzmanların görüşleri alındıktan sonra bu kontrol listesine göre yabancı dil olarak Türkçe öğreten web sitelerinin değerlendirilmesi yapılmıştır.

Web siteleri biçimsel görünüm, içerik, öğrenen özellikleri ve genel değerlendirme başlıkları altında incelenmiş ve elde edilen sonuçlara göre önerilerde bulunulmuştur.

Anahtar kelimeler: Öğretim amaçlı web siteleri, değerlendirme, yabancı dil olarak Türkçe öğretimi

THE EVALUATION OF WEBSITES TEACHING FOREIGN LANGUAGES

Abstract

Websites are one of the most preferred learning enviroments in foreign language teaching. With the increasing of internet usage, internet sites have become popular learning resources. As a result, lots of websites which focus on teaching have been developed. Increasing numbers of this kind of websites has brought the question of from which sites will the students get benefit in an effective way. So, it is thought that the evaluation of websites plays a major role.

In this study, three websites prepared to teach Turkish as a foreign language were evaluate with the help of a checklist in order to provide more objectivity and more reliable evaluation. Firstly, the studies focusing on the evaluation of websites were examined. Then, an original checklist was prepared fort his study. After getting the views of the experts, websites teaching Turkish as a foreign language were evaluated according to the checklist.

Websites were analyzed under the headings of appearance, content, learner characteristics and general evaluation. Some suggestions were made according to the findings.

Key words: Websites for teaching, teaching Turkish as a foreign language

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Giriş

Yabancı dil öğretiminde araç geliştirmenin başlıca konularından biri olan "dil öğretim araçlarının uyarlanması ve değerlendirilmesi" dil öğrenme sürecine ilişkin değişik bakış açıları sunmaktadır.Ayrıca, dil öğrenme süreçlerinde yapılan çalışmalar (güdülenme, öğrenme stratejileri, vb.), araçların niteliklerinin nasıl olması gerektiği konusunda belirleyici rol oynamaktadır. Araç geliştirme ilkeleri incelendiğinde araçların genel niteliklerine ilişkin bir dizi önerinin öne çıktığı da görülmektedir (Peçenek, 2005: 87).

Bu çalışmada,"yabancı dil olarak Türkçe" öğretimi için hazırlanmış olan web destekli beş internet sitesi öznelliği azaltması ve daha ilkeli ve güvenilir bir değerlendirme sağlaması nedeni ile geliştirilen bir ölçüt yardımı iledeğerlendirilmiştir. Ölçüte dayalı değerlendirme aynı zamanda araştırmacıların birbirinden bağımsız olarak değerlendirme yapma ve sonrasında farklılıkları karşılaştırmalarını kolaylaştırmıştır. Araştırma sürecinde izlenen yol aşağıdaki gibidir;

1) Web destekli öğretim sitelerin belirlenmesi
2) Kaynak taraması yapılması
3) Araç değerlendirme ölçütünde yer alacak belirtkelerin saptanması
   a) Yabancı dil öğretimi açısından
   b) Teknik açından
4) Ölçütün oluşturulması
5) Ölçüt ile ilgili uzman görüşü alınması
6) Ölçütün uzman görüşü ile yeniden yapılandırılması
7) Web destekli öğretim sitelerinin ölçüt yardımı ile değerlendirilmesi
8) Öğrenici ve öğretmenler için öneriler hazırlanması

Ölçüt Geliştirme

Tomlinson (2003: 26) dil öğrenme kuramlarının araç değerlendirmede temel ilkeler sunabileceğini ve bu kuramlardan yola çıkarak evrensel ilkeler geliştirmenin mümkün olabileceğini belirtmesine karşın tek bir çerçevenin kullanılamayacağını ve evrensel ölçütlerin yanı sıra özgül ölçüt grupları belirlenebileceğini savunmaktadır (akt. Peçenek, 2005: 93). Ders kitaplarının seçiminde ve değerlendirilmesinde çok çeşitli öneriler sunulmakla beraber genel olarak iki türlü değerlendirmeden bahsedilmektedir. Bunlar "üst-düzey" (macroevaluation) ve "alt-düzey" (microevaluation) değerlendirmelerdir. Üst-düzey değerlendirme uzun süreli projeler ve daha merkezi değerlendirmeleri içerirken; alt düzey değerlendirmeler ise uzman ve kullanıcılar tarafından yapılan değerlendirme biçimidir (Rubdy, 2001: 41).

Ölçüt geliştirmede yabancı dil öğretiminde son yıllarda benimsenen yaklaşımlar ve yapılan çalışmalardan yararlanılmıştır. Örneğin, Avrupa Konseyi tarafından basılan "ortak başvuru metninde" (CommonEuropean Framework) "eylem odaklı bir yaklaşım" benimsendiği belirtilmekte ve öğrenicinin çok çeşitli dil süreçlerini içeren etkinliklere katılarak en uygun stratejileri harekete geçirmesi beklenmektedir. Öğrenici böylece çok çeşitli bağlamlarda sahip olduğu dil yetilerini kendisi kullanabilecektir (CEF, 2000: 19). Ayrıca bu metinde sıklıkla "kendi kendine dil öğrenme ve yaşam boyu öğrenme" sürecinin desteklenmesi salık verilmektedir. Bu açılardan OBM oluşturmacı yaklaşımın özelliklerini vurgulamaktadır. Oluşturmacı bir yabancı dil öğretiminin özelliklerini sıralayan Reinfreid (2000) benzer bir biçimde bu yaklaşımda öğrenen odaklı öğrenme, öğrenimin bireyselleştirilmesi, dil ve kültürlerarası farkındalık kazanılması, öğrenen özerkliğinin sağlanması ve gerçek dil kullanımının sunularak bütüncül bir dil deneyiminin sağlanmasının vurgulandığını belirtmektedir.

Bu çalışmada, alan yazınında yabancı dil öğretim sitelerinin değerlendirilmesi için özel olarak hazırlanan bir ölçüt bulunamadığından yeni bir ölçüt hazırlanmaya çalışılmıştır. Bu amaçla yabancı dil öğretim araçlarının değerlendirilmesinde sunulan örnek kontrol listeleri ve çeşitli ölçütler incelenmiştir. Alan yazınında verilen değerlendirme kontrol listelerinin birçoğu belli başlıklara bölünmekte ve ders kitaplarının bu başlıklar altında öğrencilerin gereksinimleri ve diğer hedeflenen özellikleri karşılayıp karşılamadığı saptanmaya çalışılmaktadır.

Bu değerlendirmelerin çoğu genel olarak "öğretmen", "öğrenci", "içerik" ve "görünüm" açılarından ele alınmıştır. Hall (2000: 229-230) araç geliştirme ve değerlendirmede ilk basamağın dil öğrenme kuramlarından yararlanmak olduğunu vurgulayarak üç ana başlığın değerlendirmeye alınmasını önermektedir. Bunlar; "iletişim ihtiyacı", "gerçek dil kullanımı", ve "öğrenici merkezlilik".

Örnek ölçütlerin incelenmesi ve kaynak taraması sonucunda web destekli öğretim sitelerinin değerlendirilmesi ölçütünde olması gereken konu başlıkları ve bu konu başlıklarının altında sunulması gereken belirtkeler belirlenmiştir. Hazırlanan ölçüt üç ana başlığa bölünmüştür;

Biçimsel Görünüm

İçerik

Öğrenen Özellikleri

Seçilen internet sitelerinin her biri ayrı bir kontrol listesi ile değerlendirilmiştir.

Web Sitelerinin Değerlendirilmesi

İnternet Sitesi 1 Erişim Adresi: http://turkish.pgeorgalas.gr/indexEn.htm					
I.BİÇİMSEL GÖRÜNÜM	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)
Tasarım düzeni		X			
Yazıların okunaklılığı		X			
Görsel unsurların renkli ve ilgi çekici olması			X		
Görsel unsurların sunulan dil birimleri ile belirli bir bütünlük göstermesi			X		
Kullanım kolaylığı		X			
Ses ve görsel dosyaların kalitesi		X			
II. İÇERİK	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)
Belirtilen dil düzeyine uygun içerik sunulması		X			
Öğrencilerin dil gelişimlerini destekleyici bir içerik sunulması		X			
İçeriğin öğrenciyi güdüleyici nitelikte sunulması		X			
İçeriğin diğer ders ve ara disiplinlerle ilişkili bilgilerle desteklenerek düzenlenmesi		X			
Gerçek dil kullanımı ile ilgili örnekler sunulması		X			
Günlük yaşam ile ilgili örneklerin sunumu		X			
İçeriğin ilginç ve güdüleyici olması		X			
Alıştırma ve etkinliklerin çeşitliliği		X			
Alıştırma ve etkinliklerin öğrenicileri gerçek dil kullanımına hazırlaması		X			
Alıştırma ve etkinlik yönergelerinin net olması			X		

Dil kullanım sürecine odaklanılması		X			
Dilin anlamlı bir bağlam içinde sunulması		X			
Dilin bütünsel bir biçimde sunulması		X			
İçeriğin tüm dil becerilerini geliştirecek biçimde hazırlanması		X			
Sunulan birimlerin çeşitli yollarla tekrarının sağlanması		X			
Dil farkındalığı kazandırması		X			
Kültürel özelliklerin sunumu	X				
Kültürarası yeti geliştirme etkinlikleri ve alıştırmaları	X				
Konu anlatımı		X			
Bilinmeyen kelimelerin sunumu		X			
Geribildirimin verilmesi	X				
Cevap anahtarının içeriği		X			
Farklı web sitelerine yönlendirme		X			
III. ÖĞRENEN ÖZELLİKLERİ	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)
Öğrenicinin diğer dil öğrenicileri ile paylaşımda bulunmalarına fırsat verme		X			
Öğrenicinin çeşitli dil öğrenme stratejileri kullanma ve geliştirmesine fırsat verme		X			
Öğrenicinin bilgiyi kendi kendine yapılandırmasına fırsat verme		X			
Öğrenicinin önbilgilerini kullanabilmesine fırsat verme		X			
Öğretimin bireyselleştirilmesine fırsat verme		X			
Öğrenicinin kendi yaşam ve deneyimlerini yansıtmasına fırsat verme		X			
Hedeflenen dil düzeyi öğrenicilerinin dil ihtiyaçlarının dikkate alınması		X			
Hedeflenen dil düzeyi öğrenicilerinin kültürel ihtiyaçlarının dikkate alınması		X			
Öğrenicilerin öğrendikleri dile karşı olumlu tutum kazanmalarına yardımcı olma		X			
Öğrenicilerin bilgi toplamalarına yardımcı olma		X			
GENEL DEĞERLENDİRME					
Sunulan Dil Düzeyi ve Planlama	Her bölümün içeriği aynı düzende sunulmamış bu da kullanıcı açısından karışıklık yaratıyor. Bazı bölümlerde o konu ile ilgili sunuş bölümü yer alırken bazı bölümler ise doğrudan örneklerle başlamakta.				
Konu Başlıkları	Verbs Nouns Adjectives Live Practice Language Issues Phrase Puzzles TurkishGrammar Basics Vocabulary-Translation TurkishNames Adverbs				

Odaklanılan Dil Becerileri	Gramer, okuma, yazma
Alıştırma Biçimleri	multiplechoice, fill in therighttype, fill in theendings, formationexercise, vocabularyexercise, textexercise (1), audiovisual (1), revisionexercise(1), e-dictation(1).

İnternet Sitesi 2 Erişim Adresi: http://totally-turkish.com/					
I.BİÇİMSEL GÖRÜNÜM	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)
Tasarım düzeni		X			
Yazıların okunaklılığı		X			
Görsel unsurların renkli ve ilgi çekici olması		X			
Görsel unsurların sunulan dil birimleri ile belirli bir bütünlük göstermesi		X			
Kullanım kolaylığı		X			
Ses ve görsel dosyaların kalitesi	X				
II. İÇERİK	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)
Belirtilen dil düzeyine uygun içerik sunulması		X			
Öğrencilerin dil gelişimlerini destekleyici bir içerik sunulması		X			
İçeriğin öğrenciyi güdüleyici nitelikte sunulması		X			
İçeriğin diğer ders ve ara disiplinlerle ilişkili bilgilerle desteklenerek düzenlenmesi		X			
Gerçek dil kullanımı ile ilgili örnekler sunulması		X			
Günlük yaşam ile ilgili örneklerin sunumu		X			
İçeriğin ilginç ve güdüleyici olması		X			
Alıştırma ve etkinliklerin çeşitliliği		X			
Alıştırma ve etkinliklerin öğrenicileri gerçek dil kullanımına hazırlaması		X			
Alıştırma ve etkinlik yönergelerinin net olması		X			
Dil kullanım sürecine odaklanılması		X			
Dilin anlamlı bir bağlam içinde sunulması		X			
Dilin bütünsel bir biçimde sunulması		X			
İçeriğin tüm dil becerilerini geliştirecek biçimde hazırlanması		X			
Sunulan birimlerin çeşitli yollarla tekrarının sağlanması	X				
Dil farkındalığı kazandırması	X				
Kültürel özelliklerin sunumu	X				
Kültürarası yeti geliştirme etkinlikleri ve alıştırmaları	X				

Konu anlatımı	X				
Bilinmeyen kelimelerin sunumu	X				
Geribildirimin verilmesi	X				
Cevap anahtarının içeriği	X				
Farklı web sitelerine yönlendirme	X				
III. ÖĞRENEN ÖZELLİKLERİ	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)
Öğrenicinin diğer dil öğrenicileri ile paylaşımda bulunmalarına fırsat verme	X				
Öğrenicinin çeşitli dil öğrenme stratejileri kullanma ve geliştirmesine fırsat verme	X				
Öğrenicinin bilgiyi kendi kendine yapılandırmasına fırsat verme	X				
Öğrenicinin önbilgilerini kullanabilmesine fırsat verme	X				
Öğretimin bireyselleştirilmesine fırsat verme	X				
Öğrenicinin kendi yaşam ve deneyimlerini yansıtmasına fırsat verme	X				
Hedeflenen dil düzeyi öğrenicilerinin dil ihtiyaçlarının dikkate alınması	X				
Hedeflenen dil düzeyi öğrenicilerinin kültürel ihtiyaçlarının dikkate alınması	X				
Öğrenicilerin öğrendikleri dile karşı olumlu tutum kazanmalarına yardımcı olma	X				
Öğrenicilerin bilgi toplamalarına yardımcı olma		X			
GENEL DEĞERLENDİRME					
Sunulan Dil Düzeyi ve Planlama	Konu başlıkları açıldığında o başlıklarda açıklamalar ve örnekler bulunmaktadır. Bazı bölümlerin sonunda o bölümle ilgili alıştırmalara yer verilmiştir.				
Konu Başlıkları	Ana bölüm Basic Turkish bu bölümün altında ınformationforbeginners, alphabet/pronunciation, basicinformation, Grammar Essentials başlığı altında vowelharmony 1, vowelharmony 2, consonantchanges, suffixes, plurals, personalpronouns, GrammarTenses bölümünde to be positive, to be negative, presentcontinuous, simplepresentpositive, simplepresentnegative, simplepast, future tense, GrammarOther başlığında ise possession, Express need, there is/thereisn't, I can/I can't, let it, apparently, tellthe time başlıkları bulunmaktadır.				
Odaklanılan Dil Becerileri	Gramer				
Alıştırma Biçimleri	Türkçe-İngilizce ve İngilizce-Türkçe çeviri alıştırmaları				

İnternet Sitesi 3 Erişim Adresi: http://www.turkishclass.com/					
I.BİÇİMSEL GÖRÜNÜM	1 (çok	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)

		yetersiz)				
Tasarım düzeni			X			
Yazıların okunaklılığı			X			
Görsel unsurların renkli ve ilgi çekici olması				X		
Görsel unsurların sunulan dil birimleri ile belirli bir bütünlük göstermesi				X		
Kullanım kolaylığı			X			
Ses ve görsel dosyaların kalitesi			X			
II. İÇERİK	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)	
Belirtilen dil düzeyine uygun içerik sunulması		X				
Öğrencilerin dil gelişimlerini destekleyici bir içerik sunulması		X				
İçeriğin öğrenciyi güdüleyici nitelikte sunulması		X				
İçeriğin diğer ders ve ara disiplinlerle ilişkili bilgilerle desteklenerek düzenlenmesi		X				
Gerçek dil kullanımı ile ilgili örnekler sunulması			X			
Günlük yaşam ile ilgili örneklerin sunumu		X				
İçeriğin ilginç ve güdüleyici olması		X				
Alıştırma ve etkinliklerin çeşitliliği		X				
Alıştırma ve etkinliklerin öğrenicileri gerçek dil kullanımına hazırlaması		X				
Alıştırma ve etkinlik yönergelerinin net olması			X			
Dil kullanım sürecine odaklanılması		X				
Dilin anlamlı bir bağlam içinde sunulması			X			
Dilin bütünsel bir biçimde sunulması		X				
İçeriğin tüm dil becerilerini geliştirecek biçimde hazırlanması		X				
Sunulan birimlerin çeşitli yollarla tekrarının sağlanması	X					
Dil farkındalığı kazandırması	X					
Kültürel özelliklerin sunumu		X				
Kültürarası yeti geliştirme etkinlikleri ve alıştırmaları	X					
Konu anlatımı	X					
Bilinmeyen kelimelerin sunumu			X			
Geribildirimin verilmesi	X					
Cevap anahtarının içeriği		X				
Farklı web sitelerine yönlendirme			X			
III. ÖĞRENEN ÖZELLİKLERİ	1 (çok yetersiz)	2 (yetersiz)	3 (yeterli)	4 (iyi)	5 (çok iyi)	
Öğrenicinin diğer dil öğrenicileri ile paylaşımda bulunmalarına fırsat verme			X			
Öğrenicinin çeşitli dil öğrenme stratejileri kullanma ve geliştirmesine fırsat verme		X				
Öğrenicinin bilgiyi kendi kendine yapılandırmasına fırsat verme		X				

		X			
Öğrenicinin önbilgilerini kullanabilmesine fırsat verme		X			
Öğretimin bireyselleştirilmesine fırsat verme		X			
Öğrenicinin kendi yaşam ve deneyimlerini yansıtmasına fırsat verme		X			
Hedeflenen dil düzeyi öğrenicilerinin dil ihtiyaçlarının dikkate alınması		X			
Hedeflenen dil düzeyi öğrenicilerinin kültürel ihtiyaçlarının dikkate alınması		X			
Öğrenicilerin öğrendikleri dile karşı olumlu tutum kazanmalarına yardımcı olma		X			
Öğrenicilerin bilgi toplamalarına yardımcı olma			X		
GENEL DEĞERLENDİRME					
Sunulan Dil Düzeyi ve Planlama					
Konu Başlıkları	Türkçe dersler bölümünün sayfası açıldığında toplam 85 adet üyenin ayrı isimler altında dersleri gözüküyor ancak çoğu kullanıcının 0 dersi var sadece çok az bir kısmın dersleri yüklenmiş. Bu dersler çok karışık tamamen dilbilgisi odaklı. Hikayeler başlığı altında iki kişi tarafından yüklenen resimli ve yazılı 3 hikaye var. Kelime öğretimi 10 düzeye bölünmüş ve sonunda bir test var. Sesletim bölümünde toplam 7 tane text var. Bu textlerin İngilizce ve Türkçesi verilmiş. Sesli olarak da dinlenebiliyor. Classes bölümünde Türkçe öğretimi var. Toplam 4 başlangıç ve 1 orta seviye.				
Odaklanılan Dil Becerileri	Gramer, okuma, yazma				
Alıştırma Biçimleri	Çeviri, boşluk doldurma, soru yapma, cümle yapma ve soru-cevap.				

Sonuç ve Öneriler

Bu çalışmada, araştırmacılar tarafından geliştirilen ölçek yardımı ile "Yabancı Dil Olarak Türkçe Öğretimi" için hazırlanan üç websitesi incelenmiştir. Bu websitelerinin hepsi Türkçe öğretimini İngilizce açıklamalar ve yönergelerle gerçekleştirmektedir. Sitelere giriş ücretsizdir. İncelenen websitelerinin sadece bir tanesi için üyelik gerekmektedir.

Geliştirilen ölçüt yardımı ile çalışma kapsamına alınan websitelerinin değerlendirmesinin her biri ayrı olarak ele alınmıştır. Websitelerinin biçimsel görünümleri incelendiğinde bu başlık altında yer alan ölçütlerin çoğunu karşılamadıkları görünmektedir. Websitelerinin hepsi kullanıcıya karışık gelebilecek bir biçimde hazırlandığından kullanım kolaylığı sağlamamakta ve bu nedenle websitesi içinde bilgiye ulaşma zaman almaktadır. İncelenen websitelerinin ikisinde ses ve video dosyaları bulunmaktadır ancak bu dosyalar kaliteli bir biçimde hazırlanmamıştır.

Websiteleri içerik bakımından incelendiğinde genel olarak yetersiz oldukları görülmüştür. Öncelikle belirtilen dil düzeyi ile içerik arasında uygun bir düzenleme bulunmamaktadır. Bir site dışında diğer ikisinde düzeyler de belirtilmemiştir. Tüm websiteleri dilbilgisi ve dolaylı

olarak okuma ve yazma becerilerine odaklanmaktadır. Bu nedenle, öğrencilerin dil gelişimlerini destekleyici bir içerik sunulmamaktadır. Sunulan içerik diğer disiplinlerle de ilişkili değildir ve öğrencileri dil öğrenmeye motive edici düzeyde hazırlanmamıştır. Bir web sitesi dışında diğer iki websitesinde gerçek dil kullanımı ile ilgili bilgi ve örneklere yer verilmemiştir. İçerik bütünsel olarak sunulmadığından anlamlı bir dil girdisi hazırlanmadığı söylenebilir. Bir başka anlatımla, dilbilgisi yapılarına odaklanıldığından içerik birbirinden kopuk biçimde sadece bazı yapılarla ilgili yapısal alıştırmalar sunacak biçimde hazırlanmıştır. Websiteleri sunulan dil birimlerin tekrarı konusunda yeterli bulunmamışlardır. Ayrıca, kullanıcılara bilinmeyen kelimeleri açıklama ve bilgilendirici cevap anahtarı sunma konusunda da yetersizdirler. İçerik başlığı altında yer alan kültür ile ilgili değerlendirme ölçütleri incelendiğinde yabancı dil öğretiminde önemli bir yeri olan kültürün websitelerinde gerekli biçimde içeriğe alınmadığı görülmektedir.

Websiteleri öğrenen özellikleri bakımından incelendiğinde hepsinin bu başlık altında çok yetersiz olduğu görülmüştür. Dilbilgisi odaklı ve kısıtlı bir içeriğin sunulması öğrencilerin dil öğrenme stratejileri önbilgilerini kullanma ve kültürel yetilerini geliştirmelerine imkân sağlamamaktadır.Ayrıca, websiteleri yabancı dil öğretiminde yine önemi bir yere sahip olan bilginin yapılandırılması ve bireyselleştirilmesinden yoksun bir biçimde hazırlanmıştır.

Bu çalışmada, yabancı dil olarak Türkçe öğreten websiteleri değerlendirilmiştir. İngilizce, Almanca gibi dilleri öğreten websiteleri incelendiğinde içerik ve görünüm olarak etkin bir biçimde hazırlandığı ve öğrenci özelliklerini dikkate aldığı görülmektedir. Ders dışı öğrenme ve kendi kendine öğrenme gibi birçok açıdan yabancı dil öğretimine katkı sağlayacak websitelerinin işlevsel bir biçimde hazırlanması kullanıcıya birçok katkı sağlayacaktır. Bu nedenle, yabancı dil olarak Türkçe öğretimi sunan sitelerin geliştirilmesi ve diğer dilleri öğreten sitelerde olduğu gibi işlevselleştirilmesi gerekmektedir.

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YÜKSEKÖĞRETİM KURUMLARINDA UYGULANAN ÖZEL YETENEK SINAVLARININ ÖNEMİ VE BİR MODEL ÖNERİSİ

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Özet

OSYM, Yüksek Öğretim Kurumlarında lisans eğitimine başvuran adaylara YGS ve LYS sınavlarını uygulamaktadır. Araştırmada YGS ve LYS sınavlarının içerikleri, puan türleri ve tercih süreçlerine etkileri incelenmiştir. Araştırma sonunda YGS ve LYS sınav sorularında sanatla ilgili soruların sayıca yetersiz olduğu görülmüştür. Sanat eğitimi almak isteyen adayların yetenek sınavlarına başvuru yapabilmeleri için zorunlu tutulan YGS sınavlarında sanatla ilgili soruların olmaması sınavın önemini azaltmakta ve sanat eğitimi almak isteyen öğrencilerin alan dışı konulara hazırlanmasına neden olmaktadır. Bu kurumlarda sanat eğitimi almak isteyen adayların kalitesini yükseltebilmek için yeni bir sınav modeli geliştirilmiştir. Yeni model iki aşamadan oluşmaktadır. Birinci aşamada YGS sınavında sanat la ilgili soru sayısının on olma zorunluluğunu getirmektedir. Ortaöğretimde sanat okullarında mezun olan adayların bu soruları cevaplayarak alacakları katsayı puanları arttırılacaktır. Birinci aşamada yeterli görülen adaylar ikinci aşamaya başvurma hakkı kazanacaktır. İkinci aşama olan LYS'de ise aday yeni bir alan olan ve elli sorudan oluşan Kültür ve Sanat (KS) bölümünden sınava girecektir. Bu aşamadan alacağı puanla sanat eğitimi veren bölümlere girebilme hakkı kazanacaktır. Yetenek sınavı uygulayan bölümler ise sınav sonrası mülakat aşamasıyla seçecekleri öğrencileri daha iyi belirleyebileceklerdir. Araştırma sonucunda gerekli önerilere yer verilmiştir.

Giriş

Ülkemizde nüfus ve okuma-yazma oranı paralel şekilde artış göstermektedir. Üniversitelere başvurunun artmasıyla kurumların kendi sınavlarını yapmalarında, donanım ve imkan yetersizliğinden başvurularda sorunlar yaşanmıştır. Öğrenci adaylarının üniversitelere ve bölümle daha düzenli ve sağlıklı yerleştirilebilmesi için ilk kez 1974 yılında merkezi sınav sistemi uygulanmaya başlamıştır. ÖSYM, 19 Kasım 1974 tarihinde, Üniversitelerarası Kurul tarafından, 1750 sayılı Üniversiteler Kanununun 52. Maddesine göre, "Üniversitelerarası Öğrenci Seçme ve Yerleştirme Merkezi (ÜSYM)" adıyla kurulmuştur. 1981 yılında yürürlüğe giren 2547 sayılı Yükseköğretim Kanunu ile Yükseköğretim Kuruluna (YÖK) bağlanarak "Öğrenci Seçme ve Yerleştirme Merkezi (ÖSYM)" adını almıştır (OSYM, 2012). OSYM kurumu hizmete başlayarak merkezi sistemle sınavları yürütme görevini üstlenmiştir. Kurumun iş tanımında "Öğrenci Seçme ve Yerleştirme Merkezi, Yükseköğretim Kurulunun tespit ettiği esaslar çerçevesinde yükseköğretim kurumlarına öğrenci alınması amacıyla sınavları hazırlayan ve yapan, öğrenci isteklerini de göz önünde tutarak Yükseköğretim Kurulunun tespit ettiği esaslara göre değerlendiren, öğrenci adaylarının yükseköğretim kurumlarına yerleştirilmesini sağlayan ve bu faaliyetlerle ilgili araştırmalar ve diğer hizmetleri yapan Yükseköğretim Kuruluna bağlı bir kuruluş" olduğu belirtilmiştir. Sanat eğitimi veren bölümler ise öğrenci adaylarına sadece yetenek sınavı uygulamaktaydı. Öğrenci adayı yetenek sınavı sonrası bölüm yetkilileri tarafından mülakata tabi tutulmakta ve sanatla ilgili bilgisi ölçülmekteydi. OSYM'nin kurulmasının ardından sanat eğitimi veren bölümlere başvurabilmek için sınava girme şartı konmuştur. Bu şartı taşıyan adaylar yetenek sınavına girebilmektedir. Öğrenci adaylarının sayıca artmasıyla üniversitelerin sayıca yetersizliğinden dolayı yetenek sınavından mülakat aşaması çıkarılarak sınav süreci kısaltılmaya çalışılmıştır. Çünkü mülakat aşaması çizim sınavı sonrası uygulanmakta ve birebir görüşme sürecini kapsadığı için aday sayısına oranla uzun sürebilmekteydi. Fakat son on yılda üniversitelerde sanat eğitimi veren bölümlerin hızla artışı ile bölümlere başvuran aday sayısında azalma görülmektedir.

Merkezi Sınav Sistemi

Yarımağan, OSYM'yi "Öğrenci Seçme ve Yerleştirme Merkezi 1974 yılında üniversiteye giriş sınavlarının merkezi yapılması ihtiyacı üzerine kurulan ve 1982 yılında çıkan Yükseköğretim Kanunu ile çeşitli aşamalarda ve çok geniş kitlelere sınav yaparak faaliyetlerini sürdüren bir kurumdur" şeklinde tanımlamaktadır (Yarımağan, 2009, s.1). 1974 yılı sonrası uygulanmaya başlayan merkezi sınav sistemi ile üniversitelerde eğitim alacak öğrenciler eşit şekilde dağılabilmiştir. Günümüzde sınava başvuran sayısı bir buçuk milyona yakındır. Sınava giren adaylara farklı sınav türlerinin uygulanmasının ve değerlendirilmesinin zor olması nedeniyle bilgilerini ölçebilecek en etkili yöntem olarak çoktan seçmeli test tekniği belirlenmiştir.

Çoktan seçmeli testin içeriği, öğrencinin sayısal ve sözel bilgilerini değerlendirmesine yöneliktir. Adayın doğru cevap sayısı başarısının göstergesi olarak kabul edilmektedir. Çoktan seçmeli sınav OSYM'nin uygun gördüğü hakem kuruluyla hazırlanmaktadır. Sorular sayısal, sözel, fen bilimleri ve sosyal bilimler alanında konulardan oluşmaktadır. Soru içeriklerinin genel tutulmasının nedeni sınava her bölümden ve seviyeden öğrencinin başvurması ve adayların farklı bölümleri tercih etmek istemesidir. Sorularda sanat eğitimi içeren soru sayısı oldukça az ve yetersizdir. Tamamıyla uygulamaya yönelik disiplinler içeren sanat kurumları, ÖSYM'nin düzenlediği sınavdan başarılı olan öğrencileri alabilmektedir. Günümüze kadar yapılan en büyük yanlış, sanat eğitimi almak isteyen adaydan YGS sınavından yeterli puan alma şartı aranmasıdır. Sınavın ardından yetenek sınavlarına başvuru yapılabilmektedir. Düzenlenen sınavın amacı öğrencinin alacağı eğitime uygun çizim/çalgı bilgisinin olduğunu araştırmaktır. Çünkü öğrencinin alacağı 4 yıllık eğitim içinde dersleri takip edebilmesi ve başarılı olabilmesi için çizim yapabilme veya enstrüman çalabilme özelliklerine sahip olması gerekmektedir. Yetenek sahibi olan fertlerin başarılı olabileceği bu bölümlerde uygulamalı sınav aşaması gerekli görülmektedir. Sanat eğitimi veren yüksek öğretim kurumlarımız görsel/işitsel/gösteri sanatları adı altında üç grupta inceleyebilmektedir. Yüksek öğretim kurumlarında bu fakülteler kısaca sanat ve tasarım fakültesi ile konservatuar olarak iki gruba ayrılmaktadır. Bu fakültelerin altında, anabilim dalları ve bölümler bulunmaktadır. İç mimarlık ve çevre tasarımı ile peyzaj mimarisi bölümleri gibi LYS sınavında başarılı öğrencilerin eğitim alabilecekleri bölümler olabilmesine karşın resim, tasarım, şan, sahne tasarımı gibi tamamıyla eğitim öncesi belli bilgi ve çizim/çalgı bilgisi gerektiren bölümlerde bulunmaktadır. Daha öncede belirtildiği gibi bu bölümler LYS sınavı sonrası uygulamalı sınavlara tabi tutulmaktadırlar. Fakat sanat ve tasarım fakülteleriyle konservatuarlara bağlı sanat yönetimi, iletişim sanatları, oyunculuk, tiyatro gibi bazı bölümler ise yetenek sınavı dışında öğrencinin kendini ifade edebilme yeteneğini ölçebilmek için mülakat aşaması da uygulanmaktadır. Mülakatın diğer seçme yöntemlerine göre sağladığı avantajlar, adayla birebir iletişime geçildiği için tepkilerini ölçebilme, konuşma tarzını kavrama, beden dili ve dış görünüşleri ile ilgili bilgi toplayabilme imkânı vermesidir.

YGS ve LYS Sınavlarının İçeriği, Puanlanması ve Tercih Edilebilen Bölümler

Yüksek öğretim kurumlarında eğitim almak isteyen öğrencileri belirlemek için iki aşamalı uygulanan Yüksek Öğretim Geçiş Sınavı (YGS) ve Lisans Yerleştirme Sınavlarını (LYS) düzenlemektedir. İlk aşamayı geçebilen öğrenciler Sanat eğitimi veren ve yetenek sınavıyla alan kurumlara ve Açık öğretim Fakülteleri'ne başvuru yapabilmektedir.

Uygulama ile ilgili bilgiyi ölçmede çoktan seçmeli test yönteminin sağlıksız ve yetersiz olacağı da anlaşılmaktadır. Öğrencinin gelişimini sağlaması için verilecek derslerden ziyade öğrencinin özellikle kendini ifade edebilmesi ve topluluk karşısında konuşma becerisine sahip olmasını da ölçmek mülakat sınavlarının amaçları içerisindedir. Örneğin Sanat ve Tasarım Fakültelerine bağlı bulunan Sanat Yönetimi programının içeriği sanatçının reklamını yapabilen ve sanat piyasasında sanatçıyı temsil ederek destekleyebilecek bilgili, yönetici vasfı olan sanat yönetmeni yetiştirmektir. Sanat yönetimi ve benzer bölümlerde adayların, LYS sınavındaki başarısının yanı sıra konuşma ve hitabet başarısının da bulunması gerekmektedir. mesleğinde başarılı başarılı bireyler yetiştirebilmek için LYS sınavı sonrası mülakat aşaması gerekmektedir.

Sanat Eğitimi Programlarında Uygulanan Sınav Metotları

Sanat ve Tasarım Fakülteleri ile Konservatuara bağlı anabilim dalları ve bölümlerde öğrenci seçiminde uygulamaya yönelik aşamalı sınavlar uygulanmaktadır. Yetenek sınavları adıyla uygulanan bu sınavlar, çizim, imgesel, desen, enstrüman uygulaması, ses bilgisi ölçme, performans uygulamaları gibi çeşitlilik göstermektedir. Sanat ve Tasarım Fakültelerine bağlı; baskı sanatları, animasyon, endüstri ürünleri tasarımı, eski yazı, geleneksel Türk el sanatları, grafik tasarım, halı, kilim ve eski kumaş desenleri, heykel, iç mimarlık ve çevre tasarımı, iletişim tasarımı, moda ve tekstil tasarımı, plastik sanatlar, resim, sahne dekorları ve kostümü tasarımı, sanat tasarımı, seramik, cam, tekstil tasarımı, tezhip gibi bölümler bulunmaktadır.

Konservatuara bağlı alt bölümlerinin sayısıyla birlikte sanat disiplinlerinin fazla olması uygulamalı sınavların aşamalarını ve içeriklerini de arttırmaktadır. Günümüzde sanat eğitimi programlarına ve Spor Akademilerine başvurmak için adayların LGS'ye girmeleri zorunludur. Sanat programlarında okumak isteyen adaylar öğrenci seçme ve yerleştirme sınavı sonrası doğrudan istediği yükseköğretim kurumuna başvuruda bulunmaktadır. Sınav ve değerlendirme işlemleri de ilgili yükseköğretim kurumu tarafından yürütülmektedir. Uygulamalı olan bu yetenek sınavı sonrası eğitime uygun olduğu görülen adaylar seçilmektedir. Uygulamalı sınavda öğrencinin çizim yeteneği, enstrüman kullanabilme özelliği, bilgisayar bilgisi yada oyunculuk yeteneği ölçülebilmektedir. Yetenek sınavları adayların bilgisini ölçme ve değerlendirmeye yönelik olduğundan, adayın psikolojik yapısını ve bölümle ilgili bilgi düzeyini ölçmeye yönelik değildir. Yazılı sınav uygulamasıyla bu açık kapatılmaya çalışılsa da yetersiz olmaktadır. Yazılı sınav uygulaması ise lisans eğitimi sürecinde fazla kullanılmayıp, lisansüstü eğitim programına öğrenci alımında daha fazla uygulanmaktadır. Bunun nedeni başvuru sayısının fazla olmasından dolayı yazılı metinlerin okunup notlandırılma sürecinin uzun sürmesidir.

Yetersiz sınav programı sonrası öğrenci profiline uygun kişiliğe sahip olduğu bilinmeden eğitim-öğretim sürecine başlanmaktadır. Dört yıllık süreç sonrası kontenjanın tamamı doldurularak eğitime başlanan öğrencilerin bir bölümü eğitim sürecini tamamlamaktadırlar. Uygulanan yetenek sınavı sonrası sanat eğitimi alacak öğrencilerin kapasitesindeki yetersizlik eğitim kurumunun kalitesinde önemli gerilemelere neden olmaktadır. Yetenek sınavı uygulamasını sanat eğitimi alacak öğrencilerin seçiminde yetersiz olarak gören bazı vakıf ve devlet üniversiteleri farklı teknik ve aşamalar gerçekleştirerek öğrenci kalitesini yükseltme çabalarına girişmektedir.

Öğrencilerin bölümden beklentilerinin öğrenilebileceği ve öğrenciyi bekleyen eğitim döneminin içeriğinin anlatılabileceği mülakat aşaması sayesinde daha bilinçli ve istekli öğrencilerin seçimi sağlanabilmektedir. Bölümün seçici kurulu tarafından yöneltilecek sorularla öğrencinin kültürel durumu, bölüme ve sanata olan ilgisi öğrenilebilmektedir. Bu sayede dört yıllık eğitim görecek öğrencinin önceden tanınması ile alacağı eğitim sürecinde öğrenciye uygulanacak eğitim modellerinin hazırlanmasına da imkân vermektedir. Önceden eğitim alacağı öğrenim kurumunu yakından tanıyacak öğrenci adayları da doğru karar verebilecek ve eğitim sürecinde yüksek başarı gösterebilecektir. Ayrıca öğrenci seçiminde uygulamalı yetenek sınavı sonrası mülakat aşamasıyla yaşanılacak yanlış seçimlerin önüne geçilmektedir. Öğrencilerin dört yıllık eğitim sürecinde göstereceği başarı; genel kültür birikimi ve sanatsal aktivitelere olan ilgisiyle doğru orantılı gerçekleşeceği için mülakat aşamasında özellikle bu sorulara cevap aranmaktadır. Doğru kararın anlaşılması için de fakültelerin oluşturduğu jüri üyeleri uygun mülakat tekniği kullanmaktadır. Sınav sonrası sağlıklı bir ölçme ve değerlendirme işlemi de yapılmaktadır.

Mülakat Yöntemleri

Mülakat veya görüşme, belli ve ciddi bir amaçla yüz yüze gelen iki veya daha fazla kişinin soru-cevap yöntemiyle nesnel ve öznel bilgi toplamak için, etkileşim içinde yaptıkları bir seçme yöntemidir(Çetin, 2004, s:23). Seçim aşaması bireyin ihtiyaca karşı yetkinliklere sahip olmasını sorgulamaktır. Mülakat tekniği ferdin kendini ifade etmesi yönünden sınav teknikleri içinden etkili olanıdır. Mülakatlar, işletmelerin eleman seçiminde sıklıkla kullandıkları bir araçtır. Testler ve değerlendirme merkezi gibi yöntemlerden daha fazla tercih edildiği görülmektedir (Erdoğan, 1991, s:65). Eleman alımlarında işverenlerin kullanıp geliştirdikleri mülakat teknikleri

bulunmaktadır. Kullanıldıkça beğenilen ve iyi sonuçlar veren bu tekniklerden öne çıkanları şirketler ve yüksek öğretim kurumlarınca uygulanmaktadır. Mülakat tekniklerini Sayın Koç, dört ana grup altında toplamaktadır.

Yapılandırılmış Mülakat Tekniği: "Yapılandırılmış mülakat sorulacak temel ve anahtar sorularla ilgili üst düzey bir hazırlığın yapıldığı, böylelikle bütün adaylara benzer soruların sorulduğu bir tekniktir."(A.S. Denisi, R. W.Griffin, 2008, 231) Bu teknik ile sanat eğitimi alacak öğrencilerin eğitim sürecinde bilmesi gereken temel bilgileri ölçme ve değerlendirmeye yönelik bir tekniktir.

Durumsal Mülakat Tekniği: Bu teknikte adaya ilgili pozisyonda karsılaşabileceği olayları içeren senaryolar verilir. Önemli olan senaryolar hayal bile olsa is ortamında karşılaşılabilecek nitelikte olmasıdır. Bu teknik; reklam, grafik gibi iletişim tasarımı gibi bölümlere öğrenci alımında uygulanabilecek düzeye sahiptir.

Davranışsal Mülakat Tekniği: Bu tekniğin temel varsayımı adayın gelecekteki davranışlarının, geçmiş davranışlarının bir yansıması olacağıdır. Bu amaçla adaya geçmişte yaşamış olduğu olayları nasıl ele aldığına yönelik sorular sorulur. Stresli bir ortamda nasıl karar aldığı, hangi verileri değerlendirdiği, takım arkadaşları arasındaki koordinasyonu nasıl sağladığı ve niye bu şekilde davrandığı gibi sorular bu teknikte sıklıkla karşılaşılabilecek türdendir (Dessler, 2008, s.258). Bu tür bir mülakat tekniği liderlik ve yöneticilik vasfı gerekli olan, iş performansını arttırmak için düzgün kipler oluşturması gereken, sanat yönetimi ve işletmeciliği gibi bölümlerde uygulanabilir.

Stres Mülakatları: Stres mülakatlarında amaçlanan, adayın dengesini nasıl koruduğu, uyum yeteneğini ve beklenmeyen olaylar karsısında kendisini ne kadar çabuk topladığını görmektir. Daha çok fínans ve bankacılık sektörü gibi stresli ortamlarda yürütülen isler için uygulanan bu mülakat tekniğinde mülakatçı farklı yöntemler kullanarak adayda stres yaratılmaya çalışılır ve sonuçları gözlemlenir. İhtiyaca cevap verecek bir teknik olduğu için sanat eğitimi veren kurumlarda değerlendirilebilir.

Mülakat aşamaları lisans eğitimine geçişle birlikte yüksek lisans eğitim sürecine geçişte de kullanılan bir tekniktir.

Mülakatın Değerlendirilmesi: Ölçme işleminin doğru teknikle uygulanmasının ardından değerlendirme aşamasına geçilmektedir. Fakat mülakat tekniğinde değerlendirme aşaması ölçme sürecinde de işleyebilmektedir. Yani aday mülakat yapılan mekandan ayrılırken hakkında verilen olumlu/olumsuz karar hakkında bilgilendirilebilmektedir. Bu tür bir uygulama dışında mülakat aşamasının ardından jüri üyeleri ölçme sürecinde verdikleri puanların ortalamasını hesaplayarak değerlendirme sürecini tamamlayabilirler. Doğru değerlendirme süreci için ölçme sürecinin yani mülakat aşamasının yeterli ve düzgün olması gerekmektedir.

Jürinin adaya ait cevapları doğru yorumlayabilmesi çok önemlidir. Mülakatçı adayın kullandığı sözcüklerden, sözcüklerin söylenme seklinden ve en önemlisi adayın vücut dilinden faydalanmalıdır. Vücut dili, kişinin içinde bulunduğu psikolojik durumu, duygu ve düşüncelerini istemsiz olarak, görülebilen beden hareketleri, giyim tarzı ve vücuttaki fiziksel değişiklikler yardımıyla ortaya çıkaran bir iletişim aracıdır. Beden diliyle ifade edilenler kullanılan sözcüklerle birlikte değerlendirilmelidir. Ancak bazı durumlarda sözcüklerin arkasında yatan gerçekleri istem dışı olarak sallanan bir ayak, öne eğilmiş bir bas ya da kasınan bir burun gün ışığına çıkarabilir. Önemli olan tüm verilerin birbiriyle tutarlı olmasıdır. (Fisher, 2006, s. 342.) Mülakat esnasında adayı tüm yönleriyle tanımaya çalışmak ve pozisyona uygunluğunu araştırmak için sözlü ya da sözsüz olsun iletişime büyük önem verilmelidir. Etkin bir iletişimin en büyük düşmanı ise mülakata odaklanamayıp adayı dinleyememektir.

Sonuç ve Öneriler

OSYM tarafından gerçekleştirilen YGS ve LYS sınavlarının içerikleri ve puan türleri incelenmiştir. Çoktan seçmeli sınav sisteminin sanat eğitiminde yetersiz olduğu anlaşılmıştır. Ayrıca aday seçiminde daha önce uygulanan sınav türlerinin de yetersiz olduğu gözlenmiştir. Gerekli bilgi ve donanıma sahip öğrencilerin seçiminde izlenen yolların başında uygulama sınavı gelmektedir. Fakat bu sınava girebilmek için YGS sınavından belirlenen puanı almak gerekmektedir. OSYM düzenlediği YGS sınavını sanat eğitimi veren

bölümlerin ihtiyacına göre yenilemelidir. Öncelikle YGS'nın içeriğinde sanatla ilgili sorular eklenmelidir. Yeni planlanacak bölümde; sınavın düzenlendiği yıl içerisinde yurt içinde düzenlenen etkinlikler, konserler, tiyatrolar, bienaller, sergiler ve festivallerle ilgili sorular sorulmalıdır. Ayrıca ünlü yönetmenler, artist ve müzisyenlerin hayatları ve eserleri hakkında sorular planlanmalıdır. Bu sayede hem sanat eğitimi alacak öğrencilerin belirlenebilmesi sağlanacak hem de sınava girecek tüm öğrencilerin bu bölüme ait soruları cevaplayabilmeleri için sosyal olabilmeleri sağlanacaktır. OSYM ilk yıl bu uygulamayı sadece YGS içinde 10 soruyla sınırlı tutacak sonraki yıl LYS aşamalarında Kültür ve Sanat (KS) olarak yeni bir sınav kitapçığı şekline çevirmelidir. KS kitapçığında öğrencilere çoktan seçmeli sınav türüyle 50 soru sorulmalıdır. Sınava hazırlanacak öğrencileri sosyal yaşamdan koparmamak için sorular sanat tarihi ile ilgili konuları fazla içermemelidir. Müzelerde sergilenen önemli eserlerle ilgili soruların olması yeterli olmalıdır.

KS puan türünden yeterli puan alan adaylar yetenek sınavına girebilmeye hak kazanacaktır. Fakat her sanat disiplini farklı bilgi ve beceriye ihtiyaç duymaktadır. Sanat eğitimi veren bölümler, KS sınavından sonra uygulamalı sınav aşamasına geçmeli, daha sonra da ihtiyaç durumunda mülakat yöntemiyle de öğrenci adaylarını yakından tanıma fırsatı yaratmalıdır. Mülakat aşamasında ise bölümün ihtiyacına yönelik uygun bir sınav salonu ve alanında uzman jüri üyeleri belirlenmelidir. Sübjektif davranılması gerekilen mülakat aşamasında jüri üyelerinin şahsi fikirlerini adaylara dayatabildiği bilinmektedir. Yaşanan her türlü hataların en aza indirilmesi için yüksek öğretim kurumlarınca gerekli önlemlerin alınması gerekmektedir. Jüri üyelerinin dikkat etmesi için önerilen şartlar şunlardır;

Adaylara ön yargılı yaklaşılmamalıdır.

Aday özgeçmişi iyi incelenmelidir.

Mülakat soruları ve içeriği önceden hazırlanmalıdır.

Mülakat esnasında sorulacak sorular önceden planlanmalı ve aynı konuyla ilgili soruların ardı ardına gelmesine dikkat edilmelidir.

Amaç adayla ilgili bilinmeyenleri öğrenmek olduğundan hiçbir soru anlamsız olmamalıdır.

Mülakat öncesi adaya bölüm hakkında bilgisi ölçülüp gerekirse bilgilendirilmelidir. Daha sonra mülakata geçilmelidir.

Adayın mesleğinde engel teşkil etmeyecek fiziksel görüntüsü veya eksikliği mülakat sürecine yansıtılmamalıdır.

Zıtlık yapılmamalıdır. Yani jüri üyesi mülakat aşamasında adayı daha önceki adaylarla karşılaştırma yapmamalıdır.

Bölüm içeriği kavranmalıdır.

Vücut dilini iyi kullanmalıdır.

Çok az/fazla konuşulmamalıdır.

Adayın yanlış bilgi beyanında bulunması doğrultusunda karşılaşacağı hukuksal aşamalardan yazılı ya da sözlü şekilde bilgi verilmelidir. Ve bu sürecin mülakat aşamasında da geçerli olduğu belirtilmelidir.

Adayın konuştuğu zaman sözü kesilmemeli veya bir konu hakkında yoğunlaşmışken başka konular hakkında sorular sorulmamalıdır.

Kapalı sorular sormak ya da ayrıntılarla gereğinden fazla uğraşmamak gerekir.

Adayla göz teması kurulmalıdır.

Mülakat süresince aday ya da jüri dışında başka şeylere odaklanılmamalı, huzursuz görünmemeli ve fiziksel ortamın eksiklikleri de konuşma sürecine yansıtılmamalıdır.

Jürinin adayı çağıracağı mekânın mülakata uygun fiziksel şartlar bulunmalıdır. Dışarıdan gelen fazla ya da yetersiz ışık, ses, ısı gibi olumsuz ortamlar olmamalıdır.

Adayların mülakat bitimi diğer adayları etkilememesi için salonda birden fazla giriş çıkış olmalıdır. Bu sayede içeri alınacak aday mülakat bitiminde farklı bir kapıdan mekândan ayrılmalıdır.

Mülakat süresince sakin olunmalı ve ani tepkilerden kaçınılmalıdır.

Araştırma sonuçları ve önerileri farklı disiplinlerde kullanıma hazır olup değişikliğe uygundur.

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EK

LYS'de puan türleri ise MF-1, MF-2, MF-3, MF-4, TM-1, TM-2, TM-3, TS-1, TS-2 ve DİL-1, DİL-2, DİL-3 olarak değişmektedir. MF grubu eski sistemde "Sayısal", TM grubu "Eşit Ağırlıklı", TS grubu da "Sözel" puan türlerine karşılık gelmektedir. MF ile ilgili puan türlerinde, Matematik, Geometri, Fizik, Kimya ve Biyoloji sorularının ağırlığı çeşitli oranlarda değişmektedir. TM ile ilgili puan türlerinde Matematik, Geometri, Türk Dili ve Edebiyat ile Coğrafya-1 testleri, TS ile ilgili puan türlerinde Türk Dili ve Edebiyatı, Coğrafya-1, Tarih, Coğrafya-2 ve Felsefe grubu testleri yer almaktadır. DİL puan türünde ise LYS'de dil sorularının ağırlığı alt puan türlerine göre değişmektedir. DİL-1'de ikinci aşama sınavındaki dil sorularının ağırlığı yüzde 65, DİL-2'de yüzde 50, DİL-3'de yüzde 20 olacaktır. Sınavın birinci aşaması olan YGS, DİL puanlarını, DİL-1 alt puanında yüzde 35, DİL-2 alt puanında yüzde 50, DİL-3 alt puanında ise yüzde 80 oranında etkilemektedir (OSYM, 2012).

MF-1 puanı ile İlköğretim Matematik Öğretmenliği, Matematik Öğretmenliği, Matematik, Bilgisayar Bilimleri, Astronomi ve Uzay Bilimleri programlarına,

MF-2 puanı ile Fen Programları, Biyoloji, Biyoloji Öğretmenliği, Fizik, Fen Bilgisi Öğretmenliği, Kimya programlarına,

MF-3 puanı ile Tıp, Eczacılık, Veteriner, Ebelik (Fakülte), Hemşirelik (Fakülte), Beslenme ve Diyetetik (Fakülte), Biyokimya, Fizyoterapi ve Rehabilitasyon (Fakülte), Genetik ve Biyomühendislik, Moleküler Biyoloji ve Genetik programlarına,

MF-4 puanı ile Bilgisayar Mühendisliği, Bilişim Sistemleri Mühendisliği, Elektrik Mühendisliği, Elektronik Mühendisliği, Endüstri Mühendisliği, Balıkçılık Teknolojisi Mühendisliği, Kentsel Tasarım ve Peyzaj Mimarlığı, Biyomedikal Mühendisliği, Çevre Mühendisliği, Uçak Mühendisliği, Deri Mühendisliği, Peyzaj Mimarlığı, Orman Mühendisliği, Otomotiv Mühendisliği, Nükleer Enerji Mühendisliği, Kimya Mühendisliği, Tekstil Mühendisliği, Yazılım Mühendisliği, Uzay Mühendisliği programlarına puan türü ile öğrenci yerleştirilmektedir.

TM-1 puanı ile Ekonomi, İktisat, Maliye, Muhasebe ve Finans Yönetimi, Bankacılık ve Finansman (Fakülte), Çalışma Ekonomisi ve Endüstri İlişkileri, İnsan Kaynakları Yönetimi (Fakülte) programlarına; TM-2 puanı ile Hukuk, Sınıf Öğretmenliği, Kamu Yönetimi, Siyaset Bilimi, Uluslar arası İlişkiler, Avrupa Birliği İlişkileri; TM-3 puanı ile Arkeoloji, Antropoloji, Çocuk Gelişimi (Fakülte), Felsefe Grubu Öğretmenliği, Psikoloji, Sosyoloji programlarına girilebilmektedir.

TS-1 puanı ile türüyle Coğrafya Öğretmenliği, Sosyal Bilgiler Öğretmenliği, Halkla İlişkiler ve Tanıtım, Medya ve İletişim; Radyo, Sinema ve Televizyon; TS-2 puan türüyle Tarih, Tarih Öğretmenliği, Türk Dili ve Edebiyatı Öğretmenliği, Türkçe Öğretmenliği, Sanat Yönetimi gibi programlara girilebilmektedir.

Dil puan türlerinde ise genellikle İngilizce, Almanca ve Fransızca ile ilgili bölümler DİL-1, Batı dilleri ile ilgili bölümler DİL-2, Doğu dilleri ile ilgili bölümler de DİL-3 puan türüyle öğrenci almaktadır.

Puanlama kategorisinde MF-1, MF-2, MF-3, MF-4, TM-1, TM-2, TM-3, TS-1, TS-2 ve DİL-1, DİL-2, DİL-3 puanlarından hiçbir kategorinin sanat eğitimi içerikli değerlendirme sonucu olmadığı görülmektedir.

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[i] Türkiye'de, üniversitelerin iç mimarlık eğitimi veren bölümleri "İç Mimarlık Bölümü" veya "İç Mimarlık ve Çevre Tasarımı Bölümü" olarak adlandırılmaktadır. Tez kapsamında farklı isimlerine rağmen bölümlerin amaçları iç mimarlık eğitimi olduğu için iki ismi de kapsayacak şekilde "İç Mimarlık Bölümleri" ifadesi kullanılmıştır.

[ii] Araştırmaya dahil edilemeyen üniversiteler; Akdeniz Üniversitesi, Anadolu Üniversitesi, Atılım Üniversitesi, İstanbul Aydın Üniversitesi, İstanbul Bilgi Üniversitesi, Kocaeli Üniversitesi, Selçuk Üniversitesi, TOBB Ekonomi ve Teknoloji Üniversitesi ve Yeditepe Üniversitesi'dir.

[iii] Bu üniversiteler; Atılım Üniversitesi, Bahçeşehir Üniversitesi, Başkent Üniversitesi, Beykent Üniversitesi, Bilkent Üniversitesi, Çankaya Üniversitesi, Çukurova Üniversitesi, Doğuş Üniversitesi, Hacettepe Üniversitesi, Haliç Üniversitesi, Gediz Üniversitesi, Işık Üniversitesi, İstanbul Arel Üniversitesi, İstanbul Kültür Üniversitesi, İstanbul Teknik Üniversitesi, İstanbul Ticaret Üniversitesi, İzmir Ekonomi Üniversitesi, Kadir Has Üniversitesi, Karadeniz Teknik Üniversitesi, Maltepe Üniversitesi, Marmara Üniversitesi, Mimar Sinan Güzel Üniversitesi, Okan Üniversitesi, Yaşar Üniversitesi ve Yeni Yüzyıl Üniversitesi'dir.

UN REGARD SUR LA CULTURE SOUS L'OPTIQUE DE LA PERSPECTIVE CO-ACTIONNELLE DANS L'ENSEIGNEMENT/APPRENTISSAGE DU FLE.

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Abstract:
In the 21th century, the foreign language teaching fulfills the function of not only informing or being informed as stated in the communicative approach, but also putting into action and interaction as stated in the co-actional approach of Puren. As of 1990s we have been observing that the objectives of foreign language learning are changing. As a result of touristic activities and professional exchange of know-how, in particular, the necessity of learning foreign languages increased continuously between individuals. In this context, The European Council stimulates and supports multiculturalism and multilingualism, respect for other languages and cultures in order to spread mobility among European citizens across the whole continent.

Therefore, exchange of students as well as free movement of goods and services have led to the European Union Language Criteria. Turkey, which would like to be the full member of the EU, has the target of teaching at least two foreign languages to the upcoming generations.

In this study, we will elaborate on the difficulties experienced by students, who learn French as a foreign language and the cultural interaction in the target language.

Key Words: co-actional approach, language teaching, European Council, multiculturalism, multilingualism.

Introduction

Depuis 1990, nous constatons un changement dans les objectifs d'apprentissage d'une langue étrangère. Plus particulièrement tant les échanges professionnels que les échanges d'étudiants ont donné naissance à un besoin de « Cadre européen » dans ce domaine. Cette approche considère en premier lieu, l'apprenant d'une langue comme un acteur social qui doit accomplir des tâches dans l'enseignement/apprentissage de langue étrangère.

Pour ce qui est de cette étude, nous allons essayer de nous pencher sur la notion de culture et de l'étudier d'après la perspective co-actionnelle en nous

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basant sur les recommandations du Cadre européen de référence pour les langues (CECRL).

1- Le Cadre européen commun de référence pour les langues et la perspective co-actionnelle.

Le Cadre européen commun de référence pour les langues (CECRL) est conçu par la division des langues vivantes du Conseil de l'Europe: « Cet organisme, dont le siège est à Strasbourg, mène ses activités en faveur de la diversité linguistique et de l'apprentissage des langues dans le cadre de la Convention culturelle européenne, ouverte à la signature le 1 er décembre 1954. (…). Son action promeut des politiques visant à approfondir la compréhension mutuelle, à consolider la citoyenneté démocratique et à maintenir la cohésion sociale » (Goullier, F., 2006 :5). Le CECRL est un document qui répond à la politique linguistique du Conseil de l'Europe. Son but était de mettre sur pied un cadre commun de référence pour l'enseignement/apprentissage des langues à tous niveaux. Voici la répartition des niveaux de compétence dans le cadre (2006:37) :

Utilisateur élémentaire		Utilisateur indépendant		Utilisateur expérimenté	
A1	A2	B1	B2	C1	C2
Introductif ou découverte	Intermédiaire ou de survie	Niveau seuil	Avancé ou indépendant	Autonome	Maitrise

L'objectif de cette politique linguistique est réalisé autour de 3 axes : favoriser le plurilinguisme et le pluriculturalisme des personnes dans le but d'améliorer la communication et la compréhension mutuelle entre les personnes, et de lutter contre l'intolérance et la xénophobie.

a- Faciliter la mobilité des personnes et l'échange des idées à travers le développement de compétences communicatives dans une variété de langues, afin de permettre à chacun de coopérer plus efficacement.

b- Développer une conception de l'enseignement des langues en se basant sur des principes communs par le biais de la coopération internationale, de l'expérience et des compétences des pays membres en ce domaine (CECRL 2008).

Le CECRL s'adresse aux personnes qui évaluent, c'est-à-dire les ceux qui sont chargés d'examens et de diplômes. Ceux qui enseignent et ceux qui apprennent.

Le CECRL plaident aussi pour une approche actionnelle. C'est pourquoi l'enseignement/apprentissage des langues est réalisé sur l'accomplissement des tâches communicatives et sur les activités de communication langagière. D'après le Conseil de l'Europe, l'usage et l'apprentissage d'une langue est : « comprendre les actions accomplies par des gens qui, comme individus et comme acteurs sociaux, développent un ensemble de compétences générales et, notamment une compétence à communiquer langagièrement. Ils mettent en œuvre les compétences dont ils disposent dans des contextes et des conditions variés et en se pliant à différentes contraintes afin de réaliser des activités langagières permettant de traiter des textes portant sur des thèmes à l'intérieur de domaines particuliers, en mobilisant les stratégies qui paraissent le mieux convenir à l'accomplissement des tâches à effectuer » (Conseil de l'Europe 2001 :15).

En 2001, le CECR met à la disposition de l'apprenant un outil de travail appelé "portfolio européen des langues" (PEL) qui va l'accompagner tout au long de son apprentissage. Le PEL est une application du Cadre Européen. Il appartient à l'apprenant et il développe l'autonomie dans l'apprentissage et favorise le plurilinguisme. Le PEL est composé de 3 parties: passeport des langues, biographie langagière et dossier.

Comme nous l'avons déjà cité dans les lignes précédentes, le CECRL définit une échelle à 6 niveaux (A 1, A2, B1, B2, C1, C2) avec 4 compétences de base qui sont déclinées sous formes de 5 actes: écouter, lire, prendre part à une conversation, s'exprimer oralement en continu et écrire. Ainsi nous constatons que le Cadre définit des niveaux de compétences mais n'impose pas une méthodologie particulière mais plaide pour une perspective actionnelle.

La part de la culture dans la perspective co-actionnelle.

Dans l'enseignement/apprentissage d'une langue étrangère, nous remarquons que la notion de culture est indissociable de la notion de langue. Selon Courtillon : « Apprendre une langue étrangère c'est apprendre une culture nouvelle, des modes de vivre, des attitudes, des façons de penser, une logique autre, nouvelle, différente, c'est entrer dans un monde mystérieux au début, comprendre les comportements individuels, augmenter son capital de connaissances et d'informations nouvelles, son propre niveau de compréhension» (Courtillon 1984 :52). De cette définition, il en sort que la langue contient en elle tous les éléments et les traces culturels d'un pays. Afin de mieux comprendre le mot « culture » voyons la définition faite par Porcher : « une culture est un ensemble de pratiques communes, de manière de voir, de penser et de faire qui contribuent à définir les appartenances des individus, c'est-à-dire les héritages partagés dont ceux-ci sont les produits et qui constituent une partie de leur identité » (Porcher 1995: 55).

Quant à Bourdieu, il divise la culture en deux : la culture cultivée c'est-à-dire la littérature, la musique, la peinture et la culture anthropologique c'est-à-dire toutes les façons de vivre et de se conduire (Cuq, Gruca 2005 : 83).

En prenant compte de toutes ces définitions concernant la culture, nous avons bien vu que la langue d'une nation reflète bien sa culture. C'est pourquoi elle occupe une place primordiale dans l'enseignement/apprentissage d'une langue étrangère.

Pour notre part, en nous basant sur ces définitions, nous allons essayer de voir de près la situation de « la culture » dans la perspective co-actionnelle lors de l'enseignement/apprentissage d'une langue étrangère. Mais au par avant, il est préférable d'étudier « la culture » dans le domaine de la didactique des langues.

Lorsque l'on observe l'histoire séculaire de la méthodologie, nous constatons qu'avec l'approche communicative, dans l'enseignement/apprentissage des langues le but était « la communication ». Voici la pensée de Puren sur ce point : « (…) apprendre une langue, c'est apprendre à se comporter de manière adéquate dans des situations de communication où l'apprenant aura quelque chance de se trouver en utilisant les codes de la langue cible » (Puren 1998:372). En prenant cette définition comme point de repère, nous pouvons dire que c'est l'approche communicative qui a devancé les travaux interculturels. Car pour cette approche la culture se rapporte à la vie quotidienne telle que les conduites et les règles sociales des gens. Ainsi, lors de l'enseignement/apprentissage des langues vous, en tant qu'enseignant, afin d'empêcher les malentendus et les blocages, vous devez prendre en considération les différences culturelles des différents systèmes linguistiques.

Arrivée au XXI ᵉᵐᵉ siècle, avec le CECRL, nous voyons la naissance d'une nouvelle méthode intitulée : « Perspective actionnelle ». Selon Puren, « la perspective actionnelle » doit être appelée « perspective co-actionnelle » car: « elle met en avant la dimension collective des actions et la finalité sociale des actions, (…) les progrès prévisibles de l'intégration économique dans l'Europe des années 2000 exige un objectif [plus] ambitieux, en l'occurrence la capacité, pour chaque citoyen européen, non seulement vivre mais aussi de travailler collectivement avec des étrangers tout autant dans le cadre de ses études que dans sa vie professionnelle. C'est pour cette raison que la didactique européenne qui va émerger dans les années 2000 devra sortir de l'approche communicative (…), en passant en particulier du concept d'interaction (qui est un parler avec et un agir sur l'autre) au concept de co-action (qui est agir avec les autres), et du concept d'interculturalité (désignant principalement les phénomènes de contact entre les cultures différentes chez l'individu) à celui de co-culturalité (désignant les phénomènes d'élaboration d'une culture commune par et pour l'action collective) » (Puren 2004 :11).

En ce qui nous concerne, en nous basant sur la définition de Puren, nous voulons employer dans notre communication l'appellation « perspective co-actionnelle » au lieu de « perspective actionnelle » pour marquer le concept d'interaction qui est « agir avec les autres ».

Quant au concept de culture dans la perspective co-actionnelle, elle est définie par Puren comme « co-culturalité » qui est une notion d'action de collectivité à travers les tâches « désignant les phénomènes d'élaboration d'une culture commune par et pour l'action collective ». Pour une meilleure compréhension, le mieux serait d'observer le tableau ci-dessous que nous propose Puren concernant « la perspective culturelle » à travers l'évolution de la méthodologie. Il dit: « (…) j'aboutis à la modélisation suivante de l'évolution historique des formes d'adéquation entre perspectives actionnelles et perspectives culturelles en didactique scolaire des langues-cultures » (Puren 2002 :60) :

méthodologie		1. méthodologie traditionnelle	2. méthodologie active	3. approche communicative	4. perspective co-actionnelle co-culturelle
objectif social de référence		compréhension des grands textes de la littérature étrangère	accès à tous documents culturels en langue étrangère	échanges ponctuels avec les étrangers	réalisation commune d'actions sociales
perspective actionnelle	*opération*	traduction	explication	interaction	co-action
	moyen	reproduire	parler sur	parler avec/agir sur	agir avec
perspective culturelle	*type*	universaliste	civilisationnelle	interculturelle	co-culturelle
	orientation	valeurs	connaissances	représentations	conceptions

Selon Puren, la perspective co-actionnelle et co-culturelle :« n'est pas seulement nécessaire pour mettre notre discipline en adéquation avec le nouvel objectif social de référence. Elle est indispensable pour au moins les quatre autres fortes raisons suivantes: (…) la motivation et la responsabilisation des élèves, (…) la réalisation d'action conjointe entre l'enseignant et l'apprenant, (…) l'enseignement/apprentissage de la langue pour et par l'action à dimension sociale et (…) aider les utilisateurs à réaliser un travail collectif par le biais de l'internet » (Puren 2002 : 65-70).

Toujours d'après Puren le préfixe « co » employé pour « co-actionnelle et co-culturelle » est utilisé pour attirer l'attention sur la notion « d'action sociale » du Cadre européen. Voici sa pensée concernant ce sujet : « (..) réintroduire clairement en didactique des langues-cultures la dimension collective qu'avait fait oublier dans l'AC le développement unilatéral des notions de « centration sur l'apprenant » et d' « autonomie ». L'objectif de l'enseignement/apprentissage scolaire des langues-cultures, en effet, n'est pas seulement la formation d'individus autonomes,

mais également celle de citoyens tout à la fois créatifs et responsables, actifs et solidaires » (Puren 2002 :71). Car pour lui l'individu vit en collectivité dans une société ou il en dépend.

Après avoir étudié les traits essentiels du CECRL et la culture à travers la perspective co-actionnelle, nous allons voir comment l'apprenant turc du FLE est influencé par la culture française.

2- **L'influence de la culture cible sur l'apprenant turc du FLE.**

La Turquie qui est un pays en voie de développement souhaite un jour entrer à l'Union européenne. En attendant ce jour, elle fournit des efforts pour répondre aux critères d'adhésion. Dans le domaine de l'enseignement/ apprentissage des langues étrangères, elle essaye d'appliquer les critères du CECRL à travers la perspective co-actionnelle mais n'y arrive comme on le souhaite. Car elle a un système éducatif différent des pays européens malgré les réformes réalisées en 1997 et une dernière fois l'année courante. C'est une société particulière qui mérite d'être observée de près.

Avant d'entrer dans le vif du sujet, il serait intéressant de se pencher sur la société turque car la Turquie est un pays qui reflète des différences incroyables dans tous les domaines tels que : la cuisine, style de vie, habillement etc. Cette mosaïque nous l'avons héritée grâce à la position géographique de notre pays car en tant qu'enseignant on verra que l'apprenant d'Istanbul n'est pas le même que celui de Van une ville à l'extrême est du pays et c'est pourquoi on sera obligé de suivre différentes stratégies d'apprentissage. Nous pouvons dire aussi que la Turquie est un pays de contradictions : par exemple, à l'ouest du pays vous avez des jeunes filles libres dans leurs mouvements tandis qu'à l'est c'est le contraire. Par conséquent, l'enseignant de FLE doit tenir compte de toutes ces différences lors de la réalisation de son cours de langue. Ainsi cette différence entre les apprenants de langue étrangère va influencer la perception de la culture cible car chacun aura sa propre façon de voir et de capter la culture de la langue étrangère. C'est pourquoi lors de l'enseignement/apprentissage du FLE, pour certains apprenants turcs qui vivent dans des grandes villes, par rapport à ceux des régions moins développées, même dès le début du cours, n'auront pas de difficultés à faire la rencontre de la culture cultivée et de la culture anthropologique. On peut même dire que la présence des particularités culturelles motivera les apprenants car parfois la culture devance la langue en question et attire l'attention du public même si toutes les nouvelles notions culturelles lui sont étrangères et qu'elles n'ont pas d'équivalent dans leur culture maternelle. Comme on le voit nous vivons un paradoxe. C'est-à-dire nous essayons d'enseigner le FLE à travers la perspective co-actionnelle mais nous faisons un transfert culturel par le biais de l'approche communicative. Puisque, comme le mentionne Puren, celle-ci soutient le concept d'interculturalité désignant principalement les phénomènes de contact entre les

cultures différentes chez les individus et non pas celui de co-culturalité désignant les phénomènes d'élaboration d'une culture commune par et pour l'action collective.

Conclusion

Finalement, depuis 1990, le but de l'enseignement/apprentissage d'une langue étrangère n'est plus "s'informer, informer" comme c'était le cas dans l'approche communicative mais "agir, interagir" comme l'indique Puren dans la perspective co-actionnelle. En particulier, de nos jours, les voyages et les échanges d'étudiants ont incité les individus à apprendre des langues étrangères et ont donné naissance au CECRL.

Nous avons bien vu que lors de l'enseignement/apprentissage d'une langue étrangère, la langue et la culture sont deux éléments inséparables.

En nous basant sur la variété culturelle et éducative entre les régions de la Turquie, nous constatons qu'il est difficile pour nous, enseignants turcs, d'enseigner la culture de la langue cible comme le souhaite la perspective co-actionnelle. C'est-à-dire d'obéir au concept de « co-culturalité (désignant les phénomènes d'élaboration d'une culture commune par et pour l'action collective) » comme nous l'indique Puren. Quant à nous en tant qu'enseignants turcs, comme les circonstances actuelles l'obligent, nous continuons à faire un transfert culturel par le biais de l'approche communicative qui défend le concept d'interculturalité des phénomènes de contact entre les cultures différentes chez l'individu.

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