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PREFACE

"International Conference on New Horizons in Education (INTE)" is an international educational activity for academics, teachers and researchers. INTE promotes development and dissemination of theoretical knowledge, conceptual research, and educational practices through conference activities, journals (TOJET, TOJNED and TOJDEL). Its focus is on creating, sharing, and disseminating scientific knowledge among academicians, school administrators and teachers in educational field. This conference is now a well-known educational event worldwide and the number of paper submissions and attendees are increasing every year.

The 6th International Conference on New Horizons in Education is being held between June 10-12, 2015 in Barcelona, Spain. This year INTE has received more than 800 abstract submissions. After a review process, araound 600 papers in various fields of education have been accepted for presentation in INTE 2015 Barcelona, Spain.

We would like to thank all participants who will present their academic works in INTE 2015, Barcelona and especially to our distinguished guests and keynote speakers for their collaboration and contribution for the success of the INTE-2015.

We wish you a successful conference and good time in Barcelona, Spain.

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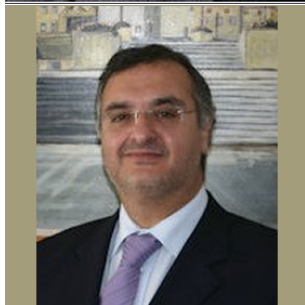
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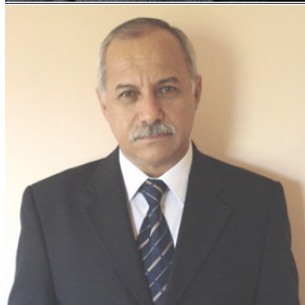
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FROM THE PERSPECTIVE OF PRESERVICE TEACHERS, THE ACCOMPLISHMENT LEVELS OF PRİMARY SCHOOL TEACHERS' EFFECTIVE TEACHER ATTITUDES IN SCIENCE LESSONS

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ABSTRACT

The aim of this study is to determine to what extent the Primary School Teachers can accomplish the effective teacher attitudes in science lessons. In this context, the observations of 83 primary school preservice teachers, who studied teaching practice course, have been used. In order to determine the accomplishment levels of primary school teachers' effective teacher attitudes in science lessons, the preservice teachers have been asked to observe the primary school teachers in the schools they attend for the practice lessons and the accomplishment levels of science education teacher'seffective teacher attitudes has been determined via an observation form including 25 questions in total. Descriptive- survey research has been used in the study and the data have been analyzed through frequency and percentage. When the findings of the study have been evaluated in terms of the preservice teachers' observations, it has been concluded that the teachers prepare the setting for the active participation of all the students in the lesson and they are tolerant for the mistakes the students make during the learning process. However, it has also been concluded that the teachers do not state the objectives of the lesson clearly and definitely, they do not take the interest levels of the students into consideration and they do not spare enough time for the students to think about the answers after they ask the questions.

Key Words: Primary School Teachers,science lesson, effective teacher attitudes

INTRODUCTION

The concept of effective teacher is defined in different ways by many researchers. Stronge (2002) defined "effective teachers as individuals who have professional preparation and qualifications, background, professional attitude, dedication and reflective practice, classroom management, planning, and teaching skills, and who monitor student progress, organize instruction" (p. 25).Tatar (2004) say that "An effective teacher is good at organization, uses time effectively, helps students to overcome their problems, gives more importance on reward, and his/her decisions are very appropriate." Similar to Tatar's (2004) definition, Murphy, Delli and Edwards's (2004) study revealed that "effective teachers are caring, patient, not boring, polite, and organized". Another definition Stronge (2004) made is that "effective teachers know their students and how to communicate with them, both individually and collectively"(As cited in Tilfarlioglu and Akil, 2012, p. 117).

We can conclude from definitions stated above that there is not a certain definition for "effective teacher" or "teacher's effectiveness". Scherer (2003) claims that "no one can produce a complete and definitive list of the characteristics of great classroom teaching"(As cited in Tilfarlioglu and Akil, 2012, p. 118). We can say that it is a combination of features like communication skills, classroom management, leadership, and so on... In this study, 4 dimensions of effective teacher attitudes have been handled and analyzed. These are communication, the efficiency of asking questions, the participation of students in the lesson and educational activities.

Attitudes for the Communication Dimension
Effective teachers, let their students feel themselves special and important. They respect their students as individuals and they are also concerned with their personal lives. Having positive relations with the teacher increases the students' bond with the teachers and it promotes their social and academic development. (Furer and Skinner, 2003).

Students want to trust their teachers. Thus, the effective teachers are defined as honest and trustworthy by their students. It is impossible to get a qualified education unless there is a communication which is based on the trust between the teacher and students. (Kucukahmet et al., 2002).

The emotional support students get from their teachers has a significant role on the development of their academic and social skills. Teachers provide emotional support by setting positive relations with their students. The positive relations which are formed at the early ages between the teacher and the students increase the students' success and minimize the unintended attitudes of students. Contrarily, the negative relations, which are formed at the early ages, between teacher and student block the academic success and give the students the ground for displaying unintended behaviors. (Silver et al, 2004). Then, we can say that the effective teachers are the ones who can develop positive relations with their students.

The Attitudes for the Efficiency of Asking Questions Dimension
The teachers ask questions in order to develop the students' understanding and to prepare them for the following learnings. Some researches show that it is one of the most effective strategies developing the student's success (William, 2007cited in Shroeder et al, 2010). The questions motivate thinking and thinking is a part of the learning. According to Stronge and others (2008) when compared with the effective teachers, the less effective teachers ask less cognitive questions. The students' own questions also develop their thinking skills. The effective teachers educate their students to make them ask good questions so as to develop their thinking and learning skills. (Cuccio-Schippirave Steiner, 2000) However, the researches demonstrate that the teachers have a tendency to suppress the class discussions. (Criag, 2005).

Sönmez (2003) states that the teachers should ask questions to the whole class and if the question is at the level of the students, s/he should count to five silently and if the number of students in the classroom is few (10 people) , each student should answer and if it is a lot, at least five different students should be allowed to answer the question. Besides, Sönmez emphasizes that teachers should bring the correctness of the answers up for discussion, should reinforce the ones who give the right answer, should keep the ones who give the wrong answers in their minds and that the right answer to the question should not be given by the teachers and the students must be allowed to find the answers through the clues. After asking the questions to the students, the teachers' waiting for some time is also related with the technique of asking questions. If the teacher waits for some time after asking the question and allows the students to think and answer the question and also gives functional feedback later on; then, effective results can be obtained. Allowing students to think after asking question not only increases the level of the answers, it also motivates them to ask questions, as well. (Walsh veSattes, 2005).

The Attitudes for the Participation of Students in the Lesson Dimension
Since the participation into the lesson is associated with academic success, it is important for the teachers to pave the way for learning so as to increase the participation of students. (Akey, 2006; Guthrie at al, 2004; Park, 2005). The activities in which students interact with their classmates increase students' participation. (Akey, 2006). The teacher's behaviors also affect the student's participation. Marzano (2007) indicates that the support of the teachers increases the student's interest, and as a result, it has an effect increasing the participation. Thus, the teachers, who want to increase the student's success, should do activities and practices which keep up the student's participation.

Associating learning with the real-life experiences is one of the most powerful teaching styles of teachers for providing the student's progress. (Wenglinsky, 2004). Such a teaching allows the students to relate their previous knowledge with what they have just learned. This relation helps them to make a connection between their real-life experiences and the concepts that might be confusing or abstract for them. It is also very helpful for the students to share their own experiences and to express themselves. (Marzano, 2007). This way, while the students are relating the lesson content with themselves, the teachers can be closely acquainted with their students.

The Attitudes for the Educational Activities Dimension
Teaching is a complicated task, so the teachers are to decide on how to teach the basic data and the skills that would be helpful for their students to gain new input and skills (Okut, 2009). Hubbard (2001) states that there are four important requirements to be fulfilled, the first of which is the qualified teaching. The second one is that the tools to be used during the teaching process must be at the level of the students. The third requirement is to motivate students to work on the tasks. And the last one is to give enough time to the students for learning the content of the presented program. The effective teachers plan, practice and evaluate teaching in a productive learning atmosphere (Kuran, 2007).

METHOD
The aim of this study is to determine to what extent the science teachers can accomplish the effective teacher attitudes in Science Lessons. This study will draw attention to the effective teacher attitudes expected to be hold by the teachers.

The working group of this study is consist of 83 Primary School Teachers, the data collection group includes 83 preservice teachers studying at Pamukkale University Education Faculty.

The method of the study is the "descriptive-survey research". Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather it addresses the "what" question (what are the characteristics of the population or situation being studied?) (Shields, Patricia and Rangarjan, 2013).

The observation form developed by Korkmaz (2009) for the Primary School Teachers and adapted for the science teachers by Bayraktar and Cınar (2010) has been used in this study.. In the observation form, there are degrees of frequency such as 'Never', 'Hardly Ever', 'Sometimes', 'Usually' and 'Always' so that the attitudes of teachers during the lesson could be graded. The reliability index of the scale has been found as 0.89.

The scale has been prepared in five point likert scale consisting of 25 items in total including 23 positive and 2 negative items. The scales have been distributed to the senior year students of Primary School Teacher department. In the context of "School Practice" lesson, 83 preservice teachers evaluated 83 Primary School Teachers through the observations they made during science lessons. The data have been assessed with statistical packaged software by using descriptive statistics (frequency-percentage).

FINDINGS

The observation findings of the senior year class preservice teachers on the Primary School Teachers have been assessed and have been presented by tabulation in terms of the extent of the questionnaire. In Table 1, the data regarding the communication dimension of the questionnaire are in terms of the frequency and percentage.

Table 1. Attitudes for the Communication Dimension

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
1. During their communication, the teachers call their students with their names	8 (9,6)	13 (15,7)	5 (6)	**13 (15,7)**	**44 (53)**
2. Teachers discourage their students (e.g. kidding, mocking, insulting)	**37 (44,6)**	**17 (20,5)**	3 (3,6)	9 (10,8)	17(20,5)
3. Teachers call their students with negative adjectives	**52 (62,7)**	**8 (9,6)**	10 (12)	5 (6)	8 (9,6)
5. Teachers listen to what their students say carefully	10 (12)	4 (4,9)	**53 (63,9)**	7 (8,4)	9 (10,8)
7. Teachers are tolerant for the mistakes students make during the learning process	8 (9,6)	7 (8,4)	26 (31,3)	**6 (7,2)**	**36 (43,4)**
9. Teachers prepare setting for students to gain leadership and communication skills	21 (25,3)	7 (8,4)	**32 (38,5)**	13 (15,7)	10 (12)
14. Teachers have high expectations from their students	15 (18,1)	2 (2,4)	27 (32,5)	**30 (36,1)**	**9 (10,8)**
15. Teachers have a tendency to see the positive sides of students in their studies and behaviors	**8 (9,6)**	**24 (28,9)**	21 (25,3)	15 (18,1)	15 (18,1)

According to most of the preservice teachers (%68.7); the teachers usually or always call their students with their names and most of the teachers hardly ever (% 20,5) or never (% 44,6) discourage their students. Besides, the observations of preservice teachers show that teachers hardly ever (% 9,6) or never (% 62,7) call their students with negative adjectives. Most of the preservice teachers (% 63,9) state that teachers sometimes listen to what their students say carefully

% 50,6 of preservice teachers have observed that teachers usually or always tolerate the mistakes students make. Most of the preservice teachers' observations (% 46.9) indicate that teachers usually or always have high expectations from their students. However, % 38,5 of preservice teachers' observations show that teachers sometimes prepare setting for students to gain leadership and communication skills. The observations of preservice teachers also indicate that the teachers hardly ever (% 28,9) have a tendency to see the positive sides of students in their studies and behaviors or they never (% 9,6) have a tendency to do so.

In Table 2, the data regarding the dimension of ensuring the participation of the students are in terms of the frequency and percentage.

Table 2.. The Attitudes for the Participation of Students in the Lesson

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
4. Teachers prepare the setting for the active participation of all the students in the classroom	12 (14,5)	5 (6)	18 (21,7)	**11 (13,3)**	**37 (44,6)**
6. Teachers enable their students to evaluate themselves on comprehending the lesson	25 (30,1)	8 (9,6)	**37 (44,6)**	6 (7,2)	7 (8,4)
8. Teachers make heterogeneous groups for the activities requiring collaboration in the classroom.	17 (20,5)	14 (16,9)	**41 (49,4)**	7 (8,4)	4 (4,9)
10. While motivating their students, teachers bring the prize into forefront	**19 (22,9)**	**24 (29)**	10 (12)	14 (16,9)	16 (19,3)
11. Teachers allow the groups to evaluate themselves in the group tasks	**19 (22,9)**	**23 (27,7)**	13 (15,7)	19 (22,9)	9 (10,8)
12. Teachers do not spare enough time for the students who have difficulty in understanding the lesson	**21 (25,3)**	**18 (21,7)**	19 (22,9)	12 (14,5)	13 (15,7)
13. Teachers give proper support for the students who have difficulty in understanding the lesson	7 (8,4)	14 (16,9)	17 (20,5)	25 (30,1)	**20 (24,1)**

Most of the preservice teachers (% 57.9) remark that teachers usually or always provide the setting for the active participation of all the students in the class. Some of the preservice teachers (% 44,6) say that teachers sometimes enable their students to evaluate themselves. % 39,7 of preservice teachers state that teachers either hardly ever or never give this opportunity. Similarly, there is not a satisfactory frequency for the self - assessment of the group.

According to the most of the preservice teachers (% 45.6), teachers hardly ever or never give a chance to the group for a self-assessment. The observations of most of the preservice teachers (% 49.4) show that teachers sometimes make heterogeneous groups for the occasions that require collaboration. According to most of the preservice teachers (% 51.9) teachers hardly ever bring the prize into forefront while motivating their students or they never apply it in their classes. The observations of most of the preservice teachers (% 47) indicate that teachers never or hardly ever spare enough time for the students who have difficulty in understanding the lesson. In the same way, most of the preservice teachers (%54.2) state that teachers usually or always give the necessary support for the students who have difficulty in understanding the lesson

In Table 3, the data regarding the dimension of educational activity are in terms of frequency and percentage.

Table 3. The Attitudes for the Dimension of the Educational Activities

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
16. Teachers state the objectives of the lesson clearly and definitely,	**42 (50,6)**	**7 (8,4)**	12 (14,5)	12 (14,5)	10 (12)
17. Teachers ask warm-up questions at the beginning of the lesson	8 (9,6)	5 (6)	22 (26,5)	**31 (37,3)**	**17 (20,5)**
18. During the lesson, teachers take the levels of students' interest into consideration	**35 (42,2)**	**17 (20,5)**	6 (7,2)	18 (21,7)	7 (8,4)
19. Teachers attract the students' attention by using different strategies.	10 (12)	16 (19,3)	**31 (37,3)**	17 (20,5)	9 (10,8)
20. Teachers associate warm-up activities with the content of the lesson.	13 (15,7)	12 (14,5)	14 (16,9)	**27 (32,5)**	**17 (20,5)**
25. Teachers consider the individual differences in the class.	15 (18,1)	8 (9,6)	17 (20,5)	**19 (22,9)**	**24 (28,9)**

As it is also possible to see in Table 3, the observations of most of the preservice teachers (% 59) indicate that teachers hardly ever or never state the objectives of the lesson clearly and definitely. According to most of the

preservice teachers' (% 57.8) observations, teachers usually or always ask warm-up questions at the beginning of the lesson. However, most of the preservice teachers say that (% 62,7) teachers hardly ever or never take the levels of students' interest into consideration. According to (% 37.3) of preservice teachers, teachers hardly ever use different strategies. The number of preservice teachers who state that teachers usually or always consider the individual differences is very high (% 51,8). Also most of the preservice teachers (% 53) conclude that warm-up activities are usually or always associated with the content of the lesson.

In Table 4, the data regarding the dimension of efficiency of asking questions are in terms of frequency and percentage.

Table 4. The Attitudes for the Dimension of the Efficiency of Asking Questions

	Never f (%)	Hardly Ever f (%)	Sometimes f (%)	Usually f (%)	Always f (%)
21.Teachers ask students open-ended questions	**7 (8,4)**	**32 (38,6)**	10 (12)	24 (28,9)	10 (12)
22. After asking the questions to the students, teachers spare enough time for students to think about the question	**19 (22,9)**	**25 (30)**	11 (13,3)	13 (15,7)	15 (18,1)
23. Teachers motivate students to give different answers to the questions they ask	**21 (25,3)**	**15 (18,1)**	21 (25,3)	10 (12)	16 (19,3)
24. Teachers clarify the answers they get from the students and re-explain them accurately and completely	5 (6)	24 (28,9)	3 (3,6)	**39 (47)**	**12 (14,5)**

It is clear in Table 4 that according to most of the preservice teachers' (% 47) observations, teachers never or hardly ever ask students open-ended questions. According to most of them (% 52,9), after asking the questions to the students, teachers hardly ever spare enough time for students to think about the question or they never do so. Most of the preservice teachers (% 33.4) state that teachers hardly ever or never motivate students to think about the different answers for the questions. Most of the preservice teachers have also observed that teachers usually or always clarify and explain the answers.

CONCLUSION
According to the findings of this study, the Primary School Teachers have been found to accomplish some of the efficient teacher attitudes, however, some attitudes' frequency is rather low. The data of this research represent the preservice teachers' observations and it is limited to the 83 preservice primary school teachers who took part in the study and the teachers they observed. When the findings of the study are evaluated in terms of the most of the preservice teachers' observation findings, it has been ascertained that teachers prepare the setting for the participation of students, they do not discourage the students and do not call their students with negative adjectives, they behave tolerantly to the mistakes the students make during the learning process and they provide the proper support for the students who have difficulty in comprehending the lesson. Besides, it has been concluded that the teachers ask warm-up questions at the beginning of the lesson, associate the warm-up activities with the content of the lesson and clarify the answers they get from the students and re-explain them accurately and completely. However, the study also shows that teachers do not state the objectives of the lesson clearly and definitely, do not care about the levels of students' interest, do not give chance to the group for self-assessment and do not spare enough time for the students who have difficulty in understanding the lesson. Another conclusion is that teachers do not ask open-ended questions, and do not give enough time or encourage the students to think and give different answers.

When the literature is reviewed, one can find the studies about the accomplishment levels of teachers' effective teacher attitudes. Arslan (2014) has concluded that from the preservice teachers' point of view, Turkish teachers are not efficient in enabling the students to evaluate themselves about comprehending the lesson, making heterogeneous groups for the tasks that require collaboration of students in the classroom, bringing the prize into forefront while motivating the students, providing the proper support for the students who have difficulty in comprehending the lesson. In Bayraktarand, Cınar's (2010) study, Science Teachers have not been found efficient in self-assessment, making group work, using prize for motivating students and providing the proper support for the students having difficulty in learning.

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ÖZET
Sakarya Üniversitesi Eğitim Fakültesi'nde öğrenim gören birinci ve dördüncü sınıf PDR ABD lisans öğrencileri ile gerçekleştirilen bu araştırma öğretmen adaylarının iletişim beceri düzeylerini ortaya koymayı amaçlamaktadır. Tarama modelinde gerçekleştirilen araştırmanın evrenini Sakarya Üniversitesi Eğitim Fakültesi PDR ABD lisans öğrencileri oluşturmaktadır. Araştırmanın örneklemi ise amaçlı örnekleme yöntemi ile belirlenmiş, PDR ABD lisans düzeyinde öğrenim gören 160 birinci ve dördüncü sınıf öğrencilerinden oluşmaktadır. Toplanan veriler SPSS 15.0'a aktarılmış ve ortalama, standart sapma, bağıl değişim katsayısı, t-testi ve tek yönlü varyans analizi istatistiksel işlemleri yapılmıştır. Analiz sonuçlarına göre, öğretmen adaylarının iletişim beceri düzeylerinin oldukça düşük olduğu, 2. Öğretim öğrencilerinin 1.öğretim öğrencilerine göre iletişim beceri düzeylerinin yüksek olduğu belirlenmiştir. Öğretmen adaylarının cinsiyetleri, öğrenim gördüğü sınıflar ve üniversiteye gelinceye kadar yaşadıkları yerler ile iletişim beceri düzeyleri arasında anlamlı bir ilişkinin bulunmadığı belirlenmiştir.

Anahtar Kelimeler: iletişim, iletişim becerileri, psikolojik danışmanlık, rehberlik

GİRİŞ

İnsanların toplumda var olan kuralları öğrenmesi, değer ve inançları benimsemesi, kurallara uygun olarak kendisine verilen rolleri oynaması, yani toplumsallaşması, ancak iletişimle mümkün olabilmektedir. İnsanlar başkalarıyla bir arada olabilmek, onları anlayabilmek, kendilerini anlatabilmek ve etkileyebilmek yani; toplumsallaşabilmek için iletişim kurarlar. İletişim insanların çeşitli yollarla birbirleri ile anlaşabilmelerine ve karşılıklı olarak bilgi aktarımında bulunabilmelerine olanak sağlayan bir süreçtir. Bir başka ifadeyle iletişim, bireylerin kendini ifade edebilme ve kendilerini dinletme gereksinimleri sonucu ortaya çıkmaktadır (Gürgen, 1997). İnsan, yaşamının her döneminde başkalarıyla ilişki kurmak zorundadır. Bu ilişkilerinde başarılı olabilmesi ise kendisini ve başkalarını anlayabilmesine ve kabul etmesine bağlıdır (Yüksel, 2004).

Sosyal bir varlık olan insan için iletişim vazgeçilmez unsurlardan biridir ve insan çevresi ile iletişim kurarak yaşar. İnsanın her davranışı, konuşması, susması, duruşu ve oturma biçimi, kendini ifade etme biçimidir. İletişim, bilgi üretme, iletme ve algılama sürecidir. İletişim kurmakta asıl amaç, anlaşılabilir mesajların gönderilmesi ve karşı tarafın tutum ve davranışlarında değişiklik yapmaktır (Tutar, Yılmaz ve Erdönmez, 2003).

İletişim temelinde kendini anlatabilme ve karşıdakini anlayabilme isteği bulunmaktadır. Baltaş'a göre (1994) duygu, düşünce ve bilgilerin akla gelebilecek her türlü yolla başkalarına anlatılmasına "iletişim" denir. İletişim temel anlamda bilgi, duygu ve düşüncelerin paylaşılması olmakla birlikte, aynı zamanda kişi ya da grupların davranış ve tutumlarını etkilemeye yönelik bir eylemdir (Gürüz, Eğinli, 2011).

Fransızca'dan gelen "communication" sözcüğü Latince'deki "communication" sözcüğünün karşılığıdır. Bunun kökenindeki "com munis" kavramı birçok kişiye ya da nesneye ait olan ve ortaklaşa yapılan anlamlarını taşımaktadır (Zıllıoğlu, 1993). Taşıdığı "ortaklaşa yapılan" anlamından toplumsal yaşama yönelik çıkarımlarda bulunulabilir. Birçok şeyi paylaşmayı gerektiren toplumsal yaşam içinde yalnızca tek yönlü bir aktarım olmadığı çok yönlü bir yapıya sahip olduğu söylenebilir.

Toplum içinde yaşayan insanın, kendisini ve çevresini daha iyi tanımasına ve başkaları ile uyumlu ilişkiler kurabilmesine yardım eden bir becerisi vardır. Bu beceri, insanın iletişim gücü olarak nitelendirilmektedir (Demiray, 2008). Var olan iletişim gücünü doğru şekilde kullanabilen insanlar toplumsal yaşamlarında sağlıklı iletişim kurabilirler. İletişim sürecinde başkalarını anlamada onların duygu ve düşüncelerini onlarla özdeşleşerek onlarla görme duyarlılığı kazanmaya iletişim becerisi denmektedir (Demiray,2007). İletişim becerilerini geliştirebilen insanlar hem kendilerini anlama ve anlatma hem de diğer insanları anlamada zorluk çekmezler. Tanımlardan da anlaşılacağı üzere, etkin iletişim becerisine sahip olan bir anne-baba çocuklarıyla, öğretmen öğrencisiyle, gazete yazarları okurlarıyla, siyasetçi seçmeniyle, esnaf müşterisiyle oldukça rahat anlaşabilmektedir.

Etkili iletişim hedef kitleye iletilmek istenen mesaja beklenen tepkiyi uyandırmayı amaçlayan bilinçli bir iletişim etkinliğidir (Demiray, 2007). Etkili iletişim kurabilmenin gerekleri olarak seçilen sözcükler, beden duruşu, jest ve mimikler, empati kurabilme ve etkin dinleme sayılabilir. Bu unsurların yerinde ve zamanında kullanımı iletişimin verimliliğini artırıcı etkiye sahiptir. İletişim sağlıklı gerçekleşmediği durumlarda insanlar kendilerini yalnız, dışlanmış ya da mesleki yaşamlarında başarısız bulabilirler. Bireyler arası beceriler öğrenilmezse, ilişki için başlıca unsurlardan olan üretkenlik ve memnuniyet kaybedilir. İletişim çağı olarak nitelenen çağımızda insanların iletişim kurmaları, doyurucu kişiler arası ilişkiler gerçekleştirmeleri zorlaşmaktadır. Bu durumda insan ilişkileri, gerek kişisel, gerekse toplumsal düzeyde insanlığın geleceğini tehdit eden bir sorun olarak karşımıza çıkabilmektedir (Doğan, 1990). Sosyal medyanın etkin bir iletişim aracı olarak kullanıldığı günümüzde, iletişim becerilerindeki yetersizlikler yüzünden çok çeşitli sorunlar yaşanmaktadır. Yapılan paylaşımlara gösterilen yorumlar iletişimin çok yönlülüğüne fayda sağlarken, yorumlarda kişilik haklarına veya genel ahlaka yönelik paylaşım veya yorumlar iletişimin boyutunu değiştirmektedir.

Ülkemizde iletişim beceri düzeylerini belirlemeye yönelik araştırmalar oldukça kısıtlıdır. Bu araştırmaların bir bölümü yalnızca iletişim becerileri eğitiminin etkilerini araştırmaya yöneliktir. Korkut(2005: 143-149) yetişkinler için hazırlanmış bir iletişim becerileri eğitimi programının, yetişkinlerin, sahip oldukları iletişim becerilerini değerlendirme düzeylerini arttırdığını ortaya koymuştur. Yüksel, Şahin (1997), deneysel bir çalışmasında on iki oturumdan oluşan iletişim becerileri eğitimini alan ve almayan üniversite öğrencilerinin iletişim becerilerindeki değişmeyi araştırmıştır. Çalışmada, iletişim becerileri eğitimi programına katılan öğrencilerin iletişim becerilerinin, kontrol grubuna kıyasla arttığı ortaya konmuştur. Başka bir araştırmada Demirci (2002), Ankara Mesleki Eğitim Merkezi'ne devam eden genç işçilere İletişim Becerilerini Değerlendirme Ölçeği uygulamış, eşit puanlara sahip kontrol ve deney grupları oluşturmuş, deney grubuna beş oturumluk bir iletişim becerileri eğitimi vermiş, kontrol grubuna herhangi bir uygulama vermemiş ve eğitim sonrasında her iki grubun iletişim becerilerini nasıl değerlendirdiğine tekrar bakmıştır. Eğitim programına katılan genç işçilerin sahip oldukları iletişim becerilerini, kontrol grubuna kıyasla daha olumlu şekilde değerlendirdikleri görülmüştür. İletişim becerileri eğitiminin, iletişim çatışmalarına girme eğiliminde düşüşler sağlayıp, olumlu sonuçlar verdiğini ortaya koyan (Işık, 1993; Özgit, 1991) araştırmalar da bulunmaktadır. Bu araştırmalarda iletişim becerileri konusunda verilen eğitimlerin iletişim becerilerini arttırdığı gözlenmektedir. Buradan iletişim becerilerinin öğrenilebilir ve geliştirilebilir beceriler olduğu sonucu çıkmaktadır (Gölönü, Karcı, 2010).

Bulut (2004: 443-454), sınıf öğretmenleriyle yaptığı bir çalışmada, iletişim becerisinin "Etkililik" ve "Yeterlilik" alt boyutlarında kadın öğretmenlerin, erkek öğretmenlerden daha yüksek bir ortalama tutturduklarını ortaya koymuştur. Ceyhan (2006), üniversite öğrencileri üzerine yaptığı bir çalışmada algılanan iletişim becerisi düzeyine bağlı olarak uyum derecesinin değişip değişmediğini araştırmıştır. Çalışmada iletişim becerisi düzeyini yüksek olarak algılayan öğrencilerin, kişisel, sosyal ve genel uyum ölçümlerinin her üçünden de anlamlı olarak daha yüksek puanlar aldıkları görülmüştür. (Gölönü, Karcı, 2010).

Problem Cümlesi

Sakarya Üniversitesi Eğitim Fakültesi Psikolojik Danışmanlık ve Rehberlik ABD lisans öğrencilerinin iletişim beceri düzeyleri arasında fark var mıdır?

Alt Problemler

1. Sakarya Üniversitesi Eğitim Fakültesi PDR ABD lisans öğrencilerinin **g**enel iletişim beceri düzeyleri nedir?
2. Sakarya Üniversitesi Eğitim Fakültesi PDR ABD lisans öğrencilerinin iletişim beceri düzeyleri arasında:
   a. Birinci sınıf ve dördüncü sınıflara göre fark var mıdır?
   b. Cinsiyete göre fark var mıdır?
   c. Öğretim türüne göre fark var mıdır?
   d. Lise yaşantısını geçirdiği yerleşim yerine göre fark var mıdır?

Araştırmanın Önemi

Psikolojik danışmanlık**, b**ireyin karar verme problem çözme ihtiyaçlarını karşılayarak gelişim ve uyumunu sürdürmesini yardımcı olmak amacıyla bireyle yüz yüze kurulan psikolojik yardım ilişkisidir (Gibson ve Mitchell, 1990). Rehberlik ise bireye kendini anlaması, çevrede ki olanakları tanıması ve doğru kararlar vererek özünü gerçekleştirebilmesi için yapılan sistematik ve profesyonel yardım sürecidir. (Kuzgun,1992)

Rehber öğretmenler meslek hayatlarında öğrencilerin yanı sıra diğer öğretmenler, veliler ve okul yöneticileri ile iletişim açısından oldukça aktif konumdadır. Hem kendi ilişkilerini hem de bu gruplar arasındaki ilişkiyi sağlıklı yürütebilmek için birçok iletişim becerisini etkili bir şekilde kullanabilmelidir. Öğrencilerin iletişim becerilerinin belirlenmesi ihtiyaç duyanların iletişim becerilerini geliştirmeye yönelik önerilerde bulunulması açısından bu araştırma önem taşımaktadır.

Sayıltılar ve Sınırlılıklar

Öğrencilerin iletişim beceri düzeylerini belirlemek için kullanılan ''İletişim Becerileri Envanteri'' kapsamındaki ifadelerine içtenlikle cevap verdiği varsayılmaktadır.

Bu çalışma, Sakarya Üniversitesi Eğitim Fakültesi'nde öğretim gören PDR ABD lisans öğrencileri ile sınırlıdır.

YÖNTEM

Araştırmanın Modeli, Evreni ve Örneklemi

Araştırma tarama modeli türlerinden genel tarama modelinde gerçekleştirilmiştir. Genel tarama modelleri, çok sayıda elemandan oluşan bir evrende, evren hakkında genel bir yargıya varmak amacıyla, evrenin tümü ya da ondan alınacak bir grup, örnek ya da örneklem üzerinde yapılan tarama düzenlemeleridir (Karasar,2006).

Araştırmanın evrenini Sakarya Üniversitesi Eğitim Fakültesi'nde öğretim gören 560 PDR ABD lisans öğrencisi oluşturmaktadır. Örneklem ise, olasılık dışı örnekleme yöntemlerinden amaçlı örneklemi kullanılarak belirlenmiştir. Bazen araştırmacı işine en çok yarayacak bilgileri elde edebilmek için, bilgi kaynağı olacak kişileri doğrudan belirleyebilir (Kaptan,1995). Bu şekilde araştırmacı tarafından doğrudan belirlenen örnekleme yöntemine amaçlı örnekleme denir.

PDR ABD lisans birinci sınıf 1.öğretim 40, 2.öğretim 40; dördüncü sınıf 1.öğretim 40, 2.öğretim 40 olmak üzere örneklem 160 öğrenciden oluşmaktadır. Örneklemin evreni temsil etme oranı %28.5 'tir.

Veri Toplama Araçları

Veri toplama aracı olarak, kişisel bilgi formu ve Ersanlı ve Balcı (1998) tarafından son şekli verilen 'İletişim Becerileri Envanteri' kullanılmıştır. Kişisel bilgi formu, araştırmacılar tarafından hazırlanmıştır.

Kişisel bilgi formunda aşağıda verilen değişkenlere ait sorular yer almıştır.
- Sınıf
- Öğrenim türü
- Yaş
- Cinsiyet
- Yerleşim yeri

Bu çalışmada kullanılan, İletişim Becerileri Envanteri ilk olarak Balcı (1996) tarafından geliştirilmiş ve kullanılmıştır. Gerekli geçerlik ve güvenirlik çalışmaları yapılan envanterin bu ilk sürümünün madde sayısı 70'tir. Envanter daha sonra tekrar, 500 üniversite öğrencisinden oluşan bir örnekleme uygulanmış, yapılan faktör analizi sonucunda madde sayısı 45'e indirilmiştir (Ersanlı ve Balcı, 1998). Ersanlı ve Balcı (1998), tarafından son hali verilen envanter, likert tipi 45 sorudan oluşmaktadır. Envanter zihinsel, duygusal ve davranışsal açıdan

iletişim becerilerini ölçmektedir. Maddeler, "Her Zaman", "Genellikle", "Bazen", "Nadiren", "Hiçbir Zaman" olarak yanıtlanmaktadır. Her zaman 5, Hiçbir zaman 1,şeklinde puanlanmaktadır.

Her bir boyutu ölçen 15 madde vardır. Her boyuta giren maddeler aşağıda görülmektedir:
Zihinsel: 1,3,6,12,15,17,18,20,24,28,30,33,37,43,45
Duygusal: 5,9,11,26,27,29,31,34,35,36,38,39,40,42,44
Davranışsal: 2,4,7,8,10,13,14,16,19,21,22,23,25,32,41

Envanterin genelinden alınabilecek en yüksek puan 225, en düşük puan ise 45'tir. Her bir alt ölçekten alınabilecek en yüksek puan 75, en düşük puan ise 15'dir. Bireyin hangi alt ölçekteki puanı yüksek ise, iletişim becerisi açısından o alt boyutta daha iyi olduğu söylenebilir. Ölçeğin tamamı için ise, puanların yüksekliği o bireyin iletişim beceri düzeyinin yüksek olduğunu göstermektedir.

Veri Toplama ve Verilerin Analizi
Araştırmacılar tarafından envanter çoğaltılarak, gerekli izinler alındıktan sonra ders programına uygun olarak PDR ABD lisans birinci ve dördüncü sınıfların derslerine girilmiştir. Toplu şekilde bulunan sınıflarda cinsiyet dağılımı eşit olacak şekilde envanterler dağıtılmıştır. Doldurmaları beklenmiş ardından envanterler toplanmıştır.

Verilerin analizi bilgisayar ortamında SPSS 15.0 yazılım programına aktarılmıştır. Betimsel istatistik işlemleri (ortalama, standart sapma, bağıl değişim katsayısı) yapıldıktan sonra tek bir bağımsız değişkene ilişkin iki grubun bağımlı bir değişkene ait ortalamalarına bağımsız gruplar için ''T-Testi'' kullanılarak bakılmıştır. İkiden fazla grupların ortalamalarını karşılaştırmak için tek yönlü varyans analizi (One-Way ANOVA) gerçekleştirilmiştir.

BULGULAR VE YORUMLAR
İletişim Becerileri Envanterinin uygulandığı 160 PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin lise yaşantısını geçirdikleri yerleşim yeri nüfusuna göre dağılımları: 0-2bin arası nüfusa sahip yerleşim yerini işaretleyen 15 kişi, 2bin-20bin arası nüfusa sahip yerleşim yerini işaretleyen 43 kişi, 20bin ve üstü nüfusa sahip yerleşim yerini işaretleyen 102 kişidir.
Araştırmanın bu bölümünde incelenen değişkenler ile ilgili olarak toplanan verilerin istatistiksel analizi yapılarak bu analizler sonucunda elde edilen bulgular yer almaktadır. Sakarya Üniversitesi Eğitim Fakültesi PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin iletişim becerileri düzeyleri arasındaki fark incelenmiştir ve tablolarda bunlar gösterilmektedir.

1. Alt probleme ait bulgular
Tablo 1: *PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin genel iletişim beceri düzeyleri*

	N	$\overline{X}$	ss	V%
Toplam	160	107,2375	19,96805	18.620

Birinci ve dördüncü sınıfta bulunan öğretmen adaylarının iletişim beceri düzeylerine ilişkin ortalamaları Tablo 1'de verilmiştir. 160 öğretmen adayından elde edilen verilere göre gerçekleştirilen betimsel istatistiklerin sonuçlarında, ortalama ($\overline{X}$) "107,2375", standart sapma (ss) "19,96805" ve bağıl değişim katsayısı (V%) "18,620" olarak elde edilmiştir. Bu verilere göre öğretmen adaylarının oldukça düşük bir iletişim becerisine sahip olduğu ifade edilebilir. Bağıl değişim katsayısının "% 25"den küçük olmasından dolayı da öğretmen adaylarının bu ortalamadan çok fazla dağılım göstermediği belirlenmiştir.

2. Alt probleme ait bulgular
Tablo 2: *PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin iletişim beceri düzeylerinin cinsiyete, öğretim türüne ve sınıflara göre karşılaştırılması*

		N	$\overline{X}$	ss	V%	t	P
Cinsiyet	Kız	80	104,7250	20,02023	19,117	1,599	0,112
	Erkek	80	109,7500	19,72052	17,968		
Öğretim Türü	1.öğretim	80	104,1000	18,47379	17,00	2,006	0,047
	2.öğretim	80	110,3750	21,00655	19,032		
Sınıf	1	80	105,9375	20,01350	18,892	0,823	0,412
	4	80	108,5375	19,96322	18,393		

Tablo 2'de PDR ABD lisans öğrencilerinin cinsiyetlerine, sınıflarına, öğrenim türüne göre t testi sonuçları verilmiştir. Tabloda görüldüğü üzere öğrencilerin cinsiyetleri (t=1,599 ve p=0,112) ve sınıfları (t=0,823 ve p=0,412) ile iletişim beceri düzeyleri arasında "p<0,05" düzeyinde anlamlı bir farkın bulunmadığı belirlenmiştir.

PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin iletişim beceri düzeylerinin öğretim türüne göre anlamlı bir farkın bulunduğu belirlenmiştir (t=2,006 , p<0,047).

Tablo 2'deki analiz sonuçlarındaki ortalamalar incelendiğinde 2.öğretim öğrencilerinin iletişim beceri düzeylerinin ($\overline{X}$ =110,37) 1.öğretim öğrencilerinin iletişim becerileri düzeylerinden ($\overline{X}$ =104,10) daha yüksek olduğu görülmektedir. Bu durumda 2.öğretim öğrencilerinin iletişim becerileri düzeylerinin 1.öğretim öğrencilerin iletişim becerileri düzeylerinden daha yüksek olduğu söylenebilir.

Tablo 3: *PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin iletişim beceri düzeylerinin lise yaşantısını geçirdikleri yerleşim yeri nüfusuna göre karşılaştırılması*

	Varyansın kaynağı	Kareler toplamı	Sd	Kareler ort.	F	p
Genel toplam	Gruplar arası	1091,873	2	545,936		
	Grup içi	62305,102	157	396,848	1,376	0,256
	Toplam	63396,975	159	942,784		

PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin iletişim beceri düzeylerinin lise yaşantılarını geçirdikleri yerleşim yeri nüfusuna göre anlamlı bir fark olmadığı görülmektedir (f=1,376 , p>0,05). Diğer bir ifade ile öğrencilerinin iletişim beceri düzeyi lise yaşantılarını geçirdikleri yerleşim yeri nüfusuna göre değişmemektedir.

TARTIŞMA
Bu araştırmada PDR ABD lisans öğrencilerinin iletişim beceri düzeylerinin oldukça düşük olduğu belirlenmiştir. Bu bulgu Yeşilyaprak'ın (1986) öğrencilerin iletişim sorunlarıyla ilgili yaptığı araştırmada elde ettiği lise ve üniversite öğrencilerinin iletişim yeterlikleriyle ilgili ciddi sorunların olduğu bulgusuyla paralellik göstermektedir.

Araştırmada, cinsiyete göre PDR ABD lisans öğrencilerinin iletişim becerileri arasında anlamlı fark görülmemiştir (p>0.05). Bu durum kız veya erkek olmanın iletişim becerisi ile ilişkisinin olmadığını dolayısıyla iletişimin başka değişkenlerle ilişkili olabileceğini düşündürmektedir. Cinsiyete göre Eğitim Fakültesi öğrencileri arasında anlamlı farkın olmaması normal durum olarak görülebilir(Dilekmen, Başçı, Bektaş, 2008). Çünkü, iletişim becerisi bayan-erkek ayrımı yapılmaksızın bütün öğretmenler için geçerlidir.

Sınıf düzeyleri ile iletişim beceri düzeyleri arasında anlamlı bir farkın olmadığı Dilekmen ve diğerlerinin(2008) Eğitim Fakültesi öğrencileri üzerinde yaptığı araştırmada ortaya konmuştur. Dört yıllık lisans eğitimi sonrasında dördüncü sınıf lisans öğrencilerinin birinci sınıf öğrencilerine göre daha yüksek iletişim becerisine sahip olması beklenirken, bu araştırmada PDR ABD lisans birinci ve dördüncü sınıf öğrencilerinin iletişim becerileri arasında anlamlı fark görülmemiştir. Bu bulgu PDR ABD lisans müfredatının iletişim becerileri açısından yeniden gözden geçirilebileceğini göstermektedir.

Araştırmaya katılan PDR ABD lisans öğrencilerinin bir bölümü 1.öğretim ve 2.öğretim öğrencilerinden oluşmaktadır. Araştırma sonucunda PDR ABD lisans öğrencilerinin iletişim beceri düzeyleri ile öğrenim türü arasında anlamlı bir farkın olduğu görülmüştür. Elde edilen bu bulgu Özerbaş, Bulut, Usta'nın (2007) öğretmen adayları üzerinde yaptığı araştırmayla paralellik göstermektedir. Bu sonuç doğrultusunda 2.öğretim öğrencilerinin iletişim beceri düzeylerini artırıcı sosyal ilişkilere daha çok zaman ayırabildikleri söylenebilir.

Araştırmanın örnekleminin %64'ünü oluşturan lise yaşantısını geçirdiği yerleşim türünün 20bin üstü nüfusa sahip lisans öğrencilerinin daha az nüfusa sahip yerleşim yerinden gelen lisans öğrencileriyle iletişim düzeylerinin benzer olduğu sonucuna ulaşılmıştır. Elde edilen bu sonuca göre yerleşim yeri nüfusunun iletişim becerisine anlamlı bir etkisinin olmadığı söylenebilir. Normal şartlarda yerleşim yeri nüfusunun fazla olmasının iletişim becerilerini olumlu yönde etkilemesi beklenir. Fakat günümüz teknolojisinin insanı sosyal ortamlardan uzaklaştırıp insan etkileşimlerini azaltması nüfusun etkisini ortadan kaldırmaktadır.

SONUÇ VE ÖNERİLER
Sakarya Üniversitesi Eğitim Fakültesi PDR ABD lisans düzeyinde öğrenim gören birinci ve dördüncü sınıf öğrencilerinin iletişim becerilerini belirlemeye yönelik olarak gerçekleştirilen bu araştırmada aşağıdaki sonuçlara ulaşılmıştır:

1. PDR ABD lisans öğrencilerinin oldukça düşük düzeyde iletişim becerisine sahiptir.
2. PDR ABD lisans öğrencilerinin cinsiyetleri ile iletişim beceri düzeyleri arasında anlamlı bir fark yoktur.

3. PDR ABD lisans öğrencilerinin sınıf düzeyleri ile iletişim becerileri arasında da anlamlı bir fark yoktur.
4. PDR ABD lisans öğrencilerinin öğretim türleri ile iletişim beceri düzeyleri arasında anlamlı bir fark vardır. 2.öğretim öğrencilerinin 1.öğretim öğrencilerine göre daha yüksek iletişim becerilerine sahip oldukları sonucuna varılmıştır.
5. PDR ABD lisans öğrencilerinin lise yaşantılarını geçirdikleri yerleşim yeri nüfusu ile iletişim beceri düzeyleri arasında anlamlı bir fark yoktur.

Yapılan bu araştırmada PDR ABD lisans öğrencilerinin iletişim beceri düzeyleri yalnızca cinsiyet, birinci ve ikinci öğretim, sınıf düzeyleri ve yerleşim yerleri değişkenlerine göre incelenmiştir. Ancak iletişim düzeyi becerilerinin bu değişkenlerden farklı değişkenler açısından incelenmesi de gerekmektedir. Böylece ülkemizde, PDR ABD lisans öğrencilerinin iletişim beceri düzeylerinin başka hangi değişkenlere bağlı olarak farklılaştığı daha fazla netlik kazanacaktır. Bu da iletişim beceri düzeyleri alanında yapılacak eğitim çalışmalarının etkililiğini artıracaktır.

Bu çalışmanın benzeri başka bir üniversitenin Eğitim Fakültesi Eğitim Bilimleri Bölümü PDR ABD lisans öğrencileri ile gerçekleştirilebilir. Böylece eğitim fakültelerinin PDR ABD lisans öğrencilerinin iletişim beceri düzeylerini ne derece artırdığı test edilebilir.

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OPINIONS OF TEACHER CANDIDATES ON THE GENDER OF MATHEMATICS TEACHERS

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ABSTRACT

The objective of this study is to determine how the students of the education faculty perceive the gender of mathematics teachers. The survey prepared for this purpose was applied to 1185 teacher candidates who were enrolled in the department in 2009 and 536 in 2014. It was observed according to the acquired results that 77 % of the participants in 2009 and 74 % of the participants in 2014 replied as "Male" to the question, "what is the gender that first comes to your mind when you think of a mathematics teacher". It was determined from the statistics of the Ministry of Education in 2012 that 51 % of all the secondary school mathematics teachers in Turkey and 52 % of all the high school mathematics teachers in Turkey are male. It was observed that the percentages of the genders of the teacher candidates who participated in the study both in 2009 and in 2014 are similar to the percentages of the Ministry of Education. In the study carried out to question the reasons for the perceptions of teacher candidates regarding the gender of mathematics teachers, replies given to the questions about their genders, their education programs, class levels, what they wish the genders of their mathematics teachers should be, do they think that makes are more successful in mathematics? were subject to binary comparisons.

Keywords: Mathematics teacher, gender, gender differences

INTRODUCTION

The thought that there are differences between genders has enabled researchers to use gender as a significant variable in many studies. There are also many studies carried out for this purpose regarding the mathematics courses as well. Research assumptions are generally inclined to put forth that males are more successful in the fields of science and mathematics. Many studies carried out during the 80s and 90s have verified these assumptions and it was observed that male students were more successful in science and mathematics courses in comparison with female students. (Becker, 1989; Erickson&Erickson, 1984; Greenfield, 1996; Johnson, 1987; Johnson & Murphy, 1984). Many famous scientists who have carried out studies in the fields of science and mathematics are male. The fact that the first gender that comes to mind when we say science is male has resulted in the saying "man of science".

When the factors that lead to males being more successful in the fields of mathematics and science are considered, it was observed that males are more active and competitive in comparison with females whereas females are calmer and more inclined to work together with their peers. Family is an important component of society. The attitudes of parents on their children play an important role in the success of the children. Whereas parents of boys give more importance to their children learning mathematics, parents of girls emphasize that their children should study more than boys in order to be successful in mathematics. Such expectations of parents have significant effects on the success of their children (Campbell&Clewell, 1999; Levi, 2000). According to Eccles et.al. (1993), girls and boys have the same level of interest towards mathematics activities but boys have a greater confidence in mathematics in comparison with girls.

Another factor that enables male students to be more successful in mathematics in comparison with female students is traditional education methods. Traditional education methods have negative impacts on both girls and boys (Gurian, 2006, 2011). Geist and King (2008) have stated that girls are more inclined to learn together with their close friends, whereas boys tend to strive to achieve the highest grade in a competitive environment. It can be observed that female students will be at a disadvantageous position in an education program that relies on traditional teaching methods.

Fennema et.al. (1998) stated in their studies that boys and girls have different problem solving strategies. They have out forth that whereas girls are more inclined to modeling and counting strategies while solving problems, boys tend to use strategies of abstraction more. The fact that the mathematics activities carried out emphasize learning via abstraction is a factor that leads to male students being more successful.

Gender discrimination by teachers in the class is another factor that affects success in mathematics. The use of words typical to boys, giving more priority to boys in answering questions, asking male students to respond when no one volunteers to answer a question asked in class or using expressions that emphasize gender roles when addressing the students are factors that cause gender differences to emerge (Gavin and Reis, 2003;Wimer et.al.,2001). The differences in social structure might also determine the differences of success in mathematics according to gender. Whereas modern education environments provide greater opportunities for female students to be successful, the differences in the success of boys and girls can be eliminated.

Whereas many studies carried out at the international level put forth that there are statistically significant differences between the behavior and success of female and male students (Eccles, Adler &Meece, 1984; Parker&Claxton, 1996), studies carried out during the 2000s shows that this difference is rapidly decreasing and that it has even started to shift in favor of female students.

Even though Dinc, Song and Richardson (2006) think that males in American culture have a greater mathematical performance in comparison with females; their studies carried out in two different states have put forth that there is no difference between the mathematical performance of genders and that there is a difference in favor of females regarding success grade averages. These results indicate that the changes that take place over time creates an environment that enables girls to become successful in mathematics course which decreases the general thought in the society that males are more successful in mathematics in comparison with females.

These differences in thoughts all over the world also affect Turkey as well. Turkey has a conservative society in general and the occupation that is thought to suit girls the most is teaching. When the fields of teaching are considered, it is generally thought that pre-school and primary school teaching are more suited to females, whereas teaching in the scientific disciplines is more suited to males.

The objective of this study was to put forth the opinions of teacher candidates regarding the genders of mathematics teachers. The problem of this study was determined as below:

Problem: What are the opinions of teacher candidates regarding the gender of mathematics teachers?

METHOD
This is a descriptive study carried out to determine an already existing condition. Survey method was used in this study to determine the opinions of teacher candidates regarding the gender of mathematics teachers.

Target Population: The Faculty of Education at the Muğla Sıtkı Koçman University where 3000 teacher candidates were educated in 9 different programs in 2009 and 3100 teacher candidates were educated in 2014.

Sample: The participants of this study are 1185 teacher candidates who were enrolled in 9 programs at the Muğla Sıtkı Koçman University Faculty of Education during 2009 academic year and 536 teacher candidates enrolled in the same faculty during 2014 academic year. The number of participants according to the programs are given in Table 1.

Table 1: Distribution of Teacher Candidates According to Their Program

PROGRAMS	2009		2014	
	f	%	f	%
SOCIAL SCIENCES	65	5,5	44	8,2
SCIENCE	140	11,8	53	9,9
CLASS	330	27,8	169	31,5
PRE-SCHOOL	189	15,9	43	8
GERMAN	49	4,1	32	6
ENGLISH	90	7,6	37	6,9
TURKISH	183	15,4	124	23,1
MUSIC	61	5,1	11	2,1
PAINTING	78	6,6	23	4,3
TOTAL	1185	100	536	100

The number of students enrolled at the 9 programs in the education faculty is 3000 in 2009 and 3100 in 2014. When determining the sample group, random selection of volunteer participants was made. The sample group numbers quantitatively represent the target population of the study (Yazıcıoğlu and Erdoğan, 2004: 50).

The numbers of teacher candidates according to classes are given in Table 2.

Table 2: Distributions of Teacher Candidates According to Classes

CLASSES	2009		2014	
	f	%	f	%
1	328	27,7	240	44,8
2	243	20,5	109	20,3
3	404	34,1	89	16,6
4	210	17,7	98	18,3

Data Acquisition Tool: A survey consisting of open and closed ended questions was used as a data acquisition tool. Relevant literature was examined when preparing the survey and expert opinion was taken regarding the reliability and validity of the survey after the questions were prepared. The final shape was given to the survey following the expert opinion. Data were analyzed via SPSS14 statistics package software.

RESULTS AND COMMENTS

The results of the study put forth the data related with the problem of what the opinions of teacher candidates are regarding the gender of mathematics teachers?

In Graph 1 below, you can find the data related with the answers of teacher candidates who participated in the study given to the question "What is the Gender of Mathematics Teachers?"

Graph 1: Answers Given by Teacher Candidates who Participated in the Study to the Question, "What is the Gender of Mathematics Teachers?"
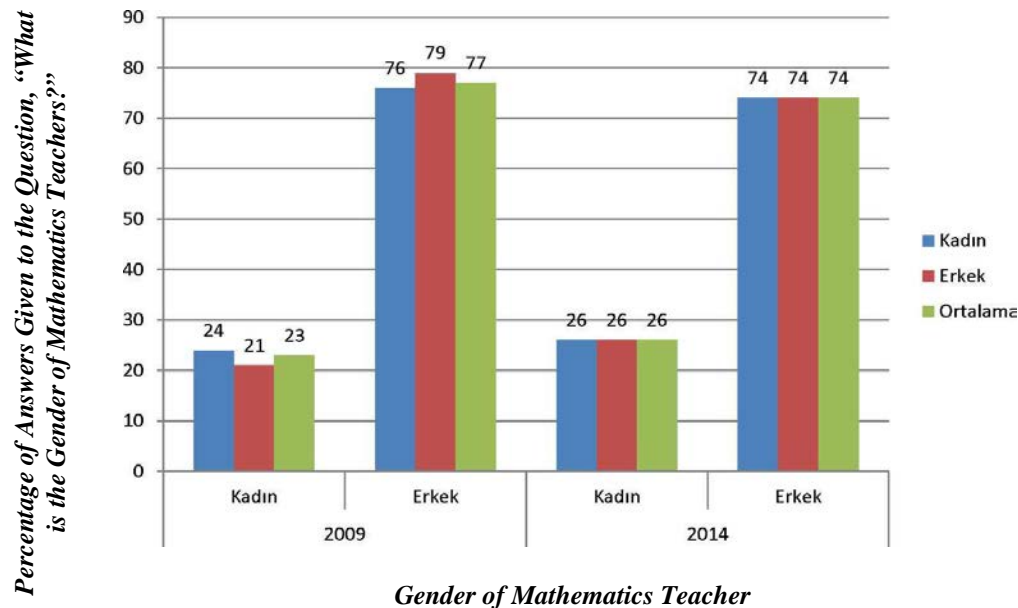
According to Graph 1, 77 % of the teacher candidates who participated in the study in 2009 and 74 % of the teacher candidates who participated in the study in 2014 put forth that they think the gender of mathematics teachers is male. Even though there was a decrease in the male gender over the years, it can be stated that this decrease is very low. A very small differences is observed between the opinions of male and female teacher candidates. Whereas the opinions of the male and female teacher candidates who think that the gender of mathematics teachers is male is 79 % - 76 % in 2009; no difference was observed between the percentages in 2014 (74 %). The fact that the difference between the responses of teacher candidates according to gender is low might be thought of as an indication that gender discrimination is not observed in the responses.

The genders of their mathematics teachers during primary and high school years were also asked. The responses can be seen in Graph 2.

Graph 2: Genders of Secondary School and High School Mathematics Teachers of Teacher Candidates According to Years

Gender of Mathematics Teacher
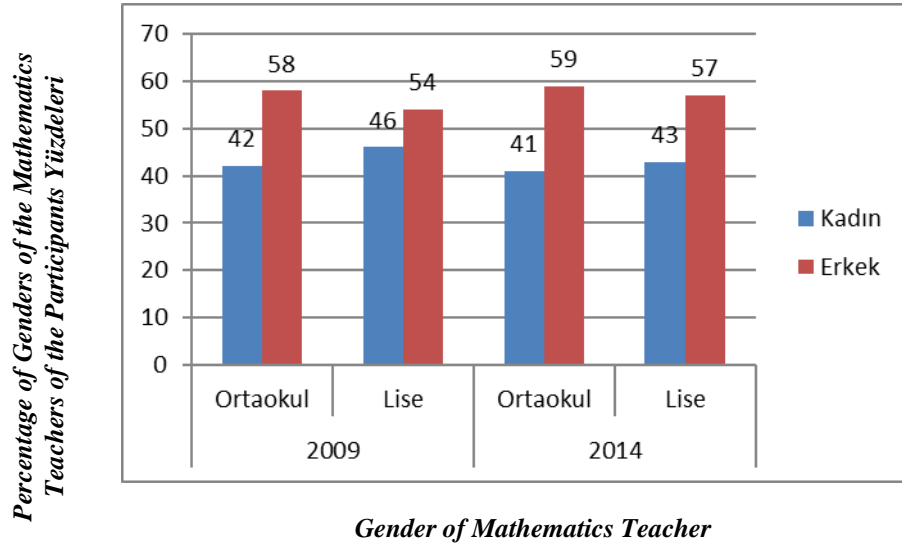
When Graph 2 is examined, it can be observed that 58 % of the secondary school teachers of the mathematics teacher candidates in 2009 as well as 54 % of their teachers in high school were male; whereas 59 % of the secondary school teachers of the mathematics teacher candidates who participated in the study in 2014 as well as 57 % of their teachers in high school were male. A statistically significant difference can be observed between the percentage of the secondary school and high school male teachers of the teacher candidates who participated in the study and their thoughts regarding the gender of mathematics teachers.

Table 3: Order of Percentages Regarding the Opinions of Teacher Candidates on What is Suited to Women

		2009	2014
1	**Pre-School Teaching**	49,9	41,8
2	**Primary School Teaching**	62,7	48,7
3	**Turkish Teaching**	49,9	41,8
4	**Social Sciences Teaching**	39,8	37,1
5	**Science and Technology Teaching**	35,4	32,5
6	**Mathematics Teaching**	33,4	28,7
7	**Computer Teaching**	44,8	39,4

The teacher candidates were asked to give numbers to seven different teaching programs from 1 to 7 and list them in order of being most suited to women to those that are not suited to women. Table 3 includes the percentages of the responses given to this question. Accordingly, 49.9 % of the participants in 2009 and 41,8 % in 2014 ranked Pre-School Teaching in the first place thus specifying their opinions regarding the field of teaching that suits women best. Other teaching disciplines are in order; Primary School Teaching, Turkish Teaching, Social Sciences Teaching, Science and Technology Teaching, Mathematics Teaching and Computer Teaching. When the table is examined closely, it can be observed that mathematics teaching is ranked 6 and that science and computer teaching which can be associated with mathematics and science are listed towards the end of the table. This result can be interpreted as putting forth that teacher candidates thinking science and mathematics teaching is more suited to men.

Table 4 below shows the percentage and chi-square results for the responses of teacher candidates gender to the

question, "Do you think men are more successful in mathematics teaching?" according to their gender.

Table 4: Percentage and chi-square results for the responses of teacher candidates gender to the question, "Do you think men are more successful in mathematics teaching?" according to their gender

	2009			2014		
	Women	**Men**	**Average**	**Women**	**Men**	**Average**
NOT AT ALL	28,09	13,80	22,73	33,14	17,20	27,61
I DON'T THINK SO	32,02	21,72	28,16	28,86	24,73	27,43
A LITTLE BIT	16,55	14,93	15,95	12,86	17,74	14,55
I THINK SO	19,54	28,51	22,90	22,57	25,27	23,51
I REALLY THINK SO	3,80	21,04	10,26	2,57	15,05	6,90

Chi-square = 125,4; p=0,000 Chi-square = 41,7; p=0,000

When Table 4 is examined, it can be stated that the participants do not think that gender is important in the success of mathematics teaching (2009: %51, 2014:%55). Female participants (2009: %60, 2014: %62) are clearer in comparison to males (2009: %35, 2014:%41) about whether gender is important for success in mathematics or not. A difference is observed (2009: $\chi^2 = 125, p < 0,01; 2014: \chi^2 = 41,7; p < 0,01$) between genders of participants and "opinions about males being more successful in mathematics courses".

Table 5 shows the percentages of the responses of the teacher candidates to the question, "Which gender do you think has the highest number of mathematics teachers in Turkey?" related with their opinions on the gender of mathematics teachers.

Table 5: Percentages and chi-square results of the responses of the teacher candidates to the question, "Which gender do you think has the highest number of mathematics teachers in Turkey?" related with their opinions on the gender of mathematics teachers

	2009		2014	
	Women (%)	**Men (%)**	**Women (%)**	**Men (%)**
Women	23,5	4,7	35,5	11,1
Men	51,1	84,7	40,6	76,9
Equal	25,4	10,6	23,9	12

Chi-Square = 145; p=0,000   Chi-Square = 64,8; p=0,000

When Table 5 is examined, it is observed that there is a statistically significant difference between the opinions of teacher candidates on the gender of mathematics teachers and their responses to the question, "Which gender do you think has the highest number of mathematics teachers in Turkey?" in both 2009 and 2014. It can be thought that the most important factor that causes this difference is gender bias. Because, whereas female participants in 2009 thought that 51,1 % of the current teachers in Turkey were male (which is actually pretty accurate), male participants estimated this ratio as 84,7 %. This difference can be thought to be due to gender bias. In 2014, it can be observed that the difference has increased and that gender bias has decreased among male participants.

CONCLUSION AND SUGGESTIONS

When the 2012 data of the Ministry of Education are examined, it was determined that 51 % of the secondary school mathematics teachers and 52 % of the high school mathematics teachers are male. 58 % of the teacher candidates who participated in this study in 2009 stated that 58 % of the secondary school and 54 % of the high school mathematics teachers are male; whereas in 2014 these ratios were 59 % and 57 % for secondary school and high school male mathematics teachers respectively. Whereas there is no statistically significant difference percentagewise between the MEG data and the gender of mathematics teachers of the participants, the opinions of the participants that mathematics teachers are generally male have decreased from 2009 to 2014 but it is still biased towards the male gender. These results support the opinion determined in other studies that mathematics is a discipline that is suited to males (Hyde, Fennema, Ryan, Frost and Hopp, 1990). The fact that mathematics teaching as an occupation is ranked sixth among the seven teaching areas shows that this discipline is thought to be the occupation of males in general.

Despite the thoughts of teacher candidates that mathematics teaching is suited more to males, some portion of the teacher candidates think that gender is not that significant in mathematics courses. The study carried out by Duru (2011) put forth that female and male teacher candidates do not have any gender prejudices related with mathematics.

Even though male and female teacher candidates think that the highest number of mathematics teachers in Turkey is male, the opinions of male teacher candidates in this manner are much greater in comparison with those of female teacher candidates. This can be interpreted as putting forth that the gender of participants affect their opinions.

One of the factors that cause this perception might be the curriculum. Since the examples given in relations as well as problems are generally suited more to males in mathematics curricula, an opinion might have been formed that knowledge of mathematics is specific to males. Geist and King (2008) have suggested the development of education programs that are suited to both genders in order to get rid of this difference in perception.

This study was carried out using quantitative data. More comprehensive studies that support these findings with quantitative data can be carried out relating the study results with other studies carried out on Turkish society structure. Studies can be carried out that compare the opinions on the gender of mathematics teachers in other societies thus putting forth the social differences in this issue. Combined studies can also be carried out to determine how much these opinions are affected by gender successes.

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THE VIEWS OF PRE-SERVICE SCIENCE TEACHERS ON MODELING PROCESS

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ABSTRACT

Many concepts in the Science Education course content are perceived abstract and complex by the students. One of the activities can be used to render those abstract concepts in the science education course content observable, tactile by concretization is modeling. Modeling provides opportunity to student to explain the scientific facts by setting their on models and develop their own conceptual understanding levels. Setting a model process includes high learning activities for students such as planning, detecting variables, making relations and testing their own models. In this context, modeling activities are seen as a difficult process especially for science classes. Figuring out this knowledge firstly requires having experience about modeling. With this study, modeling activities were carried out with pre-service teachers and it was tried to create awareness regarding the way of thinking they use during process. This paper presents the views of pre-service science teachers on teaching with models and modeling process.

Current study which aims to investigate the views of pre-service science teachers on model and modeling is a qualitative design by its nature. Participant in this study comprise 45 pre-service teachers who study at department of Science teaching of a state university. The study was carried out as part of Science Laboratory Applications II course and applications related to Biology were conducted. With parallel to the aim of the study, participants were asked to design experiments and set models by researcher/lecturer of the study towards given objectives. Secondly, focus group discussions were conducted with participants and their views on model and modeling were taken. Finally, content analysis technique was used and obtained codes and themes were presented by frequency tables.

As a result of the study; it has observed pre-service teachers have got incomplete information about model concept. In this context, modeling and model types should be introduced to pre-service teachers. Teachers should be discussed about meaning of models and similarities and differences between models and real structures with their students. Teacher should be reminded models can not exactly reflect real structures to their students. These results obtained from this study, supported opinion of pre-service teachers and literature, if people want to create a model, they need to have some skills as creativity. In this context, it should be taken into account necessary skills for modeling and skill education course should be opened for development of necessary skills for modeling.

INTRODUCTION

The main purpose of the nowadays educational system is to spread the stunning developments and changes in the science and technology, rapidly outgoing knowledge to the all members of the society in the best way. The flow of information never been so fast in history as it is now require the existing educational philosophies to be changed and several issues from teaching methods to What, Where and How to teach to be revised. Nowadays, as we are entering the 21th century, educational activities shaped by the needs of the time and society are forced to change in the areas of purpose and implementation. As a result of this, the pressure on the traditional education approach gradually increased and research carried out to make the educational activities become not a

part of the one's life but the one's oneself. Within this respect, many curriculums revised and radical changes were made. When those programs were examined, it is seen that activities used in the lecture processes changed along with the teacher's and students' roles. In the curriculums, it is possible to see that teachers are leaders more than information-deliverer and students are practitioners more than listeners. It is seen that students are raised to become as ones working to reach the information from various sources instead of only one source (teacher), interpreting the knowledge by experiencing instead of memorizing and producing and selling the products instead of just observing.

Analyzing the issue from the view of Turkey, Science Education Curriculum is one of these changing programs. Many concepts in Science Education course content are perceived abstract and complex by the students. So, in order to make these abstract concepts observable and tactile through concretization, new methods, technics, activities and materials enabling daily life connections are needed (Gobert & Buckley, 2000; Gümüş, Demir, Koçak, Kaya & Kırıcı, 2008; Güneş & Çelikler, 2010). With the changes made in the science education curriculum in the 2013, it is tried to fulfil those needs. In the analysis of this new curriculum, it is observed that there is an increase especially in the number of objectives about using and setting a model.

The experts and science educators, to a great extent, benefit from those modelling activities because of the advantage (or feature) that they include real life activities supporting student learning. Evaluating the outcome models of the modelling process as science product and methods, Harrison and Treagust (2000) assert that the model setting process contributes to the students' scientific progress. In the science education based on (related to) Daily life problems, it has an important role that in this process students use several models and set their own models (Karagöz & Sağlam-Arslan, 2012). Modeling provides opportunity to student to explain the scientific facts by setting their on models and develop their own conceptual understanding levels since it includes physical and oral representations of the ideas, objects and events (Treagust, Chittleborough & Mamiala , 2002). In this manner, modeling activities play an important roles in terms of reach the goals of science education which is a course conceptually and technically weighted. Attending the modeling activities enlarge students' subject area knowledge and provides them expertizing in the understanding, defining and visualization of the scientific facts (Schwarz & White, 2005; Lehrer & Schauble, 2006). When the students set model, they develop better problem solving skills about newly meet problems and deeper understanding capacity about the content (Wynne, Stewart & Passmore, 2001; Lehrer & Schauble, 2005). Besides, modeling activities provides to render students make coherent with epistemological purpose of the science and to develop higher order ideas about scientific entrepreneurship (Schwarz & White 2005; Windschitl, Thompson & Braaten, 2008). In addition to this, modeling process includes some processes such as abstract thinking, estimating, making estimations and decision making. This process requires some cognitive skills such as be able to construct models mentally and transfer information belongs to similar situations as a consequence of reasoning (Gruber, 1992; Seel, 2001). Besides that, setting a model process includes high learning activities for students such as planning, detecting variables, making relations and testing their own models. In this context, modeling activities are seen as a difficult process especially for science classes (Sins, Savelsbergh & Van Joolingen, 2005; Svoboda & Passmore, 2013). In order to eliminate the mentioned difficulty, it's important to recognize possible difficulties during in-class modelling activities and thinking processes those students engage (Sins, Savelsbergh & Van Joolingen, 2005). Figuring out this knowledge firstly requires having experience about modeling. With this study, modeling activities were carried out with pre-service teachers and it was tried to create awareness regarding the way of thinking they use during process. This paper presents the views of pre-service science teachers on teaching with models and modeling process.

THE STUDY

Current study which aims to investigate the views of pre-service science teachers on model and modeling is a qualitative design by its nature. Participant in this study comprise 45 pre-service teachers who study at department of Science teaching of a state university. The study was carried out as part of Science Laboratory Applications II course and applications related to Biology were conducted. Within the scope of the study, pre-service teachers were divided into groups by considering objectives associated with modeling in primary school science curricula. Scale modeling activities were considered while determining objectives. Table 1 represents the matrix of the mentioned objectives and models set by pre-service teachers.

Table 1. Objectives included within the content of the study and models list

Group	Objective Code	Objectives	Model
1st group (n=8)	5.5.1.1	Exemplify specifies and classify them according to their similarities and differences.	Unicellular specify models (Paramecium, Amoeba, Euglena)
2nd group (n=8)	6.1.1.1	Compare animal and plant cells with regards to their main parts and functions.	Plant cell model Animal cell model
3rd group (n=8)	6.1.2.1	Explain the components of musculoskeletal system and state their functions by exemplifying.	Opposing muscle work model
4th group (n=7)	6.1.4.1	Explain the components and organs of circulatory system with their functions.	Heart model
5th group (n=7)	7.1.2.1	Explain the functions of components and organs of urinary system by showing them on a model.	Kidney model
6th group (n=7)	7.1.4.1	Explain components belong to sense organs by showing them on a model.	Eye model

*Objective codes represent respectively *grade level*, *unit*, *topic* and *objective*

When Table 1 examined, it is seen that one of the objectives is in the 5th grade, 3 of them are in the 6th grade and two of them are in the 7th grade level. The objectives in the 8th grade level were not taken place, because there was no available objective to make experiment within the scope of the course.

Firstly, with parallel to the aim of the study, participants were asked to design experiments and set models by researcher/lecturer of the study towards given objectives. Secondly, focus group discussions were conducted with participants and their views on model and modeling were taken. In the third step, data gathered from discussions were transcribed. Finally, content analysis technique was used and obtained codes and themes were presented by frequency tables.

In order to provide reliability of the study, data were analyzed and coded by independent researchers. As the next step, researchers views were taken again for codes those consensus weren't been built and a re-coding was made. In this way, reliability of the study was calculated using $r = \frac{Pr(a) - Pr(e)}{1 - Pr(e)}$ formula where Pr(a) is the agreement Pr(e) is the disagreement among researchers (Miles & Huberman, 1994). Consequently, reliability co-efficient rate was found .84.

FINDINGS

The data obtained from the analysis of the conducted interviews to examine the perceptions of prospective teachers modeling definition, modeling skills, material selection, model advantages, tables are presented in their problems and model environment title. The first question is directed to teacher candidates as "what is model and what comes to your mind when you hear the concept of model". The findings are presented in Table 2.

Table 2. According to teacher candidates "What is model?"

Themes	Codes	f
Material Dimension	2 or 3 dimensional material	18
	Designs for a topic to better understand visually.	5
	Materials for subject are not visible	5
	The closest representation of a real substance	3
	Simple representation forms	2
Learning Dimension	Concretization of abstract concepts	17
	Facilitating the understanding	3
	Providing permanency of a concept	2

When Table 2 is examined, it's observed that the model definitions of pre-service teachers consider two different themes. They consider material and learning dimensions while defining concept of model. Also, they prefer mostly definition of "*2 or 3 dimensional material*" and emphasize definition of "*concretization of abstract concepts*" in learning dimension.

Secondly, pre-service teachers were asked "which features should the one has to be able to set a model"

question. The findings are presented in Table 3.

Table 3. According to pre-service teachers "Which features should the one has to be able to set a model?"

Themes	Codes	f
Skill	Be able to think creatively	41
	Should have hands-on skill	41
	Be able to good observation	29
	Be able to criticizing and open to be criticize	20
	Organization skill should be sufficient	16
	Be able to sufficient communicate	12
Knowledge	Should be familiar about the content	39
Affective	Be able to take responsibility	30
	Be able to make decision	8

When Table 3 is examined, it's observed that pre-service teachers reach a consensus on knowledge, affective and skill that the one who has to be able to set a model should have. They assert that person has "*content knowledge*" and "*responsibility*" for set a model. Also, future teachers stated that especially creative thinking and hands-on skill should be improved to setting up model.

The third question is directed to pre-service teachers as "what according to you determine when material supply in modeling process". The findings are presented in Table 4.

Table 4. According to pre-service teachers "What are the criteria to be considered in material selection?"

Main Theme	Sub Theme	Codes	f
Supplying Process	-	Usability	41
		Being economical	38
		Easy availability	37
Construction Process	As a structural	Formal similarities	29
		Please the eye	20
		Color	13
	As a functional	Mission overlap	31
		Literalism	29

When Table 4 examined, pre-service teachers take account material selection as two different theme include supplying and construction. In supplying process, they emphasize that material should be "*useable*", "*economic*" and "*easy availability*". They bring structural and functional dimensions into the forefront in the process of construction. Participant emphasize "*formal similarities*" situation as a structural and "*mission overlap*" as a functional.

Pre-service teachers were asked "What are the advantages provided by modeling process?" question. The findings are presented in Table 5.

Table 5. According to pre-service teachers "What are the advantages provided by modeling process?"

Themes	Codes	f
Knowledge	It helped me understand the content well	37
	It provided to me concretize the topic	36
	It provided to me learning the investigation	24
Skill	I developed to my hands-on skills	29
	It developed to my planning skill	19
	I learned to team working	18
	It increased to my communication skills	13
Affective	It made me enjoy the course	32
	I gained responsibility	25
	It increased to self-confidence	18

When considering pre-service teachers' answers related to advantages of modeling question, modeling provide some advantages knowledge dimension in addition to skill and affective dimensions. When Table 5 examined, participants stated that modeling in content knowledge dimension mostly provides advantage to "*concretize the*

topic" and *"help to understand the content better"*, on the other hand, in skill dimension it provides to *"develop hands-on skills"*. In affective dimension, modeling provide advantages like *"enjoying the course"* and *"gaining responsibility"*.

The question is directed to pre-service teachers as *"What are the problems encountered in the process of set a model"*. The findings are presented in Table 6.

Table 6. According to pre-service teachers "What are the problems encountered in the process of set a model?"

Themes	Codes	f
Before Modeling	I don't know how and where I can start it.	24
	I have some troubles getting materials.	18
	I have some troubles while preferring materials.	18
	It's caused for me to spend much money.	17
	I have troubles while process of making planning	13
	I cannot gain enough information about context	2
	I cannot design in which order the materials should be placed	2
	I have difficulties on making research	2
During Modeling	I cannot reach in time	22
	I am disturbed my friends for group working	14
	I am not good at cut and paste	2
	I am not good at using materials effective	2
After Modeling	I have difficulties on presenting the model that I set to my friends	4

When pre-service teachers were questioned what is difficulties in the setting of model, it has been seen that they emphasized that before modeling, during modeling and after modeling troubles. When Table 6 examined, it is seen that the problems during the modeling process are during modeling more than others. While pre-service teachers stated that how and where they can start it in before modeling process, they added to preferring materials and getting materials. And it is seen that they have time problems in during modeling. After modeling, a few pre-service teachers stated that they have difficulties while presenting the model.

The question is directed to pre-service teachers as "how learning environment should be in the process of set up model". The findings are presented in Table 7.

Table 7. According to pre-service teachers "how learning environment should be in the process of set up model? Why?"

Themes	Codes	f	Justification
Technological Environment	İnternet connection	45	*Obtaining the detail information
	Computer	45	*Eliminating the missing information,
	Projector	36	*Investigating the example of model
Mechanical Environment	Tables and chairs which is suitable for group working	26	* Effective and convenient communication with group mates
	Rich material and equipment cabinets	45	*Reaching the intended material as fast as possible *Rising the variety of alternative materials
Social Environment	Providing expert	25	* Getting feedback
	Blocking interaction between groups	20	*Preventing the groups affected by other groups

When Table 7 examined, it's observed that pre-service teachers take account suitable environment that technological, mechanical and social. Pre-service teachers think that internet connection, computer and projector in technological environment, for mechanical environment tables and chairs which is suitable for group working, rich material and equipment. And pre-service teachers state providing expert and blocking interaction between groups for social environment.

DISCUSSION and CONCLUSIONS
The result of the answers when it was asked to pre-service teachers "what is the first thing come to your mind when you hear model concept?" The answers were examined and the result was students' limitation of model

just as 2 or 3dimensional concrete materials. It has been emerged from the answers of pre-service teachers that they refer to scale model because they associate models with concrete materials. When they talk about models, they do not refer to other type of models, it can be interpreted as effect of   generated models remaining limited with systems subject in biology lesson. At the same time it can be thought that small number of pre-service teachers who refer to teaching and learning process approach modeling with viewpoint of analogical model. When codifications in table 2 were analyzed, it has been observed that some of pre-service teachers consubstantiate models with concept what they represent for. Harrison and Treagust (1998) explain the reasons of this because almost any book examined did not tell about models are products of human and not tell about in some points they cannot express exactly real object that they represent for and students are not warned about that. From this it can be made conclude that science pre-service teachers can have misconception towards that models representing for concepts have copies (McComas, 2002; Kang, Scharmann & Noh, 2005).

When pre-service teachers' options about needed features for an individual who will form model were examined, it was observed that they emphasized on skills field often. Pre-service teachers have emphasized on requirement to able to form original model they need to skills like creative thinking skills, handicraft and communication skills. It is observed that almost all pre-service teachers touch upon creative thinking skills and hand craft especially. Like in forming model, to able to produce an original product in process of designing any material require creative thinking skills and it is emphasized in literature too (Yelken-Yanpar, 2009; Birişçi & Karal, 2011). Yanpar-Yelken (2009) has emphasized on especially using pre-service teacher's preliminary life experiences and combining his/her skills related to creativity is needed in process of choosing elements like color, shape and stress. At the same time, it has been referred to creative thinking skills in science education programs too (MEB, 2013). Similarly Bilal (2010), emphasized that before not starting forming model process students should do preliminary activities to improve their skills in that field and students' familiarity in this situation should be increased. From this point of view, it can be concluded that pre-service teachers' creative thinking skill should be improved to improve their ability to forming model (Yanpar, Koray, Parmaksız & Arslan, 2006).

Besides this, it has been observed that most of pre-service teachers emphasized on forming model activities embody abstract concept and this contribute to comprehension of subject very well. Based on statements of pre-service teachers, it can be concluded that joining in forming model activities is effective in increasing knowledge in subject field, improvement in conceptual understanding level and effective in forming more deep understanding capacity related to subject (Schwarz and White, 2005; Lehrer and Schauble, 2005). On the other hand, it is stand out forming model activities contribute to students in the sense of hearing field. Considering literature, it has been remarked that teacher candidates joining in forming model activities contribute to developing positive attitude toward lesson and contribute to increasing self –confidence (Brewe et al, 2009; Cakmak, 2009).

It has been took attention pre-service teachers attach importance to forming model by considering table intended for materials choosing structural similarities as well as visuality for forming model. To care outstanding material and similarity of colors pre-service teachers make think that they do not have enough knowledge about models. Harrison and Treagust (1998) have stated that most of students just pay attention to outside appearance similarity not more; structure of model, goal of model and the idea model wants to give is not took into account and they evaluate model just considering outside appearance. When table examined, however it has been observed that pre-service teachers have difficulties especially before modeling, to decide about model, choosing materials and in process of designing model. In that sense it has been have come into question model and modeling process and education with way of modeling by informing, and organize activities which will contribute to increase experiment and effort to fulfill minus by the teacher candidates and teachers, universities and MEB (Bilal, 2010).

When examined in Table 7, a specialist, who can guide about use of technological equipment to student and can confirm students' behavior in the modeling environment, is required to pre-service teachers. Sins, Savelsberg and Van Joolingen's (2005) study is emphasized modeling process is quite complex process and students need to support in this process.

SUGGESTIONS
The purpose of this study was examined opinion of pre-service teachers about modeling. This study has observed pre-service teachers have got incomplete information about model concept. In this context, modeling and model types should be introduced to pre-service teachers.

Teachers should be discussed about meaning of models and similarities and differences between models and real structures with their students. Teacher should be reminded models can not exactly reflect real structures to their

students.

These results obtained from this study, supported opinion of pre-service teachers and literature, if people want to create a model, they need to have some skills as creativity. In this context, it should be taken into account necessary skills for modeling and skill education course should be opened for development of necessary skills for modeling.

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THE RELATIONSHIP BETWEEN PRE-SERVICE TEACHERS' LEARNING STYLES AND THEIR STUDYING HABITS

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ABSTRACT

The purpose of this research was to analyze the relationship between learning styles and studying habits of pre-service teachers. The research was carried out in descriptive model and with the data collected from 618 pre-service teachers studying at first and fourth grades in different departments of Adıyaman University Faculty of Education in 2014-2015 academic year. In the research, the data related to personal information of the pre-service teachers were collected using "Personal Information Form," the data related to learning styles were collected using "Kolb Learning Style Inventory," and the data related to studying habits were collected using "Studying Skills Determination Inventory (SSDI). For the analysis of the data, frequency, percentage, t-test, chi-square, and one-way variance analysis (ANOVA) were used. According to the analysis results, no significant difference was found in learning styles according to gender of pre-service teachers, but significant difference was found in learning styles according to the level of grade and program they studied at. SSDI scores had a significant difference according to gender, level of grade and the program being studied. And significant difference was determined in SSDI scores according to learning styles.

INTRODUCTION

Information's being a meta that is easily reached and used by everyone has provided its increasing day by day through changing. These developments have caused societies to encounter with the problem of how current information will be acquired to individuals. Accordingly, "information acquisition" and "learning" concepts have become the concepts that are mostly emphasized in our age (Öncü, 2014, s. 98). Moreover, families and schools that are essential for raising individuals have encountered with problem(s) such as "What shall we teach better?" and "How do we teach learning?"

Especially the researches in education and the thought of education's individualization have led the result of developing different learning styles, strategies, and methods for each individual considering the individual differences. As result of these experienced developments, learning style has become one of the most important factors affecting the process of teaching and learning (Genç & Kocaarslan, 2013). Because each individual learns in a different style and has a learning style that reveals ability in ease and comfort (Topuz & Karamustafaoğlu, 2013). Learning starts individuals' meeting a situation and information, and ends through placing in brain structuring in mind. During this process, individuals use different instructional methods and techniques developing different ways and strategies specific to themselves for learning. For that reason, teachers should consider the presence of students with different learning styles in each classroom (Demir, 2008). Moreover, educational activities performed to the students are provided by knowledgeable and experienced teachers carrying on duty in formal educational institutions in modern countries (Aybek, 2010, s. 1). In environments where educational activities are carried out, students learn in many ways such as seeing and hearing, active and interactive, reasoning and intuitional, memorizing and visualization, designing similarities, making mathematical models, being regular and random. However, while some teachers teach through lecturing, some teach through demonstrating and discussing, some through focusing on principles, some through focusing on practices, some through making students memorize and some making individuals understand. To what extent students will learn in the classroom depends upon their innate talent, and level of readiness, learning styles of students and teachers and organization of teaching-learning environments according to learning styles (Felder & Silverman, 2002). Because educational environments where instructional activities are held include rich individual properties in terms of physical, biologic, psychologic properties, interests, expectations, requests, abilities, types of intelligence, and learning styles. The differences in individual properties of students reveal themselves in learning processes of them. An educational environment organized considering the learning styles will create a positive effect upon academic success and learning of students (Ekici, 2013).

Individuals are born as different from each other in terms of their physical, mental, cognitive, and psychomotor properties; moreover, the environmental factors individuals experience also increase the differences among the individuals (Sapancı, 2014). These differences cause learning differences among the individuals. For that reason,

the differences among the individuals have gained importance gradually and caused the concept of "learning styles" that clarified how individuals learn, how they process data become more prominent (Durukan, 2013)

Several studies have been carried out upon the concept of learning styles. The concept of style id defined as a manner, tone, specific understanding, and structure in Turkish Language Society Dictionary (TDK, 2005). The concept of learning style was firstly used by Rita Dunn in 1960s. Learning style is an individual path each individual follows while getting and assimilating the information, and this differs for each individual (Dunn, 2009). According to Keefe (1991), learning includes cognitive, affective and psychologic behavior characteristics individuals use as determinants that do not change to an extent in perception mutual interaction, and response styles of learners in a learning environment (Koçak, 2007). Learning style is defined as individual differences in learning based upon preferences of individual to set different stages into work in a leanring cycle (Kolb & Kolb, 2005).

Experiential Learning Theory

Although educational achievement depends upon students' abilities, aptitudes, it also relies on their individual learning styles (Kolb, 1984). Kolb and Kolb (2005) define the four learning styles as follows: diverging, assimilating, converging, and accommodating. The Experiential Learning Model is also based on the existence of four learning models- concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), active experimentation (AE). Although these models are a part of learning, individuals are thought to develop preferences for specific models over time (Koob & Funk, 2002). One of these four learning styles is prior for individuals, and it is inevitable to be exposed to this cycle numerously in a learning experience (Hasırcı, 2006).

Diverging

The *diverging* learning style describes individuals who learn by way of concrete experience and reflective observation (Sugarman, 1985). People with this learning style are best at viewing concrete situations from many different points of view. They tend to have broad cultural interests and like to gather information. They are interested in people, tend to be imaginative, emotional, and often specialize in the arts. Working in groups, appreciating diverse viewpoints, receiving personal feedback are some characteristics of the diverging learning style (Kolb & Kolb, 2005, s. 5).

Assimilating

People have AC and RO as dominant learning abilities in assimilating style. People with this learning style are best at understanding a wide range of information and putting it into concise, logical form. Individuals with an Assimilating style are less focused on people and more interested in ideas, abstract concepts. Generally, people with this style find it more important that a theory have logical soundness than practical value. This learning style is important for effectiveness in information and science careers. In formal learning situations, people with this style prefer readings, lectures, exploring analytical models, and having time to think things through. (Kolb & Kolb, 2005, s. 5)

Converging

People have AC and AE as dominant learning abilities in Converging style. People with this learning style are best at finding practical uses for ideas and theories. They have the ability to solve problems, make decisions based on finding solutions to questions or problems. Individuals with a Converging learning style prefer to deal with technical tasks, problems rather than with social issues and interpersonal issues. These learning skills are important for effectiveness in specialist and technology careers. In formal learning situations, people with this style prefer to experiment with new ideas, simulations, lab assignments, and practical applications (Kolb & Kolb, 2005, s. 5).

Accommodating

People have CE and AE as dominant learning abilities. People with this learning style have the ability to learn from primarily "hands-on" experience. They enjoy carrying out plans, involving themselves in new and challenging experiences. They are prone to acting on "gut" feelings rather than on logical analysis. People with an accommodating learning style tend to be effective in action-oriented careers such as marketing or sales. They enjoy setting goals, working with others, using different approaches for completing a project (Kolb & Kolb, 2005, s. 5).

Teachers are one of the partners that have the most important effect upon teaching-learning and the academic success of students. In order for the teachers to know learning styles and use efficiently, they are required to be trained on various learning methods, styles and techniques considering the individual differences of students either in teacher training institutions during the pre-service period or in-service trainings. Because pre-service teachers' awareness on their own learning styles and different learning styles before starting to their profession will provide contribution upon creating an efficient educational environment. Individuals' knowing their own learning styles will render service to their learning and provide contribution upon the productivity of learning.

THE STUDY

The purpose of this research was to analyze the relationship between the learning styles and studying habits of pre-service teachers. For that purpose, answers to the research questions below were sought:

1. Is there a significant difference between the learning styles according to the gender of pre-service teachers?

2. Is there a significant difference between the learning styles according to the pre-service teachers' level of grade?

3. Is there a significant difference between the learning styles according to the department pre-service teachers study at?

4. Is there a significant difference between the studying skill scores according to the gender of pre-service teachers?

5. Is there a significant difference between the studying skill scores according to the pre-service teachers' level of grade?

6. Is there a significant difference between the studying skill scores according to the department pre-service teachers study at?

7. Do studying skill scores differ significantly according to the learning styles?

Descriptive study (relational screening model) was used in this research. The relational screening is a research model aiming to determine the presence and level of a change between two or more variables (Karasar, 2014, s. 77).

The study group of the research included 618 pre-service teachers in the first and fourth grade studying at seven different programs of Adıyaman University Faculty of Education in spring term of 2014-2015 academic year.

Table 1. Distribution of Study Group According to Gender and Level of Grade

			Gender		Total
			Female	Male	
Grade	1	N	225	115	340
		%	66.2	33.8	55
	4	N	176	102	278
		%	63.3	36.7	45
Total		N	401	217	618
		%	64.9	35.1	100

As could be seen in Table 1, 55% of the study group included pre-service teachers studying at the first grade, and 45% included the fourth grade pre-service teachers. According to the gender, 64.9% of the participants were female, and 35.1% were male.

Table 2. Distribution of Study Group According to the Program they Study at

Departments	N	%
Pre-school	54	8.7
Classroom	98	15.9
Turkish	83	13.4
Social	61	9.9
Science	86	13.9
Mathematics	92	14.9
PCG	144	23.3
Total	618	100

As could be seen in Table 2, the study group included 8.7% pre-school teaching, 15.9% classroom teaching, 13.4% Turkish teaching, 9.9% social sciences teaching, 13.9% science teaching, 14.9% mathematics teaching, and 23.3% psychological counselling and guidance (PCG) students.

In the research, to collect data Learning Styles Inventory and Studying Skills Scale (SSS) were used.

Learning Styles Inventory

In order to determine the learning styles, "Learning Styles Inventory" developed by (Kolb, 1984) was used. Four learning styles were determined in the inventory that was proved in terms of validity and adapted into Turkish by (Aşkar & Akkoyunlu, 1993). Experiential Learning Theory created the basis of Kolb learning style. According to the experiential learning theory of Kolb, learning is a cycle and one of these four learning styles had priority for an individual. Learning style of each individual is a component of these four learning styles (Jonassen & Grabowski, 1993). Learning styles inventory included 12 items with 4 choices that requested individuals to list four learning styles that defined their own learning styles as the best. Each choice represented a learning style. Those were concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). A score between 12 and 48 was obtained as result of the scores participants determined for each choice. Subsequently, integrated scored were obtained. The positive score obtained from AC-CE among the integrated scores proved that learning is abstract and the negative score proved learning as concrete. Similarly, the positive score obtained from AE-RO proved learning to be active and negative score proved learning to be reflective. According to the calculated values, the learning style of each student was determined. Cronbach-Alpha reliability coefficients of the inventory were found as .76 for Concrete Experience (CE), as .76 for Reflective Observation (RO), as .77 for Abstract Conceptualization (AC), and as .75 for Active Experimentation (AE).

The combination of concrete experience (feeling) and reflective observation (watch) revealed the diverging learning style. The individuals with this learning style were successful at having different viewpoints to concrete situations. The combination of abstract conceptualization (think) and reflective observation (watch) revealed "assimilating" learning style. Thinking ability and being aware of the meanings were among the most important properties of individuals with this learning style. "Converging" learning style included the combination of abstract conceptualization (think) and active experimentation (do). Problem solving, decision making, and logical and systematic planning of ideas were leading properties of individuals with this learning style. The combination of concrete experience (feel) and active experimentation (do) revealed "accommodating" learning style. Planning, putting plans into action, being included in new experiences were the specific properties of individuals within this learning style (Kolb, 1984).

Studying Skills Scale (SSS)

Studying Skills Scale (SSS) was developed by Bay, Tuğluk and Gençdoğan (2006). The scale included 26 items and prepared in 5-point Likert type; and had three sub-scale as motivation, time management and preparation to exam-exam anxiety. Motivation sub-scale included 11 items, time management sub-scale included 7 items, and preparation to exam-exam anxiety sub-scale included 8 items. As the scores increased, studying skill related to each sub-scale also increased positively. Cronbach Alpha reliability coefficient calculated for all SSS scale was found as .81, was found as .66 for motivation sub-scale, was found as .55 for time management sub-scale, and was found as .73 for preparation to exam-exam anxiety sub-scale.

FINDINGS

Table 3. Learning Styles According to Gender

			Style				
			Accommodating	Converging	Diverging	Assimilating	Total
Gender	Female	N	49	63	146	143	401
		%	12.2	15.7	36.4	35.7	100
	Male	N	31	31	86	69	217
		%	14.3	14.3	39.6	31.8	100
Total		N	80	94	232	212	618
		%	12.9	15.2	37.5	34.3	100

When learning styles of pre-service teachers according to gender in Table 3 were analyzed, 36.4% of females were noticed to have diverging, 35.7% had assimilating, 15.7% had converging and 12.2% had accommodating learning styles. In terms of male pre-service teachers, 39.6% were noticed to have diverging, 31.8% had assimilating, 14.3% had converging and 14.3% had accommodating learning styles. When considered in general, most pre-service teachers (37.5%) were noticed to have "diverging" learning style and the least pre-service teachers (12.9%) had "accommodating" learning style.

Chi-square test was performed to determine whether there was a significant difference between the gender of pre-service teachers and their learning styles or not. There was no significant relationship between the gender and learning styles (Asymp. Sig.= .68, p>.05). It was revealed that learning styles did not differ according to gender.

Table 4. Learning Styles according to Level of Grade

			Style				
			Accommodating	Converging	Diverging	Assimilating	Total
Grade	1	N	39	53	115	133	340
		%	11.5	15.6	33.8	39.1	100
	4	N	41	41	117	79	278
		%	14.7	14.7	42.1	28.4	100

In table 4, when learning styles of pre-service teachers were analyzed according to the level of grade they studies, it was noticed that 39.1% of the pre-service teachers studying at the first grade had "assimilating" learning style, 33.8% had "diverging" learning style, 15.6% had "converging" learning style, and 11.5% had "accommodating" learning style. In terms of pre-service teachers studying at the fourth grade, 42.1% had "diverging" learning style, 28.4% had "assimilating," 14.7% had "accommodating" and 14.7% had "converging" learning style.

According to chi-square test analysis result that was performed to determine whether there was a difference between the grade of pre-service teachers and their learning styles or not, a significant relationship was determined between the level of grade and learning styles (Asymp. Sig. =.02, p<.05). It was revealed that learning styles differed according to pre-service teachers' grade level.

Table 5. Learning Styles according to the Program being studied

		Style				
Program		Accommodating	Converging	Diverging	Assimilating	Total

PCG	N	25	21	42	56	144
	%	17.4	14.6	29.2	38.9	100
Math	N	8	7	35	42	92
	%	8.7	7.6	38.0	45.7	100
Science	N	6	10	42	28	86
	%	7.0	11.6	48.8	32.6	100
Social	N	11	13	19	18	61
	%	18.0	21.3	31.1	29.5	100
Turkish	N	10	17	30	26	83
	%	12.0	20.5	36.1	31.3	100
Classroom	N	13	14	43	28	98
	%	13.3	14.3	43.9	28.6	100
Pre-school	N	7	12	21	14	54
	%	13.0	22.2	38.9	25.9	100

In Table 5, distribution of learning styles according to the program pre-service teachers studied were presented. It was noticed that 38.9% of psychological counselling and guidance pre-service teachers had assimilating learning style, 45.7% of mathematics pre-service teachers had assimilating, 48.8% of science pre-service teachers had diverging, 31.1% of social sciences pre-service teachers had diverging, 36.1% of Turkish pre-service teachers had diverging, 43.9% of classroom pre-service teachers had diverging, and 38.9% of pre-school pre-service teachers had diverging learning style.

According to chi-square test analysis result that was performed to determine whether there was a difference between the programs of pre-service teachers and their learning styles or not. There was a significant difference between the programs and learning styles (Asymp. Sig. =.02, p<.05). It was revealed that learning styles differed according to pre-service teachers' programs.

Table 6. T-test Results of SSS Average Scores according to Gender

Scale	Gender	N	$\bar{X}$	Sd	t	p
Motivation	Female	399	35.19	7.09	1.093	.275
	Male	217	34.53	7.23		
Time management	Female	401	19.90	4.81	-.248	.804
	Male	217	20.00	5.00		
Preparation to exam – Exam anxiety	Female	401	22.85	6.01	-2.181	.030*
	Male	217	23.99	6.54		

When Table 6 was analyzed, it was found that preparation to exam – exam anxiety scores significantly differed according to the gender (t=-2.18, p<.05). Male pre-service teachers average scores of preparation to exam – exam anxiety ($\bar{X}$ =23.99) higher than average scores female ($\bar{X}$ =22.85). Motivation (t=1.09, p>.05) and time management (t=-.25, p>.05) scores of pre-service teachers were not significantly different. It was possible to say that male pre-service teachers were more successful at coping with preparation to exam-exam anxiety. In terms of motivation and time management pre-service teachers had similar views.

Table 7. T-test Results of SSS Average Scores according to Level of Grade

Scale	Grade	N	$\bar{X}$	Sd	t	p
Motivation	1	340	34.59	7.07	-1.451	.147

	4	276	35.42	7.21		
Time management	1	340	19.97	4.95	.198	.843
	4	278	19.90	4.79		
Preparation to exam – Exam anxiety	1	340	22.70	6.31	-2.430	.015*
	4	278	23.92	6.05		

When Table 7 was analyzed, it was found that preparation to exam –exam anxiety scores significantly differed according to the grade level (t=-2.43, p<.05). Fourth grade pre-service teachers preparation to exam – exam anxiety average scores ($\bar{X}$ =23.92) higher than average scores of first grade ($\bar{X}$ =22.70). Motivation (t=-1.45, p>.05) and time management (t=.20, p>.05) scores of pre-service teachers were not significantly different. Depending upon this finding, it could be mentioned that fourth grade pre-service teachers perceived themselves more competent than the first grade pre-service teachers in terms of preparation to exam-exam anxiety sub-scale.

Table 8. One-way Variance Analysis Results of SSS Scores according to Program

		Sum of squares	sd	Average of squares	F	p
Motivation	Intergroup	1058.184	6	176.364		
	Intragroup	30300.881	609	49.755	3.545	.002*
	Total	31359.065	615			
Time management	Intergroup	126.661	6	21.110		
	Intragroup	14511.002	611	23.750	.889	.503
	Total	14637.663	617			
Preparation to exam – Exam anxiety	Intergroup	508.972	6	84.829		
	Intragroup	23389.153	611	38.280	2.216	.040*
	Total	23898.125	617			

As could be seen in Table 8, it was found that SSS motivation scores of pre-service teachers revealed a significant difference according to the program they studied ($F_{(6, 609)}$=3.545, p<.01). According to Tukey HSD test performed to determine among which groups there were differences, it was determined that score averages of classroom teaching pre-service teachers ($\bar{X}$ =36.78) were higher than the score averages of pre-school teaching pre-service teachers ($\bar{X}$ =33.11). No significant difference was found between time management score averages according to the program pre-service teachers studied ($F_{(6, 611)}$ =.889, p>.05). It was possible to say that pre-service teachers studying at different programs had similar views in terms of time-management. The difference between the groups was found significant in preparation to exam-exam anxiety sub-scale ($F_{(6, 611)}$ = 2.216, p<.05). According to Tukey HSD test result, score averages of classroom teaching pre-service teachers ($\bar{X}$=24.43) were higher than the score averages of science pre-service teachers ($\bar{X}$=21.74).

Table 9. One-way Variance Analysis Results of SSS Scores according to Learning Styles

		Sum of squares	sd	Average of squares	F	p
Motivation	Intergroup	621,523	3	207,174	4.125	.007*
	Intragroup	30737,542	612	50,225		
	Total	31359,065	615			
Time management	Intergroup	285,193	3	95,064	4.067	.007*
	Intragroup	14352,470	614	23,375		
	Total	14637,663	617			
Preparation to exam – Exam anxiety	Intergroup	514,620	3	171,540	4.504	.004*
	Intragroup	23383,504	614	38,084		
	Total	23898,125	617			

As could be seen in Table 9, it was found that SSS motivation scores of pre-service teachers revealed a significant difference according to learning styles ($F_{(3, 612)}$=4.125, p<.01). It was possible to say that pre-service teachers' motivations differed according to their learning styles. Also time management scores of pre-service teachers were significantly different according to learning styles ($F_{(3, 614)}$ =4.067, p<.01). It was possible to say that pre-service teachers' time management differed according to their learning styles. Lastly preparation to exam – exam anxiety scores of pre-service teachers were significantly different according to learning styles ($F_{(3, 614)}$ = 4.504, p<.01).This finding showed that pre-service teachers' preparation to exam – exam anxiety differed according to their learning styles.

Table 10. Paired Comparison Results Based upon Bonferroni Analysis of SSS (Motivation Sub-scale) according to the Learning Style

Dependent Variable	Learning Style(i)	Learning Style(J)	Average difference	SH	p	Bonferroni
Motivation	Accommodating	Converging	1.64574	1.07801	.764	
		Diverging	-1.07554	.91937	1.00	
		Assimilating	.70403	.93051	1.00	
	Converging	Accommodating	-1.64574	1.07801	.764	Converging - Diverging
		Diverging	-2.72129*	.86702	.011	
		Assimilating	-.94172	.87883	1.00	
	Diverging	Accommodating	1.07554	.91937	1.00	Diverging - Converging
		Converging	2.72129*	.86702	.011	
		Assimilating	1.77957	.67487	.051	
	Assimilating	Accommodating	-.70403	.93051	1.00	
		Converging	.94172	.87883	1.00	
		Diverging	-1.77957	.67487	.051	

According to Bonferroni test performed to determine among which groups there were differences. As could be seen in Table 10, motivation score averages of pre-service teachers with diverging learning style ($\bar{X}$ =36.13) were significantly higher than the score averages of pre-service teachers with converging learning style ($\bar{X}$ =33.40). Accordingly, it was possible to say that diverging learning style had an effect upon increasing the motivation of pre-service teachers rather than the converging learning style.

Table 11. Paired Comparison Results Based upon Bonferroni Analysis of SSS (Time Management Sub-scale) according to the Learning Style

Dependent Variable	Learning Style (i)	Learning Style (J)	Average Difference	SH	p	Bonferroni
Time Management	Accommodating	Converging	1.01144	.73544	1.00	
		Diverging	-.87026	.62686	.993	
		Assimilating	.28231	.63439	1.00	
	Converging	Accommodating	-1.01144	.73544	1.00	Converging - Diverging
		Diverging	-1.88169*	.59113	.009	
		Assimilating	-.72912	.59911	1.00	
	Diverging	Accommodating	.87026	.62686	.993	Diverging - Converging
		Converging	1.88169*	.59113	.009	
		Assimilating	1.15257	.45937	.074	
	Assimilating	Accommodating	-.28231	.63439	1.00	
		Converging	.72912	.59911	1.00	
		Diverging	-1.15257	.45937	.074	

According to Bonferroni test performed to determine among which groups there were differences. As could be seen in Table 11, time management score averages of pre-service teachers with diverging learning style ($\bar{X}$ =20.73) were significantly higher than the score averages of pre-service teachers with converging learning style ($\bar{X}$ =18.85). Accordingly, it was possible to say that diverging learning style had an effect upon increasing the time management of pre-service teachers rather than the converging learning style.

Table 12. Paired Comparison Results Based upon Bonferroni Analysis of SSS (Preparation to Exam-Exam Anxiety Sub-scale) according to the Learning Style

Dependent Variable	Learning Style (i)	Learning Style (J)	Average Difference	SH	p	Bonferroni
Preparation to Exam-Exam Anxiety	Accommodating	Converging	2.33059	.93872	.080	
		Diverging	.30216	.80013	1.00	
		Assimilating	1.87665	.80975	.125	
	Converging	Accommodating	-2.33059	.93872	.080	Converging - Diverging
		Diverging	-2.02843*	.75452	.044	
		Assimilating	-.45393	.76471	1.00	
	Diverging	Accommodating	-.30216	.80013	1.00	Diverging - Converging Diverging - Assimilating
		Converging	2.02843*	.75452	.044	
		Assimilating	1.57450*	.58634	.045	
	Assimilating	Accommodating	-1.87665	.80975	.125	Assimilating - Diverging
		Converging	.45393	.76471	1.00	
		Diverging	-1.57450*	.58634	.045	

According to Bonferroni test performed to determine among which groups there were differences. As could be seen in Table 12, preparation to exam-exam anxiety score averages of pre-service teachers with diverging learning style ($\bar{X}$ =24.36) were significantly higher than the score averages of pre-service teachers with converging learning style ($\bar{X}$ =22.03) and assimilating learning style ($\bar{X}$ =22.49). Accordingly, it was possible to say that diverging learning style had an effect upon increasing the preparation to exam-exam anxiety of pre-service teachers rather than the converging and assimilating learning style.

CONCLUSIONS According to the result obtained from this study in which the relationship between the learning styles and studying habits of pre-service teachers, there was no significant difference between learning styles and gender of the pre-service

teachers. It could be mentioned that dominant learning styles of female and male pre-service teachers had similarities, and gender was not a determinative factor upon the learning styles. When the literature was reviewed, it was noticed that similar results related to gender and learning styles of pre-service teachers were obtained in several studies (Kaya, Bozaslan and Durdukoca, 2012; Dikmen and Saracaloğlu, 2011; Genç and Kocaarslan, 2013; Köse, 2010; Özgür, 2013; Can, 2009; Demir, 2008; Gürsoy, 2008). In some studies (Uzuntiryaki, Bilgin and Geban, 2004; Ekici, 2013; Kahyaoğlu, 2011; Yılmaz, 2014; Süral, 2008; Topuz and Karamustafaoğlu, 2013), it was noticed that there was a significant difference between gender and learning styles of pre-service teachers.

According to the result obtained from this study, it was determined that there was a significant difference between the grade levels of pre-service teachers and their dominant learning styles, and dominant learning style of the pre-service teachers differed according to the level of grade. When the literature was reviewed, some studies (Köse, 2010; Can, 2009) proved that there was a significant difference between the grade of pre-service teachers and their dominant learning styles. Whereas significant difference was found between learning styles and level of grade in some parts, no difference was found in some parts in similar studies (Dikmen and Saracaloğlu, 2011; Özgür, 2013; Topuz and Karamustafaoğlu 2013; Gürsoy, 2008).

A significant difference was found between the program pre-service teachers studied at and their dominant learning styles. This result could be based upon using different score types in student selection to the program. In a research carried out by Yılmaz (2014), the learning style pre-service teachers adapted revealed a significant difference according to the department they studied at; however, in the study carried by Gürsoy (2008) learning styles did not differ significantly according to the program pre-service teachers studied at. As the level of grade changed, learning styles differed.

According to the gender, views of pre-service teachers related to the time management showed similarities; in the study carried out by Eldeleklioğlu (2015). Females were determined to perceive themselves better rather than the males. Male pre-service teachers were specified to be more positive rather than the female pre-service teachers in terms of exam anxiety and preparation to exam. This result supported the results of the studies in the literature related to the fact that exam anxiety of females was higher than the exam anxiety of males (Kapıkıran, 2002; Alyaprak, 2006).

When the research results were analyzed in general, pre-service teachers with diverging learning style were noticed to have higher studying skills rather than the pre-service teachers with other learning styles. In reference to this, it will be useful to analyze the effects of different learning styles upon exam performance and academic success.

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A MODEL SUGGESTION BASED ON PROSPECTIVE TEACHERS' OPINIONS ON TEACHER TRAINING SYSTEMS

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ABSTRACT

This study aims to propose a teacher training model regarding the teacher training systems in United States (The University of Virginia sample), Finland and Turkey based on the opinions of students enrolled in the final year of Faculty of Education and Pedagogical Formation Education Programme. The study is descriptive and adopts a qualitative research methodology and multiple-case holistic design. The participants are final-year undergraduate students of Education Faculty in Hacettepe University and students of Pedagogical Formation Education Programme. In the research, open-ended question forms were used which were developed by Ateş & Burgaz (2014) as a data collection tool. Descriptive data analysis was used for data analysis. The findings show that students both in Education Faculty and Pedagogical Formation Education Programme share similar opinions and suggestions regarding a new teacher training model.

INTRODUCTION

Teachers have key importance in the education systems. The studies show that qualified and well equipped teachers increase the education quality and efficiency, and thus contribute to societal, economic and political development of countries (Ballard & Bates, 2008; Darling-Hammond, Chung Wei & Andree, 2010; Hanushek, 2009 & 2011; Hanushek & Rivkin, 2012; Hanushek & Woessman, 2012; Harris & Sass, 2007; Tschamen-Moran, Hoy & Hoy, 1998; Yetkiner Özel & Özel, 2013). In this respect, a number of European countries developed policies and practices to train and recruit qualified teachers during the last 10 years (Bracey & Molnar, 2003; Darling-Hammond & Post, 2000). Within the scope of this study, the teacher training systems of Turkey, Finland and United States will be investigated in terms of (1) university entrance requirements, (2) duration of education and training, (3) content of education, (4) school experience and teaching practices, (5) teacher competency and (6) evaluation systems.

When university entrance requirements of each three countries are looked into, prospective teachers in Turkey are placed in Education Faculties on the basis of the scores received from national central exam whereas Finnish candidates are chosen on the basis of their results in written exam, aptitude test, interview and group discussions, and the content of these exams differ among Finnish universities (Ekinci & Öter, 2010; European Commission, 2004; Paksuniemi, 2013; Sahlberg, 2011). On the other hand, the University of Virginia in the United States requires that prospective teachers have at least a 25% rate of success and are asked for reference letters from candidates' high school teachers. The university also requires that candidates have a valid score of SAT (Scholastic Aptitude Test), ACT (American College Testing) or VCLA (Virginia Communication and Literacy Assessment), are successful in interviews, study 2 years at Science and Letters Faculty and have a GPA of minimum 2.7/4.00 so that they could proceed with their studies at Education Faculty (Virginia Dept. of Education, 2012).

When countries are examined in terms of duration of education, Turkey requires eight terms of undergraduate education. In Finland, candidates first complete a six-term undergraduate education followed by a four-semester graduate education and thus they complete a ten-semester education for teacher training (Ekinci & Öter, 2010). In the United States, teacher candidates study ten semesters in total, four semesters at Science and Letters Faculty and this is followed by a six-semester training at Education Faculty.

When teacher training systems are analysed in terms of content of education, the four-year teacher education program in Turkey is composed of 30% of professional teaching knowledge, 20% of general culture and 50% of subject knowledge (Aydın, Şahin & Topal, 2008). In Finland, education provided at Science or Social Science Faculty is followed by a Pedagogical Formation Training at Education Faculty. In the United States, after the choice of major, the candidate takes courses related to pedagogy and to the school and classroom experience.

Regarding the school experience and teaching practices of selected countries, in Turkey, starting from the sixth term, each teacher candidate observes and participates in educational practice once a week for three years in the context of the "School Experience" and "Teaching Practice" courses (Külekçi & Bulut, 2010). In Finland, teaching practice takes 2 years and is composed of four levels (Ekinci & Öter, 2010, p. 27). In the United States (The University of Virginia sample) teacher candidates start taking the course of "School Experience" in their second year. In the first year of this course, teacher candidates mostly make observations and then in the second year, they are asked to teach private courses aimed at improving literacy skills of students. In the third year of this course, which corresponds to their fifth year in Education Faculty, they start to teach (Külekçi & Bulut, 2010, p. 212; University of Virginia, Website of the Curry Education Faculty).

When teacher training systems are scrutinized in terms of teacher competencies, Turkey identifies six competencies regarding the teaching professions; (1) personal and professional values – professional development, (2) knowing student, (3) learning and teaching process, (4) monitoring and assessing the learning and development, (5) school-family and society relations and (6) programme and content knowledge (MEB, 2008). These six competencies are composed of 31 sub-competencies and 233 performance indicators. Teacher competencies are open to criticisms and suggestions of all stakeholders in Turkish education system and are prepared to be developed continuously. In Finland the programme aims to gain the following competencies: "considering individual differences of students and developing", "cooperation with other teachers", "collaboration with parents, officials and other professionals", "creating a learning environment and preparing materials" and "professional development" (Delibaş, 2007; Ekinci & Öter, 2010, p. 33; Erbilgin & Boz, 2013). In the USA, (The University of Virginia sample) teacher training programme aims to gain competencies of "knowing students better", "being competent in planning, teaching, assessing and evaluating", "creating an efficient learning environment" and " collaboration and effective communication"(Külekçi & Bulut, 2010, p. 212).

Lastly, when selected countries' evaluation systems in teacher training programmes are looked into, it could be seen that theoretical courses are evaluated on the basis of one mid-term and one final exam whereas for practice based courses students' performances are taken into consideration. In Finland, teacher candidates are evaluated both by the Education Faculty and the schools in which they do their internship (Ekinci & Öter, 2010, p. 28; Külekçi & Bulut, 2010, p. 212). In the University of Virginia, teacher candidates go through various and numerous evaluation processes. In addition to the exams, they also sit for the exams required to pass to an upper class. They also submit the portfolios outlining their "school experience" performance at the end of the academic year (Külekçi & Bulut, 2010, p. 212).

The most fundamental problems of teacher education in Turkey are the disagreements and the lack of communication between the Ministry of National Education (MoNE) and universities, and not being able to establish a supply-demand balance due to a number of unplanned regulations (Özoğlu, 2010). This problem is further triggered by the opportunity of employing graduates of Science and Letters Faculties' departments as public teachers. In addition, the problem is deepened by the teacher training programmes that offer evening education programmes and classes.

Lack of adequate number of lecturers and infrastructure deficiencies (such as classroom, laboratories and technological equipment, etc.) can be shown as the main issues of structural problems of Education Faculties. Insufficient number of lecturers leads to an increase in course load which means that academics cannot get adequately prepared for courses and they allocate less time for research. When these problems of Education Faculties are considered, current teacher training programmes are not sufficient in terms of human and physical capital. It should be noted that qualified teacher force that Turkish education system need will not be provided as long as these fundamental problems are not solved. Therefore, taking into account the views of students enrolled in Education Faculty (EF) and Pedagogical Formation Education Programme (PFEP) regarding the teacher training models can contribute to the related literature. Also, it is thought that analysing what students think about the current system can also be guiding.

Parallel to these, the aim of this research is to answer the question of "How a teacher training model can be based on the opinions of final year students in Education Faculty and students in Pedagogical Formation Education Programme on teacher training system in United States (The University of Virginia sample), Finland and Turkey?"

Within the framework of this main aim, the following sub-questions were established:
1. How final year students at Education Faculty and Pedagogical Formation Education Programme assess the following aspect of teacher training in the States (University of Virginia sample), Turkey and Finland?
a) University entrance requirements,
b) Duration of education
c) Content of education

d) School experience and teaching practice
e) Teacher competencies
f) Evaluation Systems

2. What sort of an education model can be formed on the basis of the opinions of final year Education Faculty students and students of Pedagogical Formation Education Programme?

METHOD

Design of the Study

This study is designed in descriptive form and designed according to qualitative research methodology. The current study was formed as a case study. Merriam (2009) defines case study as "an intensive and holistic analysis of an example, situation, phenomenon or a social unit." Case studies are used when a phenomenon is studied within its environment, when the borders between that phenomenon and the context cannot be easily distinguished and when there is more than one evidence or data source regarding the phenomenon to be explained (Yin, 2009). In other words, case studies are more suitable when the proposed research seeks to scrutinise "the phenomenon or situation that is studied" on the basis of "why" and "how" questions (Yin, 2009). In the research, multiple-case holistic design, which is a design of case studies, is used (Yıldırım & Şimşek, 2013).

Participants

The participants of this research are final-year students enrolled in Secondary Science and Mathematics Education (SCME) in Education Faculty of Hacettepe Univeristy during spring term of 2013-2014 academic year and students registered in Pedagogical Formation Education Programme (PFEP) between February and July 2014. Both groups were students of maths, biology and chemistry education.

Table 1. Participants of the research

Fields	SCME	PFEP
Mathematics	8	7
Chemistry	8	6
Biology	10	10
Total	26	23
Final total	49	

Secondary Science and Mathematics Education is a five-year programme – exclusive of English preparatory class (duration of education in these departments was later on reduced to 4 years, but these students were enrolled in the fifth year at the time of the research). The students in these departments are studying to become teachers at secondary level of education. The education programme that these students follow are composed of subject knowledge, general culture and professional teaching knowledge courses. These courses are complexly distributed to across five-year education. The students of PFEM are graduates of four year programmes. These students follow 28-week professional teaching knowledge courses to receive teaching qualification certificate. These two groups obtain right to be a public teacher by following two different models. Therefore, qualifying to be a teacher according to these two models is accepted as a sampling criterion; in other words, purposive sampling has been used for this research. As shown in table 1, 49 teacher candidates participated in the study.

Data Collection

The data collection tool of this study is the "open-ended question form" developed by Ateş and Burgaz (2014). The required permission for the use of tool was received from researchers. The stages of development of question form are presented below.

To prepare the data collection tool, first of all, teacher education of three countries (Turkey, Finland and United States) were studied and six dimensions (university entrance requirements, duration of education, content of education, school experience and teaching practice, teacher competency and evaluation system) were identified. Later on, the features of the training programmes and the six dimensions across three countries were summarized on a grid composed of 18 checkboxes. Expert opinions were received from two lecturers who have previously worked on the same topic to ensure the accuracy and clarity of the features in the grid and whether the features sufficiently explain the relevant dimensions. After the correction, the grid presenting the features of education system (Appendix A) and question form (Appendix B) were finalized.

Data were collected through open-ended question form are collected in a similar way with semi-structured interviews and are based on a series of standard question set. Thus, students were able to answer the questions regarding the three different teacher training systems subjectively. This allowed students both to take the oral explanation into consideration and to read the provided texts with no time concerns. They were free to answer the

questions at the length, time, and style they wished. At this step, teacher candidates were provided with the appendix A form seen below and during the distribution of forms to students in class, they were given further information about the dimensions. They were asked to write a feature for each six dimension in the Appendix B form drawing from the information provided in Appendix A. The selection of features for each dimension was asked to be based on their opinions about what could be the most efficient teacher education programme in Turkey.

Data Analysis
Education faculty students are anonymised with codes of EF1, EF2 , EF3….EF26 and students of pedagogical formation education programme are tagged as PF1, PF2, PF3…..PF23. Then opinions of both groups are read a couple of times. Descriptive analysis technique was used. The six dimensions of research were accepted as "pre-determined main themes." Students' opinions in both groups are analysed separately under six dimensions and thus sub-themes are formed under each dimension. Then commonalities and differences of sub themes of six dimensions are identified for both groups. Finally, sub themes were integrated regardless of groups. Integrated themes were used to propose a model to address the third sub-problem of the research. Findings based on suggested opinions are supported and interpreted by using the codes given to the participants.

FINDINGS
Findings are presented below in accordance with the sub-problems of the research.
3.1. First sub-problem of the research: How final year students of Education Faculty and students of Pedagogical Formation Education Certificate Programme evaluate a) university entrance exam requirements b) duration of education c) content of education d) school experience and teaching practice e) teacher competencies and f) evaluation systems of teacher education in USA (University of Virginia system), Finland and Turkey? The results obtained from these six dimensions are presented below.

3.1.1. Opinions of Students regarding the "University Entrance Requirements"
Forty-two percent of the Education faculty students are of the opinion that students who want to study at education faculties should be accepted according to Finland model whereas 34% find USA (University of Virginia) system acceptable. Students arguing for both Finland and USA practices stress that there should be **an interview** in the selection procedure so that students who are capable of teaching can be better identified. The excerpts below show why students think interview is necessary:

> *Teaching is all about knowing and having expertise in your major. The person should be an effective and influential speaker and teller, love students and be patient (EF3).*
> *An interview can better evaluate the person's attitude towards teaching (EF11)*
> *The most important short-coming compared to other two countries is that we do not conduct an interview. We only evaluate the candidate's scientific knowledge and employ accordingly. However, teachers should have some special qualities. Unfortunately, our written exams are not enough to evaluate this. (EF2).*
> *There should be an interview after the university entrance exam and candidates' communication skills should be considered (EF18).*
> *Individual interviews should also be carried out in our system. Many colleagues of us study in Education Faculty because they have the necessary score to study there. Interview could show if they are eligible for teaching. (EF26).*
> *It is not enough for teachers to express themselves in written, but also orally. Interview can increase the reliability of written exams (EF1).*

Students' views emphasize that candidates who want to be a teacher should not only be selected through a written exam but they also should sit for an interview that could evaluate their attitudes, interest and skills. On the other hand, some students expressed their concerns although they ask for an interview in the process of selecting teacher candidates. One of the students, EF21, is of the opinion that "favouritism can be prevented if a group of scientists from different universities rather than academicians only from one university conduct interviews."

Another requirement stressed by students is the "interest, skill and attitude tests". They express their ideas as follows:

> *There should definitely be an aptitude test. A student may have an interest in a particular major or a course but if s/he does not have a talent in teaching, there is no point in studying that department. S/he may graduate from that faculty but it is likely that s/he will experience problems regarding the job efficiency (EF1).*
> *In addition to high school and university entrance exam, attitude scales about the professions candidates wish to choose should be applied (EF10).*
> *If individuals are guided according to their skills, their occupational achievement can increase (EF11).*

I believe that aptitude test is important. If the individuals are guided on the basis of their skills, there will be continuity and enthusiasm in the work they do (EF12).

Turkey should adopt the aptitude test used in Finland for university entrance (…). In our country, regardless of the individual's talent for teaching, the exams scores are taken as a basis to study at education departments. Aptitude test could prevent this (EF14).

In addition to the exam, interest and aptitude test can be applied. Placements made due to wrong choices of individuals cause them to study in departments that they do not want. Therefore, the personal satisfaction and performance criteria are not at an efficient level (EF17)

Students connect interest, aptitude and attitude tests with professional achievement and satisfaction, performance, job efficiency and carrying on a job. Students express that they could do better in the professions that they have are talented for. One student (EF1) argues that having an interest in a particular job is not enough on its own and adds that there is a fine line between desiring to be a teacher and having the capability and ability of getting on with that job.

The most commonly expressed third requirement is "written entrance exam." One group of students find the central entrance exams (such as university of high school entrance exams) appropriate and the other group argues that each university should do its own exam. Almost all students agree that in addition to a written exam, other requirements should also be applied. On the other hand, a small number of students express their concerns on some of the requirements. For instance, one student, EF24, says: "Although I do not feel positive about OSYM, I cannot think of another way of selecting students for the university. It relatively decreases the favouritism", and thus expresses her hesitation about the additional requirements. Another student, EF7, expresses her concern over "reference letters" and reflects her ideas as follows: "Except for the high school references, the entrance requirements of the USA are all reasonable and feasible. Such practices can be introduced to our country; however, in the context of our country, reference letters may include bias and partiality."

Fifty-two percent of Pedagogical Formation Education Programme students are of the opinion that the requirements in the USA system are appropriate whereas 35% of them prefer the entrance requirements in Finland. Students who approve both the USA and Finland system stress particularly the importance of **the interview.** Few quotations are presented below to show why they think interviews are significant:

In Turkey, only written exam is administered and this is not enough. Interviews are needed to understand if the person is genuinely qualified enough to become a teacher. (PF7)

Interviews cannot address the problems and short-comings of written exams (PF19).

There should definitely be interviews to find out if the candidates are eligible to become teachers, if they are patient and have strong nerves or if they have a decent diction and act and behave well. In the interviews, one should look at if the candidate genuinely wants to become a teacher because there are students who mock or act disrespectfully to the teacher (PF16).

I find the interviews very helpful to evaluate the candidate in terms of teaching and communication skills (PF11).

Interview is a good practice to prevent students from choosing a profession that they dislike (PF4).

PFEP students believe that interviews can offer a better way of selection in identifying the interest of the candidates in teaching profession, personal characteristics and skills. The idea that interviews can better evaluate some qualifications and properties that written exams cannot is prevalent. Contrary to the Education Faculty students, PFEP students who find interviews as appropriate for an entrance requirement did not express any concerns.

Another frequently mentioned requirement by teachers is "interest, aptitude and attitude test." Students expressed why they believe interviews are necessary as follows:

Aptitude tests should definitely be done to understand if students are taking up an appropriate profession in accordance with their skills (PF20).

Aptitude tests should be done because many students in Turkey choose their future profession according to written exams and they study in the departments that they have are not talented in (PF13).

In Turkey students are placed in universities according to a score they get from one exam. This is because students take their scores into consideration when choosing a profession not their interests. As a consequence of this, we have many young people who are not happy with what they studied. Interest and/or aptitude test will show us if their skills accommodate to the profession they want to choose. (PF10)

For Turkey, I see that only aptitude test is missing because students in our country are not placed according to their skills or talents but according to their scores. (PF3)

Students think that interest, aptitude and attitude tests will help potential candidates choosing an appropriate profession and feeling satisfied about what they study. Statements of PFEP students involve less justification than final year students at Education faculty. PFEP students focus more on the necessity of these exams.

The third requirement students mentioned in the interviews is the "written entrance exam." Students voice their ideas about the necessity of written exams as follows:

The central exam done by OSYM is the most appropriate one for Turkey because there is no genuine sense of justice in our country. Therefore, the practices in other countries are not suitable for us (PF1.)

In countries like Turkey where social justice concept is immature and favouritism is prevalent, the central exam is a healthy system to accept students to universities, though not an ideal. Some further criteria could be introduced if the exam is going to be conducted fairly." (PF2)

I find the central exam system appropriate. I don't think interviews or reference letters will be a healthy way to conduct an exam. In the central exam, the students who have worked hard will at least receive a recompense for their work. If there is an interview, there might be cases where bad students will be placed to some departments." (PF18)

When students' statements about written exams are looked into, the reason why they prefer these exams is not the fact that they think such exams evaluates effectively the qualification, knowledge or skill but they rather have concerns over the possibility of biases and favouritism if other entrance criteria are used.

3.1.2. Students' opinions on "Duration of education"

Thirteen Education Faculty students stated that the duration of education should be five years as in the USA and Finland, 5 of them said it should be four years, 3 of them think that it should 3 years whereas 2 of them ask for a six-year education. The rest (three students) made an irrelevant statement. When statements of students who think that education should be 5 years are analysed, it could be seen that they emphasized that students should first study at Science-Letters Faculties to specialize in their related field of teaching and then they touched upon importance of graduating with a master's degree. One of the students, EF3, who think that education should be 5 years justified this by saying: "4 years are not enough for teacher education. It is expected from us to have a good content knowledge, to be equipped with teaching competencies and to be successful in teaching. In the US, Science-Letters Faculty students graduate with the content knowledge and then gain teaching skills at Education Faculty. In addition, they graduate with a master's degree and therefore also qualify to teach in an academic environment. Another student, EF4, said "I think, given the duration of the US program, better equipped teachers are educated. They also graduate with a master's degree." Based on this finding, it could be argued that final year Education Faculty students want to take their content knowledge and pedagogical content knowledge education in different faculties, unlike the current practice in Turkey which offers an integrated programme at Education Faculties.

Sixteen PFEP students (69.6 %) believe that education should be five years as in the USA and Finland; six of them think that it should be 4 years and only 1 student says that it should be 8 years. When all the statements of the students who think that education duration should be 5 years are looked into, it could be seen that they want a system like in Finland and the USA where first two or three years of 5 year education should be allocated for the training at Science-Letters faculties. One of those studies, PF23, justifies this as "It gives people the opportunity of being more equipped in their field", whereas another students, PF9, similarly argues that "I believe that the chance of training teachers who have an expertise in a particular field could be higher." Lastly, PF11 says "To be able to study in an Education Faculty, they should require to be a graduate of Science-Letters Faculty. In this faculty, content knowledge courses can be thoroughly learned in 2-3 years and then students with teaching skills can be selected to proceed with teaching formation programme." An important issues emphasized by PFEP students is to be able to graduate with a master's degree. On this issue, students talked about advantages such as "not dealing with exams for acceptance to a master's degree (PF5), raising up individuals who know what they want and who can develop themselves in that particular field (PF10), and having more qualified teacher (PF19) and opportunity of starting directly to a doctoral degree (PF22)."

3.1.3. Opinions of students about the "Content of Education"

Fifty percent of education faculty students argue that like in the USA and Finland, candidates should receive their content knowledge classes for 2 years from relevant departments of Science and Letters Faculties and should get professional teaching knowledge courses for 3 years from Education Faculties. As EF1 expresses subject's content knowledge classes taken at Education Faculties are unnecessary and insufficient: "In our country, it is compulsory for us to take courses like physics, chemistry, and biology. The content of these classes are not sufficient to be used in teaching profession therefore they are really unnecessary. Instead of taking these classes, we should take more courses on teaching." When all students' statements who have shared a similar view are taken into

consideration, it could be argued that content of a four-year education programme is not sufficient both for content knowledge courses and professional teaching knowledge and practices. Students particularly expressed that courses are mainly theoretically-driven in Education Faculties, there are few teaching practices and therefore there is a need to increase the percentage of such courses in the curriculum. Only five students said that they were happy with the curriculum, argued that that content knowledge courses make up 50% of the curriculum and therefore there is a need for an increase in professional teaching knowledge courses.

43.5 percent of pedagogical formation education students suggest that like in the USA and Finland candidates should follow 2 year content knowledge courses at Science and Letters faculties and 3 year teaching courses at Education Faculties. Contrary to the current integrated programme in education faculties, they express that content knowledge and teaching courses should be taken from different faculties. What is striking is that education faculty students want such a system with a higher percentage (50%). Both groups of students propose that there should be an either 2+3 programme like in the USA or 3+2 programme in Finland and content of education should be re-considered on the basis of 5 year education.

3.1.4. Students' opinions on "School Experience and Teaching Practice"
Students' opinions on "School Experience and Teaching Practice" show that the United States practices are more favoured. 16 Education Faculty students out of 26 stated they are more in favour a school experience and teaching practice like in the USA whereas respectively 3 and 1 of them opted for the system in Turkey and Finland. The rest (6 students) did not specify a particular practice in any of the countries but they asked teaching practices to be increased and wanted a more rigid monitoring and inspection. When the practices in the USA is looked into, it could be seen that students visit schools for teaching practice almost in all terms and they are more engaged with schools, make observation and teach.

It could be understood from students' statements that they attach importance to teaching practices:
> We only take "school experience and teaching practice" for only three years. School experience course is all about making observation. Teaching practice course is in the last term of the final year. This means, we reduce all the things made in every term of the USA education into one term in our system. As I said before, we should at least have a 10-term education and we should go to schools to teach at least in 6 terms of it. Now, we visit only one school. If we have this practice for six terms, we will have the chance of seeing 6 different schools. These schools could involve different types such as schools with multi-grade (or integrated) class, private schools, public school or practice schools of Education Faculties (EF7).
> The problem that we mostly face in teaching practice courses is the inexperience. If we have a teaching practice every term like in the USA, the problem can be solved. (EF5).
> They say education requires experience. So, the more experience we gain, it is better for us. Teacher candidates should have more experience in working with the new generation and they should be able to understand their way of thinking. They should practice how to teach. We should gain experience when we are studying in the university so that when we graduate we could be experienced teachers who can stand on their feet and feel confident. The other two countries' development is directly related to their education (EF26).
> I think that the practice in the USA is more efficient because students under supervision take the necessary guidance and supervision and they better know what to do or how to do things (EF6)
> I found the practice in the USA efficient. School experience should not start in the third year. Teacher candidates should start visiting school starting from the second year. If these practices start earlier, students can better gain experience and can better make decisions about themselves (EF15)
> When I look into all three countries, I see that USA system is more intensive and tiring. Yet, I think that starting teaching practice from the second year onwards is better to feel prepared for teaching (EF4).

When statements of final-year Education Faculty are considered, it could be put forward that students place a particular importance to teaching practices, they want to start teaching practice much earlier and they want to spend more time within the school environment during their pre-service. Thus, they want to make more observations at schools and gain experience. Students want teaching practices courses to be increased in number and wish to enhance their knowledge about the school environment and the students. This is because they believe that if they know the nature of school and students better, then they could feel more confident and be better equipped teachers.

Eighteen PFEP students of out 23 prefers school experience or teaching practice similar to the USA and 1 stated to opt for the system in Finland. The rest four students argue the importance of teaching practice and necessary of increasing teaching practice in the curriculum. Students' opinions show that the system in the USA is more

preferred. The quotations below can be taken as an indication that students want to have a longer period of teaching practice at schools:

> *It could be very helpful if students gradually engage in practices starting from the second year like in the USA. This is because candidates should start gradually seeing the beauty of teaching profession and should be more efficient by being in an interaction with students. As candidates improve themselves each year and reach to the level of managing their own class, they can take firm steps towards their profession and be more beneficial to their students (PF10)*
> *The system that the USA follows is quite good. They gradually prepare students for teaching profession with a full aim of training teachers (PF20).*
> *I think that teaching practice is the most important part of teacher training. This is the time when an individual takes a decision regarding the students, his/her identity and teacher identity. I believe that teacher training should be gradual and long term (PF9).*
> *The practice in the USA seems better. The teacher candidate has the opportunity to engage with the students starting from the first year (PF18).*
> *I found the system in the USA quite efficient and different. I think they teach how a teacher should be during the practice (PF1).*
> *I believe that the practice in the USA will be beneficial. The more teacher candidate takes practice-based courses, the easier s/he can adapt to the school environment in the future. In addition, classroom management skills can also be gained easily (PF14).*

When statements of PFEP students are considered, it could be said that students prefer teaching practice courses to be distributed to each year as in the USA thus they could better adapt to school and teaching profession in the future and feel more comfortable in issues such as classroom management. They think that gradually getting ready for teaching professions is a good opportunity to address the problems and deficiencies within the process.

3.1.5. Students' opinions about "Teacher Competencies"
Final year students at Education Faculty stated the qualities a teacher should have rather than preferring a country's system. When the qualities student stated were analysed, 51.1 % of 141 sentences expressed by students goes along with the qualities mentioned in Turkey, 24.8% of them reflects the qualities in Finland and 24.1% of them are the USA qualities. Students expressed that they found the competencies in Turkey appropriate and made some further suggestions:

> *I think the teacher competencies in our country are not sufficient. Teachers should better know their students and establish an education environment that is relevant for those students. An appropriate education environment in which teachers can solve problems or offer solutions and can work should be created (EF15)*
> *As far as the standard competencies in Turkey are gained to the teachers, it will be better for everybody. (EF14)*
> *The teacher competencies in Turkey are quite good. The important thing is to show them in practice. (EF7)*
> *Little is being given and much is being demanded. (EF3)*

Students' almost all statements on teacher competencies show that they do not have any criticisms regarding the competencies but they rather emphasize the importance of assessing whether teachers gain these competencies or whether teachers exhibit behaviours that are in accordance with the gained competencies. Some students (EF1, EF20, and EF11) suggested that some of the competencies in USA and Finland should also be introduced to Turkey. These competencies are acting professionally (USA) and knowing students better (USA). Another finding is that students are in favour of a teacher education based on a competency based framework programme.

When the competencies PFEP students found appropriate in "teacher competencies" dimension are analysed, 71.5% of the 123 sentences that express a specific competency reflects the competencies in Turkey whereas respectively 22% and 6.5% of the statements goes along with the competencies of USA and Finland. When students' expressions about teacher competencies are looked into, it could be argued that they find the competencies in Turkey quite comprehensive yet they think some of the competencies in other two countries should also be introduced to Turkey. The quotations below confirm this argument:

> *The competency of knowing students better is also important. This should be added to the competencies (PF4).*
> *In addition to the competencies we have in Turkey, the competency of providing safe and positive learning environment should be introduced (PF3).*
> *Students should have the ability of taking individual differences into consideration and developing them (PF2).*

Acting professionally is definitely very important (PF5).
A teacher should definitely learn to act professionally (PF11).
The competencies in Turkey are quite comprehensive but competencies of knowing students better, taking individual differences into consideration and acting professionally should also be added (PF15).
The competence of knowing students better should also be paid attention (PF20).

Students who expressed that certain competencies should also be introduced to Turkey focused on the need for acting professionally (USA), knowing students better (USA), taking individual differences into consideration and developing these (Finland). PFEP students like Education Faculty students argues for a teacher education based on the framework of competencies of teacher candidates.

3.1.6. Opinions of students regarding "Evaluation System"
Seven Education faculty students indicated that they preferred the evaluation of USA system while 5 students delivered an opinion in favour of Finland system. Five students who embrace the education system in Turkey expressed that the system in Turkey could be further improved. Nine students did not make any remarks on this issue. Some of the points raised by students in favour of the US system are:

I think the system in the US is more efficient. Portfolios and planning increase the efficiency of teaching and permanence of learning (EF1).
Neither entering Education Faculties nor graduating and working as a teacher should be easy. Those who cannot reach a certain level particularly in teacher competencies and professional knowledge should not graduate. This should not be equated with discouraging students; instead it is doing favour to the next generations. Moreover, evaluations made in internship schools should make up a big part of the assessments (EF2).
I am in favour of the exams required to pass the upper class as in the USA. If this is applied, it could be ensured that we could have a more successful term (EF5).
I think the USA system would be more efficient because it is aims to make students more active. On the other hand, in our system, student is evaluated on the basis of a mid-term and a final exam. This creates the mentality of studying only for exams in students (EF6).
In the USA, practices are based on formative evaluation. This helps students monitor their development and weaknesses within the process. (EF14)

Students who embrace the assessment system in the USA think that portfolios play an important role in evaluating students' performances throughout the year. Evaluating the each product of the candidate is found more meaningful the summative evaluation. This finding indicates that students opt for formative evaluation. In addition, it could be argued that students also think that summative evaluations for passing to the upper class will be more meaningful if combined with formative evaluation.

Ten of PFEP students prefer evaluation system of United States whereas six students opt for Finland system. Only two students think the evaluation system in Turkey is appropriate. The rest five students did not state a particular opinion on this. The statements below reflect the positive opinions of students on the USA system:

Of course, I prefer the USA model because there is a portfolio prepared every year and there is an exam requirement to pass to the upper class and this will make the teacher candidates being prepared and ready all the time (PF1).
The exam done in the USA to pass to the upper class can be applied in Turkey. I believe it could be beneficial in terms of teacher competencies. To be honest, all the evaluation systems in the USA caught my attention. I think they can all be applied in Turkey (PF4).
More attention should be given to portfolios. To see how much a teacher candidate developed him/herself would remind him/her mistakes and will give an opportunity to address those mistakes (PF12)
I found the system in the USA efficient because mid-term and final exams cannot evaluate to what extent a person is capable of teaching. I find performance evaluation very necessary in terms of teaching (PF15).
Portfolio evaluation at the end of each year is a good strategy. Teacher candidate will also have the chance of seeing of her one-year of work at the end of the academic year. S/he can also use those materials in the future in his/her professional life (PF18).
Practice-based evaluations should be introduced. When there is only one mid-term and a final exam and when no other means of evaluation is done, then student studies by focusing on exam, memorizes the knowledge and passes. However, the knowledge that is put into practice is also learned and this means that the desired aims are achieved (PF20)

It could be argued that PFEP students prefer the USA or Finland system because the evaluation is distributed evenly across all years and students are evaluated both in terms of theoretical knowledge and practice thus there is an importance attached to both formative evaluation and summative assessment. This is directly related to the performance of student. Students have negative attitudes towards summative assessments based only on mid-term and final exams. In brief, students think evaluations should be related to the individual developments.

3.2. The second sub-problem of the research was to seek an answer to the question of "What sort of an education model can be formed on the basis of the views of final year education faculty students and students of Pedagogical Formation Education Programme?" When students' opinions regarding the six dimension of teacher training system in Turkey, the USA and Finland are looked into, except from the teacher competency dimension, students opt firstly for the USA and then Finland practices.

Figure 1. Teacher-training model based on students' opinions
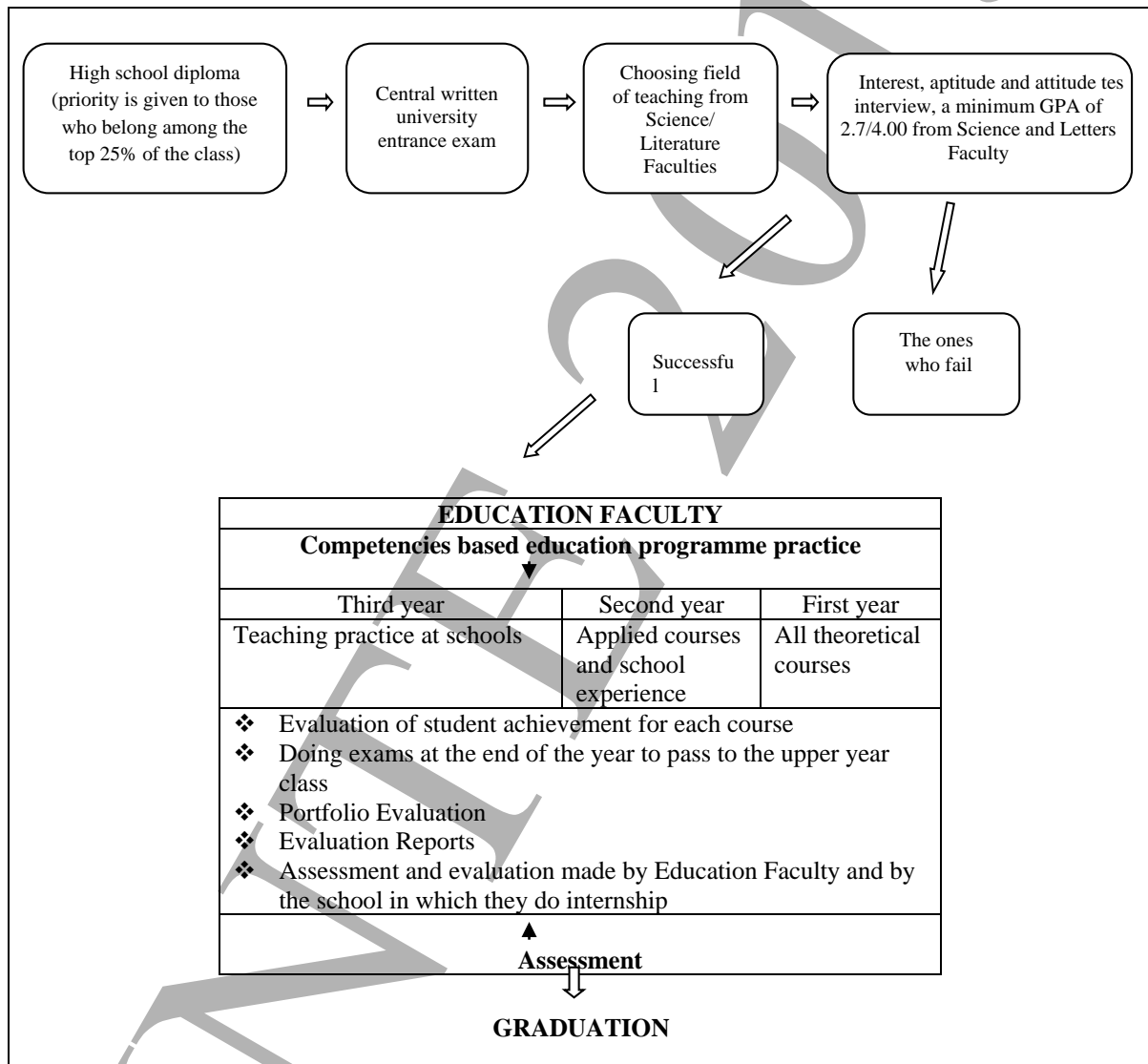
It could be asserted 81.6% of the students are in favour of "interview, interest, aptitude or interest test" and "written exam". In addition to this they also think that reference letters, 2 years education at Science-Literature Faculty and at least 2.7 GPA are necessary for university entrance requirements. Students' opinions on the dimensions "duration of education" and "content of education" match with their suggestion of a "2 year-education at Science-Literature Faculty" requirement for the dimension of university entrance. They stress the significance of having full knowledge of and being equipped with the content knowledge they will be teaching and believe that such expertise should be gained before students proceed their studies at Education Faculty. In this sense, students make a distinction between content knowledge education and teaching skills training and argue that duration and content of education should be regulated within this framework.

Students share the opinion that training received at Education faculties should be practice-based. They want teaching practice based courses to be increased and wish to spend more time at schools to gain experience. In "teacher competency" dimension, students do not disagree with any of the competencies that countries embrace yet it could be argued that they generally find the competencies in Turkey appropriate. Lastly, in the dimension of "evaluation", it could be seen that students are in favour of process-based evaluation and want dual evaluation made by both the lecturers at Education faculty and the teachers in the school they do their internship. Based on the student opinions presented above, a teacher-training model has been suggested and presented in Figure 1.

DISCUSSION and CONCLUSION

Research upon teachers generally focuses on issues associated with curriculum, students' achievement and teacher problems. There is relatively less research on the models upon which training should be based. The reason for this is that institutions providing pre-service training to teachers rarely undergo a structural change and they face difficulties during these changes. In addition, it is known that essential and radical changes made in teacher training system help to maintain the system by minor revision within the years. It is also the case that current system does not address the global and national needs and expectations, changes in due course. Therefore, views and suggestions of the decision-makers, practitioners and beneficiaries of the systems play an important role in revising the existing situation. So, in this study, the model developed on the basis of the opinions of teacher candidates, who are the beneficiaries of the system, can be an importance data source for decision makers.

As stated in "National Teaching Strategy Draft" prepared by Ministry of National Education, who is the most effective decision maker of teacher education system, providing the most qualified teacher to each classroom requires foremost selecting the most successful students for teacher education programmes and this requires enhancing the entrance requirements for these programmes (MEB, 2011). The findings of this research confirm the suggestions of MoNE. Teacher candidates suggest that in addition to the written exams (TEDMEM, 2014), interviews that could identify the personal characteristics of individual and tests that could assess candidates' interest, skills and positive attitudes in teaching should be carried out. In other words, students confirm a student selection system that could take into consideration numerous variables. This opinion is an indication that a functional selection procedure is adopted and there is a shift from providing teachers for a changing system in accordance with needs and requirements to choosing appropriate candidates for profession (ERG, 2013).

Participants make a distinction between the professional teaching courses and content knowledge courses. Contrary to the dominant view, students believe that courses requiring expertise in subject's content should be taken from related fields of Science and Letters Faculties. This finding can be interpreted that students find 4-year training offered in education faculties insufficient as content knowledge courses (maths, chemistry, biology, and etc.), professional teaching knowledge and general cultures are all offered together. Hence, students are in an agreement that duration of education should be 5 years. The interesting point is that education faculty students also support this view. These views of student are contrary to the findings of the research that evaluate the results of Selection of Civil Servant Exam and show that education faculty students are more successful in the exam than the others (Safran and et.al, 2014). In other words, although education faculty students show higher success than the students studying at Science and Letters Faculties, they believe that content knowledge courses should be taken from the related departments of that major. Students' demand of a 5-year education in teacher training programmes and graduating with a master's degree can be argued to have a role in this view.

Students attain a particular importance to teaching practice and make negative assessments about current system practices. They believe that teaching practice courses should be distributed to across all semesters of Education Faculty and practices related to theoretical courses should be associated with internship schools. If the first step to gain experience is to gain theoretical knowledge then the second step is to direct students to implement this knowledge in practice and monitor their practices. In this respect, students underline that teaching practices in the final year as in current system is not helpful and that theoretical courses should also have practical aspects. Therefore, a need for revising and restructuring the teacher training model and programmes arises.

It could also be argued that students find the teacher competencies determined by MoNE sufficient and demand an education that could truly gain these competencies. This can rather ease the structuring the teacher training based on competencies. Although there are some criticisms that teacher competencies have some inadequacies (TED, 2009), it is a fact that competencies based teacher training model is also approved by the students. In addition, students make further suggestions that could replace mid-term and general exams. In this respect, they express that they are in favour of an evaluation that could monitor their performances rather than a summative evaluation. This shows that students adopt constructivism.

There are two models followed in teacher education in Turkey. First one is Education Faculties Model. This model is based on the idea that students who decided to be a teacher are placed in Education Faculties and are trained to be teachers. The second model is Science and Letters Faculties. Graduates or students of this faculty attend to Pedagogical Formation Education Certificate Programme to qualify as a teacher. The model suggested by students in this research shows that they suggest a third model that do not fit into none of the models. Therefore, teacher candidates can be argued to have contrasting views that do not comply with current teacher education models. The countries used in this research and the success in teacher training of these countries can be argued to influence teacher candidates' suggestion of teacher training model.

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Appendix A: Features of six dimensions of teacher training programmes in Turkey, USA and Finland

Dimensions	Turkey	USA (University of Virginia)	Finland
University Entrance requirements	Students are accepted to education faculty on the basis of scores obtained from the central exam. A certain percentage of GPA is added on top of the score. High school GPA also has a certain extent of value.	*High school diploma (priority is given to those who are among the top 25% of the class) *Reference letters from high school teachers *Scholastic Aptitude Test (SAT) or American College Test (ACT) *individual interview *to be accepted to education faculty, two years of education at Science and Letters Faculty with a minimum GPA of 2.70	*written exam *aptitude test *individual interview *observation of group discussion
Duration of Education	Undergraduate Education (8 terms)	10 terms in total *4 terms at Science and Letter faculty *6 terms at Education faculty (Teachers graduate with a master's degree)	10 terms in total *6 terms of undergraduate degree *4 terms of Master's Degree
Content of education	*Professional teaching knowledge % 30 *General culture % 20 *Content knowledge % 50	*selection of major *education courses *school experience courses	*Science or Social Sciences Faculty Education *Education Faculty (Pedagogical Formation)
School experience and teaching practice	Each teacher candidate participates in teaching practice required by "school experience" and "teaching practice" for 3 terms starting from 6th term.	Teacher candidates take school experience courses starting from the second year. One credit is allocated to these courses every term and students go to school in the first year to observe the class environment. In the second year, they give private courses in literacy skills to students. Teacher candidates make classroom observations and start to teach a lesson in the first term of the third year and in the second term they teach a unit. In the first term of the fifth year, they start to instruct under the supervision of a senior teacher in the course of "assistant teacher."	Two-year (4 levels) teaching practice (three of these internships are completed in practice schools of Education Faculty and one of them is done in a state school)
Teacher competency	*teachers should understand and have a good grasp of the curriculum, and content	*knowing students well *having adequate content knowledge *being expert in planning, teaching and evaluating	*Taking students' individual differences into account and developing them.

	knowledge during the teaching process *Instructional Planning and applying *Monitoring and evaluating teaching efficiency and student development *Managing teaching process and student behaviours. * adjusting teaching according to students' characteristic *being able to use information technologies effectively *being able to provide an effective communication in teaching and learning environment *planning and realizing self and professional development *being able to work collaboratively with other teachers, parents and school workers *being able to act responsibly and critically in accordance with the ethics rules	*establishing a reliable and a positive learning environment *having skills of cooperation communication *acting professionally	*Cooperation with other teachers at school and in other educational institutions *collaboration with parents, officials and other professionals, and encouraging them *Developing programmes, creating learning environments and materials and developing them *Solving problems at school *professional development and reflection of professional identity
Assessment system	Evaluation is generally based on mid-term and final exams. In practice-based courses, students' performances are evaluated. For each term, at least one mid-term, one final and one make-up examination are conducted.	In addition to course exams, they also need to sit for exams required to pass to the upper class. Students submit portfolio work showing their progress in education. Portfolio includes the handwork, daily plans, feedback notes of teaching staff and self-reflection grades. Assessment reports of school experiences courses are also added to the file.	*Evaluation made by the education faculties *Evaluation conducted by internship schools

Appendix B: Question form

Question Form Please state the features that you think will be most efficient if applied in Turkey. Features will be chosen among the information provided for the three countries as presented in the six dimensions in Appendix A. 1. University entrance exam ……………………………………………………. 2. Education duration ……………………………………………………. 3. Content of Education …………………………………………………………

4. School experience and teaching practice

……………………………………………………………

5. Teacher competency

……………………………………………………………

6. Evaluation system

……………………………………………………………

ÖĞRETMENLERDE STRES YARATAN FAKTÖRLERİNİN BAZI DEĞİŞKENLER AÇISINDAN İNCELENMESİ

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ÖZET

Stres, genel olarak kişiyi rahatsız eden çeşitli faktörlere karşı organizmanın verdiği tepkidir. Lazarus'a (2003) göre insanlar dıştan gelen bir tehditle karşılaştığında eğer bu durum onların başa çıkabileceğine inandıklarından daha yüksek bir seviyede ise stres meydana gelir. Günümüzde de teknolojik gelişmeler ve küreselleşme gibi makro düzeydeki etkenlerin yanı sıra her örgütün kendine özgü yapısı ve işleyişi çalışanlar üzerinde belirli düzeyde stresin oluşmasına neden olmaktadır. Örgütlerde beklenmeyen bir durumun, baskı veya zorlamanın yol açtığı stres, çalışanlarda motivasyon kaybı, dikkatsizlik, iş kazaları, verimsizlik, işe devamsızlık, işe gitmede isteksizlik, performans düşüklüğü gibi sonuçlar doğurmaktadır. Örgütler bu sorunları yok etmek için strese neden olan unsurları yok etmeli veya düzeltmeli, stresin verebileceği olumsuz etkileri en aza indirmelidir (Gökgöz ve Altuğ, 2014).

En stresli meslek gruplarından biri olarak gösterilen öğretmenlerin oluşturduğu eğitim örgütlerinde de durum aynıdır. Aşırı derecedeki stresin ortaya çıkardığı negatif sonuç öğretmeni hem bedensel hem de zihinsel anlamda olumsuz yönde etkiler. Bu olumsuz etki öğretmenin motivasyonunun, yaratıcılığının ve performansının düşmesine, potansiyelinin giderek azalmasına ve hatta sağlığının bozulmasına yol açabilir. Bunun sonucunda öğretmenin verimliliği düşer ve dolayısıyla eğitim süreci olumsuz yönde etkilenir (Altınok, 2009). Öğretmen stresi ayrıca okul iklimini etkileyen ve hem davranışsal hem de akademik olarak düşük öğrenci çıktılarının oluşmasına neden olan tükenmişlik, iş bırakma, mutsuzluk ve tatmin olmama gibi olumsuz örgütsel davranışlarla da ilgilidir (Kipps-Vaugan, 2013). Bu anlamda öğretmen stresi öğrencinin öğrenmesine engel olabileceğinden dolayı okul geliştirme ve öğretmen yetiştirme programları tasarlanırken stresi azaltacak yâda onunla başa çıkmayı öğretecek konulara önem verilmesi ve yeni yöntemlerin geliştirilmesi gereklidir. Bunun için ise öğretmenlerin yaşadığı stresin nedenlerin bilinmesi ve buna göre önlemler alınması önemlidir. Bu araştırmanın amacı da öğretmenlerin stres kaynaklarını çeşitli değişkenlere göre incelemektir. Araştırmada öğretmenlerde strese neden olan faktörler cinsiyet, yaş, kıdem, branş ve aynı okulda çalışma süresi bakımından incelenmiştir.

Araştırmada betimsel tarama modeli kullanılmıştır. Araştırmanın çalışma grubunun 2014-2015 eğitim öğretim yılında Gaziantep ili Şahinbey ve Şehitkâmil ilçelerinde görev yapmakta olan 282 öğretmen oluşturmaktadır. Basit seçkisiz yöntem kullanılarak seçilmiş 282 öğretmene Bayram (2006) tarafından geliştirilen "İş Stresi Anketi" uygulanmıştır. Basit seçkisiz örnekleme yönteminde evrende yer alan her bir birime eşit seçilme şansı verilir (Karasar, 2013). Ölçeğin *Görev, Yetki ve Sorumluluk, Norm ve Kurallar, Performans Sistemi, İş Dağılımı, İş Ortamı, İş Güvencesi ve İş Tatmini* olmak üzere 7 boyutu vardır. Ölçekten elde edilen veriler üzerinde ilk olarak normallik testi yapılmıştır. Yapılan test sonucunda verilerin normal dağılım gösterdiği belirlenmiştir. Bu nedenle veriler üzerinde istatiksel işlemlerden t-testi ve ANOVA uygulanmıştır.

Araştırmadan elde edilen verilere göre öğretmenlerin orta düzeyde ($\bar{x}$=3,80) strese yaşadıkları belirlenmiştir. Boyutlar açısından bakıldığında ise en yüksek stres kaynağının "iş tatmini" ($\bar{x}$=4,03), en düşüğün ise "iş güvencesi" ($\bar{x}$=2,57) olduğu görülmektedir. Öğretmenlerin mesleki anlamda yaşadıkları doyumsuzluğun stres oluşumunu etkileyen en önemli faktör olduğu görülmektedir. Bu nedenle iş yaşamındaki tatminsizliğin stresin artmasında etkili olabileceği söylenebilir. Öğretmenlik, ülkemizde iş güvencesinin en yüksek olduğu meslek gruplarından biridir. Araştırmada iş güvencesinden kaynaklanan stresin düşük olması bununla açıklanabilir. Bunun yanında görev, yetki ve sorumluluklardan kaynaklanan stres de diğerlerine göre nispeten daha yüksektir. Bu nedenle verilen yetkilerin ve sorumlulukların uygun olmayışı, karar verilirken yeterli imkânın sağlanmayışı, okulda adil ve gerçekçi iş bölümünün olmayışı ve kurumdaki merkeziyetçilik, bürokrasi ve formalitelerin çokluğu öğretmenlerin stres düzeylerini arttıran temel faktörlerdendir. Yapılan t testi sonuçlarında cinsiyet değişkeninde anlamlı bir fark çıkmıştır. Buna göre kadın öğretmenlerin stres düzeyi erkek öğretmenlerinkinden fazladır. Bunun yanında görev, yetki ve sorumluluklar, norm ve kurallar ve mevcut performans sistemi kadın öğretmenlerde nispeten daha fazla stres yaratmaktadır. Araştırma sonucunda yaş, branş, mesleki kıdem ve okuldaki çalışma süresi değişkenleri için anlamlı bir farkın olmadığı görülmüştür. Bir başka deyişle, öğretmenlerin yaşadığı stres cinsiyete göre anlamlı şekilde farklılaşmaktayken, yaş, mesleki kıdem, branş ve okuldaki çalışma süresine göre değişmemektedir. Bu nedenle özellikle kadın öğretmenlerin stresle başa çıkabilmeleri için bazı kişisel gelişim programları uygulanabilir. Öğretmenin yaşayacağı stresin sınıf ortamına getireceği olumsuz hava düşünüldüğünde bunun en aza indirilmesi için çalışmalar yapılmalıdır.

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ÖĞRETMENLERIN EKRAN OKUMAYA YÖNELIK GÖRÜŞLERI

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Bilim ve teknolojide yaşanan sürekli değişim insan hayatını bir yandan kolaylaştırırken diğer taraftan da karmaşık bir hal almasını beraberinde getirmektedir. Bilimle bütünleşen teknoloji sürekli yenilerek değişmesi, gelişmesi, çeşitlenmesi ve hayatın her alanına dokunması ile ilgilerimizi, beğenilerimizi ve alışkanlıklarımızı da değiştirmektedir. Söz konusu değişime uyum sağlamanın en önemli koşulu ise tüm bilgi, duygu ve becerilerimizin kaynağı olan okuma becerisine sahip olmaktan geçmektedir.

Bilgisayar teknolojilerinde kat edilen mesafeye paralel olarak modern insan kütüphaneyi cebinde taşır hale gelmiştir. Cep telefonu, tablet bilgisayarlar ve elektronik kitaplar aracılığıyla okuma eylemi her yerde her zaman gerçekleştirebilmektedir. Tamda burada monitör aracılığıyla yapılan okumanın basılı materyallerden okumaya göre farklılık taşıdığı uzmanların dikkatini çekmiştir. Literatürde "ekran okuma", "ekrandan okuma", e-okuma", "elektronik okuma" "dijital okuma", "hiper-okuma" gibi kavramlar yeni bir okuma türü ve tekniği olarak gündemdeki yerini almıştır. Bu çerçevede ekran okuma en genel hatlarıyla televizyon, bilgisayar, cep telefonu, tablet bilgisayar, elektronik kitap gibi araçların ekranından yapılan okumaya denilmektedir.

Modern çağın yeni okuma biçimi olan ekran okuma konusunda öğretmenlerin görüşlerini belirlemek bu çalışmanın öncül amacını oluşturmaktadır. Bu amaca ulaşmak için çalışma tarama modelinde planlanmıştır. Karasar (2000) tarama modelini, geçmişte ya da halen var olan bir durumu olduğu şekliyle betimlemek olarak tanımlamaktadır. Bu araştırmada verilerin toplanmasında görüşme yöntemi kullanılacaktır. Araştırmanın çalışma evrenini ise Kırıkkale il merkezinde görevli öğretmenler oluşturacaktır. Araştırmaya ilişkin veriler, Güneş ve Susar Kırmızı (2014)tarafından geliştirilen "E-Kitap Okuma Tutum Ölçeği (EKOT)kullanılarak elde edilecektir. Ölçekler aracılığıyla elde edilen verilerin istatistiksel analizleri tablolaştırılarak yorumlanacak ve ortaya çıkan sonuçlar önerilerle birlikte ele alınacaktır.

Keywords: Okuma, Ekran Okuma, Öğretmenler

ÖĞRETMENLERIN MESLEKI BAŞARILARINI ETKILEYEN FAKTÖRLERIN META-ANALIZI

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The aim of this study was to evaluate the variables that affect the organizational commitment of teachers working in secondary and earlier schools. As statistical method, meta-analysis was used for the merging and evaluation of the study data. In accordance to the criteria determined by the study method, 15 postgraduate theses (54%) and 13 articles (46%) were included into the study. These studies were all performed between 2003-2014. In the coding used during the study; the effect of different variables on the teachers' commitment was investigated, and the correlation value between these variables and the teachers' commitment was calculated. Based on the meta-analysis that was performed, variables were organized into 3 main groups, and the effects of these variables on the teachers' organizational commitment was calculated. It was found that leadership had a moderately positive effect (ES=0.19); that negative psychological factors had a moderately negative effect (ES=-0.35); that organizational trust and justice had a moderately positive effect (ES=0.33) on organizational commitment.

Keywords: meta-analizi, örgütsel bağlılık, etki büyüklüğü,huni grafiği

OKUL MÜDÜRLERİ TARAFINDAN KULLANILAN ETKİ TAKTİKLERİNİN ÖĞRETMENLER ÜZERİNDEKİ SONUÇLARI (GAZİANTEP İLİ ÖRNEĞİ)

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ÖZET

Yöneticilerin başarısının, çalışanlarını örgütsel hedeflere ulaşmak için etkileme becerisine bağlı olduğu ifade edilmektedir (Shamir, 1999). Yöneticilikle ilgili bir kavram olan liderliğin ise literatürde bir bireyin takipçilerini etkileme, motive etme ve üyesi oldukları örgütlerin etkililiğine ve başarısına katkıda bulunmalarını sağlama yeteneği olarak ifade edildiği görülmektedir (Chhokar, Brodbeck ve House, 2007). Charbonneau (2004) bu etki sürecinin başarısının büyük ölçüde lider tarafından kullanılan etki taktiğine bağlı olduğuna işaret ederken; Yukl, Seifert ve Chavez (2008) farklı etki taktiklerinin; taleplerin yerine getirilmesi, önerilerin desteklenmesi ve kararların uygulanması sürecinde astları etkilemek üzere yöneticiler tarafından başvurulabilecek önemli birer araç olduğunu belirtmektedir.

Keys ve Case (1990) farklı durumlarda işe yarayacak en uygun etki taktiğini kullanmanın örgütsel etkilik adına önemli olduğuna vurgu yapmaktadır (akt. Branzei, 2002). Kullanılan her etkileme girişimi üç farklı şekilde sonuçlanabilmektedir. Çalışanlar gönüllü veya gönülsüz olarak kendilerinden istenen görevi yerine getirebileceği gibi görevleri aksatmak suretiyle talebi yerine getirmeye direnç gösterebilir. Falbe ve Yukl (1982) bu üç durumu sırasıyla bağlılık, şikâyet ve direnç olarak tanımlamaktadır. Bu araştırmanın amacı, öğretmenlerin bakış açısından okul müdürlerinin en sık kullandıkları etki taktiklerini ve bu etki taktiklerinin öğretmenler üzerinde oluşturduğu sonuçları tespit etmektir. Bu çalışmanın durum tespiti yapması açısından ilgili literatüre katkı sağlayacağı düşünülmektedir.

Araştırma, nitel bir çalışmadır. Araştırmada, nitel araştırma desenlerinden araştırmanın doğasına uygun olan durum çalışması deseni kullanılmıştır. Durum yönteminin en belirgin özelliği, güncel bir olgu, olay, durum, birey ve gruplar üzerinde odaklanıp derinlemesine incelemeye çalışmasıdır (Ekiz, 2009). Çalışma grubu, 2014-2015 eğitim-öğretim yılında Gaziantep il merkezinin ilk ve orta dereceli okullarında görevli öğretmenlerden oluşmaktadır. Çalışma grubunun belirlenmesinde maksimum çeşitlilik yöntemi kullanılmıştır. Araştırma verileri Yukl, Seifert ve Chavez (2008)'in çalışmalarında kullandıkları etki taktikleri doğrultusunda araştırmacılar tarafından hazırlanan ve uzman görüşü alınarak son hali verilen yarı yapılandırılmış görüşme formu ile elde edilmiştir. Katılımcılardan okul müdürlerinin en sık kullandığı 3 etki taktiğini sırasıyla yazmaları ve bu taktiklerin kullanımının kendilerinde oluşturduğu duygu, düşünce ve davranışları açıklamaları istenmiştir. Veriler analiz edilirken, katılımcıların 1. sıraya yazdıkları etki taktiğine 3 puan; 2. sıraya yazdıkları etki taktiğine 2 puan; 3. sıraya yazdıkları etki taktiğine 1 puan verilerek toplam puanlar elde edilmiştir. 48 katılımcının vermiş olduğu puanlardan genel toplamlar ve bir sıralama elde edilmiştir. Ayrıca, nitel veriler ile de etki taktiklerinin kullanımının katılımcılarda oluşturduğu duygu, düşünce ve davranışlara ilişkin açıklamalar sunulmuştur.

Yapılan veri analizi neticesinde *Akıl Yoluyla İkna Etme* taktiği 67 puanla okul müdürlerinin en sık kullandığı etki taktiği olarak belirlenmiştir. Akıl Yoluyla İkna Etme taktiğini sırasıyla; *Kurallara Uygunluk* (60), *İstişarede Bulunma* (43) ve *İşbirliği Yapma* (36) taktikleri izlemektedir. Nitel verilerin değerlendirilmesi sonucunda bir kısım (*Akıl Yoluyla İkna Etme; İstişarede Bulunma, İşbirliği Yapma ve Bilgilendirme*) taktiklerinin kullanımının katılımcılarda motive etme, farkındalık oluşturma, bağlılık, kendini değerli hissetme, güven verme, özverili çaba, hedefe inandırma, özgüven sağlama, hata önleme ve yeni fikirler üretme gibi olumlu duygu ve düşünceler meydana getirdiği tespit edilmiştir. Buna karşın diğer bir kısım (*Kurallara Uygunluk; Baskı Yapma, Kişisel Yakınlık Kullanma ve Başlarıyla Koalisyon Kurma*) taktiklerinin kullanımının katılımcılarda şikâyet, direnç, isteksizlik, dikkate alınmama, moral bozukluğu, ayrımcılık, iş tatminsizliği ve mesleki tükenmişlik gibi olumsuz duygu ve düşünceler meydana getirdiği tespit edilmiştir. Araştırma bulguları doğrultusunda; kurallara uygunluk taktiği istisnasıyla birlikte okul müdürlerinin taleplerinin yerine getirilmesi için genel olarak öğretmenler üzerinde olumlu yönde duygu, düşünce ve davranışlara sebep olabilecek etki taktiklerine başvurduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler: Etki taktikleri, bağlılık, şikâyet, direnç.

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OKUL ÖNCESI DÖNEM ÇOCUKLARI VE MOBIL ARAÇLAR

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Özellikle 90'lı yıllarda başlayan internet dünyasındaki gelişim ve hızlandırdığı donanım teknolojilerindeki yenilikçilik, günlük hayatımızın her aşamasını etkilemeye başlamıştır. Özellikle taşınabilir bilgisayar, tablet ve akıllı telefonların hızla yaygınlaşması, bu teknolojilere çok erken yaşlardan itibaren erişimi kolaylaştırmaktadır. Birçok cazip oyun başta olmak üzere, video izleme ve çocuklara yönelik oluşturulmuş pek çok farklı içerik deki sitelerinin gelişimi ve mobil platformlar üzerinde oldukça kolay erişilebilir olması, çevremizdeki birçok çocuğun bu teknolojilere neredeyse bağımlı olarak yaşaması durumunu ortaya çıkarmıştır. Çocuklarının bu teknolojik araçları kullanırken harcadıkları zamanın kalitesinden endişe duyan ebeveyn sayısı da gün geçtikçe artmaktadır. Günümüzde, bu kadar hızla artan ve biçim değiştiren teknoloji kullanımının, en küçüğünden başlayarak her yaştaki bireyler üzerinde yarattığı veya yaratabileceği bireysel, toplumsal ve ekonomik etkiler birçok araştırmacı için ilgi çekici olmaktadır. Alan yazın incelendiğinde genel olarak teknoloji kullanımının olumlu ve olumsuz etkileri üzerine çok sayıda çalışma bulunmaktadır. Bu çalışmalar "ekran medyası" olarak adlandırılan televizyon, bilgisayar, taşınabilir bilgisayar, cep telefonu, oyun konsolları ve akıllı telefonların kullanımlarının etkilerinin irdelendiği geniş bir alana yayıldığı görülmektedir. Bu çalışmada, öncelikle alan yazındaki çalışmalara yer verilerek, konunun önemi ve mocil araçların çocuk gelişimine etkisi ortaya konulmaya çalışılmıştır. Sonrasında ise özellikle okul öncesi dönem çocuklarını konu alan çalışmalar daha kapsamlı olarak incelenmiştir. Çalışma, okul öncesi dönem çocuklarının mobil teknoloji araçları ile etkileşimine yönelik yapılabilecek araştırmaları ve önemini ortaya koyan ön bir araştırma niteliğindedir.

Keywords: Okul Öncesi Dönem Çocukları, Mobil Araçlar, Teknoloji

EVALUATİON OF SEQUENCE CARD ACTIVITIES PERFORMED ON HEARING-IMPAIRED PRESCHOOL CHILDREN[1]

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ABSTRACT

This study aims to evaluate use of sequence card in literacy activities of preschool hearing-impaired children. The study designed as a case study. The data collected from preschool grade 2 in Research and Education Center for Hearing Impaired Children, Anadolu University, Turkey by using classroom observations, teacher interviews, documents, records of validity committee and reflective journal of the researcher. Findings of the study indicated that sequence card activities supported the vocabulary, awareness of story grammar, telling the main events in the story, predicting skills, relating the events in the story, sequencing and summarizing the events in preschool hearing-impaired children.

Keywords: Hearing-impaired children, literacy skills, sequence cards, pre-school period

INTRODUCTION

Preschool education occupies an important place in raising children, in that it provides them the opportunity to develop certain skills that form the basis of their future literacy skills. Skills that begin to develop during the preschool period and form the bases of initial literacy skills include awareness of word lengths and the shape of letters forming words (sight word), phonemic awareness, phonological awareness, semantics, and the utilization of syntax cues (Fields, Groth & Spangler, 2004; Gambrell & Mazzoni, 1999). During their preschool period, it is necessary and important to provide hearing-impaired children with literacy activities that will contribute to the development of the abovementioned skills (Williams, 1999). These literacy activities can include a broad range of activities such as story-telling to class, story reading, preparing big books, sharing/discussing events in sequence cards, matching-completing-sequencing activities, explaining subjects, using daily notebooks/diaries, singing, rhyming, play, and mathematics. In this study, we evaluated the use of sequence cards within the scope of literacy preparation activities.

Sequence Cards

Sequence cards are cards with drawings that illustrate a sequence of interrelated events that follow one another in a coherent manner, and which together form a story. The number of pictures in these cards varies between two and eight, depending on the events they describe and the language and knowledge level of the students. During the development of initial literacy skills for elementary school, sharing stories on a given subject with students through sequence cards contributed to the development of certain skills. By describing the events in sequence cards, children develop and improve their ability to express their thoughts, emotions, and experiences. Sequence cards provide children the opportunity to associate and think about different events, to perform comparisons, and to combine event with their own experiences. In addition, sequence cards not only support the development of children's vocabulary, but they also contribute to the development of their ability to describe events, to make predictions, to establish relationships between events, to gain an awareness regarding the construct of a story, to list/sequence events, and provide summaries (Girgin, 2001; Ingber & Eden, 2011). Being able to achieve the advantages associated with sequence cards depends on the suitability of the cards' subjects, plots, characters, and drawings for the children's age, class, language, and level of knowledge, and also on the emphasis placed in the abovementioned skills within the scope of educational activities/applications.

An evaluation of the literature shows that there is only a limited number of studies on sequence card activities performed with hearing-impaired children. In one study, Ingber and Eden (2011) used educational activities involving sequence cards to develop hearing-impaired children's ability to describe events in a sequence, and also to improve their story-telling skills. Based on the results of their study, they determined that the students' ability to describe the events in the proper sequence was associated with receiving early/preschool education, and that students with cochlear implants had better story-telling performance than students using hearing aids. In another study, Eden (2010) evaluated the differences among hearing-impaired kindergarten and school age

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children with regards to their perception of time sequences. The results of this study showed that the best time perception performances were obtained when pictures were used, while the lowest performances/outcomes were observed when written texts were used. To the best of our knowledge, there are no previous studies in Turkey regarding the use of sequence cards for hearing-impaired students. We believe that the results of the current study will serve as a guide concerning the use of sequence card activities within the frame of literacy preparation activities performed for-hearing impaired children. The aim of this study was to evaluate the sequence card activities performed with the context of preschool literacy preparation group activities with hearing-impaired children.

METHODS

Study design
In this study, the qualitative case study model was used to evaluate how sequence card activities were conducted within the frame of literacy preparation activities. The case study represents a study method in which the investigated case is evaluated within its own environment, thereby enabling the description, explanation, and assessment of the relevant case (Yin, 2009).

Educational environment in which the study was conducted
The study was conducted at the preschool 2nd grade of the Research and Education Center for Hearing Impaired Children (İÇEM) affiliated with Anadolu University. İÇEM is a special educational institution where the natural auditory/oral approach is implemented, and where hearing-impaired children are diagnosed and implanted with devices at an early age. In addition to family/parent education, İÇEM provides preschool, elementary school, middle school, and high school day education for hearing-impaired children. Hearing-impaired children begin the first year of preschool starting from the age of 3, and then continue by attending the second and third years of preschool. At each grade level, the children receive both group classes and individualized education for a full day period.

Study Participants
The study participants included two teachers working at İÇEM's preschool 2nd grade during the 2012-2013 academic year, and the researcher. The teachers were graduates of the Field of Special Education, Department of Teaching for the Hearing-Impaired. The teachers had nine and four years of experience working at İÇEM's preschool classes. The researcher has been studying the development and assessment of literacy skills among hearing-impaired preschool, elementary school, and middle school children.

Data collection tools
The study data were primarily obtained through in-class observations, interviews with the teachers, and by using the researcher's diary. Other forms of data sources used within the scope of this study included class-related documentation and the records of the validity committee.

Data collection and analysis
The study data were collected during the 2012-2013 academic year, between September 17, 2012 and January 25, 2013. The researcher directly observed the in-class literacy preparation activities performed in the preschool 2nd grade, and recorded how the teaching materials were used and the class was taught. Following this, the researcher recorded and recorded the class materials, the non-formal evaluations used by the teachers, the class programs, and the relevant audiological information.
In case studies, data analysis is performed both while the study is still ongoing and after all the relevant data are collected. In qualitative case studies, an analysis of the study data is performed by identifying themes and using descriptive analysis (Yıldırım & Şimşek, 2011). In this study, the obtained data were described and analyzed through the identification of the relevant themes.

Validity and Reliability
Validity and reliability evaluations were performed during the data collection and analysis stages by two field experts. During the validity and reliability process, various data collection tools were used to collect data, and the obtained data were evaluated by a reliability committee. Following this, the themes identified during the data analysis stage were controlled.

RESULTS

This study involved the evaluation of sequence card activities performed by hearing-impaired preschool children within the frame of literacy preparation group activities. Between September 2012 and January 2013, a total of 18 sequence card activities were performed at the preschool 2nd grade of İÇEM. The number of pictures on the sequence cards varied between four and six, and the duration of each one of these activities were between 30-35

minutes. It was noted that the subjects of the used sequence cards were parallel with the subjects covered in class. By selecting and using sequence card suitable for the class' subject, the children were able to use the words they newly learned in different stories and contexts. This not only allowed the children to improve their vocabulary, but also provided them the opportunity to make better use of syntax, to better understand the meaning of words within sentences, and to utilize cues regarding the use of words (Ingber & Eden, 2011).

An evaluation of the activities and practices implemented during the study period revealed five different themes, which were: (a) the explanation of the sequence cards' subject by the teacher; (b) the showing and sharing of the pictures on the cards in a certain sequence; (c) the teacher asking the children their predictions about the next picture; (d) establishing cause and effect relationships between events; and (e) the summarizing of the events, and the repetition of the pictures' content by the students. Sequence cards are stories with certain characters, locations and times, and where the events are described according to a certain sequence. Sharing these stories during group activities serves to increase and expand the children's knowledge regarding the language and structure used in stories. Gaining an awareness of story structures has an important role in the development of reading comprehension (Girgin, 2001). During sequence card activities, the description provided by the teacher on the subject of the cards allows the children to develop an awareness concerning the relevant story's structure (Ingber & Eden, 2011). In this study, it was observed that the teachers began each sequence card activity by first explaining the subject of the story. In sequence card activity, the showing of pictures in a certain sequence, the descriptions provided by the children, the descriptions provided by the teacher, and the questions-and-answers session regarding the subject of the cards all play an important role. The ability to describe the events in a text in the proper order, and the understanding and answering of questions regarding the test, and occupy an important place in formal literacy education. These abilities/skills are gained and developed based on another set of skills, which include the ability to understand events verbally, the ability to understand questions, and to match them correctly with answers, and the ability to express answers verbally (Girgin, 2001). In this study, it was observed that during the sequence card activities, the events in each picture were shared with the children (according to the story's own sequence), and that the children were given the opportunity to present their own explanations/descriptions regarding these events. The teachers also shared their own explanations/descriptions, and asked the children various question concerning the events; the teachers also shared the answers given by each children with the rest of the group. Sequences cards represent a method that gives children the opportunity to make predictions, and to identify the correct relationships between events. Establishing relationships between events, making predictions, and summarizing are important literacy strategies that are also used in formal literacy education (Schirmer, 2000). The practices observed during this study showed that while events were being shared and described by the teacher, the children were not only given the opportunity to make predictions, but were also prompted to make predictions through questions asked by the teachers. It was also observed that the children were shown the direct relationships between events, and that the events shown in the cards were summarized to them at the end of the activities.

CONCLUSION and RECOMMENDATION

In this study, it was observed that sequence card activities, performed within the frame of literacy preparation activities, were selected according to the class' current subject, and that these activities supported the development of the children's vocabulary; awareness regarding the structure of the story; ability to describe, predict, and establish relationships between events; and the ability to list the sequence and summarize events. Based on the study results, it is possible to recommend the use of the sequence card method in elementary and middle school classes. In addition, it is also possible to monitoring the development of story-forming and writing skills among hearing-impaired children. Furthermore, the effect of sequence cards on the preschool literacy preparation skills of normally-hearing preschool children can be investigated as well.

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A REVIEW STUDY ON THE EVALUATION OF PRESCHOOL EDUCATION'S REFLECTIONS ON SCHOOL MATURITY

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ABSTRACT

Primary school is an institution where certain academic skills are expected to be gained rather than an institution to which children attend within a certain period of time. Therefore, children are required to have the levels to respond to the requirements of this institution. However, it is quite difficult to say that every child reaches this maturity at the same time and in the same level. Receiving a preschool education is among primary needs in order for children to start primary school under equal conditions. When the contribution of preschool education to school maturity is taken into account, preschool education can be considered an opportunity for preparation to primary school. Therefore, this study endeavoured to evaluate preschool education's reflections on school maturity and recommendations were made for people in question. Consequently, the significance of preschool education was reemphasised.

INTRODUCTION

The only being that is able to think and put his opinions into practice, in other words, turn his opinions into actions is human and there are very significant milestones in the life of this being. Maybe the most important one of these milestones is to start the school (Erkan and Kırca, 2010). When an individual starts the school, he enters an environment that he was not previously used to. He has to gain certain skills in this environment. For this reason, if the individual does not possess the required qualifications, he will face the consequences of the negative experiences he had here in the subsequent phases of his life. Therefore, it is appropriate to expect some skills from the individual after he reaches the required maturity. For this reason, numerous studies have been conducted on this subject until today.

There is generally a criterion which suggests that children start school according to their age (Gündüz and Çalışkan, 2013). As it is accepted that there are differences between individuals, it is clear that only age does not meet the concept of being ready for school (Kutluca Canbulat and Yıldızbaş, 2013). For this reason, school maturity should be evaluated with different aspects and a strategy should be followed according to the results of this evaluation. An efficient education and training environment can only be created by this means for the child that leaves his family's environment.

When the results of the conducted studies are examined, it is seen that preschool education has numerous influences on school maturity in terms of different aspects. Additionally, in these studies, it is also remarkable that there is a significant level of difference between children who have and have not received preschool education. Receiving preschool education is a precondition in order for children to start school under equal conditions. Therefore, in this study; contributions of preschool education to school maturity were evaluated and recommendations for families, teachers, researchers and authorities were included.

A General Overview on the Concept of School Maturity

Many researchers have defined the concept of school maturity essentially with the same significance until today even though these definitions seem to be different. These definitions can be specified as follows; the concept of school maturity can be defined as preparing individuals' fields of development such as social, emotional, mental, physical aspects and self-efficacy and their different academic skills to meet the requirements of primary education (Oktay, 2013). Similarly, school maturity means that a child is cognitively, physically, emotionally and psychologically ready (Yavuzer, 2010). A child that has school maturity reaches a certain level in terms of physical, psychological and educational aspects and has the capacity to do what is expected from him (Ülkü, 2007). Generally every child reaches the level to gain this maturity. However, in accordance with conducted studies, it has been revealed that school maturity may be affected by some individual and environmental characteristics. This maturity age may vary particularly because of individual differences. In addition, children of families with lower socio-economic levels and educational levels are specified to be behind their peers in terms of reaching school maturity.

Transition from Preschool Education to Primary School

Every new phase of life has the traces of the previous phase. And this either makes us prepared or helps us adapt to the next phase and makes us face various difficulties (Oktay, 2013). There are tasks that should be carried out in every phase. A child who starts primary school education without developing some skills in preschool education would have difficulties. Similarly, a child who starts secondary school education without having mastered the skills in the primary education would again face difficulties. The maturity specified here is valid for not only primary school education but also all education phases (Dinç, 2013). However, it can be stated that the competences in primary school are more important as these are the first years of life and they have a critical importance.

Primary school is valuable as it includes the most important years of a person's life after preschool education. This is the first time that the child faces tasks such as obeying the rules within a certain program and learning basic skills such as arithmetic, mathematics, and reading and writing (Oktay and Unutkan, 2003). Gaining these skills requires being ready, in other words, a maturity in every aspect. Preschool education and primary school are important as they include the most special periods of a person's life. Both institutions undertake foundations of the task of preparing an individual to life. In this respect, ensuring a coherent transition between the two institutions will facilitate the individual's adjustment to primary school. Easy adjustment to primary school will diminish the period of acquiring academic skills for the student (Akman, 2013). However, children who start primary school after preschool education believe they will go through some difficulties. In a conducted qualitative study, Koçyiğit (2014) specified that preschool children defined primary school as a big, crowded, chaotic and far place and children's sources of information related to primary school were as their families, television and teachers; in addition, it has also been stated that children believed that they could not play games when they start primary school. In line with this study, it should be aimed to enable preschool children love and show interest in primary school.

The Role of Preschool Education in the Development of School Maturity

Preschool period is expressed as the years when the human capacity is at its highest level. This period is the fastest and most critical phase for development and, in parallel, for learning. Therefore, it should be ensured that children take advantage of these years in the best possible manner. Researchers find the idea, which most of the behaviours gained in early ages continue their influence in older ages, the least common denominator. Preschool years are deemed as the period when the foundations of personality are laid and socialisation starts. Social skills that are gained in early ages also facilitate children's adjustment to social order. In short, the phase that includes preschool period can be shown as an important period in terms of having numerous forward-looking effects in the child's life (Akman, 2013; Oktay, 2013).

As specified in the preschool education program of the Ministry of National Education, one of the main purposes of preschool education is to prepare children to primary school (Ministry of National Education, 2013). This purpose is associated with the concept of school maturity. School maturity can be defined as a child's ability to reach physical, mental and social competence (Güler, 2001). Reaching the characteristics specified in this definition for children varies depending on environmental conditions. Therefore, preschool education may also be approached as a requirement for ensuring equality of opportunities in the field of education. Children are required to receive a qualified preschool education in order to start primary school under equal conditions.

It has been reported by conducted studies that children who received preschool education have more sufficient positions in terms of many skills such as cognitive, affective, psychomotor, social and self-care skills than their peers compared to children who did not receive preschool education and they reach school maturity earlier than their peers (e.g.: Yazıcı, 2002; Magnuson, Meyers, Ruhm and Waldfogel 2004; Esaspehlivan, 2006; Kırca, 2010; Çağdaş, 2009; Cinkılıç, 2009; Erkan and Kırca, 2010; Teke, 2010; Yeşil Dağlı, 2012; Ahmetoğlu, Ercan and Aral, 2011; Lokumcu Tozar, 2011; Gündüz and Çalışkan, 2013). Additionally, it has also been stated that children who received preschool education are more prone to basic skills related to the concept of mathematics such as recognizing numbers, putting numbers in order, addition, and subtraction (Polat Unutkan, 2007; Dursun, 2009). From another perspective, it has been expressed by researchers that preschool education facilitates adjustment to school (Bekman and Gürselel, 2005; Gülay Ogelman and Erten Sarıkaya, 2013; Yoleri and Tanış, 2014). In short, preschool education has a key role in determining the school maturity which appears before us as a significant point for children who start primary school.

Attending preschool education may not always ensure the desired efficiency, what is important here is that the quality of the education provided in the preschool period should be discussed. In their study, Wong, Lou, Zhang and Rozelle (2013) emphasised that only receiving preschool education was not sufficient for school maturity

and the quality of the provided education should also be high. However, in regions where preschool education is not common, it may be appropriate to attach importance to quantity as the first criterion and quality as the second criterion.

CONCLUSION AND RECOMMENDATIONS

Primary school is a period that has significant influences in a person's life. The child who faces planned and programmed activities for the first time is now in a different atmosphere and there are many tasks expected from him. In this new period, children will need to learn how to read and write and show certain arithmetic skills (Taşkın, 2011). In a period in which so many tasks are expected, it is a precondition that children have the capacity to meet the requirements of primary school education.

According to the results of the conducted studies, the influence of preschool education on school maturity has been revealed. It can be asserted that the children who received preschool education are one step ahead of their peers who did not receive preschool education. When conditions of Turkey are considered, preschool education is a requirement especially for the children of families with lower economic levels. The equality of opportunity in education as specified in our constitution can only be provided through a qualified preschool education. In addition, it is a fact that preschool education supports children in all developmental areas.

Consequently, children should be introduced to preschool education and it should be ensured that they take advantage of this opportunity. All developmental areas of children should be supported in this period. This is the only way for the children to meet what is expected from them in primary school (Yazıcı, 2002). In line with these points, the following recommendations can be given;

- It should be ensured that all children take advantage of preschool education.
- Families should be explained about preschool education and its advantages for children.
- The results of studies conducted until today on school maturity in terms of receiving preschool education should be shared with public through communication tools and it should be ensured that the society is informed on this matter.
- This subject should be approached in more detail in different studies.
- Authorities should take action to extend preschool education and in subsequent phases, to make it obligatory.
- Preschool education teachers should plan different activities to prepare children to primary school and put these activities into practice.

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TEACHER VIEWS ON SCHOOL ADMINISTRATORS' TECHNOLOGY LEADERSHIP COMPETENCIES

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ABSTRACT

This study aimed to identify teacher views on technology leadership competencies of school administrators working in state and private elementary education institutions, and offer suggestions to authorities in this respect. The population of the study consisted of the teachers working in state and private elementary schools in the Beylikdüzü district of İstanbul in the 2013-2014 school year. The sample included 110 individuals who were selected through simple random sampling among the teachers constituting the population. To identify the teachers' views, "Technology Leadership for Educational Administrators Scale" was used, and its Cronbach Alpha reliability coefficient was calculated as 0,95. In overall, the results revealed that the teachers agreed on the statements in the scale at the level of "never" with a low arithmetic mean ($\overline{X}$=1.72). This finding can be interpreted as that the school administrators never acted as technology leaders to the teachers. The teachers stated that the school administrators had a positive attitude towards technology, but they did not benefit from school staff, parents and students to enhance the capacity of the usage of information technologies. It was concluded that in order for technology leadership to be institutionalised, cautions that enable administrators to use their positive attitudes in practice should be taken. Based on this result, it is suggested that school administrators should be encouraged to pursue a postgraduate degree, and regulations should be made to enhance the participation of all stakeholders of the school to decision-making processes related to the use of information and communication technologies at school.

Key Words: Technology Leadership, School Administration, Principal, Elementary Education, Technology Leadership Competencies.

INTRODUCTION

The concept of technology can be defined as physical and mental tools that are used to turn the input of an organisation into output. Because organisations having input-output relationship are seen as an necessity of a systematic approach, using technology in teaching and administration activities in all organisation is a natural result of this process.

Educational institutions should not stay behind technology in this process due to paranoia of commitment to traditional methods, and should use technology synchronously. However, in some cases, traditional educational system cannot always be sufficient in the face of technological developments. Individuals whose educational needs cannot be met by traditional educational systems can go towards alternatives to meet these needs and make different requests. These requests of individuals are addressed by administrations and internet-based teaching methods can be applied that use computers and technology that eliminate time and place limitations, ensure equality of opportunities, and are in accordance with student-centred teaching approaches (Gülşen, 2014: 228-241; İşman, 2011b: 136-142).

In this process, education and technology are seen as two basic elements that have an important role in improving human life. Both elements have been two basic tools that humans referred to in their efforts for being dominant in their natural and social environment. Education serves as revealing the latent powers and abilities of individuals from birth, and ensuring their development as more mature, creative and constructive creatures. Technology helps individuals to effectively use the knowledge and skills they gained through education and apply these more systematically and consciously. In this way, education and technology have affected people's perfection, acculturation and development, becoming active and dominant against their nature and environment (Banoğlu, 2011: 199-213). Education can be more determinant in enhancing the power of this effect, which is closely related to the degree of technology it uses.

The use of technology in education arose the concept of educational technology. Educational technology is accepted as a discipline that help educators apply the necessary knowledge and abilities more consciously to produce adequate tools for using the knowledge and skills that they gained through education in a better and more effective way and meeting their needs (Banoğlu, 2011: 199-213; TDK, 2015:1).

Technology applications being increasingly used as an organisational requirement makes instructional design a necessity based on information technologies. This necessity becomes more crucial with the demands of administrators, teachers, students and parents. This situation requires to be thought not only as technology contributing to the development of schools, but also a process that will enable the change and development of societies with a sociological perspective (Abazaoğlu, 2014: 3; Banoğlu, 2011: 199-213; Görgülü, Küçükali & Ada, 2013: 53-71).

Technology applications being increasingly used makes instructional design a necessity based on information technologies in education. This necessity also evoked the Ministry of National Education, and the Directorate General for Innovation and Educational Technologies was founded. Many educational technologies and practices such as MEBSİS (Ministry of National Education Information Systems, e-school, Computer-Assisted Instruction, Internet-Assisted Instruction, Computer-Based Instruction, Internet-Based Instruction, Distance Education, Special Package Programs, Instructional CD's, Teleconference Methods and Multimedia Projection Devices started to be used in the central and field service centres of the Ministry (Gülşen & Gökyer, 2015: 71, İşman, 2011b, 136-142, Ministry of National Education, 2015: 1).

The existence of such a large number of technological applications also necessitates the ministerial works to be competent in terms of technological equipment. The technological competencies of ministry official, especially those at an administrative position, would be effective in this change and the institutionalisation of this development. For this reason, technology competencies and leadership of all educational administrators in general and elementary school administrators in particular seem to be crucial for the institutionalisation of change and development in parallel to the development of information technologies. This institutionalisation also requires to lead the social change. As there is a close relationship between innovation, production and centres of using new technologies, and this relationship can be adopted by employees, the transformation of the society would be rapid accordingly, and the effect of social conditions on further innovations would be positive (Castells, 2005: 87–89; Helvacı, 2008:115-133). Computers are the most widely used technologies in education. The ground-breaking development and advances in the information technologies in the 21st century have made computers an indispensable need in all areas of our life. Because of the multifaceted substructures of computers, their characteristic of making our life easier cannot be denied. This multifaceted characteristic and the capability of accessing information through the Internet have made computers indispensable for our education system. By presenting students an interactive and student-centred learning opportunity, computers have urged individuals to take the responsibility of their own learning and have an idea of their learning skill. On the other hand, administrators also have to take a technological responsibility due the intensity of technology usage in administrative processes. The increase in the technology usage of administrators, employees and students necessitates computers and other information technology devices to take the place they deserve at our schools (Helvacı, 2008:115-133; Kayan, 2015: 79-80).

In order for new technological applications to be successfully used in educational institutions, the change should be facilitated, effort should be made as it used to be, and it should be tried to achieve the goal in a faster, more efficient and useful way. This necessity also requires to have some durable and sufficient advantages to overcome the resistance to the change (Kayan, 2015: 2; Kesim, 2011: 6; Mainstone & Schroeder: 1999, 630–631; Özgür, 2013: 170). School administrators have a big influence in the contribution of these advantages to educational institutions to the largest extent. This is because the primary individuals who would enable the effective use of these advantages at schools are school administrators (Kayan, 2015: 2-10).

Administrators who are provided with the new tools and opportunities in accordance with the requirements of the age face different questions regarding the issues of how they can administer their schools better and develop their performances. With a vision supported with a good level of technology knowledge, school administrators are expected to develop their teachers and students, and a positive attitude towards innovation. This requires the school administrators to be powerful in terms

of pedagogical and leadership competencies (Scott: 2005: 39). To be able to use information and communication technologies properly, school administrators need to understand how to use decision-making practices along with their pedagogical and administrative competencies. School administrators are expected to know in which steps of administrative actions they can use technology and what they can or cannot do, and use the appropriate technology considering the contextual necessities (Langran; 2006: 6). In this regard, in a school environment that constantly change and expand, it would not be enough for school administrators to be merely computer literate to actualize the integration of an appropriate technology to their instructional aims (Dönmez & Sincar, 2008: 17). The adaptation of schools to a technological integration in accordance with the instructional objectives is only possible with school administrators having high levels of web-based technological competencies. This requires school administrators to act as technology leaders to the school environment which they administer and communicate with (İlğan, 2013: 48; Yiğit, 2013: 41).

As the societies feel the need for development, schools will remain active in the process as one of the dynamics of the development and the change that it brings. It is a fact that as schools affect the change of the society, they are also affected by these changes. The primary elements that affect schools that are constantly renewed today and the school environments are information and communication technologies. Schools using any kind of technology that would enhance the quality of education can be regarded as important. Yet, what is more important is putting individuals in the centre of using technologies, and making plans and decisions considering the needs of all individuals at school. In this sense, trying to make the most of technology in any kind of instructional and administrative activities at school by putting individuals in the centre can be argued to be the duties of school administrators and teachers (Çöğmen & Köksal, 2014: 86). Technological products are very important, but only tools for the administrators of technology schools. What matters is whether administrators can make the educational institution that they lead using these technologies as affective as possible. For this reason, schools, school administrators, teachers and students need to re-define their roles as the members of the network society that is a reflection of technology. When this issue is considered for school administrators, it can be argued that technology leadership will be one of the most functional roles of school administrators in the near future (Dönmez & Sincar, 2008: 17). Therefore, it is of significance to identify school administrators' roles of technology leadership and how they perform the basic behaviours constituting these roles based on teacher views.

METHOD
Significance and Aim of the Study
The use of educational technologies and practices in the Ministry of National Education such as MEBSİS (Ministry of National Education Information Systems, e-school, Computer-Assisted Instruction, Internet-Assisted Instruction, Computer-Based Instruction, Internet-Based Instruction, Distance Education, Special Package Programs, Instructional CD's, Teleconference Methods and Multimedia Projection Devices to be also used at educational institutions requires school administrators to be well-equipped in this regard (İşman, 2011a: 14; Ministry of National Education, 2015: 1). Based on the necessity that administrators in educational institutions should be well-equipped in terms of technology knowledge, this study was designed to identify teacher views on technology leadership skills of school administrators working in state and private elementary education institutions, and then, offer suggestions to authorities in this respect.

Research Design
General survey model was used in the study. To identify the views, "Technology Leadership for Educational Administrators Scale" developed by the research in Likert format in 2014 was employed.

Population and Sample
The population of the study contained 1252 teachers working at a total of 45 elementary schools in the Beylikdüzü district of İstanbul in the 2013-2014 school year (Aras, Şimşek & Kakırman, 2014: 19). Twenty per cent of the teachers constituting the population, in other words 250 teachers, were selected as the sample group through simple random sampling. Among the questionnaires distributed to the sample group, 220 respondents returned, so the return rate was 88%. This rate is equal to 17.57% of the population.

Table 1. Participation Frequency (f) and Percentage (%) of the Sample Group

Sample Group	Responded	Not Responded	TOTAL

	f	%	f	%	f	%
Teachers Working at the Elementary Schools in the Beylikdüzü District	220	88,00	30	12,00	250	100

Data Gathering, Analysis and Interpretation
In the study, to identify the teachers' views, "Technology Leadership for Educational Administrators Scale" developed by the researcher was used, and its Cronbach Alpha reliability coefficient was calculated as 0,95. SPSS package program was employed for data analysis, and percentage (%), frequency (f) and arithmetic mean ($\overline{X}$) were included.

The weights assigned to the extent of agreement for the propositions in the scale and the limits of these weights are as follows: "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00".

Findings and Interpretation
The data obtained in this study, which was designed to identify teacher views on technology leadership skills of school administrators working in state and private elementary education institutions, and then, offer suggestions to authorities, was organised in tables and interpreted.

Table 3.1. Descriptive Statistics Related to School Administrators' Technology Leadership

No.	PROPOSITIONS	Never (1) f	%	Rarely (2) f	%	Sometimes (3) f	%	Usually (4) f	%	Always (5) f	%	$\overline{X}$
1	Use technology effectively.	80	36,36	120	54,54	20	9,09	0	0	0	0	1.72*
2	Open to technological developments.	0	0	120	54,54	60	27,27	40	18,18	0	0	2,63
3		120	54,54	60	18,18	0	0	40	18,18	0	0	1,81
4	Buy software that would enhance the learning opportunities.	160	72,72	60	27,27	0	0	0	0	0	0	1,27
5	Enable all students to access technology equally.	120	54,54	60	27,27	20	9,09	0	0	10	0	1,81
6	Sensitive to obstacles stemming from gender, social class and other individual differences that would affect students' use of technology.	120	54,54	80	36,36	20	9,09	0	0	0	0	1,54
7	Far-sighted for quantitatively and qualitatively improving the use of technology at school.	140	63,63	60	27,27	0	0	20	9,09	0	0	1,54
8	Find technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school.	200	90,90	20	9,09	0	0	0		0		1,09
9	Provide opportunities for teachers to participate in in-service trainings to use technology better.	120	54,54	60	27,27	20	9,09	10	9,09	0	0	1,72

* "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"

Table 3.2. Descriptive Statistics Related to School Administrators' Technology Leadership
(Continued)

No.	PROPOSITIONS	Never (1)		Rarely (2)		Sometimes (3)		Usually (4)		Always (5)		$\overline{\mathrm{X}}$
		f	%	f	%	f	%	f	%	f	%	
10	Have positive attitude towards technology.	20	9,09	100	45,45	80	36,36	10	9,09	0	0	3,27[*]
11	Consider student and teacher needs when equipping the school with educational technologies.	120	54,54	80	36,36	0	0	20	9,09	0	0	1,54
12	Encourage teachers in receiving training on the use of educational technologies.	140	63,63	60	27,27	20	9,09	0	0	0	0	1,45
13	Support the use of Internet services in teachers' communication with each other.	60	27,27	100	45,45	40	18,18	10	9,09	0	0	2,09
14	Enable all stakeholders to benefit from educational technologies equally at school.	100	45,45	80	36,36	40	18,18	0	0	0	0	1,72
15	Have a web site prepared which include students' and teachers' works and on which the events organised at school can be followed.	200	90,09	0	0	0	0	20	9,09	0	0	1,27
16	Enable students to access technological tools.	160	72,72	40	18,18	20	9,09	0	0	0	0	1,54
17	Enable students to use the Internet and tools such as drawing software, word processors, spread sheets and presentation software.	160	72,72	60	27,27	0	0	0	0	0	0	1,27
18	Provide the necessary support for teacher to use technology.	120	54,54	80	36,36	20	9,09	0		0	0	1,54
19	Provide the necessary support to form and develop a computer lab.	80	36,36	140	63,63	0	0	0	0	0	0	1,63
20	Provide an opportunity to use technology in the science lab.	80	36,36	100	45,45	20	9,09	10	9,09	0	0	1,90
	General Arithmetic Mean											**1,72**

* "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"

As is seen in Tables 3.1 and 3.2, the teachers perceived the school administrators as incompetent as technology leaders. In overall, the teachers agreed on the propositions in the scale at the level of "never" with a low arithmetic mean ($\overline{\mathrm{X}}$ =1.72). This finding can be interpreted as that the school administrators never acted/could not act as technology leaders to the teachers. As is seen in the tables, there were no propositions that the teachers agreed on at the level of "always" and "usually" regarding school administrators' technology leadership. These findings show that the school administrators could not lead teachers in technology usage.

As for the items in particular, the propositions on which the teachers' stated the highest level of agreement was "having positive attitude towards technology". The teachers believed that the school administrators had positive attitude towards technology. The teachers were observed to agree on this proposition at the level of usually with an arithmetic mean of ($\overline{\mathrm{X}}$:3,27). According to the teachers,

although the school administrators had positive attitude towards technology, they were not competent in using technology when evaluated with other items. It can be argued that since they could not use technology, they could not act as leaders in this respect.

The propositions on which the teachers stated the lowest level of agreement was "finding technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school". The teachers believed that the school administrators were incompetent in finding technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school. The teachers were observed to agree on this proposition at the level of never with an arithmetic mean of ($\overline{X}$:1,09). The teachers stated that the school administrators never received support for technology from the environment, did not look for leaders among parents and students to enhance the capacity of information technologies at school and did not cooperate with them.

In addition, the teachers did not find the school administrators competent in using technology effectively, buying software to enhance learning opportunities, and being sensitive to the obstacles stemming from gender, social class and other individual differences affecting the use of technology Similarly, the school administrators were not competent in being far-sighted to quantitatively and qualitatively improve the use of technology at school, providing opportunities for teachers to participate in in-service trainings on using technology better, considering the needs of teachers and students in equipping school with educational technologies, and encouraging teachers to receive training on the use of educational technologies. The teachers thought that the school administrators were not well-equipped to act as leaders in these areas. The teachers stated to have agreed at the level of never on the issues including the school administrators' enabling all the stakeholders benefiting from educational technologies equally at school, having a web site prepared which includes teachers' and students' work and on which the events organised at school can be followed, and providing an opportunity for students to use technological tools. The school administrators were also found incompetent in enabling students to use tools such as the Internet, drawing software, word processors, spread sheets and presentation software, providing the necessary support for teachers to use technology, and providing the necessary support in forming and developing a computer lab.

The teachers stated that the school administrators rarely led/advised them to develop their skills of technology. They also stated that the administrators rarely provided opportunities to use technology in the science lab, supported the use of Internet services in teachers' communication with each other, and enabling all students to access technology equally.

According to the teachers, the school administrators sometimes had open and positive attitude towards technological developments. The propositions on which the teachers stated the highest agreement levels regarding the school administrators' technology leadership were on their having open and positive attitudes towards technology, and these agreement levels were higher than the level of "sometimes".

RESULT AND SUGGESTIONS
As a result of the study, the teachers' views revealed that;
➢ the elementary school administrators were sometimes open to and had positive attitude towards technology and technological developments, but incompetent in acting as technology leaders.
➢ the high school administrators could not integrate information technology tools at schools to learning environment at each grade level.
➢ environments that would provide every student the opportunity to access information technology tools throughout their education life could not be created.
➢ although the school administrators had positive attitudes towards teaching students the skills of accessing information, problem solving, processing and presenting information by means of information technology tools, and teaching them how to use information technology tools in daily life, they did not have the necessary qualifications to ensure these.

The following suggestions can be offered based on the results of the study.
➢ Needs analyses should be conducted on the use of technology in education.
➢ School administrators should be directed to regular trainings on acting as technology leaders, and then encouraged to pursue postgraduate studies to improve their competency of technology leadership.

➢ Goals should be set towards developing positive attitudes in all stakeholders of the school for using information and communication technologies effectively, and activities should be organised to establish a total quality consciousness.

➢ Studies including the views of different groups should be conducted to reveal more generalisable results.

➢

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OLD FORMS AND NEW INSIGHTS: DETECTIVE FICTION AS IMPORTANT TO INTRODUCING STUDENTS TO A BROADER INTERNATIONAL UNDERSTANDING

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I would like to discuss a Detective Fiction course, En 3810, that I planned and supervised its eventual curricular standing; for instance, a student can gain upper-division credit in English, Cultural Studies, or—a new major on our campus—Criminal Justice. I then taught the course for the first time in the fall of 2012. It all began about three years earlier when a reading avocation of mine turned professional. I had been an occasional of detective stories —mostly American mystery writers like Sue Grafton, John Gresham, etc.—ever since my mother introduced me to the Reader Digest's, "condensed" Agatha Christi when I was still a child. The "hard boiled" American detective novel was a passing fancy of my teen years, including, Mickey Spillane—quick reads & just as quickly forgotten.

It was only when I discovered Donna Leon's Commissario Brunetti of Venice, Italy, that I began to intuit that the threads that constitute community knowledge preceding and following a given murder provide a purposeful format by the late twentieth and early twenty-first century writers that could introduce upper-division college students to cultures, not otherwise on their radar.

By exposing the ins and outs of carefully chosen cultural mores, traditions, and customs as well as upholding the rule of reason, no matter how obtuse and twisted the logic, today's Detective Fiction writers prove themselves worthy advocates of cultural awareness, as the various detectives I have discovered, many of whom are now part of my syllabus assignments, treat their own culture as both a given and as a problematic.

Focusing specifically on the human character in action, these representative detective stories, putatively concerned with murder, develop by means of the investigating detective's interaction and conflict with self, with others, with the chosen culture, and with the law, itself, in order to both understand the crime and identify the responsible criminal. The curriculum applicable to this course includes, but is not limited to the following:

Donna Leon, *Acqua Alta* (1996)*,* featuring Commissario Brunetti of Venice, Italy

Louise Penny, *Bury Your Dead (2010),* A Chief Inspector Gamache mystery, *Québec City, Canada.*

Barbara Nadel, *Petrified (2004),* featuring Inspector Cetin Ikmen, of Istanbul, Turkey

Alexander McCall Smith, *The No. 1 Ladies' Detective Agency (1998), with* Precious Ramotswe *in Botswana*

Eliot Pattison, *The Skull Mantra (1999)*, featuring Shan Tao Yun as Chinese detective in Tibet

Lisa See, *Dragon Bones (2003), featuring Inspector Liu Hulan* as a Chinese female in the "Red Princess Series"

These representative readings epitomize today's detective fiction, which excels in shaping ideas and sense perceptions concerning the failure in communication that sometimes results in murder, and the painstaking reconstruction of the events surrounding the carnage in order to render the experience of an ever-expanding appreciation of the human psyche, made more and more vivid by disaster and its aftermath.

The object of this presentation is to suggest that the study of Detective Fiction texts, and their international settings, can both amply and charmingly sustain genre focus on character development, exploitations of plot, and intense assessments of local customs from the microcosm of the murder itself to the macrocosms of various cultural influences that both facilitate and hamper the investigation process.

In other words, students in a Detective Fiction course discover far more than a plot resolution, but are launched into an awareness of our global similarities and differences that surround and sustain this particular fictional process. Even the title of the course, "Detective Fiction" has been chosen to emphasize the cultural challenges of all concerned in the solving of the crime. However, the history of stories that solve mysteries is long and noteworthy:

uThe first written, clue-laden, monster story could go back as far as the story of Hercules and Cacus. As found in Book VIII of the *Aeneid,* Cacus had stolen eight head of cattle from Hercules and fled, leaving a false trail that Hercules disregards in order to find the thief, wherein Hercules grasps Cacus so tightly that Cacus' eyes pop out and there was no blood left in his throat. Cacus thus becomes one of the first criminals to falsify evidence by forging footprints, but is justifiably punished for his crime.

uThe Biblical story of Suzanna and the Elders, which appears in both the Catholic and Eastern Orthodox Bible, features the story of Daniel whose examination of two corrupt elders exposes their perjury and exonerates the innocent Suzanna and may serve as a mile-marker in the developing sense that intelligent questioning can triumph over criminal intentions.

uOf course the 5th Century (BCE) Oedipus Rex, by Sophocles, is essentially a mystery surrounding a murder, a closed circle of suspects, and the gradual uncovering of a hidden past—the essence of most Detective Fiction

Beginning with his 1840 publication of the "Murders in the Rue Morgue" in *Graham's Magazine* when Edgar AllanPoe introduced to the world a new kind of detective, C Auguste Dupin and his gift for ratiocination. The quote that defines this new type of detective is, funny enough, found in that ground-breaking publication: "It will be found, in fact, that the ingenious [detective is] always fanciful, and the truly imaginative [detective] never otherwise than analytic."

It was this insight, rather than the invention of the now all but forgotten word "**ratiocination,"** that eventually travelled to Japan in the late 18th, early 19th century when that country was undergoing a forced modernization. Satoru Saito has led the way since the late 1970s in demonstrating how the literary community, including such exemplars as Edogawa Ranpo, converted and expanded upon the traditions of American/European Detective Fiction (the Tokyo community's chosen designation) provided the necessary frameworks to examine and critique the nature and implications of Japan's literary formations and its modernizing society (Saito).

Finally, the work of Gāmini Salgādo, the 20th century historian and critic—with a special interest in the early-modern criminal—succinctly outlines a five (5)-part structure that links the plot in today's Detective Fiction to Revenge Tragedies:

1st—*Exposition* of events leading up to the situation requiring vengeance, or investigation in the crime novel.

2nd—*Anticipation* as the revenger plans his revenge or the detective investigates the crime.

3rd—*Confrontation* between revenger/detective and victim/murderer

4th—*Partial execution* of revenger's plan which is analogous to the detective's step-by-step discovery of what lead up to the murder.

5th—*Finale/ Resolution* of the act of vengeance or in the detective novel, the detective's success in finally bringing the villain to justice. (Scaggs 11-12)

For Salgādo the most notable "Revenge Tragedy" is, of course, Shakespeare's *Hamlet* (1601), as the young Prince, follows the clues to the killer, who turns out to be Hamlet's uncle/king*; thereby, proving Claudius' own words: "Madness in great ones must not unwatched go."* (Scaggs,*8-11*)

As matter of historical fact, my choice of the name for the course title has been influenced by both the Japanese and Salgādo's use of the term"Detective Fiction" (as opposed to the "Detective Novel," the "Mystery Novel," or even "Mystery Fiction," etc.) for the course title, for its structure, its predictable unpredictability, as well as the cultural influences

that form a backdrop to the stories themselves. The choice of the specific authors already mentioned—cum main detective's point of view--is based on this lineage that relates specifically to the kinds of detectives that I find most interesting as well as genre defining.

I will close with an example, one of many, throughout the two semesters (Fall 2012 and 2014) that I have been teaching this course. The final reading in 2012 was Lisa See's *Dragon Bones, featuring Inspector Liu Hulan* as a Chinese, female detective in the "Red Princess Series." The book, published in 2003, is set in the region of China's "Three Gorges," on the Yangtze River, during the time when the **Three Gorges Dam,** the world's largest power station in terms of installed capacity (22,500 MW), was being completed. The specific site of the 1st murder that Liu Hulan is dispatched to solve is an archeological dig, close to the city of Wuhan, aimed at saving the artifacts of the areas soon to be inundated by the huge reservoir formed behind the dam itself, upon its completion.

The Chinese government regards the project as an historic engineering, social and economic success, with the design of state-of-the-art large turbines, and a move toward limiting greenhouse gas emissions—the planning stages themselves waxed and waned over the better part of the 20th century and into the 21st. However, on the down side, the dam flooded archaeological and cultural sites and displaced some 1.3 million people, and is causing significant ecological changes, including an increased risk of landslides.   The up side results are just as impressive; by 2012, the dam's 32 generating units generated a record 98.1 TWh of electricity, which accounts for 14% of China's total hydro generation. More importantly, From 2003 to 2007, power production equaled that of 84 million tones of standard coal, reducing carbon dioxide by 190 million tones, sulfur dioxide by 2.29 million tones, and nitrogen oxides by 980,000 tones. The dam also increased the Yangtze's barge capacity, six-fold, reducing carbon dioxide emission by 630,000 tones. All of this important information and awareness is now shared with my students through the medium of Detective Fiction.

Besides raising awareness of China's Yangtze River and the Three Gorges Dam, the students and I also experienced another international event on a more personal basis. The year 2012 was the year that XI Jinping, born June 15, 1953, became the new Chairman of mainland China. The astonishing part was that he was described as one of China's Red princes who had spent the Cultural Revolution in the Three Gorges.   Lisa See's protagonist, Detective Liu had already introduced us to the concept of a Red princess, or prince; i.e. a daughter or son of the people who had been with Mao Zedong on the long march in 1934 that lasted a year and covered some 4,000 miles while making Mao the undisputed Leader of Chinese Communism. These sons and daughters lead charmed, reclusive, and protected lives because of their parents' bravery.

Serendipity, I called it, and it happened often as the class explored the cultural, legal, transportation, and social systems of eight international detectives over a very short sixteen weeks. But the semester experience of Detective Fiction is more than an enjoyable read. It reaffirms the importance of a literary genre that strengthens the essential connection, enjoyed by both writers and readers, with the rest of the world.

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Keywords: Detective Fiction, culture, crime, history, course

ÖNLİSANS ÖĞRENCİLERİNİN DERS ÇALIŞMA ANLAYIŞLARININ DEĞERLENDİRİLMESİ

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Bu araştırmada; önlisans programlarındaki öğrencilerin ders çalışma yaklaşımlarının belirlenmesi ve farklı değişkenlere (cinsiyet, yaş, sınıf, bölüm ve akademik genel not ortalaması) göre incelenmesi amaçlanmıştır. Tarama modeline göre yürütülen bu çalışmanın verileri, Kocaeli üniversitesi bünyesindeki, 20 meslek yüksekokulundan random olarak seçilen 217 önlisans öğrencisinden elde edilmiştir. Verilerin toplanmasında Yılmaz ve Orhan (2011) tarafından Türkçe'ye uyarlanan "ders çalışma yaklaşımı ölçeği" ve yazarlar tarafından geliştirilen kişisel bilgi formu kullanılmıştır. Verilerin çözümlenmesinde, betimsel istatistik, ilişkisiz örneklemler için t-testi ve tek faktörlü varyans analizi ile basit korelasyon tekniklerinden faydalanılmıştır. Analiz sonuçları, 94 öğrencinin ders çalışma yaklaşımının derin düzeyde, 123 öğrencinin ders çalışma yaklaşımının ise yüzeysel olduğunu göstermektedir. Ayrıca, öğrencilerin ders çalışma yaklaşımlarının cinsiyet, yaş, sınıf ve öğrenim gördükleri bölüm değişkenlerine göre değişmediği gözlemlenmiştir. Bununla birlikte, öğrencilerin ders çalışma yaklaşımı ölçeğinin derin ve yüzeysel yaklaşım boyutlarından aldıkları puanlar ile akademik başarıları arasında anlamlı bir ilişkinin tespit edilmesi çalışmanın önemli bulgularından bir tanesi olarak ifade edilebilir.

Keywords: Ders çalışma, öğrenme yaklaşımı, önlisans öğrencisi, istatistiksel analiz

OPEN SCIENCE GALLERY, A SELF-ORGANISING TEAM BUILDING APPROACH FOR TRANSDISCIPLINARY GROUP INTERACTIONS

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ABSTRACT

Open Science Gallery (OSG) is an interaction method and context for enabling knowledge creation which has emerged from our experience in supporting team building processes among transdisciplinary and geographically distributed researchers at our higher education institution.

The OSG works as a self-organising team building approach for designing and conducting group interactions across disciplines, providing participants with an open space for initiating shared, interest-based initiatives. It helps to bring people together, which possibly would not work together because of its different disciplines. These group interactions across transdisciplinary boundaries provide an open knowledge sharing where also learning from each other takes place.

The OSG is intended to be applied in face-2-face meetings, aiming to overcome discipline-related and physical boundaries and to initiate collaboration. The amount of participants is not limited, the method works for any size of people as long as they have the chance to meet each other in a room or hall at the same time.

To this end, the OSG presents an introductory question (OPEN) which serves for the participants as a starting point for sharing their personal expertise (SCIENCE) within a safe environment (GALLERY). The OSG is self-organising and spontaneous which means that no advance preparation for participants and little facilitation is required.

In this paper, we describe the need for such an approach which focuses on the specific challenge of multidisciplinary collaboration in research or education. We cover the terminology of the OSG and its methodological framework, as well as the potential for future developments and applications.

In the first part of this paper, we will describe the procedures of the OSG, its core elements, implementation steps and experiences made in the face-2-face pilot application. The second part covers the current development of the method, which also allows the integration of virtual participants. Furthermore, we describe the next development of the method, which will specifically be designed for virtual participants only.

INTRODUCTION

The complexity and diversity of today's challenges requires solutions that are beyond the scope of a single discipline or area of research. As a consequence, it is key to promote the collaboration of researchers from different disciplines and to enable them to perform an inter- and transdisciplinary creation of shared knowledge. Imagine a scenario in which you have a geographically distributed organisation with various autonomous research groups who never worked together and barely know each other. Where do you begin for promoting collaboration? In their model of organisational knowledge creation Von Krogh et al. (2000) emphasize five knowledge-creation steps, which are (1) sharing tacit knowledge, (2) creating concepts, (3) justifying concepts, (4) building a prototype, and (5) cross-leveling knowledge. Following this model, the first step in our mentioned scenario would be to "share tacit knowledge": and this is not easy. In fact, even after 20 years of knowledge management practice, tacit knowledge still seems too mysterious and is often ignored by managers because it cannot be controlled. But this is exactly what you should not do: rather than being controlled, knowledge creation needs to be enabled, and is in this similar to the growth of a plant, which also cannot be controlled but only "enabled" by appropriate cultivation. How to enable the sharing of tacit knowledge (step 1) and the creation of concepts (step 2) in the mentioned scenario? This is the question that we in our geographically distributed organisation had to address and that we answered by means of our approach of an Open Science Gallery, an interaction method and context for enabling knowledge creation (Von Krogh et al. 2000, 176 ff) by means of a face-2-face meeting with the purpose of building interdisciplinary teams around new ideas.

OSG TERMINOLOGY AND METHODOLOGY

The term OSG has a specific terminology, conveying the essence of our method in three words:

Open: the method focuses on conducting collaboration between multidisciplinary participants. Open means that there is no predefined team building process. Instead, the participants find each other based on shared *passion* and *interest*. An open question at the start of the OSG aims to facilitate the initial conversation among participants. From there, they decide themselves *on what* they want to work, *with whom* and *how long*.

Science: each participant is treated as an expert in his or her research field and invited to share his or her expertise with colleagues from other disciplines. The individual business cards with the personal competences of its owner help to find colleagues with same or similar interests. Thus, a topic can be examined from various perspectives. In this professional multiperspectivity lays a great strength of the OSG method.

Gallery: to support this driven by passion approach described above, the OSG should take place in a bright room with pin-boards, poster walls etc. as catalysers for social interaction and cross-disciplinary conversation. Participants should feel safe and protected while working out new ideas.

The OSG has its methodological roots in the "Design Thinking" process and the "Red Monkey Innovation Management" approach.

Design Thinking is a human-centred, creative, iterative and practical approach to innovation (see Brown 2008, p.8). based on inspiration, ideation and implementation as three interwoven stages (see Brown, 2009. p. 3). In our method we refer to this approach as follows: the participants develop collaboratively new ideas for projects, initiatives etc. Thereby, this process is creative and iterative since the participants continuously align these ideas with their individual interests. Thus, in the OSG format there is no particular outcome predefined for the group works. Ideas are allowed to be dynamic and can be adapted through the whole OSG process.

The second approach, to which the OSG is related, is Jef Staes (2014) "Red Monkey Innovation Management". Here, Staes promotes the distinction between 2D and 3D organisations. While in 2D organisations the focus lays on diplomas and certificates for education and hiring, 3D organizations recognize the importance of passion and talents as keys to learning and working. While in 2D organizations we behave like sheep, just blindly following our job descriptions, the red monkeys in 3D organizations use their passion and talents to create innovation. Following Staes' invitation, the OSG aims to support this 3D thinking approach by drawing on individual expertise rather than the given belonging to an organizational research group.

PROCEDURES OF THE OSG

The purpose of OSG is to build teams around new ideas; the themes of these ideas are free and the introductory question merely serves to initiate discussions. Therewith, the OSG is aligned with Nonaka's et al. (2000) model of dynamic knowledge creation: the OSG aims to create new knowledge by bringing its participants in a socialising space together. Here they are invited to share their skills and passions and to go into a deeper dialogue to transcend tacit and explicit knowledge.

The following steps describe how to run an OSG:

1. Introducing an open question: an OSG starts with some explanations about the format and a predefined introductory question. This question should simply help participants to start conversations. A starting question which covers the meeting goal will help, for example: If you think about your skills and interests, to what project idea would you apply them?

2. Creating personal interest cards: Afterwards, each participant receives 5 business cards (including his/her picture, name and work-unit) to complete with keywords expressing his/her personal interests and competencies.
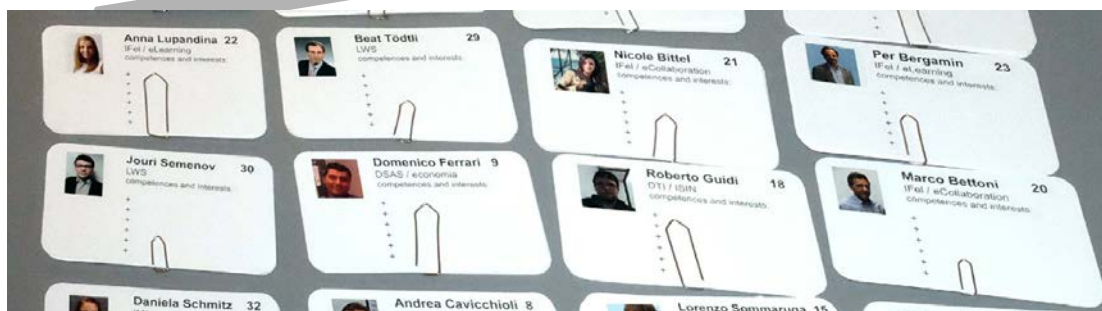
Figure 1: Business card preparation

3. Creating posters: Once the cards have been completed, participants are invited to manually create a poster using their input about the introductory question based on their own ideas. This is not a mandatory step, as there is no pressure to create something. Poster ideas can be input for projects, discussions or anything else. To do this, they choose a free pinboard and start writing or drawing.

Figure 2: Individual creation of a poster

4. Visiting posters: The format doesn't distinguish between poster-owner and poster-visitor: All participants visit the posters and they pin one of their business cards to each poster they are interested in.

Figure 3: Poster visits

5. Building groups: The group building process is self-organised. Participants join the poster they would like to work on.
6. Working in groups: Once the interest groups have been established, they start working on their idea. It is up to the participants to change groups after 20 minutes or to create new groups for previously unused posters.
7. Visualising outcomes: Participants are invited to use a huge paper wall (1.50x3 metres) to write down their conclusions during their group work.
8. Presenting outcomes: At the end of the workshop, all groups briefly present their results to all participants and the next steps in-front of the paper wall.

Figure 4: Presentation in front of the idea wall

9. Creating final project teams: At this point, every participant is invited to join one or more groups for which he/she will continue to develop the idea as a member of the project team. For this, a business card must be tagged for every idea of interest. It is also possible to leave former working groups or even not to join a project-team..

Figure 5: Final Idea wall including businesscards of project members

Furthermore, the OSG creates a safe environment. This is particularly important for introverted people.

EXPERIENCES

The Swiss Distance University of Applied Sciences and its parent institution SUPSI (Scuola universitaria professionale della Svizzera italiana) are a geographically distributed organisation with various autonomous research groups. One of the instruments for fostering collaboration consists of an annual full-day face-2-face workshop between researchers of the two institutions. The workshop focuses on promoting cooperation and advancing social ties among geographically distributed researchers with professional and cultural differences and who, in many cases, never worked together and barely know each other. During the 5th edition of this research workshop which took place on October 24, 2014 in Brig (Switzerland) the OSG was applied and constituted the context of the main part of the meeting which opened with a keynote speech. This OSG was attended by 32 participants from 11 units; they created 22 posters, established 10 interdisciplinary groups and developed 4 project ideas (2 of which were later submitted for grant applications while the other two are still in progress).

Generally, participants liked the OSG due to its practical orientation and inspiring, energizing atmosphere. First of all, we found that participants loved to interact and to create ideas in the OSG context. They appreciate the method's openness by working on ideas which do not usually form part of their daily activities. Sometimes people seemed to feel abandoned; in this case the facilitators had to help them, being careful to find the right balance between free space and guidance, a key requirement for enabling social encounter. Furthermore, the idea wall turned out to be an appreciated context for sharing the outcomes of the group works. People liked this approach of having a shared interaction and knowledge space probably because it encouraged and nurtured conversation at a plenary level in a safe way.

We also learned from our pilot that the OSG process needs some improvements. Participants felt partially confused about what should be done as next. Here a solution could be an introduction to the OSG method and a detailed agenda of the steps displayed on a projector. The group building process must be simplified and user should be in some way better prepared for this step, for instance by giving a short introduction on the concept of self-organisation.

Finally, we will aim to better integrate introvert as well as low-creative participants in future. It turned out that giving participants a space for their ideas wasn't enough. Participants who have difficulty being outgoing and creative need a more sensitive approach.

CURRENT DEVELOPMENT

After the first application of the OSG method in fall 2014, we are about planning its further development. Given the fact that virtual communication and collaboration gains continuously in importance in terms of overcoming time- and space limitations, we aim to blend the face to face events with online parts throughout the following stages:

Preparation

We are all more or less involved in our daily business activities. Thus, we all know how challenging it is to catch participants before an event and to engage them in pre-workshop activities. Hence, we are confident to increase participants' engagement by bringing them virtually together. To this end, we invite them to join our workshop group on LinkedIn (http://www.linkedin.com) where they are asked to introduce themselves and to share insights into their daily activities with other colleagues. Thanks to the advantages of the asynchronous forum, the participants can decide themselves, *when* and *from where* to respond and to contribute to the discussion. Furthermore, the forum gives participants the opportunity to start discussions on new and other topics driven by their personal interests.

Implementation

Beside this option of preparing the event with the help of virtual communication, we plan 2015 for the first time a virtual keynote at the face to face event. Eddie Obeng will talk about new challenges for learning. He is going to use his own 3D platform-environment Qube (http://qube.cc/). While our workshop coordinator is logged in on Qube, the participants are able to follow Obeng's keynote speech via beamer and sound system. Participants can write their upcoming questions directly during the talk into etherpad (http://www.titanpad.com), a collaborative writing tool). Thus, Obeng can immediately respond to them. The titanpad is also used for capturing the outcomes of small group activities during the keynote which are initiated by Obeng himself. This way, we can make sure that the audience can interact with the keynote speaker even if he is not sitting in the same room.
Thereby, there are several technical aspects, you need to make sure, before running a keynote talk online:

- The internet connection: you have to make sure the internet connection is stable and reliable.
- The audio settings: there is nothing more annoying for participants than a bad audio while listening to a virtual presentation. That's why the audio needs to be of high quality.

Both, internet connection and audio, should be tested (ideally more than once) before the event for sound quality and audio-feedback.

Follow-up

Again, as soon as the face to face event is over, participants are already back again in their daily business and there is not much time left to devote to the past workshop. Also here, virtual forms of interaction may help to extend the event's effects. That's why we plan for our next research workshop in October 2015 to organize follow-up activities on the online platform Qube. Participants will be invited to join a virtual session on Qube one or two weeks after the face to face workshop. During this session, participants can reflect and discuss about the content and format of the event, the outcomes of the group works, planned activities, next steps etc.
This kind of virtual follow-up gives participants the chance to meet each other again without being too much interrupted in their daily activities (particularly by a long travel). Furthermore, this virtual meeting can be the starting point for ongoing interactions and collaboration among participants.

Outlook

This is, how we plan to realize this year's workshop. Nevertheless, the question remains, how to organize the virtual communication, especially *before* and *after* the event in order to reach the best and highest possible participants' engagement. We assume that we need to try various approaches and tools in future to find out which ones are working best. We also think about the option to organize some of our events completely virtual in future as described below.

FUTURE DEVELOPMENT

The OSG method is not limited to face-2-face meetings. It is conceivable that the same could also be completely carried out virtually. In a virtual world like second life or Qube all necessary options are already available today. Participants are free to move in such virtual worlds and when they are close enough they can even talk to each other. You can form groups and immediate content can be provided and presented in tables or flip charts.

What we need to change, is the time frame. No one wants to stay an entire day in a virtual world, but up to two hours at a time are quite possible. The complete sequence of OSG can also take place in small stages over several days or at selected times. What may appear to such scenarios has yet to be researched and developed.

New technologies for virtual and augmented reality will appear soon on the market, such as the holo-lens from Microsoft or the oculus rift from Facebook. This will bring also new opportunities into play.

CONCLUSION

We designed the OSG as an interaction method and context for enabling a shared knowledge creation in inter- and transdisciplinary teams. We applied the OSG method in the framework of an annual one-day workshop where researchers from different institutions and various disciplines meet face to face to build interdisciplinary teams around new ideas. It was important to us to give participants the freedom to decide themselves with whom they want to work and on what. Hence, we applied Staes' *driven by passion* approach for our new interaction format. In the OSG, teams are built spontaneously based on shared interests. The first implementation of the OSG has confirmed the importance of this format's openness as participants started to build groups *across their own discipline* themselves. Furthermore, the outcomes of these group works in terms of project ideas and submissions highlighted the lasting effects of such an approach.

From the first implementation round we also learned how critical it is to guide participants through the OSG process. Even if the format focuses on self-organisation, most of the participants need some support and step-by-step instructions on how to collaborate and develop common ideas in a new way. Thus, we recommend to set up a clear agenda and to guide the audience through each of its points. Although the facilitation is reduced to a minimum in the OSG, the facilitator has to be present in the background.

This need of a reliable guidance by the facilitator might be even more critical for accompanying online interactions. As we plan to carry out this year's workshop by blending online and face to face communication, we need to devote time to get to know our audience: not each participant is familiar with online tools and how to use them. Also listening to a virtual keynote while sitting in the same room with other colleagues may feel strange to one or the other participant. Thus, it will be crucial to run the keynote without technical problems for avoiding frustration and inhibitions. To this end, a clear and stable connection and audio need to be guaranteed.

With this in mind, we aim to realize also completely online workshops in future. We are convinced that the OSG can be applied in a 100% virtual setting.

However, considering these 3 OSG applications presented in this paper, there are some limitations for each of them to keep in mind:

face to face

Face to face meetings require a lot of time and cause interruptions from the daily activities. For our annual face to face workshops researchers have to travel for each way more than half a day. Thus, face to face meetings can be rather ineffective. However, this kind of meetings make sense by all means especially if your audience is going to meet for the first time.

blended

If you decide to mix virtual and face to face formats you might need to be aware that your greatest challenge might be to motivate participants to take part in pre- and after event activities. We consider that giving participants as much flexibility as possible to contribute to these activities is one of the keys to their engagement.

online

For running a virtual workshop participants need to be familiar with concepts of e-collaboration. They need to feel capable to use the tools and technology. In addition, a fully virtual implementation might be not the first choice for participants who don't know each other yet. For this case a face to face meeting can be more effective, especially for establishing a first and personal contact.

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A VISUAL CONTENT BASED MOBILE SOFTWARE FOR VOCABULARY LEARNING IN SECONDARY EDUCATION

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ABSTRACT

The objective of this research is to enhance the vocabulary learning and memorizing skills of secondary school students in English education by using mobile devices. The usage rate of mobile devices by secondary education students is increasing day by day. Text-based vocabulary learning programs should be supported by visual contents with the help of mobile devices in order to make learning more fun. In the software developed, visual content is presented as well as the equivalent of the word both in Turkish and target language during the stage of student learning. With this application, the vocabulary in a foreign language is aimed to be learned much more easier by using the visual memory.

INTRODUCTION

One of the most important courses of secondary education students is foreign language. It is necessary for a student to know the vocabulary of the foreign language in order to be able to comprehend what they read and communicate with the people using the same language. As Wilkings stated in his book, without the grammar one can communicate more or less, but they cannot communicate without the vocabulary (Wilkins,1972). In language education, students with high vocabulary knowledge are considered to be more successful than the students with low vocabulary knowledge (Kocaman& Kızılkaya Cumaoğlu, 2014). In order for enhancing the success in foreign language, students need to increase the number of the words they know. One of the techniques used for increasing vocabulary knowledge is visual technique (Tosuncuoglu, 2013). In the studies carried out in the field, it is also stated that foreign language teaching need to be audio-visual (Bağçeci, 2004).

Vocabulary has primary importance in language learning. The devices commonly used by the people should be preferred, so as to make the education of secondary school students more fun and memorable.

The access to mobile devices by secondary school students is increasing day by day. Nowadays children are able to use these devices almost from the moment they were born. Almost everybody has the chance to get hold of a mobile device. Mobile cell subscribers are approximately 72 million in Turkey and almost half of them are also have mobile internet subscription. The usage rate of smart phones and smart pads for activities like online shopping and video track reached up to %67 in our country.

The applications used for vocabulary enhancement were improved in desktop programs, they were used extensively and they are still being used today. Together with the common usage of smart phones and pads, the applications for these devices also increased very fast. Previously, those devices with limited processing capacity now have the ability to run the applications, which are normally run by the computers. In the research held by Turgut, vocabulary learning through SMS feature of the cell phones was aimed (Turgut, 2011). Sarıcoban and Özturan also aimed at vocabulary learning through the usage of SMS feature (Sarıçoban & Özturan 2013). In Saran's and Seferoglu's study, in addition to SMS feature, MMS was used for vocabulary learning (Saran & Seferoğlu, 2010). In the study of Cui and Bull, foreign language learning application software which is run by mobile devices, were developed (Cui & Bull, 2005).In the study carried out by Cevik and Kocer, text-based vocabulary learning application was developed.

The objective of this study is to enhance the vocabulary learning and memorizing skills of secondary school students in English education by supporting them visually via commonly used mobile devices. By means of this software, unlike text-based vocabulary learning programs, learning is made more fun by supporting it with visual contents. Visual content is presented as well as the equivalent of the word both in Turkish and target language

during the stage of student learning. At the stage of examination, the equivalent of the word in the target language is given and the student is requested to find the answer among multiple choice Turkish equivalent or visual contents. With this application, learning foreign language vocabulary easily by using visual memory is targeted.

METHOD

Mobile technologies were used while developing the application. English education of secondary school students were supported by the English education visual content based software which is operated by commonly used mobile devices. The software uploaded to the mobile devices, which are commonly used and reached by the students through the parents, includes foreign language vocabulary and their visuals. Common foreign vocabulary were gathered under certain groups in the software. Students are able to download the requested software and the sources by connecting to the internet through their mobile devices and they keep learning vocabulary even without internet connection.
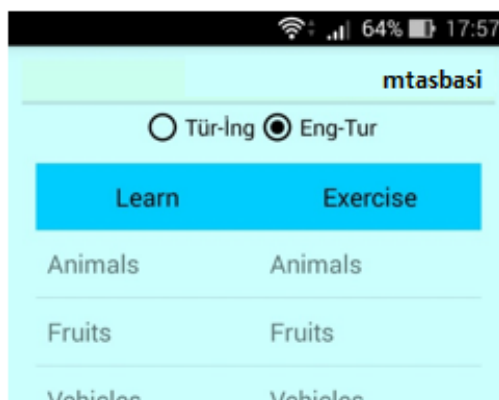
Figure 1: Language Selection Screen

A certain number of words are uploaded to the student device at first and as long as the learning takes place, new vocabulary packages are uploaded to the device. The application consists of two section through which they can learn and practice. In order for learning process, according to the selected group of vocabulary, the word, the visual and the target language equivalent are displayed one by one.

Figure2: Training screen

Upon choice, foreign word is displayed on the screen, in case the student is unaware of the word, by showing the equivalent in mother language they are requested to learn the vocabulary. The student is requested to select a test screen through which they are inquired about the equivalent of the word either in target language or mother language. As a result of the choice made, word in target language is presented and the students are asked to find the equivalent and the visual among four alternatives.

Figure 3: Test Screen (foreign language to mother language)

If the student selects 'mother language to foreign language' choice, they are asked to find the equivalent and the visual of the word in target language among four alternatives.

Figure 4: Test Screen (mother language to foreign language)

The software was used by 86 first grade secondary school students in Sakarya province who have the access to mobile devices. The students are given the chance to repeat by means of the software in the preferred time and period.

CONCLUSION

The objective of this study is to observe the effects of visual content based vocabulary learning software developed for mobile devices on students' vocabulary learning success. Mobile devices, especially smart phones, offer time and place independence compared to the other learning environments as they are carried by the students all the time. The application gives students the chance of learning vocabulary in the preferred time and place by their mobile devices in a more fun way.

Learning process is tried to be made more memorable and fun by presenting the word with visuals as well as their written forms. Moreover it is observed that enhancing learning with visual contents gets more attention when compared to the text-based teaching.

Proving that mobile devices can be used for educational purposes besides entertainment and time passing purposes, the students are encouraged to search for other educational applications. Widespread usage of mobile devices requires preparation of more educational contents in these environments. This application sets an example.

This application can be enlarged by adding examples appropriate for the curriculum and other learning techniques in the future studies. The software can be upgraded by addressing more sense organs like audio in order to make learning much faster and effective.

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OPINIONS OF THE SECONDARY EDUCATION TEACHERS ON THE CLASSROOM MANAGEMENT COMPETENCES

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ABSTRACT
This study is realized to determine the opinions of the teachers who work in the secondary education schools affiliated to the Ministry of National Education on classroom management competences, then to make suggestions to those concerned regarding this subject. "747 teachers" who work in "24 secondary education schools" in total which are public and private and in Beylikduzu district, Istanbul province in 2013-2014 school year constitute the population of the study. 20% of the teachers, that is 149 teachers, who constitute the population are selected as the sample group with the method of "Simple Random Sampling." 109 surveys which are conducted on the sample group, that is 73,15% of them, are returned and evaluated. This rate is equal to the 14,59% of the population. For the purpose of determining the teachers' opinions, "the Ways to Achieve Discipline in the Classroom" survey which is developed by Gulsen in 2011 with five point likert type, and reviewed and rearranged for this study, and of which the total Cronbach Alpha reliability coefficient is calculated as 0,85 is used. The acquired data is evaluated and interpreted in the sub-dimensions of "Direct Discipline" and "Indirect Discipline". During the analysis of the acquired data; SPSS package program is used, percentage (%) and frequency (f)' and arithmetic mean ($\bar{x}$) are included. When the statistical result of the acquired data is considered, it has been determined that the teachers use "Direct Discipline" methods "rarely" ($\bar{x}$=2,28) and "Indirect Discipline" methods "sometimes" ($\bar{x}$=3,09) in the classroom management practices. When the results are evaluated in general, it is suggested that period trainings should be included to increase the teachers' competences regarding modern classroom management models which provide them with indirect discipline.

Keywords. Classroom Management, Teacher, Discipline, Education, Secondary Education.

INTRODUCTION

The sense of discipline has great importance for the students to grow up as amicable individuals. For this purpose, first of all, how the discipline problems are evaluated and how the discipline in the classroom is provided should be known. Student discipline in the education institutions is one of the most important managerial activities in the schools (Gundogdu, 2007: 9). Disciplining the secondary education students is more difficult compared to the other education institutions. The students reaching puberty, the students being influenced by their peers, the obligatory changes in the communal life may have an effect on the students as for them to tend towards the behaviours which cause indiscipline (Helvaci, 2014: 144).

Disciplining the students does not only mean making sure they sit silently. However, in practice, it is seen that it is perceived as students obeying to the teacher's authority, the students to be free as it is allowed. Since the situation is like this, to be able to see if there is a difference between theory and practice and to shed a light on the subject by asking the teachers in the classroom to get their opinions is of great importance. In regard to this importance, this study has been deemed necessary to be

realized for the purpose of "determining the opinions of the teachers who work in the secondary education schools affiliated to the Ministry of National Education on classroom management competences, then to make suggestions to those concerned regarding this subject."

With the object of learning the teachers' opinions on the classroom management competences, it is deemed appropriate early on to form a conceptual frame and clarify the class and discipline concepts. In its most plain meaning, the classroom is *defined as* each of the sections in which students are separated according to their yearly education. It is all the common life areas in which the education activities are realized. These areas may be all places that are suitable to education. For an environment with such flexibility to be able to controlled, for students with many different qualities to be gathered around common purposes and disciplined, there is a need for special skills and techniques. These special techniques and skills put forward classroom management concept (Akan, 2014: 2).

Classroom management may be defined as the effort to establish an environment (in-classroom and out-of-classroom) suitable to education for the purpose of reaching the educational success expected ultimately and for the realization of an efficient education period in the classroom (Akan, 2014: 2-3; Eren, 1991:345; Basar, 1999: 92; Helvaci, 2014: 144).

The classroom management concept is usually associated with the discipline concept which mostly cause misunderstanding. Discipline is accepted as the process of guiding some interests, wants and reactions for the purpose of providing adaptation of an individual to the social rules or ensuring that the individual reaches an ideal value, preventing undesirable behaviours and behaviours which are seen negatively in an individual and getting an individual to adopt the habit of controlling and directing the inner reactions (Akan, 2014: 2-3, Bilir, Kuru ve Tezcan, 2007: 22; Gülşen, 2014:163-164 ; Helvacı, 2014: 144; Özcan, 2008: 41; TDK, 2015: 1).However, in practice, discipline concept is generally used and performed as if it is synonymous with "punishment" concept. Whereas punishment is just a small part of the discipline concept. Discipline should be seen as a medium used to prevent the reaction arising out of the disruptive behaviour when amendatory and guiding attempts do not bring a positive result. It should not be seen as a medium resorted to provide direct and indirect control (Akan, 2004: 2-3, Bilir, Kuru and Tezcan, 2007: 22; Budak, 2009. 6-7; Celep, 2008: 240; Helvaci, 2014: 144; Ozcan, 2008: 41).

When we look at the definitions of the discipline in the classroom management, we see that it is associated with concepts such as undesired behaviour, teacher reactions, self-control of the student, applying of the rules, establishing the education environment, participation to the suitable education activities, increasing the education time, teaching responsibility and management models (Guclu, 2004: 12; Kiran and the others, 2008: 239; Sarpkaya and the others, 2011: 82; Satoglu, 2008: 4). Since it is like this, it is of great importance to teach teachers the classroom management practices since they are the leading player in a class environment. Sense of management in a school and personalities and professional perceptions of teachers are determinative in discipline practices. What kind of attitude a class teacher develops towards a student who acts in an undesirable way in the classroom and in what kind of sense of discipline a class teacher approaches to a student who acts in an undesirable way in the classroom differ according to the sense of management in a school and the personal characteristics of teachers. Discipline problems are behaviours which affect and interfere with educational purposes, plans and activities negatively and exploit and neglect the common rights of students and teachers. The purpose of discipline systems is to approach to the victims of uncontrolled behaviours carefully and set in motion those who act in an over-controlled way (Aktaş, 2010: 8-10; Boyraz, 2007, 30-33; Budak, 2009: 7-10; Celep, 2008: 240; Çerçi, 2009: 7-8; Gülşen ve Gökyer; 2015: 4-5).

The sense of discipline in schools is of great importance for the youngsters in schools to grow up as amicable individuals. For this purpose, first of all, how the discipline problems are evaluated and how discipline is provided in the classroom should be known. How to discipline students when their personality developments start to settle in adolescence period is more important. Student discipline is one of the most important managerial activities in all education institutions. In this case, sense of discipline should be explained.

Sense of Discipline

Recently, there have been some changes in our sense of discipline and our perception of a disciplined classroom. In the past, the primary criteria in discipline was silence and it was tried to be ensured with an excessive authoritarian method. Nowadays this understanding gives its place to an understanding in which the class atmosphere becomes less oppressive. In today's education, according to the class and the applied methods, for students to talk in a low voice, even to walk around in the classroom during the lecture are approached more tolerantly (Aktaş, 2010: 29-31; Ciftci, 2008: 34).

In the classroom environment, teachers sometimes adopts direct discipline methods, and sometimes, they adopt indirect discipline methods to discipline. For the teacher to use constructive discipline, inhibitive discipline and corrective discipline practices helps to prevent the discipline problems during education to a considerable extent (Akar, 2006:22-29; Boyraz, 2007, 30-46; Ciftci, 2008: 34).

Constructive Discipline: It is a practise for preventing discipline problems before they arise. Because preventing a problem after it arises is more difficult than preventing it before it arises. This method is so that the discipline problems do not arise: it includes the precautions to prevent a discipline problem from arising. In these kinds of discipline approaches, "the personality of the teacher" has great importance, and this personality requires an efficient and effective profession knowledge (Dogru, 2005: 19; Eleser, 2007: 9).

In constructive discipline subject for discipline problems not to arise, the matters that the teachers should regard are listed below (Gunden, 1979: 375; Yilmaz, 2007: 34):
- ➢ Discipline should be built on "dos" more than "don'ts".
- ➢ Studies should be based upon teacher-student cooperation.
- ➢ Students should be self-aware about discipline.
- ➢ Students should be kept an eye on so that they do not loaf around.
- ➢ Students' personalities should be respected.
- ➢ Tools and materials should be used during classes.
- ➢ Students should be helped so that they comprehend that the things they do are beneficial.
- ➢ The situations which may cause a problem should be analyzed and the reasons for them to cause problems should be found out.
- ➢

Preventive (Inhibitive) Discipline: It is the understanding of making the arrangements of the formations regarding classroom and school rules so that the students do not meet with any negativity from the start. In a way, it can be said that it is the understanding of putting a person in a bell glass. The main purpose in the preventive discipline is actually to ensure a person to self-discipline himself or herself without an influence from outside. That's why, the participation of the individual is required for the rules to be constituted (Boyraz, 2007, 47-48; Ucar, 2008: 29).

This sense of discipline foresees the discipline problems which may arise in the classroom. Therefore, it includes practices to prevent these kinds of behaviours before they arise. So it is an approach to prevent the problems that may occur in the future. When the modern classroom management understandings are analyzed, one of the most considered qualities is the understanding of determining a problem before it arises and taking preventive precautions. Even though it is not possible to prevent all problems with this understanding, it can minimize the amount of which the problem occurs and the reflection width. Since the problems can be prevented in this way, it is possible to take a step towards preventing the occurrence of the problem behaviours (Boyraz, 2007, 47-48; Esen, 2006: 31-32).

In this approach, teachers should regard to these matters (Binbasioglu, 1991: 327; Boyraz, 2007, 47-48; Gunden, 1979: 381; Yilmaz, 2007: 35-36):
- ➢ Students' names should be known. When a student feels mental stress, it relaxes to call out to him/her with his/her name a little.
- ➢ The way the students sit should be taken into consideration. If two mischievous children sit next to each other, it may be useful to change their places at the earliest opportunity without offending them.
- ➢ A sincere and serious behaviour should be exhibited during lectures. When a teacher acts in this way, there is less discipline problem in classrooms.

➢ Calmness should be preserved when one student or a few students break the discipline in the classroom, no problem should be aroused until the end of the class, the students should be taken to a room and talked.

➢ The students should be cared one by one. Teachers should look for a remedy for their private problems, and should not reveal their weaknesses by displaying excessive anger in front of the students.

➢ Indecisive and surprised states should be avoided. Teachers should be determined in front of the students.

➢

Corrective Discipline: In the event that although preventive precautions are taken and a discipline problem still arises, taking precautions for ensuring that this problem does not arise again is called corrective discipline. For example, reminding to a student who fights with his friends that his/her behaviour is wrong, warning him/her, making sure he/she apologizes, if he/she does it again, to punish them can be shown as an example to this discipline type (Guner, 2009: 10; Ozdem, 2003: 12-13; Yilmaz, 2007: 35-36).

This approach concentrates on preventing the problems and stressful situations that may arise with teaching skills and disposing of them by becalming it before it gets bigger. If the student commits an offense again despite all preventive efforts, the purpose is to prevent the student from committing an offense again (Baysal, 2009: 19; Boyraz, 2007, 49-50).

According to the corrective discipline approach, the matters the teachers should take into consideration towards the students who commit an offense in schools are explained as below (Boyraz, 2007, 49-50; Gunden, 1979: 383; Yilmaz, 2007: 35-36):

➢ A student who commits an offense should not be punished in front of his/her friends.

➢ A student who commits a serious offense should be kept away from his/her friends starting from the moment he/she commits the offense.

➢ The student should not be forced to apologize.

➢ After the problem disappears, it should not be reminded and emphasised.

➢ Teachers are not authorized to dismiss students from the classroom, suspend them from the school. Therefore, they should not do it.

➢ Small incidents should not be exaggerated.

➢

The sources of discipline problems should be known to be able to behave accordingly to the discipline approaches and to be able to solve the discipline problems. When the reasons of the undesired behaviours and discipline problems in the classroom are analyzed, it is seen that there are some in-class and out-of-class reasons. As out-of-class factors, school, environment and family factors become prominent; the factors caused by teachers, students and environments become prominent as in-class factors (Aydogan, 2015: 200). 20% of the time spared to education in the classroom spent to eliminate the discipline problems. Bearing this in mind, the reasons of these problems should be determined clearly and the teachers' opinion on this should be found out (Aksoy, 2003; 13-15; Kayabaşı ve Cemaloğlu, 2007:149-170; Sirkeci, 2010: 13). The findings acquired from this study, which is realized from the necessity of the teachers' opinions regarding discipline in classroom environment, of knowing whether teachers resort to "direct discipline methods" or "indirect discipline methods", and of learning how they include the practices on this matter, are stated below.

METHOD

General scanning model is used while this study, which is realized for the purpose of determining "the opinions of the teachers who work in the secondary education schools affiliated to the Ministry of National Education on classroom management competences", then to make suggestions to those concerned regarding this subject, is conducted. For the purpose of determining the teachers' opinions who work in the secondary education schools, "Achieving Discipline in the Classroom" survey which is developed by Gulsen (2014) is used.

Population and Sample

"747 teachers" who work in "24 secondary education schools" in total which are public and private and in Beylikduzu district, Istanbul province in 2013-2014 school year constitute the **population** of the study (Aras, Şimşek ve Kakırman, 2014: 19). 20% of the teachers, that is 149 teachers, who constitute the population are selected as the **sample** group with the method of "Simple Random

Sampling." 109 surveys which are conducted on the sample group, that is 73,15% of them, are returned and evaluated. This rate is equal to the 14,59% of the population.

Table 1. Frequency (f) and Percentage (%) Distributions of the Sample Group regarding Participation to the Survey

Sample Group	The People who				TOTAL	
	Respond to the Survey		Do not Respond to the Survey			
	f	%	F	%	f	%
The Teachers who Work in Beylikduzu District Secondary Education Schools	109	73,15	40	26,85	149	100

Data Collection, Analysis and Interpretation

In the study, primarily, the related literature review is realized, afterwards, the opinions are determined through the survey. For the purpose of determining the opinions, "the Ways to Achieve Discipline in the Classroom" survey, which is developed by Gulsen in 2011 with five point likert type, and reviewed and rearranged for this study, and of which the total Cronbach Alpha reliability coefficient is calculated as 0,85, is used.

The weights given to the agreeing rates to the propositions in the survey which is developed with five point likert type and the limits of these weights are defined as "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00". During the analysis of the acquired data; SPSS package program is used, percentage (%) and frequency (f)' and arithmetic mean ($\bar{x}$) are included. The acquired data is evaluated and interpreted in the sub-dimensions of "Direct Discipline" and "Indirect Discipline".

FINDINGS AND COMMENTS

With the research, the findings below are acquired. The acquired findings of the study are placed in the tables, and thus, the ways to achieve discipline are commented on and evaluated in the light of secondary school teachers' opinions.

Table 2. Data on Teachers' Opinions regarding "Direct Discipline" Dimension of the Achieving Discipline in the Classroom Survey

No	PROPOSITIONS	AGREEING RATE			
		Gn	Total		$\bar{x}$
			f	%	
1	To achieve discipline in the classroom, I talk with the student right away in front of his/her friends.	F	57	52,29	2,88
		M	52	47,71	3,42
2	To achieve discipline in the classroom, I talk with student after the class.	F	57	52,29	3,73
		M	52	47,71	2,88
3	To achieve discipline in the classroom, I warn the student with body language. (For example, I frown, nod, make eye contact with the student)	F	57	52,29	3,85
		M	52	47,71	3,96
4	To achieve discipline in the classroom, I gently touch the student's arm or shoulder.	F	57	52,29	2,05
		M	52	47,71	2,54
5	To achieve discipline in the classroom, I change where the student sits.	F	57	52,29	3,08
		M	52	47,71	2,21
6	To achieve discipline in the classroom, I do not let student go out in recess.	F	57	52,29	1,23
		M	52	47,71	1,21
7	To achieve discipline in the classroom, I do not let student participate in fun class activities.	F	57	52,29	1,42
		M	52	47,71	1,50
8	To achieve discipline in the classroom, I make the student stand on one foot.	F	57	52,29	1,19
		M	52	47,71	1,13

No		Gn	f	%	$\bar{x}$
9	I scold the student who disturbs the peace of the class to achieve discipline in the classroom.	F	57	52,29	2,12
		M	52	47,71	2,42
10	To maintain discipline in the classroom, I punish the student who causes the problem physically.	F	57	52,29	1,23
		M	52	47,71	1,58
Direct Discipline Ways in Total		F	57	52,29	2,28
		M	52	47,71	

*"Never:1.00-1.80", "Rarely:1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"

When Table 2 is analyzed, it is seen that the teachers who participate to the survey agree with the propositions in the subject of "direct discipline ways" in "rarely" level ($\bar{x}$=2,28) with regard to the general arithmetic mean. It can be said that the teachers who participated to the survey do not want to use direct discipline methods in the classroom management practices. When the topics are evaluated separately, it is seen that the proposition which the female teachers with $\bar{x}$=3,96 arithmetic mean and male teachers with $\bar{x}$=3,96 arithmetic mean agree with in "usually level" on the highest rate is the proposition of "To achieve discipline in the classroom, I warn the student with body language. (For example, I frown, nod, make eye contact with the student)". The least agreement reached proposition, for female teachers with $\bar{x}$=1,19 arithmetic mean, and for male teachers with $\bar{x}$=1,13 arithmetic mean in "never" level, is "To achieve discipline in the classroom, I make the student stand on one foot."

Table 3. Data on Teachers' Opinions regarding "Indirect Discipline" Dimension of the Achieving Discipline in the Classroom Survey

No	PROPOSITIONS	Gn	f	%	$\bar{x}$
1	To achieve discipline in the classroom, I ignore the undesired behaviour.	F	57	52,29	2,58
		M	52	47,71	2,21
2	To achieve discipline in the classroom, I try to divert the student's attention to something else.	F	57	52,29	2,96
		M	52	47,71	2,54
3	To achieve discipline in the classroom, I send the student to the school principals right away.	F	57	52,29	1,81
		M	52	47,71	1,50
4	To achieve discipline in the classroom, I make contact with the school counselling service and collaborate with them.	F	57	52,29	3,19
		M	52	47,71	3,08
5	I make contact with family of the student who disturbs the discipline of the class.	F	57	52,29	2,65
		M	52	47,71	2,67
6	I pay attention to set the rules, which are to be obeyed in the classroom, in a clear and an understandable way.	F	57	52,29	4,08
		M	52	47,71	4,00
7	To maintain discipline in the classroom, I benefit from the approaches to achieve discipline.	F	57	52,29	3,46
		M	52	47,71	3,42
8	To achieve discipline in the classroom, I use a sufficient amount of teaching tool related to the class.	F	57	52,29	3,77
		M	52	47,71	4,00
9	I perform teaching practices which are suitable to the to the students' level of development during the class.	F	57	52,29	3,88
		M	52	47,71	3,92
Indirect Discipline Ways in Total		F	57	52,29	3,09
		M	52	47,71	

*"Never:1.00-1.80", "Rarely:1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"

When Table 3 is analyzed, it is seen that the teachers who participate to the survey agree with the propositions in the subject of "indirect discipline ways", in "sometimes" level ($\bar{x}$ =3,09) with regard to the general arithmetic mean. It can be said that the teachers who participated to the survey sometimes use indirect discipline methods in the classroom management practices. When the topics are evaluated separately, it is seen that the proposition which the female teachers with $\bar{x}$ =4,08 arithmetic mean and male teachers with $\bar{x}$ =4,00 arithmetic mean agree in "usually" level on the highest rate with is the proposition of "I pay attention to set the rules, which are to be obeyed in the classroom, in a clear and an understandable way." Besides this, it is seen that the male teachers agree in "usually" level on the highest rate with the proposition of "To achieve discipline in the classroom, I use a sufficient amount of teaching tool related to the class." with $\bar{x}$ =4,00 arithmetic mean. It is seen that the least agreed proposition, for female teachers with $\bar{x}$ =1,81 arithmetic mean and for male teachers with $\bar{x}$ =1,50 arithmetic mean in "never" level, is "To achieve discipline in the classroom, I send the student to the school principals right away."

RESULTS AND RECOMMENDATIONS
Results
The following results are reached as a result of the research findings:
It is seen that the teachers use "Direct Discipline" methods "rarely"; "Indirect Discipline" methods "sometimes" in classroom management practices. Teachers also state that they use direct discipline achieving methods very rarely in the classroom management practices.

Both female and male teachers state that to achieve direct discipline they mostly use this method: "To achieve discipline in the classroom, I warn the student with body language. (For example, I frown, nod, make eye contact with the student)".

Both female and male teachers state that they "never" use this method: "To achieve discipline in the classroom, I make the student stand on one foot."

Teachers state that they "pay attention to set the rules, which are to be obeyed in the classroom, in a clear and an understandable way", and that they do not "send the student to the school principals right away" to achieve indirect discipline.

Recommendations
Based on the research results, the recommendations below are deemed suitable.
➢ For teachers to achieve indirect discipline, periodic trainings that can increase their efficiency in modern class management practices should be included.
➢ For the purpose of getting the support of all partners who are effective in the class management activities, common events with their participation will be beneficial.
➢ For research to reach more general results, all other partners' opinions should be taken, too.

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ORTAÖĞRETIM SON SINIF ÖĞRENCILERININ AÇIK ÖĞRETIM LISESINE GEÇME NEDENLERI

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Bu araştırmada ortaöğretim kurumlarının son sınıflarından açık öğretim lisesine geçiş yapan öğrencilerin geçme nedenlerine ilişkin görüşlerinin belirlenmesi amaçlanmıştır. Araştırmanın çalışma grubunu Denizli il merkezindeki örgün eğitim veren genel liselerde okumakta iken son sınıfta açık öğretim lisesine geçen 10 öğrenci oluşturmaktadır. Nitel araştırma yönteminin kullanıldığı araştırmada veriler yarı yapılandırılmış görüşme formu ile toplanmıştır. Elde edilen veriler betimsel analiz ve içerik analizi yapılarak analiz edilmiştir. Araştırma sonuçlarına göre, öğrencilerin açık öğretim lisesine geçme nedenlerine ilişkin bulgular sınav sistemi ile ilgili etkenler, okul ile ilgili etkenler, dershane ile ilgili etkenler, açık öğretim sistemi ile ilgili etkenler ve kişisel etkenler olmak üzere beş grupta sınıflandırılmıştır. Öğrenciler açık öğretim lisesine geçtikten sonra daha çok ders çalışabildiklerini, zaman kazandıklarını, psikolojik olarak rahatladıklarını belirtmişlerdir. Ancak bu avantajlarının yanı sıra okul aidiyetlerinin olmaması, sosyal etkinliklerden uzak kalma, başıboş ve verimsiz çalışma, yalnızlaşma gibi olumsuz sonuçlardan da söz etmişlerdir.

Keywords: ortaöğretim, genel lise, açık lise, üniversite sınavı

ORTAOKUL MATEMATİK ÖĞRETMENLERİNİN MATEMATİKSEL MODELLEME BECERİLERİNİN İNCELENMESİ

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Bu çalışmada, ortaokul matematik öğretmenlerinin matematiksel modelleme becerilerinin incelenmesi ve karşılaştıkları zorlukların belirlenmesi amaçlanmıştır. Betimsel araştırma yönteminin kullanıldığı çalışmaya, altısı erkek üçü bayan olmak üzere toplam dokuz öğretmen katılmıştır. Öğretmenlerden, verilen matematiksel modelleme problemini çözmeleri istenmiş ve yanıtlar, matematiksel modelleme sürecinin "problemi anlama", "değişkenleri seçme", "matematiksel modeli oluşturma", "matematiksel modeli çözme" ve "yorumlama" şeklindeki adımlarına göre analiz edilmiştir. Öğretmenlerin günlük yaşam problemini modellemede yüksek başarı sergiledikleri belirlenmiştir. Matematiksel modelleme basamakları içerisinde ise öğretmenlerin en fazla güçlüğü "yorumlama" kategorisinde yaşadıkları tespit edilmiştir.

Keywords: Ortaokul matematik öğretmeni, matematiksel modelleme, kavramsal anlama

ORTAOKUL ÖĞRENCILERININ TEST BILGELIĞI VE YANITLAMA STRATEJILERININ İNCELENMESI

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Test bilgeliğini, ilk kez Thorndike (1951) test puanlarını etkileyebilecek bir değişken olarak kavramlaştırmıştır.Thorndike test bilgeliğini bireyin genel ve kalıcı özelliği (karakteristik) ve bilişsel testlerde puan varyanslarının belirgin kaynağı olarak görmektedir. Aynı zamanda test bilgeliğini bireyin bilişsel yeteneğinde görmektedir. Millman, Bishop ve Ebel (1965) daha özel olarak test bilgeliğini "bireyin yüksek bir puan almak için testin özelliği ve formatını veya test alma durumlarını kullanma kapasitesi" olarak tanımlamaktadır. Test bilgeliği mantıksal olarak test alanın maddelerin ölçtüğü konu bilgisinden bağımsızdır. Test bilgeliği, öğrencinin maddenin doğru cevabını bilmeden doğru cevabı vermesini sağlayan becerilerdir. Test bilgesi bir öğrenci test yapısındaki hataları arar, öğretmen eğilimlerine göre tahminlerde bulunur ve test içinde bulunabilecek kasıtsız herhangi bir ipucunu bulabilir. Bu durum geçerlik ile ilgilidir çünkü bir testten alınan bir puan testin kötü yapılmış testlerdeki iyi olma durumunu gösteren genel bir yeteneği değil ölçmek istediği yetenek düzeyini (bilgi, yetenek anlama vb.) yansıtmalıdır. Çoktan seçmeli maddelerin seçme, yerleştirme ve rehberlik gibi kritik kararlar almak için kullanıldığından test bilgeliği ve yanıtlama stratejileri kavramları oldukça önemlidir. Test bilgeliğinin az ve ya çok olması bir geçerlik sorunudur. Bu araştırmanın amacı; ortaokul öğrencilerinin test bilgeliği düzeylerinin ortaya konulması ve öğrencilerin yanıtlama stratejilerini belirlemektir. Araştırmada karma yöntem kullanılacaktır. Araştırmanın çalışma grubunu Kütahya'da bir özel okulda öğrenim görmekte olan ortaokul öğrencileri oluşturacaktır. Öğrencilerin test bilgeliği düzeylerini belirlemek amacıyla araştırmacılar tarafından literatür yardımıyla hazırlanacak olan 20 maddelik "Test bilgeliği testi" kullanılacaktır. Yanıtlama stratejilerinin belirlenmesi amacıyla ise öğrencilere açık uçlu sorular yöneltilecektir. Elde edilecek sonuçlara göre öneriler getirelecektir.

Keywords: Test bilgeliği, yanıtlama stratejileri, çoktan seçmeli test, ortaokul.

ORTAOKUL ÖĞRENCLERİNİN DİNLEME STRATEJİLERİNİ KULLANIM SIKLIĞI ÖLÇEĞİNİN GEÇERLİLİK GÜVENİRLİK ÇALIŞMASI

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Dört temel dil becerisinden biri olan ve diğer becerilerin de zeminini oluşturan dinleme, hayatımızda çok geniş bir yer tutar. Dinleme dil becerilerinin en önemlisi ve en çok kullanılanıdır, denilebilir. Bununla birlikte ilgili alanyazına bakıldığında hem Batı'da hem Türkiye'de ana dili öğretiminde dinleme ile ilgili çalışmaların sınırlı sayıda olduğu görülmektedir. Bunun nedeni olarak da genellikle öğretmenlerin öğrencilerin okula gelmeden bu beceriye sahip olduklarını düşünmeleri gösterilmektedir. Her ne kadar son dönem çalışmalar incelendiğinde dinleme becerisine yönelik çalışmalar görülse de bu tür çalışmalarda dinleme becerisi genel olarak değerlendirilmektedir. Dinlemenin alt türlerine (eleştirel, estetik, ayırt edici, dinlediğini anlama gibi) ilişkin çalışmalara hâlihazırda yönelinmediği görülmektedir. Ayrıca araştırmacılar tarafından ilgili alanyazında ortaokul öğrencilerinin ne sıklıkla dinleme stratejilerini kullandıklarını ölçecek bir ölçme aracının bulunmadığı tespit edilmiştir. Bu araştırma ile ortaokul öğrencilerinin dinleme stratejilerini kullanma sıklığını ölçecek bir 5'li likert tipi ölçek (hiçbir zaman, nadiren, ara sıra, sık sık, her zaman) geliştirilerek söz konusu ölçeğin geçerlik ve güvenirlik çalışmasını yapmak ve bu şekilde alandaki bir eksikliği gidermek amaçlanmıştır. Bu nedenle ilgili yerli ve yabancı alanyazın taranarak eleştirel, ayırt edici dinleme ve dinlediğini anlamaya yönelik denemelik maddeler hazırlanarak bir madde havuzu oluşturulmaktadır. Oluşturulan maddeler dinleme ile ilgili çalışan uzmanlara ve ölçme değerlendirme alanında uzman kişilere gösterilerek onlardan uzman görüşü alınacaktır. Uzman görüşleri neticesinde ölçeğe nihai şekli verilecek ve Malatya ilinde yer alan ortaokul öğrencilerine ölçek uygulanarak ölçeğin geçerlik ve güvenirliği belirlenmeye çalışılacaktır.

Keywords: Dinleme Stratejileri, Ortaokul Öğrencileri, Eleştirel dinleme, Ayırt edici dinleme, Dinlediğini Anlama, Ölçek

SECONDARY SCHOOL ADMINISTRATORS' OPINIONS ON THE PREVENTION OF VIOLENT BEHAVIOURS IN SCHOOLS

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ABSTRACT
Violence is an important issue in our country just as it is in the societies worldwide. Violence in schools as an interdisciplinary issue of sociology and psychology disciplines affects the school climate and students' learning processes negatively. It slows down students' development while defining aggression and sort of crime behaviors. In this study, the frequency of violent behaviors occurring in middle schools and school administrators reviews and precautions on this matter were analyzed. The study group of the present research consisted of 21 school administrators serving in Istanbul-Esenyurt district , public middle schools, in 2013-2014 academic year. A qualitative method was used and asked to the school administrators open-ended questions on how they manage violent behavior in their schools. The results were evaluated by 3 experts and were classified into 5 themes. According to the results, types of violent behaviour that were seen in schools were physical, verbal emotional and sexual.

Key Words: Secondary school administrators, violence, the causes of violence, coping with violence

INTRODUCTION
Since the beginning of early history, the term "violence" has been defined by scientists as a social issue which damages the connection, the settlement and the system between groups, people and institutions (Eisenbraun, 2007). Humiliating, ridiculing or pressuring another person simply because he is not liked or well fit are included in the definition of "violence" (Altınok, 2014). Violence can also be identified as acts that may end in deadly consequences, acts that are threatening and the use of physical, verbal or symbolic pressure towards others. (Doğan, 2002). The World Health Organization has defined "violence" as, "the intended act of pressure on others or on oneself which end in physical harm, psychological damage or decline in growth." (Bulut, 2008).

Types of Violence : ("WHO" n.d.)
Self-directed violence: Injuring of oneself, addictive detrimental substance use or suicide attempts.
Interpersonal violence: Act of violence between family members, within the society, during work or school and among peers.

Collective violence: Act of violence planned for a social purpose or aim. Types of this violence are; social violence, economic violence and political violence.

Violence towards Children: (Yenibaş & Şirin, 2007; Koç,2006 in Çubukçu & Dönmez, 2012)

Physical Violence: The intended act towards children, which end with an injury, poisoning, a burn or a fracture in the body.

Verbal-Emotional Violence: Acts which damage the child emotionally, lack of affectionate towards the child or neglecting the child. Verbal-emotional violence is usually applied along with physical violence.

Economic Violence: Making children work at tasks and jobs which prevent the child's personal growth and neglects the child's rights by paying very low wages in return for hard work. It is forbidden for children who are 15 years old or under to work.

Sexual harassment or Abuse : When an adult approaches a child for sexual purposes or needs.
Child Neglect: When the legal guardian of the child fails to feed, shelter, cloth, clean, entertain, educate, protect or care for the child in a convenient way.

Bullying: Use of force, intimidation, threat or power on somebody in order to dominate them. These acts occur frequently and eventually become a habit. (Vikipedi, 2015).

Violence Fields:
Violence and the Media : 4 Theories have been developed about the effects of violence in the media. (Levin,1994; İldeş, 2002)
- **Purifying theory:** It suggests that a person can break lose from his aggressive impulses by watching violence on TV.
- **Aggression theory:** It suggests that a person will imitate the violent acts seen on the media and will apply it in his daily life.
- **Reinforced aggression theory :** When the person argues that the portrayed violence acts on TV normalizes violence and makes it acceptable. According to this theory, the individual proned to violence takes the violence portrayed in the media as an experience.
- **Empirical learning theory:** It argues that the violence portrayed on media imposes aggressive behaviour and shapes the child's character.
Violence in the family : Violence in the family takes place when violence occurs between the bilateral relations inside the family (between the spouses or between the parent and the child) and results with physically hurtful or damaging consequences. Throughout history violence occurring within the family was regarded as a privy. Help or production of solutions was avoided because it was believed to be left alone and untouched (Polat, 1997; Yenibaş & Şirin, 2007).

Violence in schools
In today's world, it is seen that violence is one of the main issues faced within the countries as well as in educational institutions. When healthy relationships aren't formed between the parents and the children, and when school regulations are not taken into account, security threats and incidents in the school environment may emerge (Gülşen, 2014: 183-186, Karal,2011; Koçyiğit, Gündoğdu & Bay,2010). During the middle school period which is regarded as the commencement of puberty in children, rebellion towards family members and school regulations will occur. It leads to strict restrictions and eventually sets ground for violence incidents. However, discipline is not punishment, on the contrary it helps students learn acceptable behaviours (Tosun,2002).
Studies on violence in the school environment, show that physical violence come forward as the most common type of violence (Karal,2011). According to rhe research results violence between the students occur within the school buildings commonly (Pişkin, 2002 ; Bulut, 2008). The historical research done by Bulut (2008) in 2001-2005 shows that %75 of the students enforce violence on each other in school. Violence occurs during breaks between classes rather than during classes.
A study about the frequency of crime and violence in schools in Istanbul was applied to 3483 students by Ogel and his friends (2004 in Karal, 2011). In this study, it was recorded that half of the group was involved in a physical fight at least once a year. The percentage rate of students who have injured someone at least one time in their lifetime was %26.3.
Violence in schools is seen to take place between teacher-student, student-teacher, parent-teacher and student-student. The customery type of violence which was frequently observed was teacher-student violence but this has recently changed to peer to peer violence, parent to teacher or violence between the student and the teacher.

Aim of The Study
The purpose of this study is to examine middle school administrator's awareness towards students' behaviours that contain violence and their point of view on what could be done to prevent violent behaviour.

Sub- Goals :
What are the school administrator's reviews on the violent behavior that they observed in their schools? What are the school administrator's reviews on ways on how to prevent violent behaviour?

METHOD
Study Design :
In this study qualitative research was applied. Qualitative research is the type of research that is a qualitative process for the revealing of the events and the perceptions that take place in a realistic and a holistic environment through ways of qualitative data collection such as observation, interview and document analysis (Yıldırım & Simsek, 2008).

Participants:
The study group is composed of 21 school administrators who serve in Istanbul-Esenyurt district, in National Education Ministry connected public schools in 2013-2014 academic year. 3 group members were females and 18 were males. 19 group members were married and 15 of these participants had children. 12 of them had an 11-20 years of work experience, 4 of them had 6-10 years of experience, 3 of the group members had 21+ years of experience and finally 2 of the participating members had 1-5 years of work experience in their field.
As observed, the majority of the group was male, married, had children and has been serving as a school administrator for 11-20 years. The majors of the administrators were mostly liberal arts such as social studies, philosophy, religion etc. The group had no administrators who were specialized in Mathematics , sciences or related majors.

Instruments :
The personal information form that was prepared by the researchers, were handed to the school administrators. The researchers asked the participants open-ended questions about the violent behaviours they have been observing in their students, along with questions interrogating what they have done to prevent these violent behaviours.

Procedure
In this qualitative research, the data that was collected was evaluated through the use of descriptive analysis technique. After the data was inserted into the created thematic framework, the findings were identified and reviewed. (Yildirim&Simsek, 2008) Relying on Le Compte and Goetz's positive view on direct quoting, some direct quotes were taken from the administrators speeches.

FINDINGS
Findings on the sub goals of the study are as follows;
a.The school administrators opinions on the violent behaviour they have observed in their schools:
The violent behaviours of students observed by school administrators in the schools were categorized as physical, verbal-emotional and sexual violence.

Table 1. Physically violent behaviours of the students

Violent behaviour	Frequency (n)	Percentage (%)
When students :		
- Push each other	21	100
- Kick each other	19	90.4
Pulling each other's hair, ear or spitting at each other	19	90.4
- Damaging each other's personal belongings	17	81
Vandalizing school desks	14	66.7

The type of physical violence that was observed to be the most frequent was students pushing each other (%100) while vandalizing school property (%66.7) was observed to be the least frequent behaviour among students.

Table 2. Verbal-Emotionally and sexually violent behaviours of the students

Behaviour type	Frequency (n)	Percentage (%)
- Threatening each other	17	81
- Mocking	16	76.1
- Verbally harassing	16	76.1
- Gossipping	16	76.1
- Cursing and use of bad language	14	66.7
- Harrassing by hand	17	81
- Use of sexual language	18	85.7

Among students the most frequent emotionally violent behaviour was observed to be "threatening" (%81). On the other hand the least frequent behaviour observed was cursing or the use of bad language (%66.7).

b.The school administrators opinions on ways of preventing violent behaviour that take place in schools.

The school administrators opinions on ways of preventing violence were categorized into 5 themes. These are education, school, student, teacher and the parent.

Education and implementations in schools

Table 3.Education and Implementations in schools for preventing violent behaviour

Education and Implementation types	Frequency (n)	Percentage (%)
Parent education	9	42.9
Teacher education	9	42.9
Student education	3	14.3
Cooperation between school and the parent	10	47.61
Legal applications	10	47.61
Dispatch of the student to disciplinary board	7	33.4
Social Activities	5	23.8
School regulations	4	19.0

Regarding suggested solutions for preventing children's use of violent behaviour, it was observed that parent and teacher education (%42.9) was %14.3 more compared to student education.

Legal procedures to decrease violent behaviour in schools, such as applying rules and regulations (%47.6), dispatching students to the disciplinary board (%33.4) and inspection on the compliance with school regulations (%19) were all in predominance. Humanistic procedures such as parent-school cooperation (%47.6) and organizing social activities for children (%23.8) were also included in the list of violent behaviour prevention solutions.

The approach to students

Table 4 : Ways of approaching the students in the prevention of violent behaviour

Type of approach	Frequency (n)	Percentage (%)
Referring to counseling services	9	42.9
Communicating and alerting	6	28.6
Affectionate and Tolerance	5	23.8
Giving responsibilities to students	5	23.8
Rewarding	4	19.0
Observing and monitoring the student	3	14.3
Fair treatment	3	14.3
Change of place	1	4.8

The most frequent way to prevent violent behaviour, suggested by the administrators was referring to counseling services (%42.9). On the other hand the least used and frequent solution seemed to be the change of place for the student (%4.8).

Teachers and Parents

Table 5 : Contribution of teachers and parents on prevention of violent behaviour

Contribution of teacher and parent	Frequency (n)	Percentage (%)
Seeking help from the school board	6	28.6
Acting in union with the school board when solving issues	4	19
Avoiding the misuse of school grades	2	9.5
Avoid enforcing emotional violence on students	2	9.5
Taking guard duty seriously	2	9.5
Parent informing meetings	9	42.9
House visits	6	28.6
Constant contact with the parent	4	19.0

School administrators believed it is possible to avoid violence by working in cooperation with the teachers (%28.6) in addition, they called for teachers to fulfill their duties.

House visits and parent teacher conferences were also considered to be effective ways to involve parents in the procedure of preventing violent behaviour.

RESULTS AND DISCUSSION

Violence incidents occurring in schools have been a serious concern in Turkey over the last few years.

Violence in school doesn't only harm the school environment but also hinders learning and damages the student's growth through anger and feeling of guilt. This view proves that violence in schools can set ground for the feeling of guilt in the child (Eisenbraun, 2007).

Violent behaviours in students:

According to administrators, almost in every school observed, children tended to push, kick each other or pull each other's ears in order to show that they were irritated with each other. Children with anger also tended to damage school property as well as their friends. Physical violence can easily be detected and analysed therefore researches done in schools tend to mostly focus on physical violence (Karal, 2011). Unal and Cukur (2011) have concluded through their research, that students who are faced with physical violence are more likely to also apply physical violence.

Verbal-emotional and sexual violent behaviour is more difficult to detect compared to the physical violent behavior (MEB, EARGED, 2008). Violence between peers affect the growth and the learning of the students in a negative way (Everett, price & price, 1995 ; Jull, 2000). Among the factors that affect violence, The Center for Disease Control & Prevention (CDCP) has mostly emphasized on verbal emotional violent behaviour. Examples; poor cognitive& social abilities, antisocial attitudes, rejection by peers. (Rullado, 2011)

In this study sexual violent behaviour types were short in number however largely quantitive, therefore it was predicted for adolescents who were in transition period to puberty, to have much interest in sexuality matters.

Impact of education on violent behavior:

To prevent violent behaviours, school administrators have mostly emphasized on parent education rather than student education.

School administrators say, "It is very difficult to educate the child if the parents are not well informed therefore parent training should be taken very seriously and the school should be working cooperatively with parents." They also emphasized on the training and informing of the students and the parents about this issue through various activities and seminars.

Students learn about violence through observing other's behaviours, what is actual is the behaviour itself. (Rullado, 2011) Behaviours of the role models, such as the teacher's, the parent's and the school administrator's, play a more effective role on informing the children rather than educational seminars or activities. On the other hand, informing teachers and parents while raising awareness can be considered as an important step taken towards the prevention of violence (Howard & Flora, 1999; MEB, EARGED, 2008).

Implementations in school for the prevention of violent behaviour

School is responsible for the child's adaptation to social norms while preparing them for life. (Tosun, 2002). Jull (2000) suggests that customery teachers and directors try to stop unwanted behaviour of children by applying in-school implementations only however, in modern society, the duty of preventing unwanted behaviour does not just belong to the school and teachers, in addition it belongs to the people of that society. The violence outside of the school (in society) is parallel with each other and have a strong impact on one another. If violence increases in one, it will also increase in the other (Eisenbraun, 2007 ; Reining, Castro & Frisancho, 2013).

School administrators are accountable with the rules and the regulations in their schools therefore it is their natural right to use these regulations when it is necessary. In addition to this, school administrator who were participants in the present study, emphasized and focused on school-parent cooperation and social activities just as much as on social rules and regulations. Applying this proved their humanistic and modern characteristics. School- parent cooperation item had the most frequency in the school implementations theme. A school administrator's words about legal enforcement on this matter were as follows; "I apply legal regulations, work in union with the parent, refer to school counseling services, dispatch the student to the disciplinary board if necessary and keep a consistent record of student's behaviour in order to prevent violent behaviour among our students."

Approaching the students in the prevention of violent behaviour

It is difficult to handle abused children because they are constantly on the move. Their use of language can be more offensive than their behaviour (Polat, 1997). It is observed that in schools, violent behaviour is most likely

to take place at times and places in avoid of adult control like breaks between classes (Bulut, 2008). Referring students who apply violent behaviour and students who are victims of this matter, to counselors and counseling services is considered to be an affective part of both preventive guidance and developmental guidance. Another school administrator stated his opinion on this matter as follows; "It is without doubt that keeping a consistent track of students and their behaviour will prevent violence."

Contribution of teachers in the prevention of violent behaviour:
School administrators believed that working in union with teachers and teachers fulfilling their duties as fair and well observing instructors would lead to the prevention of violent behaviour. A administrator's words on this matter, "Teachers should act fair with the grades they give their students and work carefully with them."

Teacher-student communication have been accepted as an affective way of preventing violent behaviours by administrators. It is important for the health and the safety of the school, that teachers are well informed on how to control their students without looking down or exerting emotional pressure on them. Violent behaviours in schools usually occur in classes, corridors and restrooms (Bulut,2008). This finding supported the administrators' suggestion on teachers that they should be on guard duty at all times.

In the research done in USA by Mertoglu and Dogutas (Karal, 2011), with 11 schools and 884 students participating, it was observed that teacher's negative attitudes and student's violent behaviours were strongly linked. According to the research results, when teachers have high expectations and qualified relations with their students, there is a decrease in aggressive, violent behavour and an increase in their academic achievements (Fowler, Banks, Anhalt, Derv e Kallis, 2008 in Unal & Cukur, 2011). In addition to this, expertise, openness, reliability, neutrality, and consistency are important factors in student- teacher relations (Teasley, 2013).

Parents contribution in prevention of violent behavior:
It was clear that participant school administrators requested to be in continuous cooperation with parents. It was highly beneficial for school-family relationship that school administrators considered house visits.

Students are with their teachers and instructors at their schools and they are with their parents at home. Therefore it is important and beneficial for the students that they work together. Generally it is an accepted fact that single parent students and students financially weak are more prone to violent behavior (Howard & flora, 1999; Kırbaş, Taşmektepgil, & Ustun, 2007; Cubukcu & Donmez, 2012). On the contrary, Polat (1997) claimed that child abusive acts in the middle and high SES families can be seen due to the domestic imcompatibility and having a sibling of the child and turning the child can exhibit violent behaviors.

It is very natural for the students at school to refer to aggressive behaviour for resolution if he has got accustomed to behaving aggressively at home. Education begins at home, continues at school. Due to this reason with the right cooperation between the school and the parents and the right guidance of school counselors, aggressive behaviours can be prevented both in schools and in the society.

Students relationships with their peers, teachers, school directors and the society play an important role in creating a safe and a violence-free environment.

Suggestions
➢ Help of counseling and guidance services for the prevention of violence in schools.
➢ A school committee can be formed with the help of the parents and the students.
➢ Close contact with all students
➢ Informing the students about the consequences they will face in case of violent behavior
➢ No tolerance for the violation of school rules and regulations.
➢ Pairing of students and teachers for close care for students who are under risk.

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ORTHOEPY AND SPOKEN LANGUAGE IN EDUCATION FOR MINORITIES WITHIN SLOVAK EDUCATIONAL SYSTEM

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The paper is focused on current issue of Slovak language education –minority education reform. New Slovak language curriculum for minorities directs on communication approach. However, most of its theoretical content describes grammatical, lexicological and stylistic aspects of written language. Spoken language and its aspects are taught and learnt mostly as a secondary reflection of written language. The question than arises: Is this proportion of written language to spoken language adequate or not? The paper describes the need for orthoepic and spoken language education for minorities, theoretical background for this level of language education, and its realization within educational process.

Keywords: orthoepy, Slovak language, spoken language, education for minorities

OSMANLININ SON, CUMHURİYETİN İLK EĞİTİM MÜFREDATINDA ARAPÇA ÖĞRETİMİ

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Bu çalışmada, Cumhuriyetin ilanından sonra 3 Mart 1924 tarihinde kabul edilen Tevhidi Tedrisat Kanunu ile birlikte 1340 (1924) yılında liselerde okutulan Arapça dersi haftalık ders programı ve müfredatı, bundan iki yıl önce hazırlanmışolan 1338 (1922) yılı erkek ve kızlara mahsus Mekatib-i Sultanîye'nin haftalık ders programı ve müfredatı ile kıyaslanmış ve aralarındaki bazı farklar üzerinden çeşitli sonuçlara ulaşılmıştır. Yeni kanun metnine uygun ders kitaplarının hazırlanmamış olması pek çok alanda sorun oluştururken Mehmet Zihni Efendi gibi bir Arap dil bilimcisinin varlığı Arapça dersi açısından en azından böyle bir sorunun ortaya çıkmasına imkân vermemiştir.

İmparatorluk döneminin son müfredat programı olan 1922 yılı haftalık ders dağılım cetvelinde Arapça, edebiyat şubelerinin dokuzuncu sınıfında dört, onuncu ve on birinci sınıflarında üçer saat olmak üzere toplam on saat olarak tedris edilmiştir. Arapça, bu varlığını cumhuriyetin ilk programında da korumuştur. 1924 yılı şartlarında sözel eğitim alan bir lise mezunu toplamda üç sene içerisinde sekiz saat Arapça eğitim almaktadır. Bunun yanı sıra Türkçe derslerinin sarf ve nahiv açısından Arapça temelli olduğu ve İmam Hatip Mektepleri'nin de faaliyetlerine devam ettiği düşünüldüğünde, bu durum liselerde bu oranda varlığını devam ettiren Arapçanın vazgeçilmezliğini göstermesi adına önem arz etmektedir.

Her alanda yoğun bir şekilde inkılâpların yapıldığı bu dönemde Arapça dersine müdahale edilmemiştir. Tevhid-i Tedrisat Kanunu'yla toplumun altı yıl nabzı tutulmuştur. 1928 yılında Lâtin esaslı Türk alfabesinin kabul edilmesi ile Arapça dersi, 1929-1930 eğitim-öğretim yılında lise müfredat programlarından tamamen kaldırılmıştır. Bu süre içerisinde, liselerde Mekatib-i Sultanîye'nin müfredat programı yaklaşık aynen devam etmiştir. Bunu, Tevhidi Tedrisat Kanunu'nun kabulünden sonra medreselere olan rağbetin azaltılmasının ancak bu şekilde mümkün olacağının düşünülmüş olması ile açıklamak mümkündür. Zira örgün eğitim halka, medreselerin misyonunu icra ettiğini göstermek istemiştir.

Keywords: Cumhuriyet, Arapça, Tevhid-i Tedrisat Kanunu, müfredat

OVERCOMING HARDSHIPS. LEARNING ACQUISITION EXEMPLIFIED BY MARIE CURIE'S LIFE EXPERIENCE

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> "My head is so full of plans that it seems aflame. I don't know what is to become of me. You see, your Manya will be, to the end of her days, a flighty-head of flighty-heads" (Curie E. , 1947, p.80).
>
> ~Marie Curie

> "I hope […] you will have pleasure in living every day, without waiting for the days to be gone before finding charm in them, and without putting all hope of pleasure in the days to come. The older one gets the more one feels that the present must be enjoyed; it is a precious gift, comparable to a state of grace. [...]" (Langevin-Joliot, 1998).
>
> ~Marie Curie

ABSTRACT

Marie Curie is believed to be one of the greatest female scientists ever alive. For this reason the author has decided to look closely into her life. He does it in order to find a pattern of uniqueness. Mr. Krzyk analyses thoroughly so called *ideal* circumstances in which individual is able to obtain the best results in learning.

The paper tries to define conditions when person may accumulate knowledge in an efficient way. Also, the author wonders whether there are outer or inner factors that could be defined accounting for potential success? What is more, what was the role of historical background, family, determination or even stubbornness on this great scientist's learning process? How this experience can be redefined and used by educators today?

INTRODUCTION

Nowadays no one questions that Marie Curie was one of only few great female scientists. "Although not the first woman to excel in science or mathematics, Marie Skłodowska-Curie (1867-1934) was perhaps the first major woman scientist to receive full credit for her scientific work". (Pycior, 1993, p. 301). Probably there are only handful of people living today who have never heard about her. She is widely known as a discoverer of two elements Radium and Polonium and also the only woman ever received two Noble Prizes (after: Benjamin F. Shearer, 1997, p.63). Apart from that little is known among average people about her life, as she once described it "It is such an uneventful, simple little story. I was born in Warsaw of a family of teachers. I married Pierre Curie and had two children. I have done my work in France" (Curie, 1923, p.27). Such words might be justified by Marie Curie's great modesty. In contrary, her life seems to be rich with countless moments which can be quite inspirational. As once Albert Einstein said, "I have always admired … Marie Curie. Not only did she do outstanding work in her lifetime and not only did she help humanity greatly by her work, but she invested all of her work with the highest moral quality. All of this she accomplished with great strength, objectivity and judgment. It is very rare to find all of these qualities in one individual. In fact, if more European intellectuals had had Madame Curie's modesty, conditions might have been much brighter" (Pycior S. W., 1999, p. 131).

Marie Curie's learning experience

In 1867 Marya Salomee Skłodowska – nicknamed Manya, who was to become the world most famous female scientist, later to be called Madame Curie or Marie Curie – was born in Warsaw (at 16 Freta Street) where she spent most of her youth. At that time probably there was no more difficult place to live than Kingdom of Poland, which at that time was a part of the Russian Empire. When the last Polish Uprising was crashed and that Czarist repression was gaining on strength – during the saddest time in the Polish history, in the contrary the people's hopes along with the patriotic feelings became even stronger than before as the only thing people wanted was a free and independent country[1]. Maria […] entered a world in which almost every act, including the name of the

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[1] Czarist Russia was particularly brutal in its attempts to obliterate the Polish national spirit. An uprising in 1863 resulted not

child, bore some relation to the Poles' struggle to survive the systematic and brutal suppression of their nation. Three years before, the Skłodowskis had witnessed the devastating defeat of the January Uprising, the second major attempt in the century to overthrow the rule of the Russian Tzars. In the end, tens of thousands of Poles, among them many of the most talented, were driven by the Tzar's armies in chain gangs to Siberia, most never to return. Władysław himself, though opposed to the tactic of violence, was to suffer along with his wife from the defeat of the insurrection. For the next fifty years, the Tzar's agents in Poland would preside over a *Russification* that was designed to weed out every trace of Polish consciousness – in education, in government, in intellectual and religious life" (Quinn, 1996, p. 17-18).

Manya grew up in a highly educated but impoverished noble family in which there were five children, four of them girls Zosia, Maria, Bronia, Helena and one son, Joseph. Once very rich, landed gentry „unable to provide for themselves on their small portions of land in Skłoty and in Łęczyckiem Skłodowski family spread around searching for place where they could make a living all around Republic of Poland *(Polish Commonwealths)*. Possibly that some members of the family moved to Mazovia voivodeship and the place of their settlement called Skłody (which derives from Skłod(y)owski name)" (Lasocki, 1936, p. 50). Forced to scattered, once extended family, became a nuclear one where except parents within the household are only children. The role of grandparent had to be replaced by parents who tell the stories to the young ones. As a result education took over the land in importance. For this reason, it was not an ordinary family, as both her mother and father were intellectuals, her mom Bronisława ran a private school for girls and her dad Władysław was a school teacher of mathematics and physics. Mainly for this reason Manya was growing up in highly intellectual atmosphere, even things placed around the flat reminded her of science. "One, hung on the wall, was a precision barometer mounted in oak […]. The other was a glass case with several shelves laden with surprising and graceful instruments, glass tubes, small scales, specimens of minerals and even a gold-leaf electroscope […]. Manya could not imagine what these fascinating trinkets were. One day, straining on the tips of her toes, she was contemplating them with bliss when her father simply told her their name: "Phy-sics app-a-ra-tits." […] She did not forget it she never forgot anything […]" (Curie E. , 1947, p. 15). Both Manya's parents were aware of the importance of education as only this could ensure a job in the future, not to mention a teaching position for a young lady. We never knew how the teaching process in Skłodowski family would look like if Bronisława, the mother did not die. "This catastrophe was the first great sorrow of my life and threw me into a profound depression […] Very much affected by the death of my mother, my father devoted himself entirely to his work and to the care of our education. His professional obligations were heavy and left him little leisure time. For many years we all felt weighing on us the loss of the one who had been the soul of the house" (Curie M. , 1923, p. 158). As her death left the entire family in despair and forced Władysław, Manya's father to take control over his beloved ones[2]. Later she recalled, "We all started our studies very young. I was only six years old, […]. My father, an excellent educator, was interested in our work and knew how to direct it, but the conditions of our education were difficult. We began our studies in private schools and finished them in those of the government" (Curie M. , 1923, 158). For this reason the atmosphere in Skłodowski's family must have always been the one of intellectual discovery and challenge. As the daughter of Marie, Eva recalled in a biography devoted to her famous mother "It was true that Mr. Skłodowski knew everything, or nearly everything. The poor man, father of a family, balancing his budget with the greatest difficulty, had found leisure to develop his scientific knowledge by going through publications which he procured by considerable effort. It seemed to him quite natural to keep up with the progress of chemistry and physics, just as it was natural to know Greek and Latin and to speak English, French and German (as well as, of course, Polish and Russian); to translate the finest works of foreign authors into his native language in prose or verse..." (Curie E. , 1947, p. 46).

only in the public hanging in Warsaw of the revolt's leaders but also in a vigorous attempt to wipe out Polish culture. Russian officials were appointed to replace Polish ones. The educational system was placed under central Russian control. Attempts to teach Polish history, language, or literature became punishable offenses. Even very young Polish children knew that if an informer overheard them speaking Polish or uttering a patriotic sentiment they might be endangering themselves and their families. Not surprisingly, the Russian attempt to suppress Polish national feeling had the opposite effect; it heightened the devotion of Poles to their country and culture (Pasachoff, 1996, p. 11).

[2] Marie's early years were less than carefree, not only because of the political situation in Poland, but also because of a personal loss. Her mother contracted tuberculosis when Marie was 5 and died at the age of 42, before Marie turned 11. During that period of more than five years, Marie's mother made a conscious effort, for fear of spreading the disease, to refrain from hugging and kissing the children whom she adored. Marie and her siblings did not fully understand their mother's behavior and felt alienated from her. Having experienced in swift succession the deaths of her oldest sister and her mother, Marie, who had faithfully attended Catholic services with her mother, no longer found credible the idea of a loving God (Pasachoff, 1996, p.12).

Despite her love towards Poland in order to obtain the proper education she had to attend the Russian gymnasium (high school), which entitle the students to enter universities. Even though women were not allowed to attend institutions of higher education and even later "[…] women scientists of Curie's period were especially vulnerable to stereotyping as subordinates in the scientific workplace" (Pycior, 1993, p. 303). Their education would have to be recognized formally so at there was no independent Poland, schools run by Poles were not granting official diplomas. Most of such schools were operating for the purpose of teaching Polish language and history. The Polish language was treated and taught as a foreign language and for this reason was not allowed to be openly spoken, there students were threatened by solitary confinement or school expulsion. "[…] Russian professors, who, being hostile to the Polish nation, treated their pupils as enemies. […] So what the pupils were taught was of questionable value, and the moral atmosphere was altogether unbearable" (Curie M. , 1923, p. 159). Even after a long time when she has already finished the school Manya remembered it and wrote about it in her autobiography.

Still what needs to be said is the fact that Manya graduated from the Russian gymnasium receiving a gold medal when she was only 17 years old, one year ahead. It can be said that she obtained very good education, very complex and diversified at the same time. Not only was she literate as far as humanities was concerned but science as well[3]. We might say that she was passionate about learning, it was her way to escape hash reality of life. Even though from the perspective she wrote: "My solitary study was beset with difficulties. The scientific education I had received at the lyceum was very incomplete; it was well under the bachelorship program of a French lyceum; I tried to add to it in my own way, with the help of books picked up at random. This method could not be greatly productive, yet it was not without results. I acquired the habit of independent work, and learned a few things which were to be of use later on" (Curie M. , 1923, p.165-166).

So why did she studied so hard when at that time the Tsarist university did not accepted girls into universities. At that time, "[…] it was generally accepted that women could not and should not be scientists; they were held to lack the strength, rigor, and clarity of mind for an occupation that properly belonged to men" (Annette Lykknes, 2004, p. 577-578). As for most of the women at that time, Marie Curie's education could have ended when she finished gymnasium. All in all, it cannot be said that Russian education was entirely wrong. The learning process was very demanding and the pupils had to study a great deal of material, mostly by heart. As she later recalled these period: "I devoted most evenings to my own education. I had heard that a certain number of women had managed to enter schools of higher education in St. Petersburg or abroad and I determined to prepare myself to follow them one day". Still, Manya was not fond of Russian establishment as the officials were opposing the independent Poland. Probably for this reason and that her sister went to study medicine in Paris, she has decided to join her one day. But first, she had to earn enough amount of money to be able to provide for herself and pay the Sorbonne's tuition fees.

Manya Skłodowska was so eager to gain scientific knowledge, that decided to study unofficially, despite fears, to attend *university on the run (floating university)[4]*. The classes were held secretly, each time in a different home. The students also brought education to the workers. The young people around Maria felt that what the people of Poland needed most was education. It was the era of Positivism in literature and the time when Polish youth rebelled against Romanticism. They were influenced by philosophers like Auguste Comte and Herbert Spencer. They believed that they were under the moral obligation to change the world and educate it by working with

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[3] "Since my childhood I have had a strong taste for poetry, and I willingly learned by heart long passages from our great poets, the favorite ones being Mickiewecz, Krasinski and Slowacki. This taste was even more developed when I became acquainted with foreign literatures; my early studies included the knowledge of French, German, and Russian, and I soon became familiar with the fine works written in these languages. Later I felt the need of knowing English and succeeded in acquiring the knowledge of that language and its literature. My musical studies have been very scarce. My mother was a musician and had a beautiful voice. She wanted us to have musical training. After her death, having no more encouragement from her, I soon abandoned this effort, which I often regretted afterwards. I learned easily mathematics and physics, as far as these sciences were taken in consideration in the school. I found in this ready help from my father, who loved science and had to teach it himself. He enjoyed any explanation he could give us about Nature and her ways. Unhappily, he had no laboratory and could not perform experiments" (Curie M. , 1923, p. 160-161).

[4] Encouraged by a friend, Marie and Bronya attempted to circumvent the barriers the Russian system erected for Polish women by joining other young Poles in an illegal night school. The classes were held not in university buildings but rather in varying locations to avoid detection by the Russian authorities. As a result, the participants called the venture the [Floating University]. In the Floating University, Marie was introduced to progressive currents of thought as well as to the latest developments in physics, chemistry, and physiology (the study of how living things function). The mission of the patriotic participants in the Floating University was to bring about Poland's eventual freedom by enlarging and strengthening its educated classes (Pasachoff, 1996, p. 14).

underprivileged people[5]. So Maria also taught children the language and polish history, which was forbidden at that time[6].

Marie's father could not help her as he lost most of family's money, which he could not forgive himself for the rest of his life that he was unable to support financially his daughter's studies. So great had to be her hunger for knowledge and sacrifice when she decided to work far away from her family to fulfill her dream about studying. For this only reason, Maria agreed to the position of governess offered to her by the Żurawski family. Soon after she wrote to her brother Joseph from Szczuki: "While you are living at the centre of the movement, my existence strangely resembles that of one of those slugs which haunt the dirty water of our river" (Curie E. , 1947, p. 78).

During the holidays the Żurawski's eldest son Karol came home from the University where he was studying mathematics. A love-affair began between Maria and Karol. Maria had beautiful platinum blond hair, gray, sparkling eyes and what was the most important above all, she was intelligent. Karol was the first young, well educated man in whom she had become interested. But a marriage between the daughter of a gymnasium teacher and the son of a landowner was regarded in 19th century Poland, as in most of Europe, as a *mesalliance*. The parents of the boy did not give their consent. Maria had to left the place as she was in despair[7]. In the letter dated on March 12th, 1890 she wrote to her sister Bronya: "Dear Bronya, I have been stupid, I am stupid and I shall remain stupid all the days of my life, or rather, to translate into the current style: I have never been, am not and shall never be lucky. I dreamed of Paris as of redemption, but the hope of going there left me a long time ago. And now that the possibility is offered me, I do not know what to do, [...] I am afraid to speak of it to Father: I believe our plan of living together next year is close to his heart, and he clings to it; I want to give him a little happiness in his old age. On the other hand, my heart breaks when I think of ruining my abilities, which must have been worth, anyhow, something (Curie E. , 1947, p.82).

That marks the end of so called *heroic time* in her life when despite all odds she managed to obtain education, which still according to her, was insufficient. One might think that once Maria Curie set her foot on the French soil her entire life changed. In fact, it still was one of a struggle. She had to find her way in a completely new environment. "Unforeseen obstacles had suddenly raised themselves before her during the first weeks. She had thought that she knew French perfectly; she had been wrong. Some entire sentences, when said too rapidly, escaped her. She thought she had had sufficient scientific preparation to pursue the courses of the university. But her solitary work in the country, [...] the knowledge she had acquired by correspondence with M. Skłodowski, and the experiments attempted by hook or crook in the Museum of Industry and Agriculture, did not take the place of the solid baccalaureate training of the Paris schools. In mathematics and physics Marie discovered enormous holes in her *culture*" (Curie E. , 1947, p. 94).

Again, she proved to be very determined in her intellectual work. Only through a hard work and great determination did she manage to overcome the difficulties. Living alone, after she decided to move out from her sister's place as she wanted to live closer to Sorbonne. Everything to reduce the number of time she wasted on her way to and from the university. As she believed this time could be spent well on studying. For this reason, she changed the comfortable room to top-floor, tiny room, which became icy cold during winter months[8]. Not

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[5] "POSITIVISM, one of the main philosophical currents of the nineteenth and twentieth centuries, initiated by A. Comte. Derived partly from the philosophy of the Enlightenment, it dominated European intellectual history from the 1840s. [...] In Poland, positivism developed as a dominant intellectual and social current among the intelligentsia and liberal bourgeoisie in the1864-1890 period. It was represented more in literary and sociopolitical movements than in scholarly-philosophical activities. It became a reaction against Romanticism* in literature and politics. As such, it assumed a critical, realistic, and practical attitude; emphasized the economic and educational foundations of political programs; and developed particularly after the fall of the 1863 January Insurrection,* when Polish political Romantic scenarios failed completely. The proponents of positivism were ready to accept a temporary loss of independence but advocated intense development of economic, educational, and cultural activities to overcome the backwardness of the Polish nation and to strengthen it by means of *organic work*" (Lerski, 1996, p. 467-468).

[6] "I have a bright remembrance of the sympathetic intellectual and social companionship which I enjoyed at that time. Truly the means of action were poor and the results obtained could not be considerable; yet I still believe that the ideas which inspired us then are the only way to real social progress. You cannot hope to build a better world without improving the individuals. To that end each of us must work for his own improvement, and at the same time share a general responsibility for all humanity, our particular duty being to aid those to whom we think we can be most useful. All the experiences of this period intensified my longing for further study" (Curie M. , 1923, p. 168).

[7] "Everybody says that I have changed a great deal, physically and spiritually, during my stay at Szczuki. This is not surprising. I was barely eighteen when I came here, and what have I not been through! There have been moments which I shall certainly count among the most cruel of my life [...]" (Curie E. , 1947, p. 78).

[8] "The room I lived in was in a garret, very cold in winter, for it was insufficiently heated by a small stove which often lacked coal. During a particularly rigorous winter, it was not unusual for the water to freeze in the basin in the night; to be able to

only did the conditions of work might be shocking but also her daily studying regime, which she imposed on herself. "She had worked until three that morning and had slept four hours. Then she had gone to the Sorbonne. […]. And the next day she began again to live on air. Work! . . . Work! Plunged altogether into study, intoxicated by her progress, Marie felt herself equal to learning everything mankind had ever discovered. She attended courses in mathematics, physics and chemistry. Manual technique and the minute precision of scientific experiment became familiar to her, little by little; soon she was to have the joy of being charged by Professor Lippmann with researches of great importance" (Curie E. , 1947, p. 107-108).

Soon after Marie Curie achieved unimaginable at that time for a woman world status, which after many decades is still remembered. It can be argued by many what were the reasons of her success. Her scientific career was no different from many before and after her, except some aspects that she was first. In other words there was no woman before her to become a professor at university, to win two Nobel Prizes in two different scientific disciplines. Also she discovered two elements Radium and Polonium, the first of them was believed to be a cure for all sorts of types of cancer, which led to her fame grew even stronger. "The American recognition of Marie Curie's achievements let to the world popularization of her scientific image. The press articles circulated throughout the 1921, made words: female and scientist interchanging synonyms commonly used later by others. […] The American Press lavished her with admiration, they even pronounced her the greatest scientists, female pioneer, the highest priestess of science" (Krzyk, 2013, p.239).

By no means, she popularized modern science among women in the XIX and XX centuries. "Curie attracted women from a number of countries […]" (Annette Lykknes, 2004, p. 577). She even created many places of work in her laboratory in Paris. Obviously the most important criteria concerning the intellect had to be met but undoubtedly she helped female junior research workers with gaining some valuable experience in laboratory which for such a long time during her youth was refused to her[9]. She also inspired the generations of women, who lived during her time[10] and those to come after her all around the world, due to historical affiliation mainly in countries she visited or had some connections with. Barbara Mikulski, US Senator of Polish descent said in her speech when she opens exhibition devoted to Marie Curie: "[…] at age eight, I saw this Greer Garson play, 'Madame Curie.' I wanted to be just like her. When I came home, I begged my mother and father to buy me a chemistry set. I wanted to go on, I wanted to be a scientist, I wanted to win a Nobel Prize" (Mikulski)[11].

sleep I was obliged to pile all my clothes on the bedcovers. In the same room I prepared my meals with the aid of an alcohol lamp and a few kitchen utensils. These meals were often reduced to bread with a cup of chocolate, eggs or fruit. I had no help in housekeeping and I myself carried the little coal I used up the six flights. This life, painful from certain points of view, had, for all that, a real charm for me. It gave me a very precious sense of liberty and independence. Unknown in Paris, I was lost in the great city, but the feeling of living there alone, taking care of myself without any aid, did not at all depress me. If sometimes I felt lonesome, my usual state of mind was one of calm and great moral satisfaction. All my mind was centered on my studies, which, especially at the beginning, were difficult" (Curie M. , 1923, p. 170-171).

[9] "The first woman to study there, the Canadian Harriet Brooks, came in 1906 and worked for a year under Marie Curie, who took charge of the laboratory after Pierre's tragic death and ensured that it retained its leading position within the field. During Gleditsch's first five years in Paris there were between two and five women and between eleven and twenty-two scientists in all in the laboratory. With her second Nobel Prize in 1911, this time in chemistry, Curie's fame increased; but during the same period the refusal of the French Academy of Science to elect her to membership and the rumors of her involvement with Paul Langevin may have affected her popularity. In any case, the number of workers at and publications from her laboratory decreased over time. After the war, and with the inauguration of her new radium institute, the number of laboratory workers rose once again. Curie was aware of her *celebrity effect* and rejected students she suspected of wanting to work with her only to be able to brag about it later" (Annette Lykknes, 2004, p. 583).

[10] Marie-Isabelle Archinard, Anne Baschwitz, Lucie Blanquies, Mariette Blau, Harriet Brooks, Adrienne Brunschvicg, Catherine Chamie, Irene Curie, Sonja Dedichen, Alicja Dorabialska, Jeanne Ferrier, Renee Galabert, Janina Garczynska, Ellen Glenditsch, Iren Gotz, R. Gourvitch, Marthe Klein, Antonia Korvezee, Mademoiselle Larche, Marthe Leblanc, May Sybil Leslie, Wilhelmina Anna Lub, Marguerite R. Macaigne, Irene Manteuffel, Stefania Maracineanu, Branca Edmee Marques, Madeline Monin, Eliane Montel, Isabel Jocelyn, Marguerite Perey, Leonie Petri, Angele Pompei, Alice Prebil, Eva Julia Ramstedt, Erzsebet Rona, Alice Scouvart, Sonia Slobodkine, Jadwiga Szmidt, Suzanne Veil, Lucienne Weinbach, Marie Henriette Wibratte, Germaine Wiswald, Margaret von Wrangell, Helene Zavizziano (Piegeard-Micault, 2013).

[11] "When I was a little girl growing up in Baltimore, during World War II, my parents took me to see a famous movie about her. They wanted me to know the story of Poland; they wanted me to know the story of this brilliant, brilliant woman. And at age eight, I saw this Greer Garson play, 'Madame Curie.' I wanted to be just like her. When I came home, I begged my mother and father to buy me a chemistry set. I wanted to go on, I wanted to be a scientist, I wanted to win a Nobel Prize…I wasn't sure how to spell it, but I wanted to win it. The story mesmerized me and I worked in science. I had hoped as a young high school girl and as a young college student to have a career in science, but it was not meant to be. I am good at understanding science, but I'm not very good at doing science. So I shifted my career to social science, to social work, and to politics. But I now use my talents to fund those that do. When I think about what science has meant, when I think about

Marie Curie seems to be a perfect example to teach young people about life and the important values in it. It can be redefined over and over and still one will find something valuable for himself. As once her daughter Eva Curie said: "THE LIFE OF MARIE CURIE contains prodigies in such number that one would like to tell her story like a legend. She was a woman; she belonged to an oppressed nation; she was poor; she was beautiful. A powerful vocation summoned her from her motherland, Poland, to study in Paris, where she lived through years of poverty and solitude. There she met a man whose genius was akin to hers. She married him; their happiness was unique. By the most desperate and arid effort they discovered a magic element, radium. This discovery not only gave birth to a new science and a new philosophy: it provided mankind with the means of treating a dreadful disease" (Curie E. , 1947, p. V). For many reasons given above Marie Curie is believed to be one of her kind. "Her brain was so precise, her intelligence so marvelously clear […] She was supported by a will of iron, by a maniacal taste for perfection, and by an incredible stubbornness. Systematically, patiently, she attained each of the ends she had set for herself" (Curie E. , 1947, p. 110). One might get to excited reading it, what need to be understood that her life and attitude towards it should be set as an example. That everything is possible when you want it, that is probably why America fell in love with her. That despite all the obstacles she managed to accomplish her work. She even was able to raise two beautiful girls Irene and Eve, which for those who believed in a traditional role of women was somehow comforting for her opponents. We can go even further so say that the figure of Marie Curie allowed to change the image of women and their reception viewed by generations of men. Through her hard work she proved that a single woman is capable of great things, that she was equal to some greatest men alive. Her example inspired large number of women to be exactly like her, unstoppable and passionate[12]. It changed men perseverance of women"[…] from a traditional Christian image to Darwinist more emancipated approach of female scientist" (Krzyk, 2013, p. 254).

Maria Curie's contribution to women existence in science is tremendous. The change in thinking can be easily compared to Copernicus's theory of heliocentrism where belief concerning the solar system was redefined. Both concepts at that time were considered to be immutable. The life of Marie Curie changed the way world viewed females scientific work and the dogma that the atom is the indivisible, smallest part of matter was redefined by Pierre and Marie Curie. Obviously, it would be unwise to even try to decide who was the greatest. Surely, we can say that both Copernicus and Curie change the sphere of their worlds. For which they paid the price of persecution throughout their lives.

So, would Marie Curie ever became the leading female scientist of her time without being raised in Poland under the Russian domination – probably not. "Undoubtedly by analyzing the time of Marie's childhood we may spot the great influence of this time on her personality, believes, and her ambitions. […] This time combined with strong father's influence built her strength, stubbornness and perseverance in her own work" (Krzyk, 2014, p.252). Early on did Marie Curie have to grow up, as during her childhood little was time to play. From the early moment she was about to experience troubles of life (sadness and sorrow). Early enough did she learn to hide herself behind books, in a completely new world , which Barbra Goldsmith identified as *the inner world*. "The only way to survive for her was to reject the world and to concentrate like a crazy on one particular thing and to keep away the feeling of emptiness" (Goldsmith, 2005, p. 21). It cannot be stated that during her early childhood her learning potential was wasted. In other circumstances she could have became one of the girls she described when visiting her family: "the young people of this area are not really at all interesting: the girls are geese who don't open their mouths except to be as provocative as possible. They all dance perfectly. They're actually not bad, some of them are even intelligent, but their education has not developed their minds, and the festivals around here, which are insane and incessant, have ended up making them scatter-brained. As for the young men, almost none of them are very nice or in the least intelligent […]". The world would never find out about Great Curie if teachers (even the cruelest) did not demand from her and she would not do the same towards herself.

CLOSING REMARKS

There are no doubts that learning for Marie Curie was very important as it is nowadays for young people, some of them have not just realized it yet. It is well-known that learning itself is a very complex process. Despite the fact that most of the people in the world undergo some kind of formal or informal process of education not everyone graduates from universities and contributes to science. Why despite very good prospectus vast majority of them do not achieve success. Why pupils living in developed countries are reluctant to higher education

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Madame Curie…I think about all of the possibilities and potential for women, for those who have a passion for science, and for those who pursue the passion of intellectual discovery" (Mikulski, 2011) .

[12] "According to the Rayner-Canhams, astronomy, crystallography, and atomic science (which included radioactivity) were the fields within the physical sciences that particularly appealed to women at the time. Brigitte Bischof has shown that radioactivity was presented as a *romantic endeavor* in the Viennese media and that women, in particular, were attracted to the field and to Marie Curie as a person, although she never specifically promoted women researchers" (Annette Lykknes, 2004, p. 583).

whereas those living in underdeveloped places of our world perceived education as the only way to gain success in life. It is in fact a great contradiction, similar to the Marie Curie paradox that the more difficult conditions she experienced, the greater her achievements were. So, should we in fact, at certain level make it more difficult for the student to achieve positive results. It should be natural that the longer pupils learn the greater results are to be expected from them. Obviously, one might say that not everyone can be a genius, that everything depends on personal qualities which create an individual. But isn't it true that every child despite its gender is eager and curious towards new things, only later on some of them loose interest in studying.

So how today the Marie Curie's life experience can redefine the teaching process and change it for a educators favor during the time when less and less material is covered during the teaching process even though from the historical point of view there are more date to be taught. As a result, great part of the materials are omitted. Again, with such extended teaching methodology even greater amounts of knowledge should be assimilated by students. What is more, the usage of so called new media (interactive boards, computers, with all the software) teaching and for this reason learning such be simple, problem free, and at the same time effective.

The core curriculum should be carefully designed as to use such examples like Marie Curie's life experience to educate students about motivation, which students in great numbers do not posses. Thanks to her diversified life various interesting topics might be designed to send her message across to the new generation of people. "The classes devoted to Marie Curie can be initiated during the Polish language lessons, physics, chemistry, and history" (Pławecka, 2013, p.120). Once again, we should allow Marie Curie to inspire us, as she was doing it throughout XIX and XX centuries.

During the period between 1945-1986 eighteen different short reading texts were devoted to different aspects of Marie Curie's life. Among them entitled: *Marie Skłodowska-Curie, Marie Curie and her visit to the United States of America, Among glowing midsummer worms, Marie Curie's disinterest, Polonium, In a wooden shed, Little Manya, Marie Curie's charm* (Sienko, 2013, p. 66-68). Mentioned here fragments were parts of Polish text books used to teach the language to students in primary and secondary schools. If it comes to the present time, as far as the publications published under the new curriculum[13] there is shortage in publications devoted to her, as if for new generations of students her example would not be good enough, as if her story could not teach them anything valuable . It needs to be stressed that the Polish Education System undergoes current changes, for this reason number of books are published and republished annually. This is a great opportunity to introduce such people back to the curriculum so her life can be remembered for another hundred years to come by showing her significant scientific achievements and analyzing attributes of her personality, which made it possible to succeed in science, but also look closely to hardship originated in historical affiliation of the time when she lived, last but not least the women struggle to self-governing might also be used when dealing with topics devoted to gender studies.

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[13] Under the new core curriculum of 1999 the new type of school was introduced to Polish Education System – three-year lower secondary school *gimnazjum*. From now on the eight-year primary school was changed into a six-year bearing the same name (2nd level) to be followed by the new type of school lower secondary school (3rd level). The 4th level of education offers three types of schools, which can be chosen upon exam results obtained on previous level of education. There are: three-year general upper-secondary schools, four-year technical upper-secondary schools and basic vocational schools. The new Core Curriculum was introduced as from 2009 in grade 1, and will be completed in 2015 in general upper-secondary and basic vocational schools, and in 2016 in technical upper-secondary schools. Upon the new system students are obliged to undergo external standardized examination after each level, such exams tests examination tests abilities, skills and knowledge in the fields of humanities and science, as well as foreign language competence. Upon the completion of the three-year general upper-secondary school pupils are awarded a school leaving certificate on the basis of school grades. It gives them the access to the matriculation examination or to post-secondary education. The pass margin is 30% to obtain the A-level pass rate. What is new within the system is the fact that students are taught some of the subjects at the extended level of total number of 870 teaching hours (1 hour = 45 minutes). The school and not the student decide upon the list of extended subjects, as the result some of the student might never be able to learn chemistry nor physics. Starting in 2015 the matriculation examination for graduates of general upper-secondary schools (and in 2016 for graduates of technical upper-secondary schools) is based on different rules, i.e. it is adjusted to requirements included in the new Core Curriculum. Changes introduced to this examination force the students to chose one extended subject to be examined during the matriculation examination, which does not need to be passed to obtained the certificate of completion. (retrieved from: http://www.frse.org.pl/sites/frse.org.pl/files/publication/1273/system-education-poland.pdf)

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PARENTS' VIEWS REGARDING FOREIGN LANGUAGE TEACHING IN PRE-SCHOOL INSTITUTIONS

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ABSTRACT

Gradually, learning a foreign language has become a necessity to capture the era in a changing world. In recent years, the importance attached to multilingualism in pre-school-age children has also raised the issue of teaching foreign languages. This issue is also becoming increasingly important in our country, Turkey. Present study was conducted to examine the parents' opinions of private kindergartens within the province of Istanbul according to some variables. The research was examined through a survey based on the opinions of 140 parents of children in pre-school education on foreign language education. The obtained data were analysed by using SPSS program and descriptive statistics. The parents attending the survey were asked what the most important reason they wanted their child to learn a foreign language in pre-school term, 60.7% expressed the opinion that learning a foreign language should start at a young age. As a result, it has been observed that the vast majority of the parents favour teaching foreign language in pre-school. It has been expected that learning a foreign language in pre-school education positively affects children's cognitive, lingual, and social development.

Key words: Pre-school institutions, Parents' views, Foreign Language Teaching, Games, Drama.

INTRODUCTION

Children have the power of creation, reflection, and learning more than one language. Pre-school children know the general structure of their mother tongue and they may evaluate the accuracy of their utterances. Children at this are able to grasp a new language. They can fully capture the accent, rhythms, and speech patterns. Adults are rarely able to do that. A two-year-old child can use two languages without mixing them into each other (Küçük, 2006).

It has been observed that a two-year old child whose native language is Hindu and also knows English stopped using his/her native language when the child went to the United States. According to psychologists, Mother tongue is not forgotten but taken out of consciousness. Second language becomes easier to children because of their environment. Therefore, the child preferred to use a second language but when s/he returned to their native country, s/he used his/her native language again (Küçük, 2006).

Teaching Second Language in the present day

Nowadays, the issue of learning a second language apart from the mother tongue has gained importance. It has become a factor that people need education in the work area and other social domains.

People, rapidly developing and trying to keep up with innovations, cannot be satisfied only with native language, but they also need to learn and acquire foreign languages. One of the reasons of this is the rapprochement among countries in social, economic, cultural, and technological fields. From the beginning of the last century till now, teaching foreign language is considered growingly important by societies in an incrementally shrinking world without borders (Canbulat and İşgören, 2005:124)

Foreign language schooling in Turkey

Today, Turkey has membership in many international organizations such as the United Nations and the Council of Europe, NATO, OECD etc. In these international organizations, several languages are being used as a common means of communication. For instance, the United Nations' official languages are Chinese, French, English, Russian, and Spanish. In this organization "French and English" as working languages, and "Spanish" as the working language of the General Assembly and the Economic and Social Council (UN, 1958) are in use.

In the international organizations that are important for Turkey such as NATO, "English" is being used as the official language.

Due to the rise of international relations as such, a necessity to learn other languages especially the Western languages that are accepted as official languages in international organizations occurs in Turkey and as a result of this teaching foreign languages is involved in school programs (Demirel, 1999:15)

Games in Foreign Language Teaching

Games activity especially colouring books can be used effectively in the second language learning process. Starting from kindergarten, all of the linguistic skills develop in children's play environment in the best way. During this period, a child may be enabled to prepare his/her textbook so that his/her participation in the process of learning and teaching is effectively achieved.

For children acquiring their native language is an extremely complex process. Children face absorbing and understanding a very complex symbolic string in this process. Therefore, the second string can only be realized from the acquisition of the first symbolic string, beginning at the age of four or five. In the first phase, one needs to take care of developing children's sensitivity regarding the second language and be careful about equipping them with communication tools that they can use in their daily activities by starting from the utterance speed and the volume.

Since we cannot use the child's non-acquired native language skills and writing activities at the age of four, we have to base language learning on speaking language. Taking into account that a child at this age has a limited capacity to concentrate on one particular task, it should not be forgotten that children need to interact with their friends.

Therefore, time prescribed for the teaching of a unit should not exceed 20-25 minutes. If one needs more time, it should be split into shorter units. Considering the sensitivity of children, making the foreseen activities variable and rich should be taken into account. In short, it is inevitable that education should be realised in a dynamic style in a rich gaming environment. In the classroom, kindergarten, and children's garden or at home as well as on holidays or in other places, most of children's daily activities are in the form of a game. This game stage is a stage that children try to emulate by observing adults   Thus, the teaching of foreign languages at an early age and this emulation should be designed as a continuation of play activities (Kara, 2004).

Music in Foreign Language Teaching

According to Özkardeş (1988), one of the benefits of music is to expand children's vocabulary and accelerate language development through singing and listening. In the same structure, repetition of certain words helps the child recognize these words and enables them to make a sense of them. Again through singing, a child has a chance to pronounce accurately by continuous repetition of certain words (Özkardeş, 2005).

A researcher conducted a study on teaching foreign language through music with a group of age 5 children with the problem statement "Does education with music help embedding the information into the memory of children at this age?" Consequently, it is concluded that in pre-school, learning with music helps students to save data in their memory more easily and is more effective than the other rote classical teaching methods. Thus, as emphasized in the Multiple Intelligences Theory in pre-school, to develop a mental space, one can utilize music intelligence as well as other intelligence areas, and in language teaching, age appropriate musical activities can be organized. (Modiri, 2010).

Drama in Foreign Language Teaching

Communication is an element of a "natural" environment where the best development and training for foreign language are based on. Since the optimal natural environment for a child of this age is the "playing" environment that he creates and he himself is directly involved in, similar environments for gaming carry great value in terms of development and education. Educational drama contributes to the development of a child regarding communication and language skills with its "natural" environment similar to Önder, 2003: 98).

Drama technique is suitable for the use of new foreign language learners and students at all levels. Especially to motivate and encourage shy students at the elementary level, puppetry and improvisation can be used. Similarly, when teaching new words to students of initial level, mime technique may be used. In this way, children can guess the word that is taught without using the native language.(Çevik, 2006).

Effects of Foreign Language on Cognitive Development

There are different opinions in society about the education of foreign languages at an early age. For example, speaking two languages divides the brain into two, or adversely affects the ability to think. Such opinions can be based on the considerations that bilingualism will create an undue burden on the brain and will create complexity in mind.

For Mc Laughlin (1984: 101), when a foreign language is obtained after the age of four, it will be difficult to integrate it into the structure of the brain because changes in the neural system cannot occur easily after that age.

Many researchers advocate that learning a foreign language at an early age has several advantages. For example, it has been suggested that bilingualism provides mental flexibility for a child and helps the formation of mental skills to detect, treat, and use the information.

Besides all these, In a study conducted on bilingual children, Bamford and Mizokawa (1990) found positive impact of problem-solving skills at an early age in foreign languages. In the light of some research, children learning a foreign language at an early age are proved to be better at abstract thinking skills by comparison with those who are not. This also affects cognitive skills such as concept development and evaluation in a positive way (Canbulat and İşgören, 2005).

Effects of Foreign Language on Language Development

Bleyhl (2000: 1-5), in his study on foreign languages in primary education, mentions empirical research of Bristol, and underlines the important thesis obtained in this study. Accordingly, when so many stories, fairy tales are read and told to a pre-school child, then the child's ability to understand what is told or comprehension skills by hearing improve that much and as a result it boosts up his success the success of the child in school.

How should it be interpreted when these data are adapted to language development? Linguistic consciousness develops in a child depending on the action of hearing the language intensively, which means it is aurally developed. Therefore, the factors such as the quality and quantity of language, and the language used in a variety of child-centred environments play important role in language development. Also, one must not forget that when the child notices that he/she can only express something with words, in short when they are forced or encouraged, they prefer speaking. The process of the formation of a foreign language is not very different from the process of L1 development. Use of a language (output) cannot occur without the accumulation of a particular language named "critical mass"; this case is valid for both native language and foreign language. In short, in order for the child to start using a particular language, specified language material needs to be stored in the brain beforehand Akdoğan, 2004).

Impacts of Foreign Language on Social Development

Undoubtedly, teaching foreign languages at an early age will primarily give children the opportunity to learn about different cultures. It will allow the child to recognize the value that what he/she perceives in his/her own culture also exists in others. It will also improve the capacity of the child to see analogies and differences between cultures and to respectfully approach different cultures (Canbulat and İşgören, 2005).

Role of Families in Foreign Language Teaching

One of the major requirements in early foreign language education is that the family should be included in language education. An effective training is only possible with the collaboration of school, family, and the environment. Because children can learn foreign languages in kindergarten, at home, and in a natural environment through game activities. Foreign language instruction given in the kindergarten will not be effective if it is not applied home. By giving children simple commands such as "Let 's go to the kitchen, let's play a game, tell me…" , foreign language education can be permanent. In addition, education dosage should be well adjusted. That is, if the child does not volunteer, s/he should not be compelled.

If language training is turned into a fun game for kids, it can grab their attention. For this reason, educators should make use of appropriate methods for children in their development period considering their interest areas. For example, babies love sounds, rhyme, and stories. While learning a foreign language; baby songs, puppets, and plush toys attract the babies' attention. They receive training along with their mothers. Under the name of family activities, some of the books and other visual materials in the 3-6 and 0-3 age groups are intended for parents and generally with the help of family, they are transferred to the child. If parents continue home schooling for early foreign language learning, success can be achieved (Kara, 2004).

LITERATURE REVIEW

In İlterand Er (2007)'s study entitled "Teachers and parents' views on early foreign language teaching", no significant difference between the opinions of teachers and parents with regard to foreign language teaching in

the early years has been found. Both groups support teaching of foreign languages at an early age and they both agreed that games, songs, and rhymes are needed to be utilized when teaching children foreign languages at this age.

When we have a look atAytar and Öğretir (2008)'s study named "Examination of mother, father and teacher views on language education in pre-school as per variables", we spot that teachers are in favour of pre-school foreign language teaching. Contrary to this common opinion, teaching foreign languages to children before they pick up their native language learning their native language is considered to have negative effects on children's personality and their social development.

In the study of Küçük (2006) named "Opinions of families and educators in pre-school foreign language education early childhood", it was found that educators and teachers find pre-school English education useful and necessary, and in their opinion, language education should start from pre-school and be continuous until the end of secondary education.

Anşin (2006) in his article entitled "Foreign language teaching for children", he is of the opinion that if the natural attitude of the child is observed in the native language acquiring process, foreign language education will be more effective and lasting. He studied on the institutional foreign language teaching, foreign language teaching in France and generally in Europe, and his studies revealed that the age factor, foreign language teaching methods and techniques implemented to teach children at the primary stage should be applied taking their cognitive, communicative and pedagogical features into consideration and pedagogical factors that foreign language teachers create in class.

The result of the research of Batdı (2012) named "Teachers' opinions on the use of educational games in language teaching" shows that instruction with educational games creates a fun learning atmosphere and positive attitudes towards language learning and they offer alternative activities for the development of the four language skills.

It is recommended that educational activities that have a great role in meaningful and lasting language learning should be particularly used in foreign language classes at the elementary level.

Akdogan (2004)'s study, "Early foreign language teaching in the light of new projects" examines foreign language education and training matters in early age with its international dimensions and focuses on the developments and studies in Turkey, and introduces two intensive foreign language training and teaching Project that are designed and carried out within this framework.

One of the important research studies was conducted by Sevinç and Sertkaya (2006), "Evaluation of the effects of foreign language education to notion development cognitive and skills in pre-school term". Looking at the results of these studies, it is clear that children studying in foreign languages schools get ahead of children studying in their mother tongue in terms of notion development and cognitive skills. When comparing children's performances in institutions implementing bilingual programs, it revealed significant results in terms of mainly contextual activities, notion development of child-centred language program, establishing meaningful similarities and differences among objects, problem solving and numeracy abilities on statistical levels.

In their article named "Bilingual / multilingual children's language acquisition process",Yazıcı and İlter (2008) stated that when research is analysed on more than one language acquisition during early childhood, bilingualism or multilingualism is a subject of sociology, psychology, pedagogy, anthropology, and linguistics. In this study, developmental processes of bilingualism in early childhood were examined in terms of linguistic skills.

When we look at Sevil's article (2003) entitled "Foreign language teaching: Principles in the early age" the following items are highlighted; 1. According to the theorists of foreign language teaching, early foreign language education aims to realize the interests of language and culture in children. 2. Foreign language education at an early age requires the establishment of new methods for the training of foreign language teachers. 3 Since playful activities do not require an effort on the basis of learning process, they provide a basis for foreign language teaching at an early age. 4. Projects such as Evlang that takes place in Lingua 1998, a European Union program, are put into practice. 5. Foreign language education at an early age is an essential element of today's understanding.

The result of study conducted by Od (2013) "Contribution of cartoons to listening comprehension and speaking skills in early childhood foreign language teaching" points out that foreign language teaching and learning to capture the era has become a necessity in a developing and changing world. In recent years, with the start of focusing on the importance of multilingualism, teaching foreign languages at an early age has become a crucial issue. In our country, required activities have begun to be carried out in this regard. Therefore, we can say that in some public schools and private schools, foreign language is being taught to pre-school students in the 5-6 age

group. However, one must admit that there are problems with course materials in foreign language teaching practice. For the solution of these problems, it has come to the conclusion that cartoons and audio-visual tools are useful for teaching.

When analyzing the study of Kocaman and Kocaman (2012) named "Age factor in foreign language education at pre-school level", it is stated that foreign language training should be given by a pre-school teacher certificated in English or by a teacher of English certificated in pre-school education. Still, the majority of the interviewees stated that foreign language training at the level of pre-school must be given by a native speaker for the sake of correct pronunciation.

Based on the theoretical framework and related research results of the research named "Parent views regarding foreign language teaching in pre-school educational institutions", one can say that as a result of studies conducted in the field of foreign language teaching in pre-school institutions, children's awareness of foreign language should be raised., parents should be aware of the programs implemented in the institution, samples of activities should be sent to the parents in order inform and guide them for a parallel education.

PROBLEM STATEMENT
The problem statement of this present research was "What are the views of parents on foreign language education in pre-school educational institutions?"

METHOD
In this section, model of the research, population and sampling, data collection tools, and statistical process to analyse the data take place.

Model of the Research
This research with its scientific nature is based on quantitative dimension. Firstly, literature has been searched regarding the topic of the research and in the light of information based on the literature; A "Parents' views on the teaching of foreign language in pre-school institutions" survey has been developed. The questionnaire was used to gather the views of parents of children who attended special education institutions in European and Asian sides of the Istanbul Province in 2013-2014 academic year.

Sampling of the Research
The population of the research consisted of 140 parents whose children are pre-school students.

Data Collection
The related literature has been reviewed to benefit from domestic and foreign sources to prepare the data collection tool. By analysing survey questions in similar studies, required question pool was prepared by the researcher. Questions taken from this pool, "The Survey of Parents' Views on the Teaching of Foreign Languages in Pre-school Institutions" formed the questionnaire as the data collection tool. Expert opinions were taken for the coherence of data collection tools regarding scope and clarity.
The survey has been implemented on parents whose children attend some private pre-school institutions in Istanbul Provincial National Education Directorate in 2013-2014 academic year. 140 parents participated in the survey. In order to gather information, in the form of selective survey, 27 items include7 personal information and 20 items are related to the subject.

STATISTICAL RESULTS
This part of the research presents demographic information of parents regarding the foreign language teaching in pre-school institutions, results of parents' opinion in the foreign language teaching in pre-school educational institutions.

Demographic information of parents gender distribution

Table 1.Gender distribution of the parents participated in the survey

Gender	N	%
Female	103	73,6
Male	37	26,4
Total	140	100,0

Table 2.Age distribution of the parents participated in the survey

Age	N	%
18-25	0	0
26-30	10	7,1
31-35	34	24,3
36-40	59	42,1
40 and over	37	26,4
Total	140	100,0

Table 3.Efficiency distribution of foreign language in selecting pre-school education

	N	%
Yes	130	92,9
No	10	7,1
Total	140	100,0

Table 4.Distribution of given activities joined by the children

	N	%
joins all of the events	135	96,4
Only joins foreign language activities	3	2,1
joins all activities except for foreign language	2	1,4
Total	140	100,0

Table5.Distribution of foreign language knowledge of the participating parents

	N	%
Yes	58	41,4
No	18	12,9
Missing	64	45,7
Total	140	100,0

Table 6. Distribution of participating parents' level of foreign language knowledge

	N	%
I know very well	80	57,1
I know well.	35	25,0
I know very little.	16	11,4
I do not know.	9	6,4
Total	140	100,0

Table 7. Distribution of problem types parents experienced due to insufficient knowledge of foreign language

	N	%
It prevented me from having the education that I want	32	22,9
It prevented me from raising standards of my life	37	26,4
It prevented me from understanding other cultures	32	22,9
There was no problem since I know a foreign language	28	20,0
Others	11	7,9
Total	140	100.0

Table 8. Degree of foreign language knowledge of the spouse of the participating parent.

	N	%
S/he knows very well	45	32,1
S/he knows well.	43	30,7
S/he knows very little.	33	23,6
S/he does not know.	19	12,9
Total	140	100,0

Table 9. Parents' views regarding the necessity of foreign language education in pre-school

	N	%
Yes	133	95,0
No	7	5,0
Total	140	100.0

Table 10. Parents' views regarding how old the foreign language teaching should start according to parents participated in the survey

	N	%
0-2 years	32	22,9
3-4 years	94	67,1
5-6 years	8	5,7
7-8 years	2	1,4
9-10 years	1	0,7
11-12 years	3	2,1
13 years and over	0	0
Total	140	100,0

Table 11. Parents' views regarding which social developments of children are affected by starting the foreign language teaching in an early age

	N	%
Lingual development	11	7,9
Mental development	1	0,7
Social development	1	0,7
Lingual and social development	10	7,1
Lingual and cognitive development	14	10,0
Social and mental development	2	1,4
Lingual-mental-social development	101	72,1
Total	140	100.0

Table 12. Parents' views regarding what the most important reason is they want their child to learn foreign language in pre-school education

	N	%
I had difficulties for not knowing a language, therefore I want my children not to experience the same thing	74	52,9
Since I wanted to learn a language, but I couldn't	61	43,6
Since he/she can learn a foreign language as early as he/she started	4	2,9
Since it facilitates the future education life	0	0
To recognize that there are languages other than their own language	1	0,7
All	0	0
Total	140	100.0

Table 13. Parents' views regarding what the most important reason is to learn foreign language in pre-school term

	N	%
Children learn better foreign language at an early age.	85	60,7
Lessons learned at this age are permanent.	23	16,4
Better learn to pronounce foreign words.	3	2,1
Facilitate future educational life.	29	20,7
There are no pre-school education benefits of learning a foreign language.	0	0
Total	140	100.0

Table14. Parents' views regarding to what extent the children are interested in foreign language in pre-school term

	N	%
Sings songs in the language he/she has learnt	54	38,6
Says the object name in the language that has been learning, e.g. says "elma" to apple	44	31,4
Listens carefully the foreign language speeches on TV or elsewhere	9	6,4
Repeats the words he/she has learnt.	19	13,6
Shows no interest in foreign language learning.	14	10,0
Total	140	100.0

Table 15. Parents' views regarding how to make the foreign language the child has been learning permanent

	N	%
I encourage him/her to repeat what he/she has learned	62	44,3
I provide programs like cartoons in foreign language for my child	15	10,7
I provide technology-supported programs.	6	4,3
I answer their questions	10	7,1
I apply all of the above	41	29,3
I do not do anything, I will do in elementary school	6	4,3
Total	140	100.0

Table 16. Parents' views regarding how the starting foreign language at an early age affects the mental and lingual development of the children

	N	%
Affects positively	134	95,7
Affects negatively	3	2,1
Does not affect	3	2,1
Total	140	100,0

Table 17.Responsive Distribution on the views of parents regarding the most important positive effect of starting foreign language at an early age and effects on the mental and lingual development of the children

	N	%
Cognitive and lingual improvement occur	103	73,6
Self-expression skills increase.	12	8,6
Self-confidence increases.	19	13,6
Currently do nothing about foreign languages.	4	2,9
It does not affect in the positive direction.	2	1,4
Total	140	100.0

Table 18. Parents' views regarding the most important negative effect of starting foreign language at an early age and effects on the mental and lingual development of the children

	N	%
Foreign words cannot be pronounced since lingual development is not completed	13	9,3
Since native language education is not completed, foreign language education can be difficult and it can make him/her get away from school.	5	3,6
Ability to express themselves decreases.	4	2,9
It does not affect negatively.	118	84,3
Total	140	100.0

Table 19. Parents' views whether the foreign language education in pre-school institutions is adequate or not

	N	%
Yes	85	60,7
No	28	20,0
I have no idea	27	19,3
Total	140	100.0

Table 20.Responses regarding what parents would suggest for foreign language education in pre-school if they found it inadequate.

	N	%
Longer time of teaching	10	7,1
Including whole activities	10	7,1
Speaking in foreign language at school all the time	4	2,9
Teachers to be more concerned about this	3	2,1
I would like to inform about foreign language	9	6,4
Teaching through games and drama	19	13,6
I have no suggestions	22	15,7
Blank	63	45,0
Total	140	100.0

RESULTS AND DISCUSSIONS

When we look at the results of the research, out of 140 parents, 103 of them were female and 37 were male. 59 of the 140 parents participating in the survey are in 36-40 years age range. The gender distribution of children of parents surveyed 79 have boys and 61 have daughters. Out of 140 parents that are surveyed, 70 of them have 1 child, 60 of them have 2 children and 10 of them have 3 or more children. Regarding the educational status of the mothers who participated in the survey, 96 have a graduation certificate at the university level. Educational levels of the parents who participated in the survey, 73 have a graduation certificate at the university level. Participants stated that 28 parents doing freelance work, 22 parents are teachers, 20 parents are engineer and 16 parents are housewife.92.9 % of the parents said that foreign language is an effective factor that affects parents' choice of pre-school. Almost all of the parents (96.4%) reported that of pre-school children continued all the activities provided in educational institutions.97.9 % of the parents stated that they did not pay extra for the events given in the pre-school educational institutions.41.4 % of parents said they know a foreign language.57.1 % of the parents, said they know a foreign language at a good level. 26.4%of the parents stated that not knowing enough foreign language hindered the rise in their life, 22.9 % stated that it prevented them from getting the education they want for, 20.0 % stated that they experienced no problem. 72.9 % of parents' husbands/wives speak a foreign language. 32.1 % of parents' spouses speak a foreign language fluently. 95% of parents found teaching foreign language in pre-school institutions is required. 67.1 % of parents reported that the age to start teaching a foreign language should be 3-4 years. Some of the parents 52.9 % stated that since they do not know a foreign language, they experienced difficulties; in order not to make their children to experience same problems in the life, they marked it as the most important reason for pre-school foreign language education. Some of the parents ,60.7 %, who participated in the survey stated as the most important reason for foreign language in pre-school is that children learn foreign languages better at an early age. Some of the parents, 38.6%, underlined that the interest of children in learning foreign language in pre-school is shown by singing in the language that they learnt. 44.3% of parents stated that encourage their children to repeat what they have learned in foreign language

to become permanent. 95.7% of parents reported that starting an early foreign language teaching affects the child's mental and lingual development in a positive direction.73.6% of the parents stated that the most important reason of positive effect of early foreign language education on children's cognitive and lingual development is its improvement in mental and lingual development.9.3% % of the parents stated that the most important reason of negative effect of early foreign language education on children's cognitive and lingual development is that since language development is not complete, children cannot say foreign words and 84.3% stated that it affects in a negative way. 60.7% of the parents implemented that they have found foreign language education in pre-school institutions is adequate.13.6% of the parents suggested that in order foreign language in pre-school to be adequate, it should be given with fun and games within drama.

As a result, parents participated in the survey, think that foreign language teaching in pre-school educational institutions is essential and children learn foreign language at an early age and what they learn at this age is permanent.

It has been observed that the majority of parents are in favour of foreign language in pre-school. It is expected that learning a foreign language in pre-school education will positively affect children's cognitive, lingual and their social development. This idea is determined in light of literature examinations and this applied research.

SUGGESTIONS

With foreign language teaching in pre-school children awareness on this issue can be raised. Children can be aware that there are other languages and cultures outside of their native language. Mandatory or selective courses that include required information, skills, methods, techniques for foreign language teaching to teacher candidates in pre-school education programs can be given. Education Faculty of Foreign Languages Education Department can provide the necessary training to for their own students to educate children of pre-school. Information meeting and seminars about the foreign language teaching for pre-school children to pre-school teachers can be arranged. Language training programs can be rearranged as to include foreign language teaching for children in pre-school, according to the common European framework program. Besides all these, when the parents were asked about their suggestions when they found foreign language education inadequate in the pre-school 63 of them (45%) did not answer the question which indicates that parents are not qualified enough to evaluate the education and make necessary contributions. Therefore, parents should be informed about the content of foreign language education at pre-school level.

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RURAL PARENTS PERCEPTIONS ABOUT SCHOOL MEETINGS

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ABSTRACT
This article presents the results of an exploratory qualitative study conducted at a school in San Clemente, VII Region of Chile. Its purposes were to describe and understand parents' perceptions about school meetings. The methodological design was a comprehensive interpretative approach. The data collection techniques were semi-structured interviews with rural mothers, constituting a total sample of eight subjects, defined through the snowball sampling technique. The semantic structural analysis model was used, as it intends to describe and interpret the deeper meaning of the interviewees' discourses. Finally, there emerged a generalized view of the actors, which describes the elements of the meeting's disposition by the parents, which contributes to the construction of the family-school partnership.

Keywords: parent meetings, family-school partnership, parents participation

INTRODUCTION
The foundations of the school-family relationship have been considered as a given and obvious matter. It is a feature that still lingers as a general attribute, the dominant pedagogical discourse, obscuring diversities of viewpoints about the expected home-school alliance (Kainz & Aikens, 2007). This is particularly relevant when both the school and family face deep cultural changes, with mutual accusations of abandoning their duties (Corea, C & Lewkowics, I, 1999; Gubbins 2001, 2002; Abramowski, 2011; Precht, 2015).

Traditionally, parents were invited to entrust their children to the school, getting involved with school life to preserve equality among students (Dubet, 2004). As Narodowski (2008) pointed out, during modernity, professional educators replaced "natural" educators (parents), removing children from their family life (Pineau 2005; Narodowski, 2008). Experts understand the knowledge and culture from a hegemony and monopoly perspective, with little or no space for minority cultural identities. Thus, they were expected to perform their duty to civilize children in the ways of the State.

The school of the modern era has also been built from an urban matrix. The concept of time and school space, and their understanding of knowledge, rules, and ways of what is normal and what is deviant, is considered from the city perspective (Foster, 2011; Llinas, 2011). Rurality has little to no room at school, unless it is understood from a folkloric perspective.

However, the emergence of other rationales (Jodar, 2007) has challenged the school and brought into question its cultural monopoly—not only the disenchantment of the world but the actual school overcrowding and technological changes that involve changes in the organization of power (Dubet, 2004). Deinstitutionalization of society affects not only the school but also the family. Given the blurring of the traditional foundations, teachers and parents must invent delicate and transitional forms to regulate relations between the school and the family. The displacement of part of this family-school partnership involves, among other things, familiarization of school links with teachers, who see themselves as defendants of compensatory parenting (Abramoski, 2011). Another form of school social relations are the boundaries of the school permeating the family (Poggi, 2002).

In Chile, parent-teacher meetings are often seen by educators as a necessary means to establish a proper relationship with students' families. These meetings usually occur on a monthly basis and are held during evening hours, with a duration of two to three hours. Studying the perceptions that rural mothers have about parents allows a better understanding of the type of relationship they establish with the school. So our question is: what are rural parents' perceptions about parents meetings?

THE STUDY
The aim of this research is first to approach the phenomenon—in this case, rural mothers' perceptions of parent-teacher meetings in the San Clemente county in Maule Region, Chile.

To achieve this purpose, we interviewed parents of fourth graders at a rural school. All were women; even when we sought fathers, none were available for this study. Most mothers reported fathers did not assist to parents-teacher meetings.

To reach the sample, we used the snowball sampling technique. Initial voluntary informants pointed out other informants until the discourse saturation was reached (Faugier & Sargeant, 1997; Atkinson & Flint, 2001). That created a sample comprised of eight women

Data were collected with semi-structured interviews (Horton & Struyven, 2004). The interview was made in analytical categories that organized information conceptually to gather information about the parent and teacher roles during meetings, the perceived relevance of these meetings, and the organization of parent-teacher meetings.

The corpus was analyzed according to the semantic structural analysis model (Martinic, 1992, 1995, 2006). It allows one to describe and build structures' common meaning in seemingly different narratives. These structures must be stable and logically consistent.

Martinic (2006) suggested that first, the primary meaning units and their relations with one another must be identified; second, the structure surfaces use central categories. This step consists of the distribution of oppositions and associations expressed in structures that could be parallel, hierarchical, or crossed.

FINDINGS

In the speech of the interviewed mothers, we distinguished:

In a first descriptive analysis, there emerged the code of "action control" (see Figure No. 1), whose categories are condensed according to the level of interaction of the agents within them. The first type of meeting, which we will call "expository," realizes an action centered on the teacher, who according to the speech of the agents, he expressed as (we) "come to hear." That is, the content of these meetings is to share information about the school with little disposal of time to address the parents' concerns, suggestions, and interests.

"[At meetings] parents could not comment much; we were almost only listening to the teacher." Interviewed n° 2

A second type of meeting that emerged in the discourse of the agents is the one characterized by the term "participatory." This type of meeting is characterized by its design and structure, which in the parents' discourse, allows for more interaction between the parents and the teacher. It should be noted that this latter type of meeting does not necessarily mean a change in the knowledge economy, enabling more democratic structures, but it mostly enables the possibility of exchanges and dialogs between parents.

"I would rate [the meeting] with a an A+, because the meetings are good. We talk, we give opinions, we parents participate a lot. We share, the teacher informs us, and it's all very good and almost every mother come to it." Interviewed n° 5

Figure No. 1: Totality: Action Control

A second code refers to the quality of the meetings, which in the discourse of the interviewees emerged as "good or bad." (see Figure No. 2). The linchpin of this category is the relevance of the topics. This relevance is in tune with issues of interest to the upbringing of the children, especially those issues that provide tools to support children's schoolwork from home.

"The parent meetings are pretty motivating because different things are done. In particular, it motivates me [to share] what we [mothers] do. The topics covered are also related to the growth of our children." Interviewed n° 4

In the discourse of those interviewed, a "good meeting" will be one that provides parents the process of turning the child into a student. Therefore, the values the teacher teaches the attendees are methodologies to support the children's studies at home. Here, parents' participation is of that of students of the teacher, allowing the parents to replicate the action of teaching at home. In addition, the "good" meeting allows parents to share their own difficulties and successes in supporting their children's schoolwork. In contrast, a "bad" meeting, whose content usually refers to complaints about the behavior of their children in the classroom, addresses problems of a particular case or other matters parents consider irrelevant

Finally, the meeting was characterized as "good" when it contributed to building a climate of cordiality between families that compose the course, giving space to parental involvement. These meetings emphasized the involvement of parents in school life, which circumscribe to work during the anniversary of the school, attend events, sew costumes, and attend meetings. The latter is considered the fundamental instance of participation and more widespread to communicate with teachers.
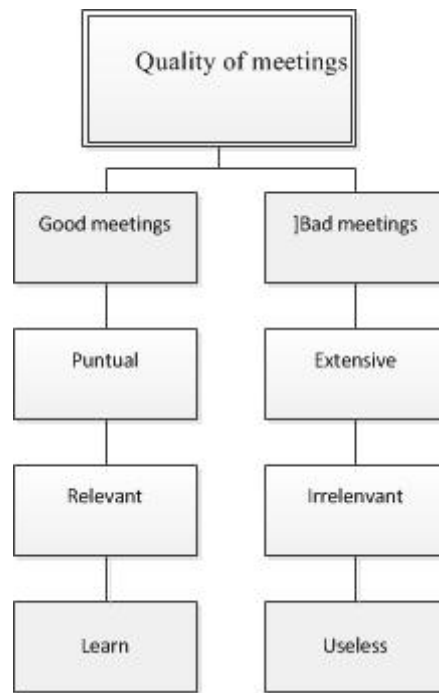
Figure No. 2: Totality. Quality of meetings.

"The teacher helps us with homework, like methodologies to approach homework . . . how to practice and reinforce the children as much as she does here, so we can do it at home. Then, there is space given to economic issues and to sharing some tea, which allows us to be more confident with the group of parents." Interviewed n° 3

Across both axes within the "quality of the meeting" and "action control," more complex relationships emerge for observing the nuances in the speech of the interviewees (see Figure No. 3). It is possible to distinguish four semantic fields, in which it is feasible to locate the distinctions made by parents.

The following figure shows these relationships:
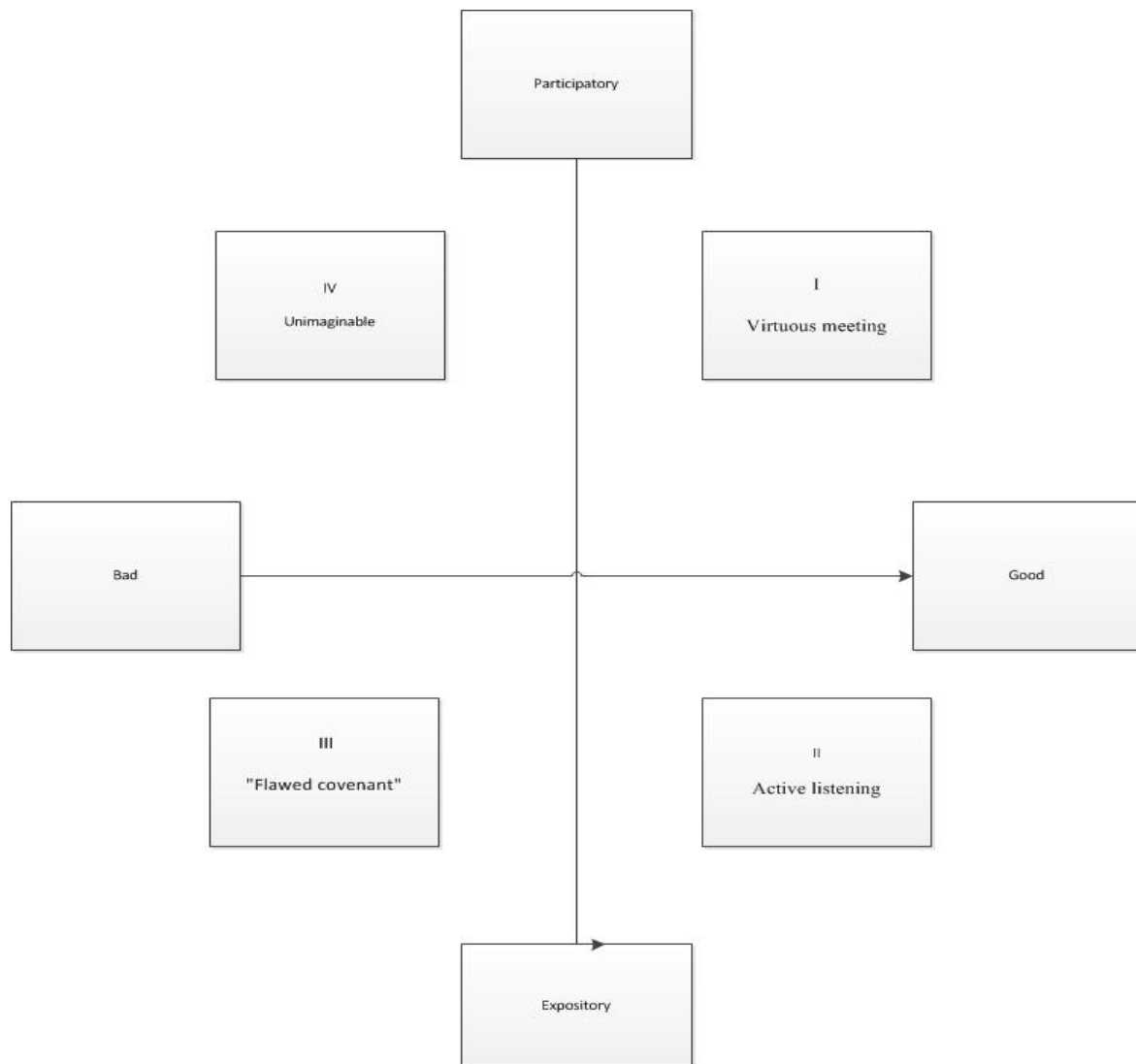
Figure No. 3: Axial Crossing (parents' perceptions of schools meetings).

These parents value that virtuous meeting (I), whose relevance is given by learning strategies to support children in their school trajectory and in which parents may actively participate. Considering the above information, we can say that according to the speech of these parents, this quadrant represents an ideal meeting: involvement of both parents and the teacher in a pleasant climate. In the opposition meeting, there is a "flawed covenant" (III) between the school and the family. This meeting is characterized by the teacher's authoritarianism, denial of the voice of the parents, and discussion of problems relating to individual cases in an instance that is supposed to be collective.

Although less appreciated, there is the meeting of "active listening" (II) in which there is little parental involvement, but the issues addressed by the teacher are recognized as relevant to the learning achievement of children.

Finally, it is interesting to note that for the parent, is not possible to think about bad meetings that are participatory.

CONCLUSIONS
Our findings throw light toward Chilean rural parents' perceptions of school meetings and their relevance to building an alliance between the school and the family. The results support the characterization of said meetings as authoritarian and irrelevant, which tend to be a bore for parents. An idea most vividly appreciated is the use of adjectives to describe them, such as *boring, bad,* and *passive.* It is important to note that there also emerges a

speech on valuable meetings, whose articulating words are *good, participatory*, and *learning*.

Perceptions that these provincial parents have about the usefulness of the school meetings relate to the participation in their kids' life as a key element.

While the interviewed mothers believe a good meeting is one in which they are allowed to participate, one must question the content of such a participation. Its past does not necessarily imply a more democratic structure and different knowledge economy. Participation in meetings means they are organized around active methodologies, which allow them to express opinions and be heard while learning from the teacher. There is a reproduction that is infantilizing for mothers. At the meetings, parents take the place of their child or student, sometimes even taking their child's school desk. While they can have opinions, the teacher is the one that transmits a valid, authorized, and recognized hegemonic knowledge.

Another aspect of this participation in the organization for collaboration with the school, which again, reproduces their traditional roles: Rural mothers are invited to organize classroom grooming, sewing costumes, or preparing food for school parties. This participation is understood instrumentally; their topics will be the collection of funds for the group and the organization of recreational activities. Mothers do not mostly challenge this but accept it as desirable.

The parents' purposes while attending school meetings are to seek information about their own children's performance and to have cordial relationships other parents. Relevant topics are their child's academic, social, and personal life. For them, the relevance with a meeting tells the direct relation to the fulfillment of this purpose.

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İLKÖĞRETİM EĞİTİMİNDE SUNU PROGRAMLARININ KULLANIMI (ERZURUM İLİ ÖRNEĞİ)

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ÖZET

İçinde yaşadığımız dünyanın hızla dijitalleşmesi sonucu kültürel, sosyal, ekonomik ve siyasi alanlarda çok boyutlu bir süreç olarak karşımıza çıkan küreselleşme, iletişim teknolojilerinde de köklü değişimler yaratmıştır. Yaşamın her alanında değişimin dinamosu haline gelen iletişim teknolojilerinin eğitimde kullanımı da önem kazanmış, iletişim teknolojileri aynı zamanda eğitim ve öğretimin vazgeçilmesi zor araçları haline dönüşmüştür. Yaşam boyu sürekli eğitim, yeni iletişim araçları ve eğitimde teknoloji kullanımının öğrenme sürecine etkisi ve katkısı konuları çalışmanın kavramsal çerçevesini belirlerken, power point, prezi, vuvox ve slide share gibi sunu araçlarının ilköğretim eğitiminde performans değerlendirilmesi konusu ise çalışmanın merkezinde yer almaktadır. Kavramsal çerçevenin belirlenmesi noktasında literatür taramasına müracaat edilecek çalışmada, sunu programlarının eğitime katkısının tespiti bağlamında ise alan araştırması yöntemine başvurulacaktır. Çalışmanın veri toplaması aşaması ise Erzurum ilinde farklı ilköğretim okullarından rastgele seçilen 60 öğretmen ile gerçekleştirilecek olan anket yöntemi ile sağlanacaktır.

Anahtar Kelimeler: Eğitim, Teknoloji, İlköğretim, Sunu Programları

USES OF PRESENTATİON PROGRAMS IN THE PRESCHOOL TRAİNİNG

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ABSTRACT

The globalization that knows as multidimensional process and digitalizing of the world has caused many changeover in the communication technologies. This process has provided new communication technologies to occur. Technological developments has gained value by using it in both education and training, and the using of information technologies in the education has started to have an importance.

The effect and contribution of the using of the technology in the training on the process of learning will be discussed in the scope of performance evaluation of presentation programs in the preschool training in the study. Field research will be applied in order to examine the literature over training, technology and presentation programs; and the research will be conducted by meeting with 60 teachers who have been selected randomly in Erzurum.

Key words: Training, technology, presentation programs

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GİRİŞ

İletişim teknolojilerinin evriminde önemli bir itici güç olan küreselleşme dünyanın siyasi, ekonomik ve sosyal yapılarında olduğu gibi özellikle 1990'lardan itibaren iletişim teknolojilerinde de derin etkiler yaratmıştır. Ulus-devletlerin ekonomik ve teknolojik ağlarla birbirine bağlandığı, sınırların da dönüşüme uğradığı bu yeni süreçte kişisel ilişkilerde olduğu gibi devlet ilişkilerinin de sanal ağlar zemininde kurulması söz konusu olmaya başlamıştır. Yaşamın her alanında derin etkileri olan bu gelişmeler dünyanın hızla "dijitalleşmesi" olarak tanımlanmaktadır. Dijitalleşme insan yaşamı açısında son derece önemli olan öğrenme sürecine de yansımıştır. Bu gelişmeler çerçevesinde eğtim ve öğretimin her aşaması iletişim teknolojilerinin bütün boyutlarıyla kullanıldığı ve eğitim teknolojilerine talebin en fazla olduğu bir alan haline gelmiştir. Bu anlamda eğitim, teknolojik gelişmelerin etkisiyle farklı boyutlara ulaşmış, özellikle bilgisayar teknolojisi eğitim sürecinde vazgeçilmez bir araç haline gelmeye başlamıştır. Bu gelişmelerle birlikte eğitim alanında yeni politikalar ve yeni yönelimler baş gösterirken yeni eğitim sistemlerinin de bu çerçevede dizayn edilmesi zorunluluğu doğmuştur.
İletişim teknolojilerinde meydana gelen bu değişimin eğitim sürecine etkisini ortaya koymak ve bu süreçte kullanılan sunu programlarının katkısını değerlendirmek amacıyla çalışmanın kavramsal çerçevesi eğitim, teknoloji ve sunu programları üzerinden kurulmuş ve alanda literatür taraması yapılmıştır. Çalışmada yeni iletişim teknolojilerinin eğitim sürecine etkisi ve katkısı bağlamında ise alan araştırmasına başvurulmuştur.

1. YENİ İLETİŞİM TEKNOLOJİLERİ

Yemi iletişim teknolojileri, teknolojiye dayalı tüm iletişim araçlarını kapsayan geniş kapsamlı bir kavram olarak kabul edilmektedir. İletişim teknolojileri telgraf, telefon, basın, radyo, televizyon, uydu, veri iletişimi ve bilgisayar teknolojileri, veri tabanları, yerel ve geniş alan ağları ve İnternet gibi yeni tanımları ve yeni kavramları da beraberinde getirmiştir. 18. Yüzyıldan itibaren gelişim gösteren sanayileşme köklü değşimlere zemin hazırlarken özellikle yirminci yüzyılın sonuna doğru teknolojik açıdan yaşanan gelişmeler "sayısal devrim" olarak tanımlanmaya başlanmış, "yeni" araçlar ve iletişim kanalları ortaya çıkmaya başlamıştır. Bu devrimin bir getirisi olarak görülen veri işlemi sitemlerinin iç içe geçmesi olarak iletişim literatüründe yer alan yöndeşme ve bu verilerin üretim, dağıtım ve depolanmasını sağlayan sayısallaşma, enformasyonun anlık hale geldiği günümüzde görüntü ve sesin hızlı, zaman ve uzamdan bağımsız geniş kitlelere ulaşmasını sağlamaktadır. Bu durum bilginin her sektörde hayati öneme kavuştuğu toplumsal bir yapının inşasını doğurmuştur. (Arklan ve Taşdemir, 2008:70) Ayrıca bu gelişmelerle iletişimde mobilite her geçen gün önem kazanırken teknoloji kullanıcıların çevre ve ortam bağımlılığını da azalmaktadır. Bu açıdan "iletişim teknolojileri" kavramı; iletim (transmission), telekomünikasyon (telecommunication), iletişim (communication), enformasyon (information), yayın (broadcasting), yayın (publishing), görsel-işitsel (audiovisual) ve basım (printing) gibi kavramlarla da açıklanmaktadır. İletişim teknolojilerinin hayatımıza girmesi ile bu konu üzerine yeni kavram ve yaklaşımlar üzerinden yeni tartışma alanları doğmuştur. 1950 ve 60'larda, "teknolojik belirleyicilik", "modernleşme" kuramları; İletişim teknolojilerinin ve ürünlerinin yaygınlaşması: "global köy", "global kent" ; 1990'larda ve günümüzde: "sürdürülebilir kalkınma", "küreselleşme" ve "enformasyon toplumu" bunlardan bazılarıdır. Ayrıca mekana Bağlı Medya (Space Binding) kavramı üzerinden Yazılı ve elektronik medya gibi iletişim biçimleri ele alınarak irdelenir; yayılma, kontrolü elde tutma, ticaret-güç-imparatorluk ve merkezileşme kavramları öne çıkar. Innis'e göre ise tüm siyasal sınıflar, belli iletişim araçlarını tebaalarının içinde yaşadıkları mekânların tanımlanması ve denetiminde kullanarak kendi iktidarlarını sürdürmeye çalışmışlardır. Dolayısıyla bu teknoloji iktidar aracı olarak işlev görmektedir. Diğer yandan McLuhan, iletişim araçlarının etkisinin öncelikle duyular üzerinde olduğunu belirtmektedir. (Erdoğan, Alemdar, 2010:147). Örneğin, konuşmaya dayanan kültürde kulak (dinleme), yazılı basına dayalı kültürde ise göz (görme) duyusu önem kazanır. İletişim araçları bütün duyulara hitap eder. McLuhan'a göre, her yeni teknoloji eskisini çöpe atar ve çöpe atılan teknolojilerle birlikte belli duyular da çöpe atılır. Ancak gerek Innis gerekse McLuhan'a göre, sözcüğün yazıldığı şeyler (sözgelimi, tablet, kil, parşömen, v.s.), sözcüklerden daha önemlidir. Yani aracın önemi büyüktür (Erdoğan, Alemdar, 2010:144-147).

Yaşanan teknolojik gelişmelerle ses, video ve veri iletişiminin tek bir kaynakta birleşmesi çerçevesinde medya ortamı eş yönlülük özelliği taşımaktadır. Etkileşim ve sanallığa dayalı yeni medya ortamı zaman ve mekân kısıtlamaları olmayan yeni bir alan olarak karşımıza çıkmaktadır. Mikroişlemciler, kablolu televizyon, fiber optik, uydu yayıncılığı, teletext, kelime işlemci, elektronik posta, video konferans (Timisi, 2003: 80) gibi birçok unsuru içine almaktadır. İletişim teknolojilerinde tanık olunan gelişmeler mobil iletişim, internet tabanlı medya ve sosyal ağlar gibi yeni medya araçlarını da ortaya çıkarmıştır. Yeni iletişim teknolojilerine bakıldığında bu teknolojilerin yalnızca mevcut kitle iletişim araçlarından çıkan enformasyonun yayılmasına olanak veren bir vasıta olarak kalmadığı, bununla birlikte bilginin yeniden üretildiği ve yeni şekillerde sunulduğu ortamlara dönüştüğü görülmektedir (Yurdigül, 2013:102-103).

2. İLETİŞİM TEKNOLOJİLERİ VE EĞİTİM İLİŞKİSİ

Geleneksel eğitim sürecinde öğrenme kitap, defter, kağıt v.b. eğitim materyalleri üzerinden gerçekleştirilmektedir. Bu kapsamdaki eğitim daha çok geleneksel eğitim olarak tanımlanmaktadır. Ancak geleneksel yöntemlerle gerçekleştirilen eğitim, tablet, dizüstü bilgisayar ve akıllı telefonlar gibi mobil iletişim teknolojilerinin yaygınlık kazanmasıyla birlikte eğitim sürecinde kullanılmaya başlanması eğitimde değişimi beraberinde getirmiştir. İletişim teknolojileri alanında yaşanan gelişmelerle eğitimde yeni bilgi ve iletişim teknolojilerini kullanılması kaçınılmaz hale gelmiştir. Öğrenme sürecine birçok olumlu katkıları olduğu kabul edilen teknolojinin eğitim alanında kullanılması gerekliliği yeni eğitim sistemlerinin de buna göre dizayn etme zorunluluğunu doğurmaktadır. Dolayısıyla yaşamın her alanında değişimin dinamosu haline gelen iletişim teknolojilerinin eğitimde kullanımı büyük önem kazanmış, iletişim teknolojileri aynı zamanda eğitim ve öğretimin vazgeçilmesi zor araçları haline dönüşmüştür.

Teknolojilerin eğitim alanında yaygınlık kazanması hususu yeniliklerin yayılması ile yakından ilgilidir. Yeniliklerin yayılması kuramı ele alınırken, kuşkusuz, öncelikle tartışılması gereken kavramlar "yenilik" ve yayılma"dır (Everett, 1983:12). Bu çerçevede Rubin, bu çalışmaların daha çok, iletişim, antropoloji, sosyoloji ve pazarlama alanlarında yoğunlaştığını belirterek yeniliklerin yayılması konusunda oldukça güvenilir kuramsal temeller oluşturulmasına önemli katkılar sağlamıştır. Ayrıca "yeni" kavramı çoğu zaman "teknoloji" kavramıyla eş anlamlı kullanılmakta ve yeniliklerin yayılması da teknoloji kullanımına paralel gerçekleşmektedir. Dolayısıyla bilgi teknolojileri öğrenme ortamına temel oluşturmaktadır (Karasar, 2004: 118). Bu teknolojilerin farklı kulvarlarda çeşitli katkıları olmuştur. Özellikle veri işlemi sitemlerinin iç içe geçmesi olarak iletişim literatüründe yer alan yöndeşme ve bu verilerin üretim dağıtım ve depolanmasına imkân sağlayan sayısallaşma, enformasyonun anlıklaştığı günümüzde görüntü ve sesin hızlı bir biçimde zaman ve uzam koşulu aramadan herkese ulaşmasını sağlamaktadır (Çakır ve Güler, 2008:208). Örneğin yeni iletişim teknolojileri kapsamında ifade edilen mobil eğitim eğitim-öğretim faaliyetlerinde önemli bir yer edinmekle birlikte zaman ve mekan sınırlamasını ortadan kaldırdığı düşünülmektedir. Eğitim sürecine mobil iletişim teknolojilerinin dahil edilmesine ilişkin çalışmalarsa 1990'larda başlamış; 2000'li yıllarda ise *mobil eğitim* kavramına ilişkin ilk inceleme-tanımlama Clark Quinn tarafından yapılmıştır (Woodwill, 2011, s.9). Eğitim faaliyetleri bağlamında dikkat çeken bir diğer husus da özellikle açıköğretim fakültelerini bünyesinde bulunduran üniversitelerin sosyal medyada var olması ve bu iletişim uzamını etkili bir şekilde kullanması olarak göze çarpmaktadır. Bu adımlar beraberinde uzaktan eğitimin ders içeriklerinin ve öğrenci değerlendirme işlemlerinin sosyal medya üzerinden yapılması sonucunu doğurmuştur (Karasar, 1999: 153-155). Açıköğretim fakültelerinin büyük önem kazanmasını sağlayan bu gelişmeler, görüntü ve ses içeriklerinin oldukça önemli sayıldığı sosyal medyayı ve sosyal medyanın açıköğretim fakültelerinin eğitim-öğretim döneminde etkili kullanıldığı bir eğitim ortamı sunmaya başlamıştır. Eğitimde yeni teknolojilerin kullanımı sanal eğitim, akıllı tahta projeleri, tablet, taşınabilir bilgisayar ve sunu programlarının dersi destekleyici materyaller olarak kullanımı ile eğitimin etkisini artırma amacıyla kullanılması eğitimde teknolojinin kullanımı bağlamında diğer önemli adımlardan bazılarıdır. Ders içeriğinin görsel dile dönüştürülerek daha anlaşılır kılınması amacıyla bazı sunu araçları son yıllarda eğitimin birçok aşamasında derslerin en önemli unsurlarından biri haline gelmeye başlamıştır. Dolayısıyla tüm bu gelişmeler çerçevesinde Yeni iletişim teknolojilerinin eğitim alanında birçok köklü değişim yaşanmasına sebep olduğu ve birtakım poizitif getirilerinin olduğu kabul edilmektedir (Karasar, 1999: 151). Çünkü eğitim bu gelişmelerle birlikte görselliğin gücünden yararlanmakta, öğrenme sürecini sınıf ortamının dışına da taşıyabilmekte, geleneksel eğitim sürecine entegre olmaktadır. Ayrıca eğitim faaliyetleri çerçevesinde multimedya ortamı öğrenme sürecine olumlu katkılar sağlamakta ve bu teknolojiler küresel enformasyona erişim ve enformasyon üretimi olanağı sunmaktadır.

3. SUNU PROGRAMLARI

Herhangi bir konuyu grafik, resim, metin ve ses gibi destekleyici unsurlarla birlikte anlatmamızı sağlayan sunuları hazırlamamız için kullanılan programlara sunu programları denmektedir. Pek çok amaçla kullanılan sunular bilgisayar teknolojilerin gelişmesi ve yaygınlaşmasıyla birlikte eğitim alanında da sık kullanılmaya başlanmıştır. Diğer pek çok alanda olduğu gibi eğitim ve öğretim alanında da çok yaygın biçimde kullanılan çok sayıda sunu programından bahsedilebilir. Ancak power point, vuvox, prezi, scribd ve slide share en yaygın sunu araçları olarak öne çıkmaktadır.

Power Point: Microsoft tarafından hazırlanmış Office paket programlarından biri olarak sunu tasarım ve düzenleme programıdır. Ses,yazı, film, grafik ve fotoğraf gibi zengin içerik ekleme imkanı sunan yazılım; renkli metinler, farklı tasarımlarla görsel etki gücüne de sahiptir. Çeşitli animasyon ve 3 boyutlu görsel ekleme imkanı da sunmakta ve iş, özellikle eğitim alanında en çok kullanılan yazılımlardan biridir.

Vuvox: Fotoğraf, video, ses ve metni aynı platformda buluşturan bir başka yazılımdır. Galeri oluşturmaya da imkan veren bu yazılım sabit disk veya veya Flickr, YouTube, PhotoBucket gibi sitelerden fotoğraf alınmasına

imkan sağlamakta, 3D efektler ve görsel zenginlikler ile çevrimiçi alana kaydedilen sunu hazırlama olanağı vermektedir. Ancak Powerpoint'e göre daha zahmetli oluşundan dolayı yeterince yaygınlık kazanmamıştır.

Prezi: Sunu programları içinde göze en çok hitap eden, dinleyiciyi canlı tutacak görsel zenginliğe sahip bir yazılım olarak öne çıkmaktadır. Zoom in ve zoom out mantığı ile belirlenen alaların içine giren veya çıkan, çeşitli hareket biçimleri ile ekranda etkili görsellik oluşturmaktadır. İnternet bağlantısı olan her bilgisayardan çevrimiçi sunulara ulaşmayı da mümkün kılan yazılım belli bir depolama alanına kadar ücretsiz üyelik gerektirmektedir.

Scribd: Aslında bir sunum hazırlama programından öte var olan sunumlarını paylaşabilmesini sağlayan önemli bir pşatform olarak bilnmektedir. Ayrıca hazırlanmış çalışmalarına göz atabilme imkanı da sunan Scribd yüklenen sunumların bağlantı kodlarıyla istenen sitede yer alması sağlanabilmektedir. Dolayısıyla scribd aslında hazır sunumlardan yararlanma amacıyla kullanılan bir platformdur.

Slide Share: Web sitesi üzerinden bir sunu paylaşım platformu olarak yaygınlıkla kullanılan Slide Share "dünyanın en kapsamlı sunum paylaşım platformu" sloganı ile bilinmektedir. Genel işlevi kısâca sunuları online olarak hazırlama ve paylaşım sağlamaktır. Bu platform ile ücretsiz üyelikle hemen her alan ve konudan sunumu izleyip PPT ve PDF formatlarında indirebilmek mümkündür.

4. EVREN VE ÖRNEKLEM
Çalışmanın araştırma kısmında evreni Türkiye'de ilköğretim düzeyinde eğitim-öğretim sürecinin temelinde yer alan öğretmenler oluşturmaktadır. Ancak bu tür araştırmalarda evrenin tamamına ulaşarak "tam sayımlı" bir araştırmanın imkansızlığı; araştırma evreninin belli bir kesitinin çalışmaya dahil edilerek sonuçların çalışmanın tümüne genellemesi (Aziz, 2008:49) olarak tanımlanan örneklemi zorunlu hale getirmektedir. Bu noktadan hareketle Erzurum ilindeki üçü özel olmak üzere beş farklı ilköğretim okulunda görev yapan toplam 60 öğretmen örneklem olarak seçilmiştir. Örneklemde yer alan okullar Sabancı İlköğretim Okulu, Aydın Doğan Özel İlköğretim Okulu, Vali Vefik Kitapçıgil İlköğretim Okulu, Zübeyde Hanım İlköğretim Okulu ve Özel Güneş İlköğretim Okulu'dur. Araştırmanın örneklemini oluşturan söz konusu bu okullar ve bu okullardaki öğretmenlerse rastgele/seçkisiz yöntemle belirlenmiştir.

5. YÖNTEM
Çalışmanda yöntem olarak "toplumsal olguların alana inilerek sorunu taşıyan, birey, küme ya da topluluklar üzerinde belli araştırma teknikleri kullanarak araştırılması olarak tanımlanan" (Aziz, 2008:10) alan araştırması kullanılmıştır.

Çok sayıda konu üzerine bilgi edinmeyi sağlayan, bilgiye kolay ve hızlı ulaşılmasını sağlaması (Baş, 2008: 11) açısından verilerin elde edilmesinde anket tekniği uygulanmıştır. Anket formları alana yönelik yapılan literatür taraması göz önüne alınarak hazırlanmıştır

6. BULGULAR VE YORUM
Yaşam boyu sürekli eğitim, yeni iletişim araçları ve eğitimde teknoloji kullanımının öğrenme sürecine etkisi ve katkısı çerçevesinde değerlendirilen yeni iletişim teknolojilerinin birer getirisi olarak görülen sunu araçlarının ilköğretim eğitiminde kullanımı çerçevesinde literatür taramasına dayalı çalışmada, yapılan alan araştırması ile elde edilen bulgular tablolar üzerinden yorumlanarak verilmiştir.

Teknolojik gelişmeler düzleminde başlayan değişim sürecinde kitle iletişim araçları son derece büyük öneme kavuşmuştur. Bu süreç beraberinde iletişim teknolojilerinde köklü değişiklikler yaratmıştır. Bu açıdan yeni teknolojiler yaygınlık kazanmaya başlarken eğitimde teknoloji kullanımı geleneksel yöntemlerle birlikte kullanılır hale gelerek girift bir yapı doğurmuştur. Geleneksel eğitim teknolojiye dayalı eğitime entegre olmaya başlamıştır. Tablo 1'de sunu programlarının kullanım oranlarına bakıldığında, ilköğretim derslerinde destekleyici bir unsur olarak sunu programlarının kullanımının yaygınlık kazanmaya başladığı görülmektedir.

Sunu Programı Kullanım Dağılımı		
Cevap	F	%
Evet	*51*	*84*
Hayır	*9*	*16*

Tablo 1: Öğretmenlerin Sunu Program Kullanımları

Katılımcıların önemli bir kısmı eğitim-öğretim faaliyetlerinde teknolojiyi kullanmakta, eğitim-öğretim faaliyetinin teknolojiye dayalı yapılmasını desteklemektedir. Okullarda sunu programı kullanımının yaygınlaştığı ve eğitim-öğretim sürecine etkisinin önemli kabul edildiği görülmektedir. Dolayısıyla teknoloji kullanımının önemli ölçüde yaygınlık kazandığı görülmektedir. Ayrıca Tablo 2'de görüldüğü gibi ücretsiz olarak erişilebilen Office Paket Programlarından biri olan Power Point en çok kullanılan sunu programı olarak öne çıkmaktadır. Tablo3'de de öğretmenlerin sunu programlarıyla birlikte kullandığı programlar içinde Office programları içinde yer alan Word ve Excel programlarının öne çıktığı görülmektedir.

Kullanılan Program Türleri Dağılımı	
Türler	**%**
Power Point	*79,7*
Prezi	*17,2*
Vuvox	*2,1*
Slide Share	*0,1*
Scrid	*0*
Diğer	*0,9*

Sunu Programlarının Birlikte Kullanıldığı Programlar		
Türler	**F**	**%**
Word	54	91
Excel	45	76
Photo Shop	7	12
Diğer		

Tablo 2: Kullanılan Sunu Programları   Tablo 3: Sunu Programlarıyla Birlikte Kullanılan Programlar

Okulların fiziksel ortamları teknolojiyle iç içe geçmiş bir eğitim ortamı sunabilmekte, bu anlamda çalışılan kurumların sunu programlarının kullanımı yönünde ciddi oranlarda teşviklerinin olduğu Tablo 4'te görülmektedir. Ancak bu yönde iyileştirmeler de gerekli görülmektedir. Teknolojik tabanlı eğitimin yaygınlaştırılması için devlet destekli projeler üretilmektedir. Bu anlamda fiziki koşulların düzeltilmesi ve bu tip yatırımların hızla artırılması Teknolojinin eğitime entegre edilebilmesi noktasında önemli görülmektedir.

Katılımcılara göre derslere klasik yöntemle yeni yöntem bir arada kullanılmakta ancak sözlü anlatımın etkisi daha önemli görülmektedir. Eğitim ve öğretim sürecinde görsel ve işitsel destek öğreten ve öğrenen açısından kolaylaştırıcı bir materyal olarak görülmektedir. Bu anlamda sunu programlarının görsel, işitsel ve efektleri ile öğrenci üzerinde kalıcı etkisinin olduğu, derse katılımını teşvik ettiği, zaman kazandırdığı ve öğrenciyi motive ettiği yönünde olumlu görüşler bulunmaktadır. Ayrıca öğretmen açısından da ders anlatımını kolaylaştırdığı ve zaman kazandırdığı yönünde olumlu getirileri söz konusu görülmektedir. Ancak bu olumlu yönlerine rağmen sunu programlarıyla yapılan dersin sözlü (klasik) anlatımdan daha etkili olmadığı, programların ders anlatımında bağımlılık yarattığı, bu bağımlılığında teknik aksaklıklar halinde dersin aksamasına neden olduğu ve geniş kapsamlı kullanımının zorluğu biçiminde olumsuz görüşler de vardır. Sunu programlarına ilişkin bu görüşler Tablo 5 ve Tablo 6'de verilmiştir.

Çalışılan Kurumun Sunu Programı Kullanımını Teşviki		
Cevap	**F**	**%**
Ediyor	51	86
Etmiyor	9	14

Tablo 4: Kurumun Sunu Programlarına Yaklaşımı

Okulun Sunu Programlarını Kullanıma Uygunluğu		
Cevap	**F**	**%**
Uygun	53	87
Değil	7	13

Tablo 5: Okulun Sunu Programı Kullanıma Uygunluğu

Sunu Programlarının Kullanımına İlişkin Görüşler	
Olumlu	**Olumsuz**
Kalıcı etkisi vardır.	Sözlü (Kasik) anlatımdan daha etkili değildir.
Öğrencinin derse katılımını artırır.	Programlar kendine bağımlı kılmaktadır.
Öğretmene Zaman kazandırır.	Sunu programına bağımlılık teknik problemlerde dersin aksamasına neden olmaktadır.
Öğrenciye Zaman kazandırır.	Kapsamlı biçimde kullanılması zorluğu.
Görsel öğretimin olumlu etkisini içerir.	-
İçinde işitsel materyali barındırması olumludur.	-
Geçiş efektleri anlatımı etkili öğrenciyi canlı kılmaktadır.	-
Ders anlatımını kolaylaştırır.	-
Öğrenciyi derse motive etmektedir.	-

Tablo 6: Sunu Programlarının Kullanımına İlişkin Olumlu/Olumsuz Görüşler

Tablo 7 ve 8'e göre eğitim ve öğretim faaliyetinde bulunanların teknolojiyi kullanma oranlarının yüksek olduğu görülmektedir. Sahip olunan araçlara bakıldığında Akıllı Telefon, Dizüstü Bilgisayar, Pc ve tablet biçiminde bir sıralama görülmektedir. Oranlar da öğretmenlerin bu araçlardan birçoğuna sahip olduğu göstermektedir. Bu teknolojik araçların yanı sıra katılımcıların internet kullanım oranlarının yüksek ve bireysel internet erişimine sahip oldukları görülmektedir.

İnternet Kullanım Oranları		
Cevap	**F**	**%**
Evet	54	91
Hayır	6	9
İnternete Erişim Sahipliği		
Cevap	**F**	**%**
Evet	50	84
Hayır	10	16

Sahip Olunan İletişim Teknolojileri		
Cevap	**F**	**%**
PC	31	53,1
Akıllı Telefon	42	71,4
Tablet	25	43,6
Dizüstü Bilgisayar	40	67,2
Diğer	4	6,7

Tablo 7: İnternet Kullanım Oranları   Tablo 8: Sahip Olunan İletişim Teknolopjileri

SONUÇ

Küreselleşmenin durdurulamaz hızı bilgisayar ve internet teknolojisini de yaşadığımız çağ içerisinde küreselleşmenin en belirgin sembolleri haline getirmiştir. Bu gelişmeler ulaştırma ve iletişimde sağlanan ilerleme eğitim alanına da yansımış ve eğitim süreci de teknolojik tabanlı dönüşüme uğramıştır. Ortaya çıkan bu yeni tabloda eğitimciler çeşitli iletişim teknolojilerine sahip olmaya başlamakla birlikte bu teknolojileri eğitim faaliyetlerinde önemli ölçüde kullanır hale gelmiştir. Teknolojik gelişmeler düzleminde başlayan değişim sürecinde iletişim teknolojileri hemen her alanda olduğu gibi eğitim alanında da son derece büyük öneme kavuşmuştur. Bu süreç beraberinde yeni yönelimlerle birlikte yeni politikaların ortaya çıkmasını sağlayarak geleneksel eğitim anlayışını üzerinde köklü değişiklikler yaratmıştır. Bu açıdan yeni teknolojiler geleneksel eğitim bünyesinde kullanılmaya başlanmış, günden güne eğitim teknolojilerinin yaygınlaşması söz konusu olmuştur. Geleneksel eğitim yeni iletişim teknolojileri ile entegre olmaya başlamış, dolayısıyla süreç girift bir yapı doğurmuştur. Yaşanan bu değişimlerin eğitim alanına birçok olumlu katkısı söz konusu olurken eğitim amaçlı kullanılan bütün teknolojiler dikkate alındığında eğitim-öğretim faaliyetlerinin artık teknoloji odaklı ilerlediği görülmektedir. Ancak iletişim teknolojilerine dayalı eğitim faaliyetinin iyileştirmelerle ihtiyaçlarının karşılanması, etkileşimli eğitim imkanlarını ve teknolojiye dayalı eğtim-öğretim faaliyetinin başarısını daha da artıracağı düşünülmektedir.

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PERSONALIZED CONTEXT-AWARE RECOMMENDATIONS IN 3D VIRTUAL LEARNING ENVIRONMENTS

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ABSTRACT:
The employment of 3D Virtual World (VW) platforms in an educational field is an emerging phenomenon that enlarges the concept of learning environments, providing users technology that creates an immersive learning experience. This is one of the main reasons for the selection of a 3D VW platform for the development of an innovative and motivating tool under an umbrella of a V-ALERT project. The project aims to support the establishment of Information Security culture through providing awareness and facilitating learning process using the developed 3D Virtual World Learning Environment (VWLE). The provision of recommendations to users within 3D VWLE is a novel research field and to the best of our knowledge there are no publications in the field. This paper aims to provide an insight into the design and development of a context-aware recommendation in the V-ALERT 3D VWLE that considers available relevant information such as the context, user (learner) individual characteristics and user history to provide personalized content to assist the user during the learning activities. The paper also offers results of pilot usability evaluations which will be taken under consideration in the final, redesigned version of the 3D VWLE.

Keywords: 3D virtual world learning environments (VWLE), user individual characteristics, context-aware recommendations, learning experience

INTRODUCTION

Numerous 3D Virtual Worlds have recently become available, many of which are tuned to specific uses either for socialization and leisure activities or for more "serious" purposes such as commercial facilitation (e.g. sales and marketing or customer support) and education enhancement (e.g. training simulations). The special characteristics and distinct possibilities of the Virtual Worlds (VWs) make them a powerful technological tool towards enhancing the learning experience. This is one of the main reasons for the selection of a 3D VW platform for the development of an advanced, interactive and motivating tool for rising the awareness on Information Security threats and learning how to recognize and avoid unsafe actions in the scope of the V-ALERT project, as teaching and training applications in VWs seem to offer remarkable benefits to students. The V-ALERT project, co-financed by European Commission under the Framework Lifelong Learning Programme, aims to support the establishment of Information Security (IS) culture through providing awareness and facilitating learning process using the developed 3D Virtual World Learning Environment (VWLE).

The aim of this paper is to provide an insight into the design and development of a context-aware recommendation system in the V-ALERT 3D Virtual World Learning Environment that considers available relevant information such as the context, user (student) individual characteristics and user history in order to provide personalized content to assist the user during the learning activities within the 3D VWLE. First, a number of challenges are discussed including the design of a user profile, the presentation of the recommendation, the issue of context in

the 3D VW as well as the presentation of the learning material within 3D VW scenarios. Second, due to the nature of the system and the challenges mentioned, a selection and usage of a Utility-Based Function is explained. The Utility-Based Function is an easy, efficient and effective way to compute the utility of the learning content for each user. Considering a particular user task and learning goal, it retrieves information from the user profile and past user actions within the 3D VW in order to determine the level of expertise and experience of the user, as well as how much (s)he has progressed within the scenario and computes personalized recommendations that are then displayed to the user in a non-intrusive manner. Third, an Information Security awareness scenarios developed in the context of the V-ALERT project are briefly addressed, specifically Identity Theft, Phishing/Spam, Social Engineering and Strong Password. However, for the needs of this paper, the personalised recommendation mechanisms are presented in relation to the Phishing/Spam scenario, which has been designed as an one-player simulation and aims to educate the user on phishing attacks. Within the Phishing scenario three different ways of providing the recommendations to the user are supported: (i) the Head-Up-Display (HUD) as an informational display that may appear at user's will upon her/his screen, (ii) the Phishing Presenter as a personalized slideshow of phishing information that the user is able to observe and interact with within the 3D VW, and (iii) the Quiz Customization Module which updates the content presented to the user through the School Library quiz of the Phishing scenario, as well as provides tips to the user on what to do while interacting with the Inbox Quiz. Finally, the paper brings some results of the preliminary testing with a small number of users to acquire important user feedback on usability issues. Within the final evaluation framework of the 3D VW the recommendation module will be evaluated as a separate module in order to obtain more detailed user feedback on the recommender system.

3D Virtual Worlds and Education
Although various definitions of the Virtual Worlds (VW) have been proposed by different authors, one commonly accepted definition does not yet exist. Basically virtual worlds could be considered as persistent virtual environments in which people experience others as being there with them and where they can interact with them (Schroeder, 2008). VW is a computer-based online community environment that is designed and shared by individuals so that they can interact in a custom-built, simulated world. Users interact with each other in this simulated world using text-based, two-dimensional (2D) or three-dimensional (3D) graphical models called avatars.

The 3D Virtual Worlds platforms are innovative and sophisticated ICT technology that provide tools for the creation of highly immersive 3D graphical and interactive on-line environments which can be either replicas of existing physical places or imaginary places, or even places that are impossible to visit in real life due to restrictions such as cost or safety. These VW platforms can be either proprietary or open-source. Currently the most popular VW platforms in the educational community for the development of fully customizable and thematic rich Virtual Worlds in which multiuser interactive educational simulations, serious games and learning activities can take place are Second Life, Active Worlds, Jibe and Unity as examples of proprietary 3D VW platforms and on the other hand OpenSimulator, OpenWonderland and OpenCobalt as examples of open source platforms.

The development and usage of 3D Virtual World platforms in an educational field is an emerging phenomenon that challenges and enlarges the idea of learning environment (Za and Braccini, 2012). The aforementioned characteristics of the 3D VWs could potentially transform these environments to "educational virtual environments". According to Mikropoulos and Natsis (2011) an Educational Virtual Environment (EVE) or Virtual Learning Environment (VLE) can be defined as a virtual environment that is based on a certain pedagogical model, incorporates or implies one or more didactic objectives, provides users with experiences they would otherwise not be able to experience in the physical world and redounds specific learning outcomes. Within this context, a rapidly growing interest in learning and teaching within 3D VWs is observed and a large number of schools and universities own virtual spaces for their educational purposes mainly by extending their campuses to the virtual space. 3D educational VWs are usually being used either as safe simulation environments or as virtual classrooms.

In comparison to other e-learning technologies, 3D VWs can provide learners with a full understanding of a situation using immersive 3D experiences which allow the learner to freely wander through the learning environment, explore it, obtain sense of purpose, act, make mistakes, collaborate and communicate with other learners (Daden, 2014). Indeed, two unique features that the technology of the 3D VWs can offer is the sense of immersion, i.e. the impression of "actually being in there" watching the world through the eyes of the avatar and the sense of presence, i.e. the feeling that the person is an entity of the virtual world, capable of interacting with other entities in the same way as in a physical space. However, it should be considered that the simple use of highly immersive technology alone could not be effective unless it is coupled to specific design strategies, for example "goal-based scenario approach" which intent is to provide motivation, a sense of accomplishment, a support system, and a focus on skills rather than facts (Schank, 1996).

V-ALERT: Virtual World for Awareness and Learning on Information Security
The V-ALERT project is co-financed by European Commission under the Framework Lifelong Learning Programme / Key Activity 3 – ICT / Multilateral Project (V-ALERT, 2015). The goal of the V-ALERT project is to support the establishment of Information Security (IS) culture through providing awareness and facilitating learning process using 3D Virtual Worlds platforms. The high proliferation of Information and Communication Technologies (ICT) and everyday use of Internet and computers by majority of people of all age groups for work, learning, entertainment, communication etc. brings a lot of benefits, but also certain risks related to non-informed ICT use. The ICT user should be aware of the basic principles of information security and data protection. This is the reason for the development and implementation of the innovative and immersive e-learning tool in different ICT user target groups (pupils and teachers, ICT students, academics and enterprise employees) in the scope of the V-ALERT project. An on-line 3D Virtual World Learning Environment (VWLE) is being developed which is simulating real-life Information Security threat scenarios, allowing users to gain first-hand experience of different risks and threats, but in a safe manner.

Additionally, the V-ALERT project aims to design and develop/adapt appropriate context-aware recommendation algorithms and methods that will use available user (student) model/profile, the context and any social information (if feasible) to provide personalized recommendations to assist the student during the learning activities within the 3D VWLE. The implemented recommendation algorithms consider the context, both real world context i.e. student's individual characteristics (for example background, competences, different abilities, experience, learning style) as well as VWLE related context i.e. student actions within the 3D environment, virtual character information, interactions with other objects and characters within the 3D environment, and alike.

CONTEXT-AWARE RECOMMENDER SYSTEMS
Recommender systems have attracted the research community's interest for the past fifteen years. Many techniques have been proposed, as well as many extensions and improvements, but it was not until recently that the research community realized that recommenders have only been using a part of the available information for producing recommendations. The problem was that traditional recommenders do not utilize the context. Instead, they focus on two dimensions, the user and the items (also called two-dimensional recommenders), excluding other contextual data that could be used in the recommendation process, such as the day/time, with whom the user is with, weather conditions, and a like.

Context-awareness is the process of sensing/acquiring information relevant to the user while interacting with a computer system. The information can be about any person, place or object that is considered relevant to this interaction, including the user and system themselves (Dey, Abowd and Salber, 2001). Hartmann and Austaller (2008) note that context characterizes the actual situation in which the application is used; it refers to information as context that can actually be processed by an application (relevant information), but that is not mandatory for its normal functionality (auxiliary information).

Adomavicius and colleagues were among the first to prove that contextual information incorporated in the recommendation process indeed improves recommendations; they proposed that the recommendation procedure should not be two-dimensional but rather multi-dimensional, introducing CARS, the Context-Aware Recommender Systems (Adomavicius, Sankaranarayanan and Tuzhilin 2005; Adomavicius and Tuzhilin, 2008). Context-Aware Recommender Systems cover a wide spectrum of different research areas of computer science and information technology, with the field of e-learning as one of the most important, see for example (Verbert, Ochoa, Wolpers, Drachsler, Bosnic and Duval, 2012).

CONTEXT-AWARENESS AND RECOMMENDER SYSTEMS IN E-LEARNING
In learning, the adoption of context-awareness is not a new idea; it has been demonstrated in relevant systems for quite some time. Classical methods, such as those encountered in early intelligent tutoring systems (Wenger, 1987) and student modelling (Brusilovsky and Schwarz, 1993) can all be regarded as context-aware approaches used as adaptation methods. In order to be effective and usable, at the same time supporting individualization of learning, e-learning applications need to adapt continuously to their users as they gain more domain knowledge and task experience while learning.

In general, adaptive systems commonly implement dynamic adaptation on the basis of system assumptions about the user, inferred by monitoring user's interaction and stored in user model (Kobsa, 1995). While acknowledging that differences among individuals have an effect on learning, as of now, user modelling in the e-learning field has not yet successfully addressed the variety of the learning environment in terms of personalization and individual user profiles, especially at the initial stages of e-learning system use (Granić and Adams, 2011). Even though some

user individual characteristics can be assimilated by users' education or by interface redesign, a number of these differences will certainly need to be accommodated through adaptive interface, thus engaging a user model in an e-learning system. In web-based learning student's individual characteristics have a more and more significant role and can even became a crucial factor of student's success or failure (Nakić, Granić and Glavinić, 2015). Recent adaptive educational systems, most of them web-based, promise to offer adaptation with respect to the presentation of the learning material, the navigation support, the curriculum sequencing as well as problem solving support, see for example (Yang, Hwang and Yang, 2013). Consequently adaptive interfaces can be the starting point for depicting the significance of context-awareness in e-learning applications.

Context-awareness is also used by recommender systems for the e-learning domain. Such systems utilize the context in order to provide personalized recommendations that will assist the user and enhance the learning process. Drachsler (2009) states that two approaches can be followed when developing recommender systems for education:

- top-down approach (facilitating formal learning) where the structure and learning materials are maintained by domain professionals and
- bottom-up approach (facilitating informal learning) in the rest of the cases where learners by themselves interact with information sources shared in the network.

Manouselis, Drachsler, Vuorikari, Hummel and Koper (2011) provide a review on recommender systems in the Technology Enhanced Learning (TEL) domain. Most common approaches however, focus on recommending suitable materials or learning activities without considering the context (Santos and Boticario, 2010). The context in the e-learning domain includes from simple web resources to more interactive activities such as on-line exercise activities, reading messages on forums even running on-line simulations (Zaiane, 2002).

ENHANCING THE 3D VWLE WITH CONTEXT-AWARE RECOMMENDATIONS

To the best of our knowledge, the provision of recommendations to users within a 3D Virtual World Learning Environment (VWLE) is a novel research field and no relevant works exist in the bibliography. The aim of this paper is to provide an insight into the design and development of a context-aware recommendation system that considers available relevant information such as the context, user (student) individual characteristics and user history in order to provide personalized content to assist the user during the learning activities within the 3D VWLE. First, a number of challenges are discussed including the design of a user profile, the presentation of the recommendation, the issue of context in the 3D VW as well as the presentation of the learning material within 3D VW scenarios. Second, due to the nature of the system and the challenges mentioned, a selection and usage of a Utility-Based Function is explained. Third, the personalised recommendation mechanisms are presented in relation to the Phishing/Spam Information Security awareness scenario. Finally, the paper brings some results of the preliminary usability testing conducted in order to acquire important student feedback.

Challenges

Providing recommendations within a 3DVW is very challenging in many aspects. The most important challenge is the limited user information available at the time of recommendation. In V-ALERT, the approach used is that the user registers to the system by providing a limited amount of information in her/his profile and then interacts with the 3DVW through the scenarios. In this aspect, the recommender system within the 3D VW must be able to facilitate the user in learning about information security through her/his first experience with the system, even though limited user information is available. As expected, in subsequent user-system interactions where the user interacts more with the 3D VW and therefore more user-oriented information is available, the recommender system is more able to provide recommendations.

Based on the above, the most important challenge is that the user profile, as well as her/his avatar information is being created and filled with information at the time of user interaction with the system and not at a prior stage (this is the case with the V-ALERT system, however, other 3D VW may follow a different approach). In order to acquire the very basic information about the user, we have designed a user profile that the user fills with information upon registration. The profile is simple, can be filled very easily and quickly even by children, does not demand from the user to write any text and provides interesting information that can later be used by the recommender. Such information includes personal information (age, country, target group, etc.), whether the user has previous experience with 3D VW interaction and on information security matters, along with the level of assistance the user would like to acquire by the recommender. The general idea is that experienced users often do no need to be guided, while inexperienced users do.

Another challenge regards the recommendation presentation. A user within a 3DVW is constantly on the move interacting with objects, bots (system controlled avatars) and other users, giving less attention to traditional

learning methods such as a piece of text. Therefore, a learning module that a user could learn by reading a piece of text in a book in the traditional learning method, will not be successful in the case where the learning takes place within a 3D VW because it would be very difficult for the user to concentrate on reading a book within a VW, not to mention that such an approach would oppose to the whole 3D VW concept, since it is basically a 2D approach. We state that the recommendations should be provided in such a manner that the user will not be interrupted from her/his current task, will not be forced to interact with something that is boring and out of the 3D VW concept, while at the same time the recommendations will assist to accomplish the scenario, as well as facilitate the learning process as much as possible.

The third challenge concerns the user context within the 3D VW. Theoretically, context within the 3D VW is easier to acquire than real world context as everything happening with the user, her environment and the system is already sensed, tracked and recorder by the 3D VW in the database and log files. In practise however, the problem is that the recommender is being asked to perform, i.e. provide personalized context-aware recommendations without having yet a considerable amount of context information on the user and her/his avatar. Therefore, while the recommender can know the places the user has been within the 3D VW, it cannot come to a real, safe conclusion on the places the user prefers until the system is being used by her for an extensive amount of time. This problem is known in the Recommender Systems literature as the "Cold Start" problem.

Finally, another important challenge is that, due to the fact that the scenarios are relatively short and that a large amount of time is spent by the user on interacting with her environment, little time is eventually left for the user to comprehend the learning material of the scenarios. Therefore, the learning material cannot be comprised of large volumes of information, as it would normally be the case in an ordinary class within a classroom where a whole book chapter could have been taught. In the case of presenting learning material within a 3D VW scenario, the learning material must be restricted in volume, more focused on the learning subject and provided in a format that would attract the users' interest.

Scenario-based Simulations

In the context of the V-ALERT project and according to the results of the user needs analysis, various Information Security awareness scenarios have been developed, specifically Identity Theft, Phishing/Spam, Social Engineering, Strong Password. Some of these are oriented to all envisaged target groups, that is pupils, teachers, ICT students, academics and employees, whereas one scenario is designed as role-play game especially for pupils and teachers.

The conceptual design of the scenarios and their virtualisation approach has been based on the principles of experiential learning, also considering instructional design strategies related to situated learning in immersive 3D virtual world simulations. The "branching scenario" approach has been used as a form of storytelling. The scenario unfolds its narrative as long as the learner uses their critical thinking to decide on their next action in order to move forward along the path or "branch". All scenario-based simulations of the V- ALERT put the user in a "role", motivate them to explore the 3D virtual environment, while offering sequences of tasks which the user must complete in order to accomplish the scenario-defined goal and successfully complete their mission. As the simulation progresses, the embedded educational content is presented as part of the plot and the knowledge gained can eventually be used for the completion of the following tasks. The non-completed tasks may either lead to other situations which place the user to experience the negative consequences, or simply prevent them from proceeding. In the end, all scenarios provide the user with general feedback on Information Security threats and preventing actions.

Special attention has been drawn on issues such as user's meaningful interactivity with objects and computer-driven avatars (bots), level of difficulty and total duration of the scenario, clear feedback on the goal and the reasons of success or failure. To this aim the provision of the personalised recommendations have been of great importance.

Recommendation Algorithm and Provision of Recommendations

The recommendations within the V-ALERT 3D VWLE have two goals: firstly facilitate the user in her/his learning task by offering learning appropriate content and secondly to assist the user in her/his interaction within the 3D VW and offer guide through the scenario by providing tips, summary of tasks and the like.

Due to the nature of the system and the above-mentioned challenges, well known recommendation algorithms such as Collaborative Filtering and Content based Filtering could not be utilized. Instead, we have used a Utility-Based Function that retrieves information from the user profile and past user actions within the 3D VW in order to determine the level of expertise and experience of the user, as well as how much the user has progressed within

the scenario and compute personalized recommendations that are then displayed to the user in a non-intrusive manner. The Utility-Based Function is an easy, efficient and effective way to compute the utility of the learning content for each user. Considering a particular user task and learning goal, the Utility-Based Function computes the utility of each piece of learning content against the user and selects the learning content that is more suitable for the user. Then, the recommender system merges in real time the pieces of learning content with the highest utility into one final learning module that is projected to the user.

For the needs of this paper, the personalised recommendation mechanisms will be presented in relation to the Phishing/Spam scenario. The Phishing/Spam scenario has been designed as one-player simulation (Figure 1) and aims to educate the user on phishing attacks. The user holds the role of investigator whose mission is to investigate, resolve and report the phishing attack incident which emptied the school bank account. According to the scenario, the user must find evidence on what could have happened and get informed on phishing attacks.

Figure 1: The virtual area for the Phishing simulation.

Through the analysis of the evidence and clues collected through their interaction with the virtual environment, the user must discover the attackers' lair and report everything to the Investigation Department (Figure 2). This simulation foresees two "turning points" where the user's gained knowledge is tested through a quiz. Only when the user succeeds in the quiz can proceed to the subsequent "episode" of the story. Within the Phishing scenario three different ways of providing the recommendations to the user are supported:

- the Head-Up-Display (HUD) as an informational display that may appear at user's will upon her/his screen,
- the Phishing Presenter as a personalized slideshow of phishing information that the user is able to observe and interact with within the 3D VW and
- the Quiz Customization Module which updates the content presented to the user through the School Library quiz of the Phishing scenario, as well as provides tips to the user on what to do while interacting with the Inbox Quiz.

Figure 2: The Investigation Department of the Phishing simulation.

The Head-Up-Display (HUD) is an informational display that may appear at user's will upon her/his screen (Figure 3). The HUD aims to assist the user in interaction within the 3D VW and guide her/him through the scenario by providing a summary of tasks and tips on what the user may/should do within the scenario. The information provided is personalized in the aspect that it reflects the experience and expertise of each user. The idea is that experts and experience users require (and often demand) less instructions regarding the tasks in order to find the scenario interesting and challenging. The HUD is projected in a see-through mode on user screen so that the user can be advised while continuing activities within the scenario.
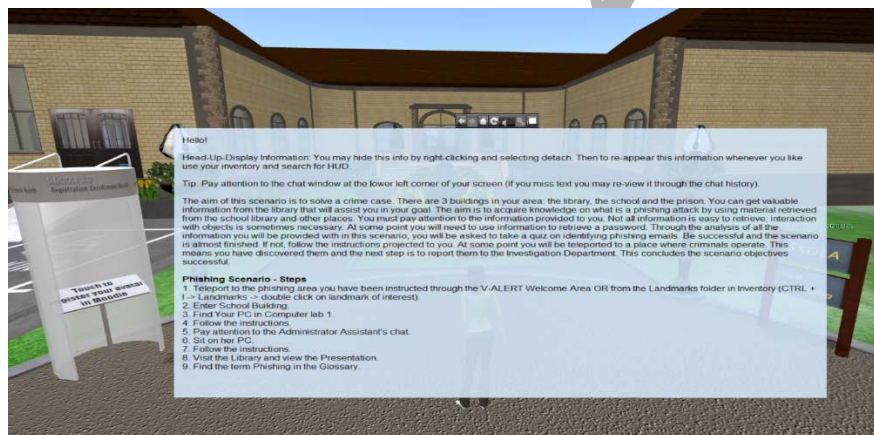
Figure 3: The HUD is projected in a see-through mode on user screen.

The presenter is a personalized slideshow of phishing information that the user is able to observe and interact with within the 3D VW (Figure 4). The recommender system updates the content of the presenter according to the user profile information and user actions. In this manner, the user is being projected with learning content that is appropriate to her/his needs and educational level.
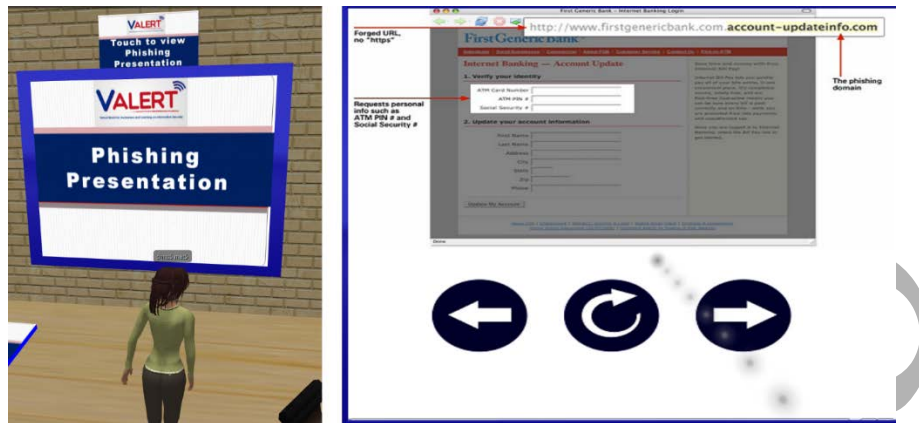
Figure 4: The Phishing Presenter with which the user can interact to learn about phishing.

This recommendation module updates the content presented to the user through the School Library quiz of the Phishing scenario (see Figure 5), as well as provides tips to the user on what to do while interacting with the Inbox Quiz (Figure 6). More to the point, based on the user's experience, expertise, target group and other personalized information, as well as based on user past actions (if available), the recommender updates the Library Quiz with questions appropriate for the particular user. Since the questions are part of the phishing learning content, by providing questions appropriate for the particular user's needs and educational level, we enhance the learning process of the user.
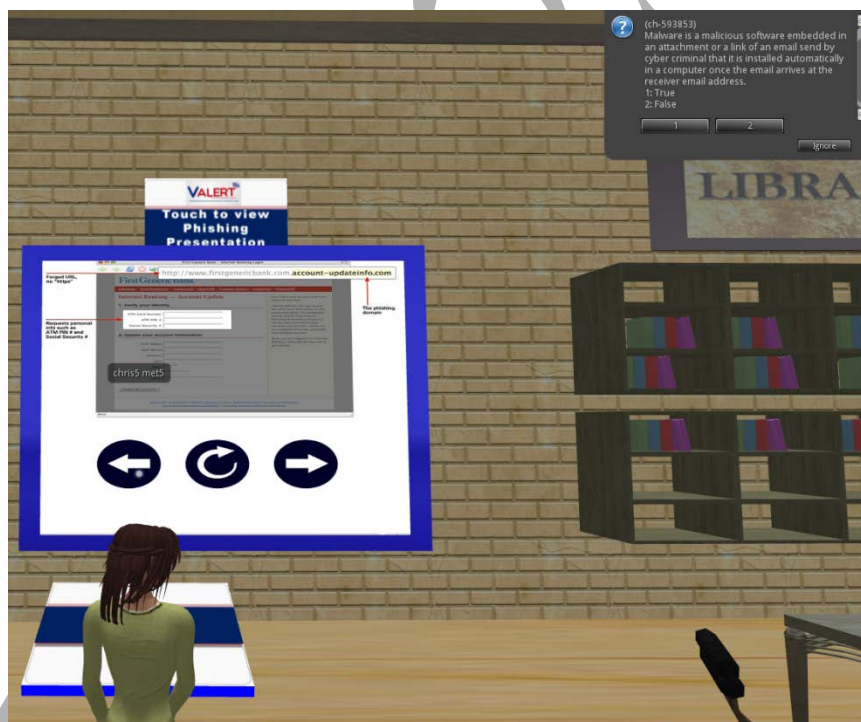
Figure 5: The School Library quiz of the Phishing scenario: each question is presented in the upper right corner of the user's screen.

Moreover, the recommender system monitors the attempts of the user on the quizzes and provides useful tips to her/him while interacting with the Inbox Quiz (Figure 6). The goal is to assist the weak learner with her learning task, ensuring that the user will not get frustrated in case the learning tasks prove challenging for the user.

Figure 6: Inside the "INBOX": The emails as numbered boxes, the quiz chair that initiates the quiz and the recommender system monitor which provides the user with personalised recommendation tips.

USABILITY TESTING OF THE DEVELOPED 3D VWLE

The testing of the alpha version of the V-ALERT 3D VW has been conducted at the premises of University of Cyprus (UCY) and Hellenic Open University (HOU) and aimed primarily to engage a small number of users in interacting with the system for the first time in order to acquire important user feedback on usability issues, such as in-world avatar navigation, movement and interaction with 3D objects, system response, usability of the viewer controls. Since the development was still in progress, this testing would also enable V-ALERT developers to get feedback from real users and understand whether the implemented scenario is easy to use, and whether users would be able to successfully accomplish all learning tasks within the specified time.

In the UCY premises a total of 6 users were engaged, all university students (ages 22-25). In the Software Quality Lab of HOU a total of 16 users, educators and administrative staff, were engaged (ages 25-40). The evaluation however did not concern the recommender system per se. Rather, the users were asked to evaluate the system as a whole as well as their experience in interacting with the 3D VW in order for the development team to detect malfunctions and usability problems. Before the evaluation, the users were offered a 20-minutes training session in-world so as to get familiarised with the basic viewer controls to be able to move their avatar, control the world camera and learn the basic interaction modes. After the training they were asked to enter the Phishing/Spam simulation and follow the steps of the story that they would receive through the Head-Up-Display (HUD) and an infocard (or "notecard") which are both scripted virtual objects and are automatically offered by the platform to the avatar when she first enters the simulation. The HUD and the notecard are stored into avatar's inventory and are always available for further review.

Also, they were advised to explore the 3D virtual environment, interact with objects and pay attention to the received feedback. From then on they were free to act and make decisions in order to complete their mission. Most of the users (19 out of 22) managed to complete the scenario within 30 minutes which was the pre-defined time for the testing. At the end of the evaluation procedure, the users were asked to complete a questionnaire which aimed to investigate their opinion on the aforementioned usability issues, the Phishing scenario simulation as learning mechanism and to indicate any weaknesses.

Regarding the evaluation results for the Phishing/Spam scenario, when users were asked whether the recommender system was helpful and whether it provided added value to the system, the users mentioned that they liked the way they have been provided with the recommended information, although the information presented in the HUD was at some occasions too extensive. They also stated that they liked the idea of being projected with personalized information based on their needs and did not have any negative comments on the recommendations within the Phishing scenario.

CONCLUSION

The V-ALERT project, co-financed by European Commission under the Framework Lifelong Learning Programme, aims to support the establishment of Information Security culture providing awareness and facilitating learning activities using the 3D Virtual World Learning Environment (VWLE). The paper provides an insight into just one segment of the project, the development of a context-aware recommendation system in the V-ALERT 3D Virtual World Learning Environment. The goal of recommendations within the3D VWLE is two-folded: (i) to

facilitate and enhance the user in learning process by offering learning appropriate content and (ii) to assist the user in interactions within the 3D VW offering guide through the scenario by providing tips or summary of tasks. In the context of the V-ALERT project a number of Information Security awareness scenarios are developed. However for the needs of this paper, the personalised recommendation mechanism is presented in relation to the Phishing/Spam scenario where three different ways of providing the recommendations to the user are supported: the Head-Up-Display (HUD), the Phishing Presenter and the Quiz Customization Module.

According to the preliminary evaluation results, the majority of the users found the phishing simulation challenging and interesting, although, initially, most of them faced difficulties in avatar navigation inside the buildings as well as the camera controls. However, they also admitted that frequent usage definitely would lead to improvement and all of them agreed that the pre-evaluation training is necessary and helpful. Additionally, the results showed that the users did not face problems related to system stability and response, though most of the users were not able to directly identify which virtual objects were interactive and offered crucial information. Also they expressed the need for clearer mechanisms that offer in-world help on navigation, such as labels, arrows, etc. All comments and user feedback will be taken under consideration in the final version of the 3D VWLE of V-ALERT. Our future plan is to include the recommendation module as a separate module for evaluation within the final pilot evaluation framework of the 3D VW in order to obtain more detailed user feedback on the recommender system targeting its improvement.

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PHENOMENAL CHANGE AND ADOLESCENTS' PSYCHOLOGICAL DISINTEREST IN COMMITMENTS: A CONCERN FOR THE FAMILY TRADITIONS

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ABSTRACT

The phenomenal changes such as biological, physical, social, technological and global changes, vitally affect the psychological uncertainty and pre-occupation in the minds of the adolescents. (Leckman et al., 2002, p.324). A lethargic attitude, avoidance of responsibility creeps into their system during this period, leading them to more socialising and less psychological commitments. (Jakubowski & Dembo, 2004). Researches show that Adolescents who were isolating themselves from family events and desiring only social events outside family tend to develop '*low levels of commitment and self-regulatory resources, and they perceived their parents as being low in trust, openness, and supervision.*' (Berzonsky 2004b; 2007, p.338). This is becoming a serious social concern for the future of the traditional families. "Indeed adolescence can present new challenges to families, as this is a period of many transitions". (Holden et al., 2011. p.139). Hence it calls for a serious global assessment and concern for the family tradition.

Keywords: Adolescents and Phenomenal changes, Psychological disinterest for commitments, Parents-teachers role, Social structures and regulations.

INTRODUCTION

Phenomenal change and behavioral uncertainty in adolescents are symptoms of Psychological disinterest in commitments, a call and concern for conservative family traditions. Adolescents and the problem of uncertainty about many facts of life sprouting from phenomenal changes is one of the several fundamental problems faced by the adolescents. (Park 2007). "Early adolescents with a high risk of externalizing problem behaviors have greater difficulties in developing a coherent sense of identity over the course of adolescence". (Crocetti et al., 2013). As a result of uncertainty of the realities, the Adolescents develop psychological disinterest for commitments to any responsibility. (Alan et al., 2015; Mead 1970). This is becoming a serious social concern for the future of the traditional families. "Indeed adolescence can present new challenges to families, as this is a period of many transitions". (Holden et al., 2011. p.139). The phenomenal changes such as biological, physical, social, technological and global changes, vitally affect the psychological uncertainty of the adolescents. Therefore it is necessary to have the parents' and teachers' indefatigable guiding presence which "tends to have a cumulative or additive effect" in the life of the Adolescents. (Pettit 2001; Van Doorn et al., 2010; Rogers et al., 2013 p.352).

Bio – Phenomenological changes

The adolescents encounter a gradual change in their body. 'Growth spurt, menarche, first nocturnal emissions, voice breaking, changes in sexual organs, sexual arousal' are beginnings of biological changes. (Kleop et al., 1999; David et al., 1999, p.401). Girls notice 'breast development, height spurt, pubic hair' widening of waist, and commencing of menses, which become externally evident with the onset of puberty. (Herman-Giddens et al., 1997; Graber et al., 1996). 'The Latin word *pubertas*, meaning "age of manhood", is used to refer to the physiologic and morphologic changes that mark the transition from childhood to adulthood'. (Leckman et al., 2002, p.322). The menstrual cycle becomes a biological recurrence every month (Shelton 2002; Salkind 2002, p.260). This biological activity within the girl is very painful and disturbing (Adams et al., 2003; Gullotta et al., 2005), yet the external changes of pelvic-widening, and breasts gaining a prominent shape (Kapes 2002, p.260) give the girl a distinct appearance of a womanly look (Herman-Giddens et al., 1997; Gullotta et al., 2005). Nature has its own course but the unexpected happenings of these biological nature cause a feeling of uncertainty and pre-occupation in the mind of the adolescent girl. (Leckman et al., 2002, p.324).

As for the boys, onset of puberty ignites the 'penile and testicular growth, and height spurt', and widening of the shoulders, growth of the facial, armpit and genital hair, and muscular formation takes shape in due course of time. (Leckman et al., 2002, p.323) The production and ejaculation of the sperms and wetting the bed (wet-dreams) begin its course from puberty. Wet-dreams are unforeseen biological phenomenon that makes him feel embarrassed at times (Graber et al., 1996). The rapid metabolic and external changes make the adolescents a bit clumsy with their hands and legs and bodily movements that become extremely noticeable. (Leckman et al., 2002; Herman-Giddens et al., 1997; Graber et al., 1996). The uncertainty of the sexual characteristics of the adolescents leads to many other conflicts, 'Often biological change causes emotional disturbances, at times even bring about turmoil and stress. Hence trustworthy external support, assuring the adolescent that someone cares, helps to overcome the turmoil towards maturity'. (Papalia et al., 2004; Lieser et al., 2007).

Phenomenal changes are those that are connected to the appearances. 'Appearance' carries a great deal of impact upon the Adolescents (Papalia et al., 2004). But the appearances seem to be very rapidly changing as well. "changed romantic

relationships, gender role identity, and changed relationship with adults, increasing autonomy, independence and responsibility". (Kleop et al., 1999; David et al., 1999, p.401). Basically Adolescents become very conscious about their physical appearances (McGregor et al., 2007). They not only become aware of their own body but also keenly observe the others' appearances as well. They begin to have role models and hero worship and infatuations, yet 'Adolescents strive for more autonomy and self determination' (Collins 1990; Laursen and Collins 2004).

Socio – Technological change

Everyday new fashion, new style, new trends prop up like mushroom. Along with these trends there penetrates also socio-cultural conflicts between existing traditions and the new arrivals. Every super-star of the silver screen and the TV Chanel and internet web-sites, change the lifestyle of adolescents for good or for bad. Gustavo Mesch (2006) points out, 'use of internet for study purpose is not a concern for the parents as it does not have negative family interaction, but when the adolescents use internet for social purposes which goes out of control and brings about negative effect' (Subrahmanyam et al., 2008, p.135). Social network and FB and other innumerable social media that influence the adolescents, (Ferguson et al., 2014; Mead 1970), alluring them, twisting and turning, and robbing them of their innocence like a swift storm, and leaving them high and dry, vacant and confused, therefore, "it is necessary to assist children in determining the source and reliability of web-based information." (Milburn 2002; Salkind 2002, p.219). Researches show that Adolescents who were isolating themselves from family events and desiring only social events outside family tend to develop '*low levels of commitment and self-regulatory resources, and they perceived their parents as being low in trust, openness, and supervision.*' (Berzonsky 2004b; 2007, p.338). The errors of uncertainty gets imprinted in the minds and hearts of the adolescents (McGregor et al., 2007; Krettenauer et al., 2014), maybe noticeable in the early adulthood as the latent impressions in the psyche of the individual from the unresolved problems of the adolescent stage. (Song et al., 2006; Mead 1970).

Adolescents may oscillate in their choice of external allurement because of their own rapid social changes along with biological and physical changes. (Gullotta et al., 2005). External attraction is instinctual for most adolescents. A lethargic attitude, avoidance of responsibility, creeps into their system. (Jakubowski & Dembo, 2004). At the same time they become very choosy about persons to whom they open their secrets and intimate moments. 'The physical, neurobiological, and cognitive changes herald dramatic shifts in the adolescent's relationship to his/her own body, appetites, parents, peers, and self-image. (Leckman et al.,2002, p.324). At this juncture they have lots of turmoil, irritation, anger, and uncertainty of almost everything, a *fragmented, unstable, confused sense of self* (Berzonsky 1994).

Technological growth has invaded every nook and corner of the world. Technological infiltration is another phenomenal change that has immense impact on the adolescents. No doubt that there are immense utility brought about by technological progress. (Milburn, S. S. (2002). Nonetheless the havoc brought about by technological influence on the adolescents is considerably big. Traces of disinterests in hard work and pursuit of serious discipline, (Park et al., 2007), sugar coated by the easy-to-do technology, (Berzonsky 2004a) has become the order of the day. There is a tendency of fast-food-culture, short-cut-methods of doing things than by the natural hard work (Covington 2000). Today the younger generation has lost the zeal (McGregor et al., 2007) and the habit of writing any letter (Mead 1970) due to the invasion of the cell phone chats and messaging. Some adolescents don't even have the opportunity and possibility of learning through type-writer. The easy wording system that suggests / prompts to coin sentences and words in mobile-phone-messaging (Mesch 2006), reduces the efforts needed to write the word or know the spelling of the words. This phenomenon has become an added reason for the lethargic way of living (Gullotta et al., 2005) that is growing strongly in the cities and not very far from reaching also the villages and towns all over the world.

All these fast-changing-phenomena lead the adolescents to develop a strong feeling of uncommitted life style. (Jakubowski et al., 2004). Adolescents who desire to live without norms and restrictions, only information-will-be-sufficient type of life style run into risk of Psychological disinterest in commitments and for serious responsibilities, (Berzonsky 2004b; Adams et al., 2003).), turning out to be rebellious characteristic feature of the adolescents in the milieu of the phenomenal change. (Ferguson et al., 2014; Collins 1990; Gullotta et al., 2005). The parents and teachers are also stripped of their authoritative right of disciplining the children with any type of sanctioning has made the situation bad to worse, "on a subjective level, for both the parents and adolescents, there are important shifts in the emotional terms of the relationship." (Steinberg and Morris 2001; Leckman 2002, p.326).

Integrated Formation for Adolescents

A sincere concern and call for renewed efforts from all quarters of the society including the parents, (Romer 2003; Holdenet al., 2011) to reinforce the traditional values and conservative moral code and social joint venture to rebuild the adolescents' jest and vitality of responsible freedom (Covington 2000; McGregor et al, 2007), with reasonable kindness, divine protection and prevention (Don Bosco 1874; Pettit et al., 2002; Rogers et al., 2003). "It's important for children to

show obedience and respect versus showing their independence. Family goals and the moral socialization of all these values and other dimensions of family life have powerful influences on the social development of children growing up …" (Weisner 2011, p.391; Holden et al., 2011).

As they say, '*History repeats itself*', it's apt that the good traditions be brought back to make a balance between ultra-modern and infra-ancient. There should be moderation in every change that is brought into the society, on the contrary uncontrolled use of "social networking is causing parent-child conflict and perceived loss of parental control." (Subrahmanyam and Greenfield 2008, p.138). The family is the basic unit of the society. Therefore respecting the traditions of the family all the legal laws, norms and policies should be in favour of providing the teachers and the parents due credibility in forming the adolescents. Researchers like Vonnie C. McLoyd, Algea O. Harrison-Hale (2002) indicate that the disciplinary methods adopted by the parents produce more positive outcome of their adolescent children than through general societal laws, "parenting characterized by a combination of restrictiveness, extensive rule setting, and warmth appears to be especially beneficial to the cognitive and socio-emotional functioning" (McLoyd et al., 2002, p.17) of the adolescents.

The parents and teachers should be supported by the social laws. They should have the privilege of last word in the disciplinary methods to bring up the children (Berzonsky et al., 2007) with strict constructive measures that is legitimate, family authority and teachers credibility of disciplining. Baumrind's (1973) parenting styles findings show that authoritative parents bring up socially and culturally better adjusted children (Salkind 2002, p.296). Therefore *all legal rights should be bestowed upon parents and teachers* for constructive disciplining actions on their children to uphold the values of the community traditions for the well-being of the individual and the society. The law of the society should not supersede the rights of the parents and teachers over the growing adolescents at least till the completion of teenage (19). This deteriorates the formation of the adolescents and disintegrates the conservative social and family traditions. "emotional stress, social support… may influence qualities of the parent-child relationships" (Martha 2002; Salkind 2002, p.293). Therefore a serious introspection of the educative policies is needed and right of legitimate authority to be bestowed up on the parents and teachers to take any disciplinary actions on the children for their well-being and integral growth without threat of penal action on the teacher and parents.

CONCLUSION

It's evident from the argument that phenomenal changes greatly affect the psychological commitments of the adolescents (Adams et al., 2003; Gullotta et al., 2005). As a matter of fact, the more the involvement of the adolescents in the family tradition and family norms the better psychological development takes place in the adolescents, "parenting style shields children from noxious elements and bestows them with a positive self-concept that helps deflect negative influences in their extra-familial environment" (McLoyd et al., 2002, p.17), creating in them a sense of commitment, responsibilities, and integral growth, (Romer 2003) nurturing 'autonomy, self-efficacy, self awareness, and self-regulation' (Berzonsky 2004a; McGregor et al., 2007). Authoritative parenting that combines warmth and firmness has the most positive impact on the adolescent's better psychological development, and fewer behavior problems, (Post 2003; Steinberg 2001). Therefore rethinking of the legal rights to be bestowed onto the parents and teachers. Though the International law of the Children Act 1989 defines and upholds the principle of parental responsibility a*s: 'All the rights, duties, powers, responsibilities and authority which by law a parent of a child has in relation to the child and his property.'* (Partridge et al., 2010, p.21).

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PHOTOGRAPHS AS MEDIATING TOOLS BETWEEN SCIENCE KNOWLEDGE AND THE REAL WORLD: THE CASE OF 'RESOURCES SUSTAINABLE MANAGEMENT' IN PORTUGUESE SCHOOL TEXTBOOKS

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ABSTRACT

Due to the educational importance of visual devices, textbooks should have good equilibrium between text and image. Photographs are one of those devices. When included in school textbooks they may act as mediators between science knowledge and the real world. This research focused on investigating to what extent those photographs may promote the integration between science knowledge and the real world. Photographs included in the theme "Resources Sustainable Management" as it is approached in three selected 8th grade Natural Sciences Portuguese textbooks were content analysed. The analysis was supported by a checklist including the following dimensions: number of photographs; types of photographs; location of the photographs; role of the photographs; caption of the photographs; contextualization of the entities photographed; nature of the entities photographed; relationship of the photographs integrated along the text with the text itself. Findings reveal that the textbooks analysed include a high mean of photographs per page. Besides, they show photographs that, in most cases: are integrated along the text; aim at illustrating contents being presented; focus on entities and situations familiar to students. In some cases, a considerable amount of photographs: do not have a caption; are not mentioned in the text; are not related to the content presented. This way of using photographs may impair their role of mediators between science knowledge and students' everyday world and may have a reduced or even null added educational value: These results have implications for textbook illustrators and authors, as well as for teachers.

INTRODUCTION

The main goal of science teaching in schools is to develop children´s scientific literacy so that they can appreciate the scientific endeavour, understand the natural world and use science in their future personal and professional lives (Martins, 2011; Johntson, 2011). This is especially important at the compulsory education level that is targeted to all children. To attain that goal, science taught in schools should be based on real socio-scientific contexts (Gilbert, 2006; Lavonen et al., 2010; King, 2012). However, science teaching in schools has hardly adopted this approach and, more often than it should, it stays apart from people's everyday life and word. A consequence of this is may be students' lack of interest in science which may not only have a negative effect on their performance level in compulsory education but also lead them to avoid taking science at upper secondary school and university.

Besides, research has shown that when children enter school they already hold some conceptions that are inconsistent with the scientific point of view and that are hard to overcome (Devetak & Vogrinc, 2013). According to Pozo and Gomes (1998), those alternative conceptions may have three main different prevailing origins: sensorial, analogical and social. In fact, social encounters (e.g.: with science non-specialists as well with mass media information, magazines, popular books, movies, etc.) convey information and ways of explaining natural phenomena that may reinforce students' alternative conceptions or even induce new ones. Being a human enterprise, and therefore a naturally non-perfect work (Leite, 2002), textbooks are one of the tools that may also convey alternative conceptions to students too, namely through the visual information they include (see, for example, Leite, 1999; Leite & Afonso 2001), the way they use it and the things they omit about it.

As Ahtineva (2005) argues, school textbooks should promote a bridge between the real world and the scientific theories that explain them. They should also include information in such a way that students, with different previous experiences and knowledge, can understand how science and the real world are interconnected, and they should do it without taking the risk of reinforcing and inducing alternative conceptions. Besides, as Devetak and Vogrinc (2013) point out, a good textbook should have a good equilibrium between verbal information (given through a text) and visual or pictorial information (e.g., graphs, tables, drawings, photographs, etc.).

There are many words associated with visual or pictorial devices or images. López-Manjón and Postigo (2014)

consider the existence of several types of images, some more realistic than others: illustrations that include photographs, technical images and drawings; visual diagrams that deal with structures and processes; verbal diagrams that include conceptual maps, tables, and charts; and graphs. This paper focuses on photographs, presented either alone or together with other types of representations. However, it draws also on literature focusing on other types of visual devices as all of them share the need for perception to be used when making sense of them.

Pictorial information may be a relevant facilitator of school learning (Cook, 2008) because science deals with abstract concepts that may not have visual exemplars (Devetak & Vogrinc 2013) or whose exemplars do not belong to students environment. However, pictorial information may face students with several obstacles that need to be taken into account and avoided, as they may lead to unintended misunderstanding of the images (Colin, Chauvet & Viennot, 2002) and prevent learning from taking place. In addition, it is worth nothing that Colin, Chauvet and Viennot (2002) found that difficulties with images are similar for students with and without previous education on the theme. Therefore, it cannot be assumed that images "yield their meaning directly and simply" (Stylianidou, Ormerod & Ogborn, 2002, p. 20). As perception is a cognitive tool that needs to be used when learning from visual devices, the result of students interaction with an image will depend at least in part on the learners' characteristics (including their cognitive structure, work memory, learning and cognitive styles, etc.) as well as on the characteristics and context of the image they try to interpret to make sense of. Therefore, as Cook (2006) argues, "Without proper design and consideration for individual differences among learners, visual representations may be no better than textual information alone or, at worst, may actually interfere with learning or lead to misconceptions about scientific phenomena." (p.1087). Hence, images selection should be consistent with cognitive learning principles. This means that they should be integrated with text in such away as to "improving contiguity and coherence of the text and illustrations, as well as eliminating irrelevant materials" (Cheng, Chou, Wang, & Lin 2015, p.485), in order to help the reader to minimize the extraneous and unnecessary memory work load.

Textbooks make use of many types of visual displays to help students to learn difficult science concepts (Cook, 2008). Over the last decades there has been even a tendency to increase the amount of pictorial and colourful information in textbooks. In some cases, this increase was so large that it led textbooks to use ten times more images than press articles on science and technology do (Dimopoulos, Koulaidis & Sklaveniti, 2003). Photographs are the most frequent pictorial devices included in textbooks and can play several different and important roles in them (Pozzer & Roth 2003). If well-chosen and properly used they can act as mediators between science knowledge and the real world (Dourado, Morgado & Leite, in press). Unfortunately, most textbooks include photographs with decorative (Perales, 2008) and selling purposes (Cook, 2008) and they would then be dispensable from a pedagogic point of view (Perales, 2008). Besides, it is worth noting that photographs obtain their powerful role as representations of the real world through the reader's work. On one hand, the texts that are co-present with the photograph should provide useful guidance for reading the photographic image, reducing the number and diversity of possible interpretations; on the other hand, students should both receive instruction in critical analysis of photographs and be involved in such practices but, unfortunately, this hardly happens (Roth, Pozzer-Ardenghi & Hans, 2005).

Despite the acknowledged potential value of photographs as teaching and learning devices, several limitations have been identified in photographs used in textbooks. A meaningful amount of photographs included in Portuguese physical sciences textbooks show decontextualized entities as well as settings that are too familiar to students (Dourado, Leite & Morgado, in press) and have no added value in terms of promoting students' learning. López-Manjón and Postigo (2014) found out that even though there are some cases of suitable uses of colour and graphic elements in school Spanish Natural Sciences textbooks, visual resources are not good enough: the title is included in only 60% of the images, some titles do not help reading the image properly and have no reference to the representative nature of the image; only 46% of the images include labels of different parts and the text does not make any reference to the image (76%). These results reinforce Lee's (2010) concern about the quality and utility of representations in modern schools textbooks. In fact, as reading science textbook pictures is not at a trivial task for pupils, "teachers need to spend time and effort talking through the meaning of the images with them." (Stylianidou, Ormerod & Ogborn, 2002, p.20).

Acknowledging the idea that for visual representations to have educational value they need to be properly selected, structured and integrated with other elements (namely the text), it has been argued that it is worth being aware of the powers and weaknesses of the images included in textbooks or other educational materials and have a sort of checklist that helps teachers and textbook illustrators to think about images. Thus, several authors have developed tools to analyse visual material, namely photographs, included in textbooks. Some of these tools are more comprehensive than others, they include different dimensions of analysis and the categories defined for a given dimension may differ from author to author too. This diversity of criteria of analysis makes it difficult to compare results of the different studies and suggests the need for a comprehensive device that enables a more systematic analysis of this type of material. Table 1 synthesises some of those tools, mentioning the dimensions focused on in each study.

Even though in different ways, all the authors focused on the function (or role) of the photographs or visual representations, as well as on the type of photograph. These are important dimensions as they have to do with the purpose of the photo and the cognitive requirements it offers to the students. Other aspects pedagogically relevant aspects that were mentioned in at least one of the papers is referencing the image in the text, and characteristics of the visual component of the image. The former has to do with the interrelationship of photograph and the co-present text and it inform about the way textbooks authors would like the photo to be used and limits its possible interpretations. Also, the integration of photographs in a task is a relevant issue as it is informs about the existence or not of appropriate guidance for exploring the photograph. Number of photos and size of the photograph are technical elements that may inform about the required equilibrium between diverse ways of conveying information to students.

Table 1: Synthesis of some criteria developed to analyse visual material included in textbooks

Authors	Dimensions of analysis
Dimopaulos, Koulaidise & Sklaveniti (2003)	- Type of image - Function of the image - Framing of the image (social-pedagogic relationships) - Formality of the image (elaboration and abstraction of the corresponding visual code)
Roth, Pozzer-Ardengai & Hans (2005)	- Function of photographs - Structures of co-deploying photographs and text (indexical reference, single and multiple photographs and background of photographs)
Perales (2008)	- Intentionality of the image - Complexity of the image - Orientation on the information conveyed - Combination of symbolic elements - Analogical function of the images - Context conveyed by the image - Tasks associated with the image - Scientific and technological accuracy of the image
Lee (2010)	- Numbers of visual representations - Type of visual representations - Purposes of visual representations
Anagnostopoulou, Hatzinikita & Christidou (2012)	- Dimensions of the visual material: - The frequency of its inclusion - Type of visual material (e.g. photographs, diagrams, tables); - Role of visual information - Association of visual information with tasks
López-Manjón & Postigo (2014)	- Number and size of the images - Type of image: - Characteristics of the visual component of the image - Existence of visual and verbal resources for image interpretation - - Referencing the image in the text.

Dimopaulos, Koulaidise and Sklaveniti (2003) also analysed the formality of the visual code corresponds which inform about the degree of its abstraction. According to these authors, "The more an image represents the deeper essence of what it depicts by downgrading the superficial variability of its external features the higher is its formality. Low formality then corresponds to representations very close to photographic realism" (Dimopaulos, Koulaidis & Sklaveniti, 2003, p.200). Visual representations may seem to be most helpful for students to learn about labelling structures and describing the phases of a process, than to learn about the overall process as a whole (Cook 2008). Hence, textbooks visual representations, including photographs, should be associated with a text that explains the phenomenon (Cook 2008). Thus, photographs and text should form the written correlate of a demonstration. Dimopaulos, Koulaidis and Sklaveniti (2003) state that most students ignore anything other than the main text, and in order to avoid this risk, important concepts and information should be placed in the main text, with the appropriate reference to the photograph inscription.

As far as function are concerned, they have an hierarchy of increasing informational value (explaining a concept does more than simply illustrating a concept) and those with higher information value (usually also do what the photographs of lesser informational value do). The authors argue that the caption should be enough to understand the picture as it intended to be interpreted. However, to find out that the differences in the information provided by the caption not just influence readers' interpretations of the photograph and therefore what they can learn from them but also change the role of the inscriptions in the text (Roth, Pozzer-Ardenghi & Hans, 2005). The differences in the information provided by the caption not just influence readers' interpretations of the photograph and therefore what they can learn from them but also change the role of the inscriptions in the text.

Based on a large sample of Spanish secondary schools physics textbooks, Perales (2008) concluded that the majority of the visual illustrations included in the textbooks analysed are inadequate from a pedagogic point of view. The results reported above raise the question about the pedagogic quality of the photographs used in nowadays Portuguese science textbooks.

OBJECTIVES

This research focuses on investigating to what extent photographs included in school science textbooks may promote the integration between science knowledge and the real world. It concentrates on natural sciences, low secondary school textbooks, more precisely on the teaching unit 'Resources Sustainable Management". As (Sullivan, 2008) puts it, "Given the special importance of photographs among graphical representations in high school textbooks, and considering the unique weight that they carry in student learning and perceptions of reality, it is reasonable to conclude that an examination of photographs constitutes a study of a significant force in student learning."(p. 1008.

THE STUDY

This study focused on three 8th grade Natural Sciences textbooks that deal with the theme 'Resources Sustainable Management'. The textbooks were used in Portuguese schools during the 2014/15 academic year. They were written by different author teams and were edited by different textbooks publishers. These publishers are well-known in the country and they have been publishing textbooks for many years. The reason why not only different author teams but also different publishers were selected has to do with the fact that the latter usually take images from their pools to be included in the books they publish. This way of selecting the textbooks would avoid having two (or even three) different textbooks written by different author teams using some common images. This would reduce the interest of the research as besides obtaining knowledge on the way textbooks use photographs, we would like to get information on how to do analyses of how photographs are dealt with in textbooks.

The theme 'Resources Sustainable Management' was chosen because it is a theme in which photographs may be used to show the natural world and to foster the relationship of science and people's everyday life. In fact, it has to do with issues like the following: Types of natural resources; Exploration and processing of natural resources; Land planning and management; Waste and water Management for sustainable development; Scientific and Technological development for improving the quality of life of human populations.

Photographs (pictures), photographs combined with other graphical elements (e.g, a pie chart or labels or a scheme) and drawings-like photographs included in the textbook pages devoted to the selected science theme were identified to be content analysed. These three types of photographs are shown in figure 1.

Those photographs may be given at the first page of the theme or of its subthemes, integrated into the text, integrated into activities for students, given in marginal curiosity boxes or used as a background to beautify the textbook page.
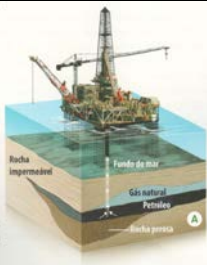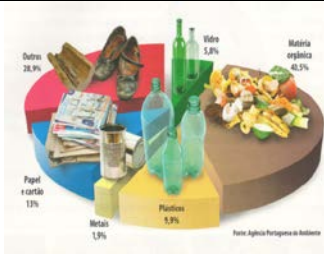
Photographs	Drawings like photographs	Photographs combined with other elements
ST1 p.195	ST2 p.186	ST1 p.218

Figure 1: Examples of the three types of photographs analysed

A checklist was developed for this purpose. It included the following dimensions of analysis: number of photographs; types of photographs; location of the photographs; role of the photographs; caption of the photographs; contextualization of the entities photographed; nature of the entities photographed; relationship of the photographs integrated along the text with the text itself. For each dimension, an *a posteriori* set of categories of analysis was developed. This task was supported by the literature that reports similar analyses, namely by Pozzer and Roth (2003), Roth, Pozzer-Ardenghi and Hans (2005), Devetak and Vogrinc (2013), and López-Manjón and Postigo (2014).

Afterwards, the photographs were classified by one of the authors into those dimensions and categories and the

classification was checked by the others. Fully agreement was reached between the three authors. In the next section, data will be presented by School Textbook (ST). The classification done will be illustrated by selected examples of photographs included in the manuals.

FINDINGS

All textbooks use large numbers of photographs when dealing with the theme 'Resources Sustainable Management' (table 2). These results are consistent with those obtained by authors like Pozzer and Roth (2003), with Brazilian biology textbooks, Dimopaulos, Koulaidise and Sklaveniti (2003), with Greek science textbooks, Lee (2010) with US physical science textbooks, and Kim, Kong and Lim (2011) with Korean science textbooks that also found a large number of photographs to exist different sciences textbooks. Besides, the mean number of photographs per page (equal to or over 3,4) is quite similar in the diverse textbooks (table 2). However, it is worth noting that López-Manjón and Postigo (2014), obtained a much smaller number (1,4) of photos per page of biology school textbooks, meaning that they do not rely as much as the Portuguese ones in photos.

Table 2: Number of photographs used by the textbooks when dealing with the theme, per textbook and page (f)

School Textbook	Number of Photographs	Number of Pages	Photos/Page
1	275	80	3,4
2	225	62	3,6
3	296	80	3,7

All textbooks include the three types of photographs considered in this analysis (table 3). However, the three textbooks are quite different with regard to the types of photos they include. In fact, while most of the photos used by textbook 1 (92,4%) and about half of the pictures in textbook 3 (55,4%) are real photographs, only one third of the photos used by textbook 2 (33,8%) belong to this category. In addition, the other photos used by textbooks 2 and 3 are divided by the two remaining categories, that is drawing-like photographs and photographs combined with other graphic and/or verbal elements. It should be noted that some authors (López-Manjón & Postigo, 2014) have also found photographs combined with other verbal and pictorial elements but in a lower percentage than the one obtained in the present study.

Table 3: Types of photographs used by the textbooks when dealing with the theme (%)

Type of photographs	ST 1 (n_1=275)	ST 2 (n_2=225)	ST 3 (n_3=296)
Photographs	92,4	33,8	55,4
Drawing-like photographs	0,4	35,6	22,0
Photographs combined with other graphic and/or verbal elements	7,3	30,7	22,6

Whatever the textbook, most of the photographs (between 71,6% (ST 3) and 89,8% (ST 2)) are integrated into the text that introduces the new content and a few other photographs (between 9,5% (ST 1) and 20,3% (ST 3)) are integrated into activities that are supposed to be performed by the students (table 4).

Table 4: Location of the photographs used by the textbooks when dealing with the theme (%)

Location of the photographs	ST 1 (n_1=275)	ST 2 (n_2=225)	ST 3 (n_3=296)
Presented at the beginning of the chapter	0,0	0,4	0,3
Presented at the beginning of the sub-chapter	0,0	0,0	6,1
Integrated into the text that introduces the content	84,4	89,8	71,6
Integrated into the activities	9,5	9,8	20,3
Apart from the text, into Curiosity boxes	6,2	0,0	1,7

Textbooks differ with regard to the use of photographs at the beginning of the chapter (that is the theme under analysis) or sub-chapters (sub-themes that compose the theme under analysis). As shown in table 5, textbook 1 does not use them and textbook 3 uses them both at the beginning of the chapter and at the beginning of the subchapter. Textbooks 1 and 3 (this one in a lower percentage) use photographs to illustrate curiosities (that are related to non-mandatory issues) that are given aside the main text. As far as it is known, no previous research concentrated on all the dimensions dealt with in the present study. In addition, usually authors do not specify what pictures they are analysing. It may happen that those authors that omit the information on what activities

they are analysing do it because they are focusing on all of them. A consequence of this would be that those textbooks do not include a variety of photographs as large as the one found in the textbooks analysed. However, another research carried out by the authors (Dourado, Morgado & Leite, in press), concentrating on physical sciences textbooks, showed a variety of uses of photographs similar to the one obtained in the research reported in this paper.

The majority of the photographs integrated into the text aim at illustrating the content being presented (table 5) and therefore they work as a compliment to the text. Some others are integrated in activities for students and they aim at fostering knowledge use. Textbook 3 includes the largest percentage of photographs associated with activities that have knowledge use purposes.

Table 5: Role of the photographs used by the textbooks when dealing with the theme (%)

Role of the photographs	ST 1 (n_1=275)	ST 2 (n_2=225)	ST 3 (n_3=296)
Motivation to learn	0,0	0,4	6,4
Content illustration	84,4	89,8	71,6
Content related curiosity	6,2	0,0	1,7
Knowledge use	9,5	9,8	20,3

Textbooks 2 and 3 include photographs at the beginning of the chapter or subchapter (opening page) whose aim is to motivate students to learn about the theme of the chapter or the subchapter. In some cases they include questions that hopefully should be answered during or after the theme or subtheme development. Textbooks 1 and 3 include a few photographs that call attention to content related curiosities. They are included into boxes, presented aside the text, and mention aspects that are related to the text but not relevant to its understanding. The three textbooks include a few photographs in the tasks targeted to foster students' knowledge use. In most cases, students need to analyse and understand the photograph to successfully do the task. These roles were also identified by Dourado, Morgado and Leite (in press), but the opposite is not true. In fact, Dourado, Morgado and Leite (in press) also found photographs integrated into analogies, in order to make the analogy explicit.

The three textbooks are quite different with regard to the inclusion of a caption into the photographs. Even though textbooks 2 and 3 include some photographs without a caption, most of the photographs included in textbook 1 (58,9%) do not include any caption (table 6). Some of these photographs are the ones used to motivate students, either at the first page of the chapter or as a background to beautify the textbook page. However, a few others seem to be intended to be informative and therefore they should bear a caption but they do not have it. This may impair the reader interpretation of the photograph, at least in the intended way. As Roth, Pozzer-Ardengai and Hans (2005) argue, "The differences in the information provided by the caption not just influence readers' interpretations of the photograph and therefore what they can learn from them but also change the role of the inscriptions in the text." (p.107).

Table 6: Caption of the photographs used by the textbooks when dealing with the theme (%)

Caption of the photographs		ST 1 (n_1=275)	ST 2 (n_2=225)	ST 3 (n_3=296)
Caption	Appropriately matches the content of the photo	6,2	17,3	2,7
	Makes some explanatory comments on what is shown in the photo	18,5	12,0	37,2
	Does not match the content of the photo	10,2	49,8	27,7
Replaced by an explanation focusing on page content and ignoring the photo content		9,8	8,4	0,0
No caption		58,9	12,4	32,4

Textbook 2 is the one that presents the largest (17,3%) percentage of pictures with a caption that appropriately matches the photograph content. However, it is also the one that presents the largest percentage (49,8%) of the photos with a caption that does not match the content of the photograph. This can be illustrated by the fact, in page 176, it presents a picture showing a landscape, a lake, birds, a factory and wind turbines and the captions says: "classification of natural resources". In fact, natural resources (like water in a lake) are shown but not classified and they are mixed with technological centres (e.g., the factory). Also, in page 217, it presents a picture showing wood pieces, and the caption says: "there are several types of waste being some of them very dangerous". In fact it shows only a type of waste which is not dangerous.

Besides, on one hand, in a few photographs, given in the textbooks 1 and 2, the caption is replaced by an

explanation of the content that is being dealt with in the textbook page, without focusing on the picture content. For instance, textbook 1 presents a picture from vehicles just bearing the H symbol, and its caption says that: "There are some vehicles that use hydrogen as their fuel. Fuel cells are electrochemical systems that convert hydrogen and oxygen chemical reaction energy into electric energy" (p.198). On the other hand, the three textbooks include photographs whose caption is not just a caption (mentioning what is shown in the picture) but it also adds some explanatory comments on what is shown in the photograph. For example, textbook 2 presents a picture from animals (an elephant) with the following comment (replacing the caption/caption): "Elephant are under the threat of extinction due to over hunting caused by man's interest in ivory" (p.169).Unfortunately, these results are consistent with Pozzer and Roth (2003) argument that the "photographs and captions almost function in a standalone mode" (p.1108).

The majority of the photographs present the entities that were photographed in their normal/natural place (table 7). This means that agricultural machine is represented in growing field (ST3, p.165) or that a wind turbine is presented in a wind farm placed in a mountain (ST2, p.188). However, textbooks 2 and 3 include a considerable amount of photographs that present entities in a rather different place. For example, they show a piece of granite in an empty space (instead of showing it in a quarry). In doing this, they reduce the photographs contextualizing power and consequently their education al role. Similar results were found by Dourado, Morgado and Leite (in press) which also found that physical sciences textbooks may show up to one third of the entities out of their natural place.

Table 7: Contextualization of the entities shown in the photographs used by textbooks when dealing with the theme (%)

Contextualization	ST 1 (n_1=275)	ST 2 (n_2=225)	ST 3 (n_3=296)
Yes	94,5	76,9	63,9
No	5,5	23,1	36,1

Whatever the textbook, the majority of the photographs it uses when dealing with the theme focus on concrete everyday entities that are familiar to students (table 8). They are not very much useful and may even act as students' distractors. The remaining photographs focus on processes that students are supposed to analyse and gain understanding on. Of course, these are the most valuable photographs from an educational point of view. However, textbook 2 differs from the others as its percentage of photographs that focus on processes (48,0%) is double of the other ones.

Table 8: Nature of the entities shown in the photograph used by textbooks when dealing with the theme (%)

Entities photographed	ST 1 (n_1=275)	ST 2 (n_2=225)	ST 3 (n_3=296)
Concrete entities	74,2	52,0	61,1
Processes	25,8	48,0	38,9

As shown in table 9, the concrete entities that are photographed include animals (e.g., a chicken, a rabbit, a cow, (ST2, p.179)), food (e.g., tomato, cheese (ST3, p.162)), places (e.g., River Douro mouth (ST1, p.193), forest (ST3, p.232), Cliff (ST1, p.233), lake (ST1, p.172)), etc. Including them does not add to students' understanding of the science content that is being approached and does not play a meaningful role in students' interpretation of photographs. Therefore, as Perales (2008) would argue, most of them and are dispensable.

Table 9: Entities included in the photographs that focus on concrete entities (%)

Concrete entities photographed	ST 1 (n_1=204)	ST 2 (n_2=117)	ST 3 (n_3=181)
Food	0,0	6,0	8,3
Animals	12,3	14,5	13,8
People	1,5	0,0	0,0
Places	68,1	20,5	16,6
Objects	18,1	59,0	61,3

Table 10 shows that textbooks include photographs from three different types of processes. In textbooks 1 and 2 the majority of this type of photographs is related to industrialization (e.g., photovoltaic panels (ST2, p.174), thermal power plants (ST1, p.197), etc.). Even though this type of photographs also prevails in textbook 3 (40%),

this textbook is the one that shows the best equilibrium among the three types of photographs (table 9). Human activities such as fishing (ST2, p.206), waste separation (ST3, p.223) and resources uses (e.g., producing daily life materials from minerals (ST2, p.181); producing energy from water (ST1, p.214)) are other types of processes shown in photographs by the three textbooks. However, it may happen that photographs are more helpful for students to learn about labelling structures and describing the phases of a process, than to learn about the overall process as a whole (Cook, 2008).

Table 10: Types of processes shown in the photographs used by textbooks when dealing with the theme (%)

Process photographed	ST 1 $(n_1=71)$	ST 2 $(n_2=108)$	ST 3 $(n_3=115)$
Human activities	28,2	12,0	29,6
Resources use	16,9	22,2	30,4
Industrialization	54,9	65,7	40,0

In all the textbooks, the majority of the photographs that are integrated along the text are related to the content presented (table 11), even though in textbook 2, the majority of them is not explicitly mentioned in the text. All textbooks use a few photographs that are neither related to the content presented nor explicitly mentioned in the text. Textbook 1 is the one that uses more photographs in such a way, namely to work as a background to beautify the page. These photographs have selling purposes Cook (2008) and are dispensable (Perales, 2008) because they may hardly facilitate or enhance learning.

Table 11: Relationship of the photographs integrated along the text with the text itself (%)

Relationship of the photographs with the content		ST 1 $(n_1=232)$	ST 2 $(n_2=202)$	ST 3 $(n_3=212)$
Related to the content presented	Explicitly mentioned	38,4	0,0	98,6
	Not explicitly mentioned	15,5	98,0	0,0
Not related to the content presented nor explicitly mentioned	Simply add new information	0,0	0,5	0,0
	Work as a background to beautify the page	46,1	1,5	1,4

CONCLUSIONS AND IMPLICATIONS

Research results show that the textbooks analysed are different with regards to photographs use. However, there are some limitations that are common to all of them and also that compare to those encountered in the literature reviewed. In fact, textbooks show photographs that, in most cases: are integrated along the text and aim at illustrating contents being presented. Nevertheless, most of them focus on entities and situations familiar to students and have a reduced or even null added educational value. In some cases (especially in one textbook), a considerable amount of photographs: do not have a caption; are not mentioned in the text; are not related to the content presented. This way of using photographs can hardly help students to build a bridge between science and everyday life and to perceive the relevance of science education and it may impair their role of mediators between science knowledge and students everyday world.

These findings have implications for textbooks illustrators, textbook authors and, of course, for teachers. The first one is that textbooks illustrators need to understand the impact of visual images on students as well as how they interpret them. The reason for this is that, as Cook (2006) pointed out, they need to be able to decide "what information they include to illicit students prior knowledge, and what information they include to foster comprehension of new concepts" (p.1087).

The second one is that textbook authors need to have good criteria to choose the visual content namely the photographs that they select to be included in their textbooks. As suggested by López-Manjón and Postigo (2014), textbook images should help to overcome the usual difficulties faced by students. To be able to do so textbooks should have a cognitive-driven design, and adopt some principles like contiguity of text and illustrations and appropriate use of captions. Results obtained by Cheng, Chou, Wang and Lin (2015) with modified textbooks are a good incentive to intervene at this level.

The third implication, and probably the most important one, is that teachers need to spend time and effort talking through the meaning of the images with their students (Stylianidou, Ormerod & Ogborn, 2002). As it was argued above, reading science textbook pictures is not at all trivial for students. Besides, "visual images are a language and visual literacy can be learned [and needs to be learned], just as reading and writing are learned" (Cook, 2008, p.3). As Anagnostopoulou, Hatzinikita and Christidou (2012), emphasised, "The language of science is an integration of texts, visual images (i.e. diagrams, pictures, graphs, maps, tables, charts) and mathematical expressions (i.e. equations). Learning and teaching science means also learning and teaching the media of

science communication." (p.1039). This means that students need to be taught about how to read images used in science as well as in science teaching.

Thus, being aware of the features photographs that may present obstacles to students may be a good start to improve the educational value of photographs. Stylianidou, Ormerod and Ogborn's (2002) have listed a set of images features that may present difficulties to students and that can also be useful for doing a critical analysis of photographs either when writing and illustrating a textbooks or when using it. Teacher education should tackle this issue, both in undergraduate and in post-graduate degree leading programs, as well as in in-service short courses. Prospective and in-service teachers should be asked and helped to critically analyse photographs included in textbooks so that they develop critical analysis competences and an awareness of the difficulties the visual devices, in general, and, photographs, in particular, can present to students. To succeed in doing so, teacher educators would benefit from research focusing not only on the analysis of visual material included in the textbooks but also from students' and teachers' interpretation of such material. This is especially important because research (Colin, Chauvet & Viennot, 2002) has shown that teachers are not sensitive enough to the fact that images may be misleading to students. This is also the reason why we would argue for future studies focusing on students' and teachers' interpretation of photographs and on textbook authors' conceptions about the visual information and the pedagogical role(s) it should play in a science textbook.

People say that 'an image is more than 100 word'. It one trusts it, than there are strong reasons for concern with textbooks; images should be good enough and they should not convey wrong meaning to students. Attaining this goal would require appropriate education to be organized and offered to teachers, so that they can resist to commercial goals and defend educational principles.

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MODERN PIANO TEACHING AND PRACTICE METHODS: CONSIDERATIONS AND COMPARISON WITH LANGUAGE LEARNING

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ABSTRACT

Beginning with observations of current procedures in learning music, the author shows that the teaching process in many situations is reduced to mere reading of the notes, with practice being robbed of its most important aspect – the music – focusing only on mechanical repetition of the more difficult passages. After discussing how performers and composers faced this topic in the past, the author analyzes some problems resulting from a wrong approach to music. He provides diverse solutions and possibilities, illustrated by concrete teaching examples based on his experience, referring to some of the most authoritative piano literature. (In the following summary this last section is limited to the example of Bartok's *Mikrokosmos*.)

Keywords: teaching piano ; practice piano ; piano technique ; learning music ; music class ; early music ; keyboard treatises ; bartok.

1. AN OVERVIEW OF MUSIC TEACHING METHODS AND THEIR CONSEQUENCES IN PRACTICING PROCESS

My considerations are based on almost 20-years of music teaching experience in different countries. As a piano teacher, my main experience is acquired in front of a keyboard, but I have often dedicated myself to the in-depth analysis of other musical subjects and aspects, and the following considerations may easily be extended to music teaching in general.

An analysis of music pedagogy over the last 200 to 300 years reveals many changes. In order to better understand and analyze the matter, let's roughly compare some aspects of modern pedagogy that differ totally from the past (I generalize for brevity). For those who wish to study so-called "classical music", courses offered by schools and universities normally follow a standard path with students attending one hour-long class a week for 7 to 10 months per year. During class, students mainly work on their music with the aid of the teacher in a small or medium-sized practice room, although sometimes in a real studio; rarely do they have chance to practice on a very good grand piano. Any study of other subjects such as aural training, the history and theory of music, and the performance of chamber music is entrusted to another context or teacher. It is even more difficult to find an environment where students can seriously study improvisation, counterpoint and basso continuo as essential training to keyboard studies. Piano students spend most of their practicing time in absolute and rigorous loneliness. On occasions they have a chance to accompany fellow musicians, but unlike wind and string students, they don't often have occasion to practice chamber music. They usually focus on interpretation (though often, we must say, lacking the necessary historical perspective and consequently without a real understanding of the music and the composer's thought) and technical issues (the solution for which is mostly based on mechanical repetition of the same passage).

We know that Bach, Mozart, Beethoven, Chopin, Liszt, Brahms and Rachmaninoff (our list is much longer) were excellent improvisers and composers, not only performers; in their time improvisation and composition were considered essential skills of any musician. They were often conductors and able to play a string instrument as well. They practiced a great deal of chamber music and – at least until the early romantic era – all musicians were able to realize a *basso continuo* on the keyboard. Students generally studied with their teachers for fewer years than today. Classes were held many times per week, and sometimes students served their teachers as assistants, gaining in return an excellent opportunity to learn through experience. To mention a couple of examples: Bach's students often copied out instrumental parts after he had written an orchestral score; Haydn served

Nicola Porpora, his composition teacher, as piano accompanist. Teachers used to follow instructions of some of the most accredited treatises (Haydn studied deeply C.P.E. Bach's treatise *An Essay on the True Art of Playing Keyboard Instruments,* and when Beethoven accepted Czerny as a pupil, he asked him to purchase a copy of this treatise), and teachers themselves used to write "customized" music for their students (J. S. Bach: Inventions, Sinfonias, *The Well-Tempered Klavier* and so on). It would be impossible to analyze in its wholeness this drastic change in the educational background, nevertheless we may partly explain it comparing some differences between modern musicians and their colleagues in the past: presently the performer is no longer a composer/improviser, and in turn teachers may never been performers. Such incomplete musicians have lost the connection with the notation in the sense that they have never used it as a means to intentionally write down their musical thought. They have merely used it passively, without real perception of notation as a necessary set of symbols which convey meaning in a written form. Being unable to use the notation in this way, they will be unable to read it in order to decode its meaning, thus they focus on the most superficial and external aspects, giving a mere reading. All students have to deal with a Mozart sonata, a Schubert lied or a Bach prelude; they are simply unable to identify the affect and unable to appreciate what kind of musical choices composers have made in order to express their idea at its best. They just consider speed (tempo) as one of the only important parameter to be respected without any connection to the affective world of that music. Without any intention to generalize, I have noticed this situation in both academic environments, music schools and private classes teaching. In these last two, often teachers haven't received a regular and proper musical training, and parents are unable to evaluate their skills and expertise. In these contexts average of students usually ranges from 5 up to 18 years old, and generally they have their first and crucial impact with musical world.

We should now mention the most direct and common consequence of mentioned teaching methods on the practice process: often – due in part to the incorrect idea that a performance without any wrong note is already considered perfect – teachers stress, directly or indirectly, that students repeat the same passage for hours and hours, sometimes with a metronome, thus generating a mechanical automatism. And also, we should say, insecurity and bad feeling in the students. The result is usually an excessive emphasis on the correctness of the touched notes and cleanness and regularity of performance regardless the understanding of the function of an individual passage within the overall musical structure, and consequently the real integration of that passage. Conversely we do know how some great performers of the Twentieth Century used to practice: Busoni, for instance, used to take care of all single detail of the score and worked same passage at different speeds; Michelangeli considered all notes, dynamics and musical expression within the musical context; Rachmaninoff focused on the convergence of musical direction within a score towards the climax of the composition; András Schiff suggested to practice slowly and to never separate technical difficulties from the music; and György Sándor preferred to relax after 20 minutes of serious practice. Similar statements abound about musicians of previous centuries. In addition, we also know that some modern musical methods for children, such as Dalcroze, Kodaly, Orff, focus on both melodic and rhythmic aspects before approaching any specific instrument, never intending that mechanical repetition and automation should be part of the learning process.

2. LEARNING MUSIC: A COMPARISON WITH LEARNING LANGUAGE

In my opinion, and for reasons explained below, a teaching method based purely on reading the notes, and consequently a practicing method based merely mechanical repetition, not only limits discovery and fulfillment of the music's meaning, hampers integration of individual components of the musical thought (a melody, an arpeggio, an accompaniment or a running passage) within the whole composition, but has the potential to damage students' physical and mental health. Music and language learning may be usefully compared: as we know, young children learn language in an extremely spontaneous manner, purely based on imitation, repetition and dialogue with their parents. They simply follow the "learning speed" of their brain, appearing to progress

irrespective of established rules. They learn how to read and write after they understand the meaning of each word they learn, never the opposite. Teaching them a language by reading (as can happen with music teaching) without explanation of "what" they are going to say is comparable to teaching them the mere "sound" of each single word without awareness of its "meaning". Those words will sound meaningless for children because of their absence from their memory; only able to rely only on their aural memory, they would try to memorize those words as a combination of sounds. Without a cognitive background – whether in the case of language or music – children may not just mangle individual words, but will lack essential emotional expression.

We should also remark the total absence of rhythmic mechanical devices (such as metronomes) in teaching languages; children simply follow the natural rhythm of the spoken language within words and sentences. Accents, expression and articulation, although related to innate meaning, are missing from written language; but when children are taught to read and write after having learned how to talk, they can understand and properly articulate the written word. Teaching a language by starting with meaningless reading would of course miss all these expressions and articulations. Moreover more curious and imaginative children will generate their own new and original forms of expression and articulation.

This comparison may be extended to discussion of rhythm. Before children learn to walk, most of them begin with crawling, gradually improving coordination and balance. They never start by marching! In music, a sense of rhythm should be encouraged in a similar way, by playing, singing and dancing together. Confining the understanding of rhythm merely to counting or beating hands in time has at least two unwanted side effects: it makes children dependent by an external rhythm and so unable to feel the music's own rhythm, and it installs in their minds the idea that all notes notated with the same symbol have the same temporal duration (all authoritative treatises I know teach us that notation is not intended to be understood in this way). The metronome was invented in order to give the beat to dancers, and to make possible written information about the speed of music, but not with the intention of practicing music with it beating in the background, which interferes with the natural flow of the music. If used incorrectly, the metronome leads to an incorrect reading of the score based on mathematical division of notes into mathematically uniform parts.

I have noticed that, when faced with a musical score, students who learn and practice music using a metronome often react by ignoring the direction of a musical sentence, instead accenting each note (often with impulsive shaking of their wrists); their rhythms are incorrect with some notes longer or shorter than their correct duration, with rests often omitted – as if spelling a text without understanding the meaning, or spelling one word at a time without understanding and regardless of the context. Unfortunately such students do not realize their mistakes, since they ignore underlying cause, or worse, they think that a wrong note is the only mistake they could make. They merely press down the keys, as a sort of conditioned reflex dictated by the score in front of them. Thus any passage may be played incorrectly.

3. CONCLUSION: HOW TO MANAGE A MUSIC CLASS

Moving on the next part of my discussion, I would like to propose some different strategies that, according to my almost 20 years of piano teaching experience, may make the learning process valuable, challenging and stimulating, for both teachers and students.

Music classes, like other pedagogical environments, should always be based on a two-way discussion. The teacher should be flexible with their teaching method as each student has a different mind and personality. One of the most strenuous tasks at the outset is to observe the student's personality in order to realize why he/she is there, what he/she really wants, and how to stimulate his/her curiosity in the best way. Fantasy and creativity should be used, and never forget that a class is an occasion FOR THE TEACHER to learn something, not just for the student. The class should be integrated with the study of counterpoint and basso continuo (intended as a way to create and manage melodies and harmonies respectively) and should not be confined to study of one musical instrument, rather used to explore orchestral music, opera and other musical genres with students. Furthermore, other arts such as painting, ballet and architecture and also scientific disciplines such

as anatomy and mathematics should be taken into consideration during the class. The teacher should improvise and play together with student, whether by playing piano four hands, singing or accompanying them with a percussion instrument. The teacher should also teach the student to consider music within an historical perspective. Theory, musical instruments, musical conventions and aesthetics have changed over time. For example, a vocal trill in Caccini is neither the same as in a Bach invention, nor in a Chopin Nocturne. Keyboard instruments in Mozart's time and in his geographical area were not the same of romantic ones, and there is a significant difference in the technical approach between galant style music and romantic compositions. Teachers should also not forget to mention historical treatises, as one of the best source of information of the past.

4. IN MY CLASS

Some experiences I had in my classes illustrate how I teach using a different and customized approach with each student. I will present a music selection from some of the methods I consider valuable and useful. Despite the authority of the method and its inventor, we should always keep in mind that even the best method ever written doesn't produce the wanted effect if not used in the proper way. Often authors have written a foreword: it's usually a relevant historical statement and a clear set of instructions supposed to be read, understood and used in order to obtain the best benefit from that book. I have decided to write this section because I often noticed with disappointment that neither students nor teachers have an idea of what the author has prescribed (even the introduction Bach wrote to his Inventions is often totally ignored). Sadly, teachers ask students to practice exercises, taking care about the correctness of notes.

About Bela Bartok *Mikrokosmos*:
I consider Bartok's *Mikrokosmos* as one of the best methods to start study of the piano, especially for children. To begin with, I read Bartok's instructions together with the students. I explain that, as they can see, composers were sometimes also writers, scholars, performers and teachers. We listen to some of Bartok's music in order to have an idea of the composer. Then, we start and work with music. As Bartok suggested, I ask students to sing the melody of the first exercise. At first without score: I ask them to imitate my singing or my playing.

Fig. 1. Bartok *Mikrokosmos*: Melody n. 1 (Original)

When students are not so confident with the keyboard, finger position and articulation, singing a melody is the best way to make contact with music and its manifold aspects. I observe the way they sing. It's normal for some students to be shy, and I have to kindly insist before even obtaining a feeble sound. To encourage them I sometimes sing first, then I sing together with them, then I let them sing alone. This first phase has a variable duration and depends on the students' personality; I give them time to understand. Then, I observe again the way they sing: whether they can give a sense of direction to the melody, whether they just sing note by note, or even just say the name of notes without changing pitch. If necessary I again show how I sing and ask them whether if they can identify the direction of my melody and identify a climax. I also move my hand up and down my hand in order to make more visible the direction of the melody, and I ask them to move their hand while I sing. More generally, we try to go through the essence of the melody, and the first step is identification of its direction: since I am sure that a 6 or 7 year-old (or younger) cannot listen music as adults do, I need to have some confirmation of their understanding. As further confirmation and to provide students more input, I watch with them some examples of good singers and I ask them to

figure out the direction of the melody and to describe the performance. Sometimes (according to our point of view, as "experienced" musicians) they focus on some irrelevant aspect, other times they describe the correct direction and some dynamic change with simple words. After this first experience, generally they feel more confident and little by little they are able to sing the melody. In bar 4 there is a pause: this is a very interesting occasion to explain the meaning of that symbol and more generally, the importance of pauses in music. According to my experience, a very good way to show students the function of a pause (written or not) is to compare it with taking a breath, and "sing" it using silence. I let them try. Even though at the first attempt its duration will be approximate, they will realize truly the function of that symbol. I have not found that beating a pulse is the correct way to explain the meaning of a rest, as it's not purely a matter of duration of the sound. In this case also, a comparison between music and language may clarify the point. I work in a similar way when students have to understand the different duration of notes, such as whole and half notes that appear in this melody. Students will fully comprehend the difference in duration not by beating the tempo, but by explaining that a different duration simply refers to the movement of the melody as a curved line. Melody lingers for longer on some notes, so in a way these are more important than those with short duration. Consequently, notes with a different duration could not have the same sound and intensity. Different temporal duration is only a consequence of this reasoning. In the first two or three classes with students that cannot yet read music, I never use to beat the tempo. This may well be the most time-consuming way to teach, but also the most effective. I frankly admit that in other cases and especially with older students, I also support students by beating tempo. Sometimes their mistakes come from a misreading, and beating of a tempo is the best way to let them understand. But I always explain how the tempo should function. After this first approach with the melody, we try to perform it on the piano. Generally I ask students to play the right and left hands separately, but this depends on the individual student. In this further step I check their ability in transferring what they have sung onto the instrument. Generally the direction is less clear, but it's quite easy to improve once they have experienced it by singing. Next, when they reach a level of confidence with the melody, I ask them to modify the written melody by adding here and there some accidental, and I ask them to compare the original version with the new one. Since the melody does not require a change of the position of their hand on the keyboard, I suggest they change the position of a chosen finger and, for instance, place it on a black key, and then play the melody as written. They easily realize and express in simple words that even one different note changes the affect of the melody, and consequently the variant melody cannot be played like the original one. So I ask them if, in order to fulfill the new affect, whether or not we should slow down the melody or play it louder. I play different examples and let them choose. As a first attempt to enter deeply the character of a melody this is already a great result. Later, and step-by-step, I explain why a different note (it depends which note of course) can cause such a big shift in the affect of the melody.

Since the range of the melody is quite limited, it's quite easy to transpose it, and that is what I usually ask at this point. I ask them to move the melody in different position, starting with a different note, and to perform it in contrary motion and retrograde motion using both original and transposed versions.

Fig. 2. Bartok *Mikrokosmos*: Melody n. 1 (Minor mode)

Fig. 3. Bartok *Mikrokosmos*: Melody n. 1 (Lidian mode)

Fig. 4. Bartok *Mikrokosmos*: Melody n. 1 (Retrograde motion)

Fig. 5. Bartok *Mikrokosmos*: Melody n. 1 (Inverted motion)

This will reinforce memory and musical thought. When one day they face inventions and fugues, and other compositions based on imitation or counterpoint, it will likely be easier for them to understand the structure and enjoy the music. I let them make some experiment, trying to understand how their brain processes information though the analysis of their mistakes. I also ask them to vary the melody in whatever way they wish; later it will be easier to discuss improvisation and composition.

I continue in this way with the first 8 to 10 exercises, testing students' temperament and skills each time. After one or two months, students generally develop the necessary skills to proceed with practicing more difficult music.

About Johann Sebastian Bach's *Little Preludes*:

Almost all sources and treatises from the baroque era state that a prelude is intended to be a written-down free composition in improvisatory style. As we know, Couperin, Rameau and other composers were authors of a unique way to notate preludes: making them free by a measured notation, they invented the *Prélude non mesurée* (unmeasured prelude). Now many scholars agree that the key to decipher the hidden meter of such a composition – "unmeasured" does not mean "without" measure – is a deep understanding of its counterpoint and harmony, the rhythm being strictly related to these. This approach to music should be applied to all music, as composers of the past seem to indicate. Unfortunately, as previously stated, students' attention is often led in the wrong direction, merely to respect the written duration. Sadly, it's clear that students are used to approach, practice and play preludes (by Bach frequently, but also by other composers) without any knowledge of the above musical elements and, worse, without any knowledge of improvisation. The same problem, but worse, can be observed in advanced students in their attempts to perform cadenzas in Bach and Mozart concertos.

J. S. Bach's *Little Preludes* offer the possibility to understand and solve the problem at its root. Clearly the study of Couperin's *Préludes,* as well as the reading of his treatise is recommended even more strongly, especially for piano teachers unfamiliar with pre-Bach keyboard literature, but in my opinion the clear and concise texture of Bach's *Little Preludes* is more accessible and easier for young students. When some of my students attain the necessary skills, and are accustomed to realize some easy basso continuo, I give them Prelude n.1, BWV 924 notated without any durational symbols or bar lines:
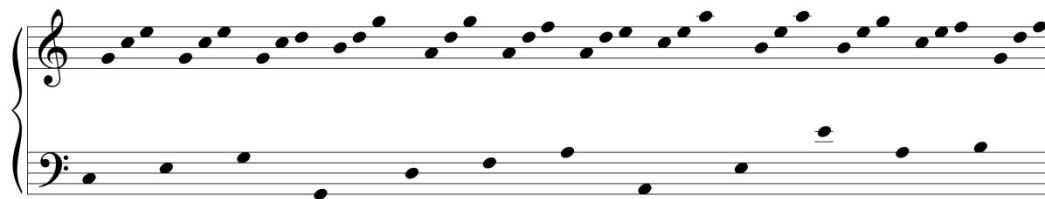
Fig. 6. Bach *Prelude n. 1, BWV 924* bb. 1-3

I ask them to play the piece, and from their performance I realize where we should focus our attention. Usually the first step is an attempt to understand the correct harmony. I ask them to observe the notes carefully and group them into harmonies they already know. Generally the first two beats of the first bar are quite clear, but on the third beat there is something unclear, so I explain about suspension and, as dissonance, how to treat it properly. Continuing with the analysis, I ask them to pay attention to other suspensions and find a proper way to play them. I consider this Little Prelude an outstanding example to introduce a student to the basic principles of harmony; after a general appreciation of the meaning and function of dissonance, I ask them to improvise easy harmonies using rules they have learned. The next step is to understand the harmonic movement in the first eight bars. Basically we move from the tonic to the dominant, stopping on some degrees of the C major scale. I let the students discover which degrees are more relevant by analysis of the bass line and I suggest they give these more emphasis. I let the students realize that in only eight bars six degrees of the scale (except the seventh) are touched – how interesting and at the same time simple is Bach's harmony!

Fig. 7. Bach *Prelude n. 1, BWV 924* bassline bb. 1-7

After becoming familiar with this first part I ask them to extemporize similar cadences in C major and other keys, both major and minor. Bars 9 and 10 represent a simple ascending repetition of the same arpeggio between the first and the last part of the prelude, keeping the same harmony. Students realize that the function of this part is a mere connection, so they perform it without particular emphasis (as when we say the conjunction "and" between two words). After that, we move to the most challenging part of the prelude, where the composer clearly wrote an improvisation upon a dominant pedal. Here the students' musical instinct struggles with the harmony, so I suggest rely on their melodic instinct to try and solve the enigma in a plausible way. I suggest they focus on intervals and jumps of some notes in order to give direction to their extemporization. The passage is not always clear, so I may propose diverse possibilities in order to stimulate their critical sense, asking their opinion from time to time. Bach sometimes introduced similar cadences within other Little Preludes, an excellent stimulus for students' imagination.

Fig. 8. Bach *Prelude n. 1, BWV 924* bb. 15-17

During study I also perform the piece with the students, and the more curious students always offer some in-depth analysis. This process takes from 3 to 5 classes. Only then I show them the Prelude notated in the original way. After this attentive and careful work they are usually able to perform the prelude without a blind respect of the duration superimposed on the notes, and with an appreciable understanding of the music. Similar methodologies may be applied to some other preludes as well as other pieces. The good and clever teacher may discover other interesting ways to let his/her students discover and appreciate these valuable little compositions.

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OPINIONS OF STUDENTS ON PRACTISING PIANO

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ABSTRACT

The objective of this study is to determine the opinions of students on practising piano who are studying in the Department of Music Education of Fine Arts in the Faculty of Education and taking compulsory piano courses. For this purpose, 42-person group consisting of the students in the Department of Music Education of Fine Arts in the Faculty of Education in 2014-2015 academic year was asked to write an essay titled "my opinions on practising piano". Written answers given were analysed by using qualitative research techniques. According to the results of research, the students stated that they feel under pressure as they have to practice piano regularly. They point out that as the piano examination program is at advance level, they have to practice hard and as they play continuously the piano, they have no sufficient time for studying other courses. When reviewed, the essays were different from each other depending on the student and the students stated that they got bored while practising piano. They need the support of teacher especially while analysing the piece and etude. Additionally, the students state that the more they like the melody of etudes or pieces, the more they want to practice.

INTRODUCTION

The piano is accepted as the most universal and the most basic instrument with regards to playing music, acquiring listening and chanting skills, understanding the music, creating music knowledge and forming a basis for other musical works by music educators (Buchanan, 1964). Musician needs to practice in order that the instrument can be played properly. Practising should be sustained for maintaining the development as well as for providing the development in playing the instrument. Practising piano includes all development studies such as analysing the piece, increasing and sustaining the performance. As stated by Ericsson et al., (1993), Sloboda et al., (1996); Hallam (1998), playing the piano is an action which contains the cognitive diversity consisting of auditory, visual and motor skills within itself. Individual tries to practise, repeat and carry out the performance in a coordinated manner throughout the years. These practices improve continuously the musical development of an individual. Jardaneh, 2007). Artist, educator or students can practice piano for different purposes according to their identities. Students practise piano individually and for making preparation in order to present generally in the course, examination or on the stage. Within this period, student should learn by practising or experience. In order to get this, student should actively experience playing. External source of motivation for a student who learns to play the piano is mostly the courses. The principle of practising piano requires the participation of student into all courses and daily systematic individual practising. Therefore, a certain practising time should be allocated and followed every day. Before practising, it is very important to plan wisely the practising time. Technical issues, practise, etudes and pieces and repeating the pieces practised before and sight-singing should be included in daily practising. (Çimen, 1994: 137). Şendurur (2001) mentions that a student should have mental, physical and spiritual abilities for an effective practising process. Individual practising process should be used effectively in order to gain skills required for playing an instrument and use efficiently these skills. This process requires attentiveness for practising principles, namely practising order and practising requirements. Çimen (1994) mentions that when the mind continues to function intensively during practising, more efficiency can be obtained with less physical effort (Çimen, 1994: 138). Çimen emphasizes that the most important element of learning is the fact that the mind focuses on practising. Piano playing skills, abilities and attitudes of students are directly associated with the readiness level in the entrance to the department of music education, motivation, piano playing conditions, time allocated for playing the piano, educators, piano courses goals, materials used in piano courses, the relationship between courses relating to the music field and having frequently the field of application of skills obtained in piano (Özen, 1998: 32). It is possible to evaluate the practising process and result as a whole. The attitudes of students related to practising piano can be an important determinant affecting the instrument performance. Thus, the opinions of students relating to practising piano are considered important.

THE STUDY

This research is a qualitative descriptive study made for determining the opinions and assessments of students related to practising piano who are studying in the program of music education in the Faculty of Education. This research consists of 42 students who are volunteers for attending the study and studying in the Department of Music Education in the Faculty of Education in Gaziosmanpaşa University in 2014-2015 academic year. 27 of these students are female, 15 of whom are male. The ages of students vary between 19 and 24. 20 of the students are at fourth grade, 5 of whom are at third grade, 11 of whom are at second grade and 8 of whom are at first grade. In order to determine the opinions of students studying in the Department of Music Education in the Faculty of Education in Gaziosmanpaşa University in 2014-2015 academic year, they were asked to write an essay titled "my opinions on practising piano". It was stated that data were important for developing and editing

the piano courses and this would not affect the assessment results of students in the end of semester when they were asked to write a detailed essay. Additionally, the students didn't state their names for allowing them to write freely their opinions. The analysis of data in the phenomenology researches is for revealing the experiences and meanings. In this analysis, similar data are gathered within the context of certain concepts and themes and edited in a manner that the reader can understand. The results are presented with a descriptive expression and the findings are explained and interpreted by allowing frequently and directly the citations. The written statements of students were analysed by way of the content analysis. The essay of each student was reviewed, the main themes were determined within the context of the research and creating common themes with other students was allowed. In this process, the essays of students were firstly numbered and gathered under common main themes. Common themes determined were analysed by two lecturers having qualitative studies except the research.

FINDINGS

All expressions of students participating into the research were analysed for finding common themes and examples were given by referring to the opinions stated.

Common themes were determined as;

1. Amount (quantity) and time allocated for practising piano
2. Function of Practising Piano
3. Feeling the need of Practising Piano
4. Motivation in Practising Piano
5. Obstacles for Practising Piano.
6.

1. Amount (quantity) and time allocated for practising piano

MS1 "Courses pass so intensively. If I had time, I would practise more. But the time is limited." WS7 "While I practising the piano, I continue to practise if I succeed to play the piece. If I can't, I don't want to practise. Whether I can succeed it or not depends on whether I like the piece or not. If I like it, I don't get bored and I practise hard" WS23 "While I'm practising the piano, I lose track of time…It gets dark before I know it" MS40 "As I get bored while practising the piano, I want it to end as immediate as possible. This time, I feel uneasy as I am not prepared" MS11"Practising piano is a waste of time for me, because I cannot find time for my instrument, practising…" MS41"I practise the piano enough to pass my class. I think that I should devote time to other courses...

The students stated that the more they like their task piece, the more they devote time to practising piano. Some students stated that they lose track of time while practising the piano as they like it, some students stated that they consider practising as a waste of time as they don't like or are interested in it. A few students stated that they have limited time due to intensive courses, so they practise little. According to Turgut(2006), being charmed by the job means that an individual focuses on job and his/her heart is in (as cited in Esen, 2011: 7).

It can be said that the more a student focuses on practising piano, the more he/she bears positive opinions for practising piano. Additionally, the time devoted to practising piano should be calculated by reaching the daily goal. It is a fact that both these important matters play a significant role for the success of student in practising piano. Another point is that the opinion that the piano is the basic instrument in the music teacher training program is defended due to the importance and the necessity that music teachers acquire the effective accompaniment skill. Accordingly, the accompaniment gained a more functional qualification for music teaching by gathering with background gained from courses such as piano, harmony-counterpoint-accompaniment and music theories above playing the piano very well (Sönmezöz, 2006: 8). Therefore, it is thought that making an effort for using this instrument in a functioning manner and using efficiently the time devoted to practising piano will be more reasonable instead of bearing any positive opinions for "Piano course" which is an important course in the program.

2. Function of Practising Piano

WS3 "I think that practising piano teaches me something. In a sense, it can affect both piano and other courses, because the course includes the subjects of harmony, audition, music history, music culture courses. While practising piano, I study the characteristics of piece by thinking that the teacher may ask"KÖ17 "While practising piano, I feel the improvement of my musical skill. I want to practise more." With reference to the statements, it can be said that practising piano teaches the students and develop their musical skills. Kıvrak (2003) stated that the piano is the sole instruments having the characteristic of effective instrument in major area courses by 80,7% for training music teachers. Additionally, the statements of Kasap (2004) on which the piano is accepted as the most universal and the most basic instrument with regards to playing music, acquiring listening

and chanting skills, understanding the music, creating music knowledge and forming a basis for other musical works by music educators have the quality to support both Kıvrak and the students.

3. Feeling the need of Practising Piano

MS 34 "Practising piano is important for me. It is impossible to play the piano without practising" WS31 "...I learned that I should practise piano every day. When I go to my home town for two days, I forget the piece immediately...."

Information should be processed for providing the permanence of information obtained in piano courses. One of these ways is to repeat. The students stated that they should practise regularly for the permanence of information obtained. Ercan (2006:105) supports the opinions of students by stating that repeating adequately the phrases within the piece allows fingers to learn automatically this skill as playing the piano is a skill developed with right practise and repetition. Hallam (1997) has also a similar opinion. Hallam advises beginner music students of "regular repetition for providing the improvement of cognitive, auditory and technical skills" (as cited in Pitts and Davidson, 2000:46). Margot Varro (1929/1958) summarizes the piano practices as various and proper repetitions for obtaining a certain piano skills (Jørgensen, 2008:8, as cited in Kılınçer and Uygun, 2013: 210).

4. Motivation in Practising Piano

Some of the students expressed that they became successful when they put the experiences obtained from the courses taught by their teacher into practise in their own piano practise. In respect to this, a few examples of the opinions of students are given below: *MS13 "...Teacher is very important in instrument teaching. If I practise the piano, this is thanks to my teacher. I'm good with my teacher. I try to make what he says." WS27"Unless a teacher leads rightly a student, this student cannot become successful. It is not adequate to say to practise, I want him to tell how to practise" WS2"Practising piano is a must for me. I don't practise unless I have to pass this course." WS36 "I have difficulty in practise lonely. While I am practising, I continuously question myself whether I can do it right or not. While I'm trying to solve the piece, I want my teacher to be with me but I guess this is not possible"*

The students stated that the teacher has an active role in practising piano and practising and interaction should be performed with the teacher. In other words, the students stated that they would become successful in case of motivation. As the motivation is effective for making an individual eager for behaviour by energising him/her, it is one of the most important factors featuring the efficiency of learning-teaching process (Akbaba, 2006: 343). Extrinsic motivation includes the effects coming from external of an individual. As MS13, WS27 and WS36 needs a teacher, it can be said that they need extrinsic motivation.

5. Obstacles for Practising Piano

Most of the students express that while they are practising piano, they face with internal and external obstacles. Related statements are given below: *WS9 "...For example while practising my piano piece, someone who played it before comes and comment on this. I'm annoyed, I say that I play carelessly but I won't. In the end, I leave playing." WS29 "I feel bored while practising piano. I cannot stay there anymore. I want to go out immediately. I'm not the kind of this while playing the violin. Maybe as the piano is a big instrument, I overestimate it while playing. For this reason, I lose the place of musical notes..."WS37"I cannot focus attention while practising piano. My hearth is not in."*

The students stated that while they were practising piano, they are disturbed by other students commenting on them and could not focus attention and stay there anymore. As stated by Çimen (1994: 139), when the mind continues to function intensively during practising, it is possible to get more efficiency can be obtained with less physical effort (Çimen, 1994: 138). In case of contrary, more effort is required. This will physically tire the student out, which may reduce the desire for practising. Fail to focus can be caused by lack of desire. Determining the reason of related obstacle is required for providing solution.

WS20 "The pieces given us are very difficult. The teacher said me to practise regularly and in a planned manner. I should continuously practise for playing those pieces. This time, my other courses wait." WS25 "...Maybe I don't know how to practise. For this reason, I don't want to practise and I don't already practise" WS15 "I couldn't like the piano...I don't have difficulty in other courses, I prefer studying other courses than practising piano.

It is seen that the students facing with obstacles related to practising piano are doubtful about overcoming and solving the problem due to avoiding the problem or fail to solve the problem. For examples; WS25 stated that he don't trust himself as he finds himself incapable of solving the problem related to practising piano. WS15 told that he left as he didn't like the piece and he would prefer another field in which he wouldn't have difficulty WS20 stated that he had lack of time and he did not study other courses due to the difficulty of pieces. The time devote to practising piano should be planned and controlled deliberatively. Hallam (2001b) emphasizes that there are remarkable proofs on which the amount of time spent while practising plays a significant role in the level of

specialisation obtained on a musical instrument. According to Maris (2000:118), there two approaches relating to planning the time of practising piano. The first one of these approaches is to decide what will be succeeded and how much time will be spent for obtaining the success goal. The second one is to decide how much time will be devoted to practising and to plan how to use this time (as cited in Kılınçer and Uygun, 2013: 219). It can be said that the students have difficulty both in planning and deciding.

RESULT

Practising piano may affect the quality of piano education of an individual. The studies in literature focused on performance and tried to find the reason of some problems at this point. Even though the problems are visible in the phase of result, they mostly occur at preliminary level. From this point of view, how the students practise the piano and what opinions and feelings they have while practising arouse curiosity. According to the findings obtained from this study, the students focused on five main themes relating to practising piano. These are defined as time and amount (quantity) devoted to practising piano, function (quality) of practising piano, feeling the need of practising piano, motivation in practising piano and obstacles for practising piano. The life of students has the quality to support the issues discussed today on education field. For example; the effect of teacher on student and the strategic plans to be made are the most important ones of current issues. Teacher is considered as the guide of student for the piano course. He/she should plan and lead the time well that they will practice together. Additionally, teaching the student how to practise by himself/herself became obligatory, because the efficiency of student in his/her practises will play a significant role for his development in the piano. For a student who knows for what he practises and can do his/her daily plans, it is likely that practising piano will become a pleasure.

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PLANNING FOR THE DEVELOPMENT OF THE TEACHER'S ROLE IN THE EVENTS OF HUMAN DEVELOPMENT

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البحث عن عنوان:

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• ملخص البحث:

لا يختلف اثنان على أهمية الموارد البشرية في البشرية في المستقبل والصناعة وتحقيق على درجة من الأسس المساهمة بأربز من احدا هو باعتبار التعليم رور في الجدل في المجتمع، لأفراد أهمية للرفاهية وانتاج وتطور يتخذون الذين الأفراد خلال من التنمية التي تحقيق مجتمعية مستدامة مجتمع خلق في يتي المختلفة التحديات وتيزيدة وتنوع تعد تمكن التنمية، ولكن هذه على للحفاظ اللازمة الحافظة على العمل رفعة أكثر مداخل في البحث ضرورة على دكؤت وتؤكد خاصة المنظمات والمعلمي التعليمي المجتمع مع المؤاقف أن تمكن بناء تمتيز وإعداد الموارد البشرية، مما يمكن فعالية للحصول على التعليم الجد يمكن بناء تمتيز مستقبل والاقتحام المنافسة العالمية في مختلف الحقول بقوة. يؤدي التغيير في المستقبل.

التعليمية المنظمة التعلميةالمدخلات فعالية بين الأكثر المدخل لأبسط هو واحدة من وهي التمتيز المعلم من نكمك التي تمتيز مجتمعات متمتز التعليم الجد للحصول على الحل الى تهدف التي والتي، البشرية، هذه تحاول لواحد. لذل، بين الدول المتقدمة. فجوات بين اهنا وبو وتقليص للفجوات نوعية قفزات تحقيق خلالها التعليم في البشرية التنمية احداث في المعلم رور لتطوير استراتيجية وضع اسراسة الى هذا من خلال التعلم معرفة على جود لدعم المعلم المتمتز معرفة وعمو التحديات التي تقابلهم في المعلم المدرسة المتمتزة للمستقبل وسلط الضوء من ثم المجال، ومن ثم الأعثور من الأدوار الجديدة الجديدة للمعلم المدرسة المتمتزة للمستقبل وسلط الضوء المعلمين. المعلم لبقل من اسرارهم ويمهم تعليمية وكيفية اللازمة المهارات على.

استخدم البحث المنهج الوصفي التحليلي للواقع مرارس في مجال التعليم متنوعا لتحديد التحديات المقترحة المنبثقة من الخطة وتحقيق هذه الدراسة، التي تعد ساعت في تطوير الاستراتيجية و، العربية الجزيرة أهداف العالي التعليم ووزارة والتعليم التربية لوزارة الاستراتيجية و للمستقبل، مدارس ضوء في المتمتز للمعلم المطلوبة والأدوار للغاية ضرورية المهارات تحديد لاجل في المقترحة الاستراتيجية لتنفيذ لضمان العامة الاجراءات السياسات ما هو وضح السياسات والاجراءات العامة لضمان التعليمية. وفعالية بكفاءة التعليمية.

• الكلمات الرئيسية:

الموارد - جودة التعليم - تحديات التنمية في تنمية الموارد - المعلم المتميز - مدرسة المستقبل.

Keywords: Resources - quality education - the development challenges of resource development - outstanding teacher - school of the future.

• الكلمات الرئيسية:

الموارد - جودة التعليم - تحديات التنمية في تنمية الموارد - المعلم المتميز - مدرسة.

PLANTAR PRESSURE DISTRIBUTION SHIFT DURING ADOLESCENCE IN SOCCER PLAYERS

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Background: Elite football players spend hours in specialized boots designed for this sport. Fast acceleration, frequent direction change and frequent ball contact are specific for players' locomotion.

Objective: To determine whether specific movements influence plantar pressure distribution in elite football players.

Methods: Forty-one male soccer players of three age categories (11 yrs, 16 yrs, and 21 yrs) were measured using dynamic plantography.

Result: There was a significant difference between plantar pressure distribution of 11 yrs old and 16 yrs old players.

Conclusions: The results show that significant changes in the footballer's feet take place especially between eleven and sixteen years of age. These changes may be caused mainly due to ontogenetic development. As a possible impact of sport specialization on the feet of athlete, we admit two changes that were observed in our study. The first one is transfer of athlete's weight towards the front of the foot and the second one is an intensive use of outer part of the feet, both observed amongst the older players.

Keywords: Plantar pressure, Football, Adolescence, Foot

INTRODUCTION

Football is an acyclic sport full of diverse motion range. It is believed that during the match each football player makes nearly thousand different moves (Kirkendall, 2013). Changing of high intensity sprint sections with moments of low intensity walk or trot sections is also typical for football. Elite football players cover a distance of up to 11 kilometres during a single match; approximately 25-27% is covered by walking, 37-45% by a light run, 6-8% by moving backwards, 6-11% by a quick run or sprint and the remaining 20% is covered by movements during the ball possession. Sprint sections usually have a length of about 15 meters and are repeated approximately every 90 seconds of the game. In total, sprint sections amount is approximately 1 km of the distance covered by a player during a football match (Grasgruber & Cacek, 2008).

Each player enjoys ball contact approximately 70 – 90 times a match which makes only 1,5 – 4 minutes of the game. Therefore, locomotion without the ball control prevails [3]. Energy is obtained variously depending on the actual intensity of a game. Aerobic energy production (oxidation of glucose and lipolysis) provides most of the energy needed in a football match (Grasgruber & Cacek, 2008). Frequent and unpredictable changes occur in the motion of players during the game; therefore high level of coordination skills is also required. One of the most important physical preconditions for a successful football player is his agility, the ability to make immediate changes in direction of body movement. Another very important precondition is the capacity of energetic reserves (Kirkendall, 2013); (Grasgruber & Cacek, 2008).

While the upper sole and midsole of the football boot are made of light-weight, flexible materials, the outsole is usually very hard because it faces great wear during the boot usage. Another feature of the outsole is its flatness, with spikes being placed under the toe part and under the heel part of the boot. There are usually no spikes in the middle part of the outsole. Therefore there is usually inadequate support of the foot and of the lateral foot arch in this part of the boot. Specialized insoles have been invented to minimise this handicap. They serve only as a partial compensation though (Stubblefield, 2015).

Dynamic plantography scans surface pressure distribution of plantarum of loaded foot. This diagnostic method uses pressure measuring insoles or platforms and is used to determine loading during the actual stance phase of gait. Parameters such as the length and the width changes of the foot, angle of gait, high pressure points and many other are recorded and quantified by the systems. (Kaller, Bolecek, Kratochvil,Vorlickova, 2013); (Graf, 1993).

Purpose of current study is to determine how specific movements of elite football players influence plantar pressure distribution in different age categories.

METHODS
Subjects
Forty-one soccer players took part in the study. The subjects were selected based on several criterions. The first criterion was that all the players were players of the same club, a long-term participant of the first Czech league Synot Liga. Next criterion was age difference between the three age categories measured – we measured category of 11 year old (sixteen subjects), 16 year old (fifteen subjects) and 21 year old (ten subjects) players of the same club, therefore all of them should be exposed to relatively same training conditions.

Procedure
Our study was conducted using the emed electronic system which belongs to the family of novel pedography measurement platforms (Novel.de 2015. Emed, [On-line]. http://novel.de/novelcontent/emed, accessed March 9, 2015). The emed platform is a capacitive sensor construction. It is easy to use because it is stationary and flat. On the other hand, it takes time to the patient to familiarize with the platform in order to ensure natural gait. The main limitations of this system are space, indoor measurement and patient's (in)ability to make valid contact with the platform(Razak, Zayegh, Begg & Wahab, 2012).

The platform was always used on a flat surface. To secure maximum reliability of the results, a method of third step was used and each foot was measured five times by the platform. The result of dynamic plantography is so called "foot scan" representing plantar pressure distribution during the walk. All five attempts for each foot of each player were summarized into one average attempt for each foot of each player. The average foot scan was then divided into three parts – M1 (heel part of the foot), M2 (middle part of the foot) and M3 (metatarsal and toe part of the foot). When analysing these parts we concentrated on following information: contact time of each part with the platform, maximum force exerted by each part of the foot, peak pressure exerted by each part of the foot and surface ratio of the three parts during the walk.
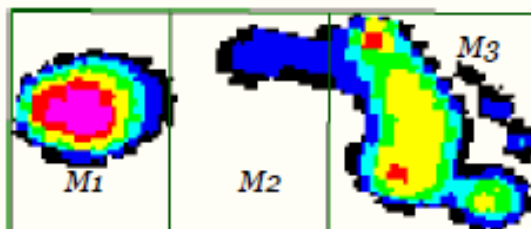
Figure 1: Foot scan divided into three parts (M1, M2, M3).

STATISTICAL ANALYSIS
A one way ANOVA was used to assess the statistical significance of change of each variable among the three age groups. To determine the exact location of differences by statistical significance a post-hoc Tukey HSD test was conducted. The level of significance was set to 0.05. All statistical analyses were conducted using Statistica.12 software.

RESULTS
Means and standard deviations of all variables are shown in Table 1. Results of the analysis are shown in Table 2.

Contact time
The lowest average contact time with the platform was measured in the youngest age category (11yrs). This can be due to small foot and therefore small contact area compared to the other categories. The metatarsal and toe part of the foot (M3) stays in contact with the platform for the longest time. Significant differences between the time ratios of M1, M2 and M3 parts of the foot were not noticed among the three categories.

Maximal force

The maximal force of the M3 part is rising both in relative and in absolute values with the age of the subjects which can show transfer of the body weight towards the front of the feet. The M3 part is used more intensively by the older players, probably due to the sport specific movement – frequent steps provide frequent touches of the ball and therefore ideal ball control.

Peak pressure

Similarly to the maximal force also peak pressures of the footballers' feet follow noticeable tendencies during the adolescence. Eleven year old players exhibit peak pressures mainly in the M1 part whereas in sixteen and twenty-one year old players the peak pressures were detected predominantly in the M3 part. The shift of peak pressures in direction from the heal towards the front of the food can be easily spotted in figure 2 where we can see a typical plantogram for each age category.

% contact area

Ratios of the contact areas of the three parts investigated in our study (M1, M2 and M3) stay approximately the same with the increasing age of the studied subjects. This fact is common for both feet.

Table 1: Means and SD of contact time, maximal force, maximal pressure and % of contact area of each part of the foot scan, left foot.

	Foot scan part	11 yrs		16 yrs		21yrs	
		Mean	SD	Mean	SD	Mean	SD
Contact time	M1	3,89	0,73	4,49	0,74	4,43	0,57
	M2	3,95	1,24	4,98	0,74	4,97	0,49
	M3	5,82	0,84	6,64	0,58	6,62	0,52
Maximal force	M1	310,95	50,17	490,54	92,45	479,30	61,50
	M2	49,26	42,91	112,25	59,08	120,29	65,06
	M3	398,96	58,53	721,18	80,35	760,21	84,83
Maximal pressure	M1	324,06	76,95	363,67	79,88	308,50	61,38
	M2	59,38	26,20	104,00	46,72	110,50	34,27
	M3	275,31	48,22	471,67	138,42	430,00	130,60
% of contact area	M1	29,18	2,55	28,07	1,75	28,40	2,01
	M2	15,02	6,96	18,87	3,54	18,30	4,90
	M3	55,80	5,03	53,07	3,39	53,30	4,47

Table 2: Means and SD of contact time, maximal force, maximal pressure and % of contact area of each part of the foot scan, right foot.

	Foot scan part	11 yrs		16 yrs		21yrs	
		Mean	SD	Mean	SD	Mean	SD
Contact time	M1	3,87	0,59	4,40	0,76	4,19	0,66
	M2	4,05	0,87	5,08	0,69	5,07	0,30
	M3	5,76	0,63	6,84	0,66	6,67	0,54
Maximal force	M1	316,22	40,09	466,73	99,52	456,42	50,86
	M2	63,44	48,20	112,32	57,43	130,70	76,28
	M3	407,02	53,98	735,06	82,76	752,85	70,74
Maximal pressure	M1	321,88	55,16	346,33	101,13	294,50	52,62
	M2	71,25	32,53	103,33	41,82	116,50	41,23

		M3	275,00	45,24	451,00	123,91	465,00	136,42
% of contact area		M1	28,50	2,16	28,13	1,92	27,70	2,00
		M2	17,06	6,82	19,13	3,74	19,50	5,38
		M3	54,44	5,20	52,73	3,53	52,80	4,42

Table 3: Results of the statistical analysis.

	Variable	Foot scan part	p 11-16*	p 16-21*	p 11-21*
Left foot	Contact time	M1	0,06	0,97	0,16
		M2	0,01	0,99	0,03
		M3	0,01	0,99	0,02
Right foot	Contact time	M1	0,08	0,73	0,45
		M2	0,00	0,99	0,00
		M3	0,00	0,77	0,00
Left foot	Maximal force	M1	0,00	0,92	0,00
		M2	0,01	0,93	0,01
		M3	0,00	0,41	0,00
Right foot	Maximal force	M1	0,00	0,93	0,00
		M2	0,07	0,73	0,02
		M3	0,00	0,81	0,00
Left foot	Maximal pressure	M1	0,31	0,18	0,86
		M2	0,01	0,90	0,00
		M3	0,00	0,62	0,00
Right foot	Maximal pressure	M1	0,64	0,22	0,64
		M2	0,06	0,68	0,02
		M3	0,00	0,94	0,00
Left foot	% of contact area	M1	0,33	0,93	0,65
		M2	0,13	0,97	0,30
		M3	0,20	0,99	0,34
Right foot	% of contact area	M1	0,87	0,86	0,60
		M2	0,55	0,99	0,52
		M3	0,54	0,99	0,64

* p 11-16 (differences between the 11 and 16 year old group), p 16 – 21 (differences between the 16 and 21 year old group), p 11 – 21 (differences between the 11 and 21 year old group).

DISCUSION

Results of our research indicate that the pressure distribution changes are registered especially between categories of 11 and 16 year old players.

Ontogenetic development of the players might be the reason for these changes rather than sport-specific training. Between 11 and 16 years of age there is a rapid physical growth of players which also increases feet surface area and body weight and therefore causes an increase in values measured by the platform.

Transformation of plantar pressure distribution among the selected parts of the foot (M1, M2, and M3) might be understood as a consequence of sport specialization. In particular, sixteen and twenty-one year old players use

the M2 (middle part of the foot) and M3 (metatarsal and toe part) parts considerably more than eleven year old players during the walk. This shift can result from specific sport demands while dribbling the ball, when players use toe part and instep dominantly to control the ball. Weight transfer towards the front (M3 part) of the foot allows frequent contact with the ball and therefore maximum ball control.

Frequent wearing of football boots is probably contributing to significant shift of plantar pressure distribution from M1 to M3 part of the foot in sixteen and even more significantly in twenty-one year old players, when compared to plantar pressure distribution of eleven-year old subjects. In order to provide better ball sensation along the instep, typical football boot cut is narrow. Additionally, for a greater sensory input, footballers usually buy football boots a size smaller than their other footwear is. Smaller surface of football boots compared to trainers of professional football players has been associated with increased plantar pressure and forces in the football boot. (Santos, Carline, Flynn, Pitman, Feeney, Patterson & Westland, 2001).

In contrast to previous studies (Janković, llič, & Durič, 2014); (Đurić, Ilić, & Nešić, 2013); (Grabara, 2008); (Klata,1997) in current study no foot deformities were observed. The study of Janković et al. (Janković, llič, & Durič, 2014). Suggests that over 76 % of 30 participants of a football school aged 11 to 13 have a certain degree of fallen arches. Another study (Đurić, Ilić, & Nešić, 2013). indicates that suspended arch of the foot is the most frequent postural deformity in both sexes of 7-11 year old handball players. Study carried on by Grabara (Grabara, 2008). Resulted in the fact that hallux valgus, varus deformity of the small toe and depressed longitudinal and transverse arches of feet were more common in footballers than in non-footballers. This deformities were observed especially at the subjects of with the longest training experience. Klata (Klata,1997) discovered similar deformities by examining 17-18 year old football players. The study observed depression of the longitudinal vaulting of mainly right feet based on KY index (20% of subjects) and transverse depression. Answers of the questionnaire then showed that majority of the footballers were right-handed (92%) and right-footed (85%) as well. Therefore there could be some assumptions that the dominant right leg is much more burdened during trainings and games than the supporting left leg. Unlike Klata (Klata,1997) we did not detect any significant signs of laterality. No differences were observed between right and left foot pressure distribution in either of the categories.
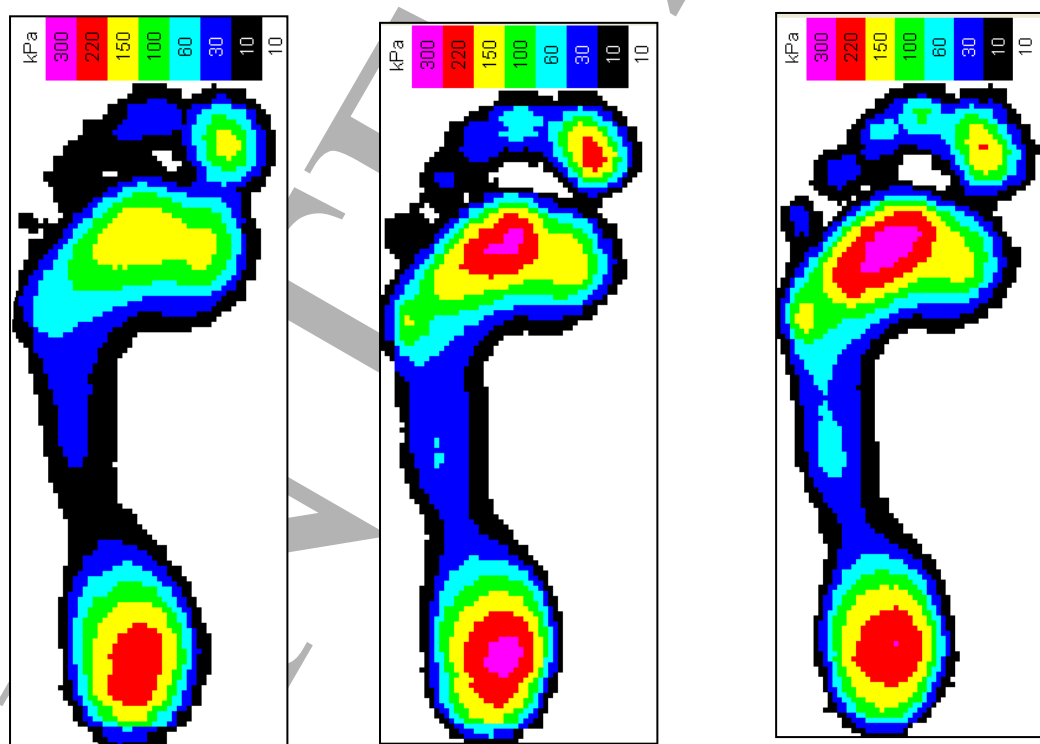
Figure 2: Plantar pressure distribution in 11 year old, 16 year old and 21 year old football players.

CONCLUSION

The results of this research show that significant changes in the footballer's feet take place especially between eleven and sixteen years of age. These changes may be caused mainly due to ontogenetic development. As a possible impact of sport specialization on the feet of athlete, we admit two changes. The first one is transfer of athlete's weight towards the front of the foot and the second one is an intensive use of outer part of the feet, both observed amongst the older players. To confirm our assumptions there is a need for further studies.

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PRACTICAL PROBLEMS OF UNIVERSITY STUDENTS' LEARNING AND PERFORMANCE ASSESSMENT

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ABSTRACT

Assessment of knowledge, skills and competencies of university students is one of the elements of a learning process which uses feedback from the acquired knowledge, skills and competences. It enables to classify the level of students' learning by assessing their knowledge, skills and competences acquired during the study of a particular subject. It constitutes one of the most important forms of communication between university teachers and students. Assessment can be understood also as an activity the consequences of which can not only help but also harm the student. The quality of assessment should be in the centre of attention of university teachers because it places considerable demands on the teacher's pedagogical thinking, on the ability to assess their own pedagogical activities and to correct them thoughtfully according to the situation. The aim of this paper is to present theoretical knowledge about students' learning, skills and competencies assessment and, at the same time, to highlight the practical problems associated with this assessment. In conclusion, the contribution includes recommendations for improvement of efficiency and quality of university students' assessment.

Keywords: assessment, knowledge, performance, university, teacher, student

INTRODUCTION

In order to increase the employment of its students the University of Žilina implemented several types of projects with the objective to provide qualified graduates with necessary knowledge and skills for practical life. The situation of graduates from the University of Žilina on the labor market has been as follows: Statistical data from the Office for Labor, Social Affairs and Family of the Slovak Republic in the period 2012-2014 imply that the share of university graduates on the total number job applicants doubled in 2013-2014 in comparison with 2012. Meanwhile, in 2014 the total number of job applicants in the country decreased by 12.24 % (in 2014) and in the region by 11.01% (Table 1, Figure 1) (Boc, 2015).

Table 1: Numbers and shares of unemployed university graduates in the Slovak Republic and in the Žilina region in 2012-2014. (Statistical data from the Office for Labor, Social Affairs and Family of the Slovak Republic, In: Boc, 2015)

Year	Slovak Republic [number of persons]		Žilina region [number of persons]		Index of university graduates – job applicants [number of persons]	
	Total	University graduates	Total	University graduates	Slovak Republic	Žilina region
2012	425858	3524	45868	351	82,75	76,52
2013	398876	6480	44945	844	162,46	187,79
2014	373754	6352	40782	816	169,95	200,09

	2012	2013	2014
SR	0,83	1,62	1,70
ŽR	0,77	1,88	2,00
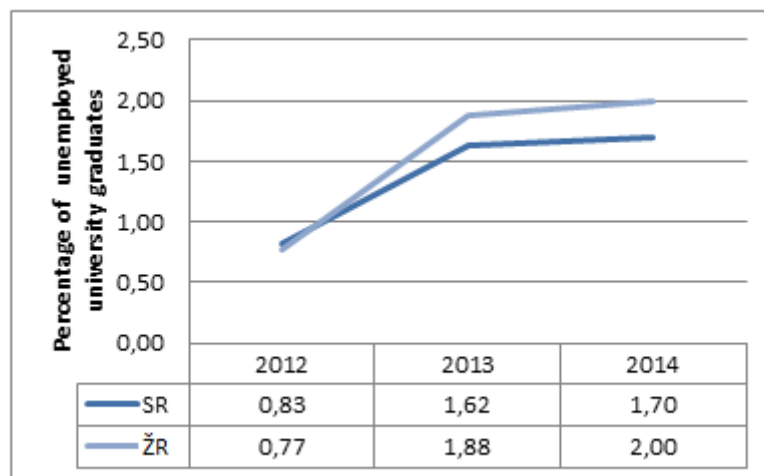
Figure 1: Comparison of the percentage of university graduates – job applicants in 2012-2014 in the Slovak Republic and Žilina region (Source: Statistical data from the Office for Labor, Social Affairs and Family of the Slovak Republic, In: Boc, 2015)

In the monitored period the situation in placement of university graduates in the Žilina region was worse than in the national scope. Since 2013 there has been a growing trend in unemployment of university graduates which in 2014 exceeded the national average share by 0.30%. The chances of the graduates in practice strongly depend on their knowledge, skills and competences acquired in the course of their university studies.

The European Qualifications Framework for lifelong learning defines three categories of educational outcomes – knowledge, skills and competences – which are also the subject of assessment in university students. From the viewpoint of content and demands, there are 3 levels of individual and acquired or learned dispositions, while the first level is represented by knowledge (the lowest level of educational outcomes), the second level is represented by skills (the next higher level) and the third level is represented by competences (the highest level of educational outcomes) (Blašková, 2013).

Knowledge, skills and competences are characterized as follows (EC, 2009):
- Knowledge is a result of acquired information through learning. It is a set of facts, principles, theories and procedures which relate to the spheres of work and study. In the context of the European Qualifications Framework knowledge is described as theoretical and/or factual.

- Skills represent the ability to apply knowledge and to use know-how to perform tasks and to solve problems. In the context of the European Qualifications Framework skills are described as cognitive skills (including utilization of logical, intuitive and creative thinking) or practical skills (requiring manual workmanship and application of methods, materials devices and tools).

- Competence is a demonstrated ability to use knowledge, skills and personal, social and/or methodological abilities in working or study situations and in the professional and personal development. In the context of European Qualifications Framework competence is described in relation to responsibility and independence.

Knowledge and skills focusing on one specific situation become quickly obsolete and useless. Therefore it is necessary to develop also competences (skills, abilities, knowledge, attitudes) which can be used in most occupations and which make it possible for the individual to take up different positions, to handle unpredictable problems, to cope with fast changes at work and in the personal and social life.

Key competences are supposed to be used to solve many problems and to achieve goals in different spheres of social and personal life of the person. They include, particularly, information competences (information and computer literacy), teaching competences, cognitive competences (solving of problems, critical and creative thinking), communication competences, interpersonal competences (ability to live and to work effectively with other people, to learn with them and from them) and personal competences (Dubovská, 2015).

FORMS OF ASSESSMENT OF STUDENTS´ KNOWLEDGE, SKILLS AND COMPETENCES

Assessment of knowledge, skills and competencies of university students is one of the elements of a learning process which uses feedback from the acquired knowledge, skills and competences. It enables to classify the level of students' learning by assessing their knowledge, skills and competences acquired during the study of a particular subject. It constitutes one of the most important forms of communication between university teachers and students. Assessment can be understood also as an activity the consequences of which can not only help but also harm the student. The quality of assessment should be in the centre of attention of university teachers because it places considerable demands on the teacher's pedagogical thinking, on the ability to assess their own pedagogical activities and to correct them thoughtfully according to the situation (Blašková, 2013).

In connection with the assessment of students literature uses the expressions "assessment" and "evaluation". The two terms are normally used as synonyms but in professional pedagogical terminology they are understood and applied differently.

Evaluation is understood as a process or result of objective evaluation of data which characterize quality and efficiency of various aspects of education (e.g. objective, content, methods, means, forms, conditions and results of the students, study programs, faculties, universities etc.). Evaluation provides information about the whole pedagogical reality for the purposes of pedagogical theory and pedagogical practice. It should evaluate, as objectively as possible, quality of the educational programs, educational needs, training of teachers, educational environment etc.

The term "evaluation" is broader than that of "assessment" because it covers evaluation of theory, methodology and practice of the most diverse phenomena relating to education.

The term assessment is more frequently used in the context of university practice, primarily in connection with assessment of knowledge of the students, as well as the work of university teachers.

Assessment represents a process of determination of the level of knowledge, skills and competences of students by means of certain diagnostic techniques and their comparison with previously outlined objectives. It is not understood only as a quantitative process (grading – marking = classification) but also as a qualitative assessment of the students´ results.

The methods and forms of assessment can be classified based on several criteria. The assessment is based on comparison.

Based on the objective the assessment can be formative or summative.

- **Summative assessment –** the objective is to determine results of the student´s learning process and the levels of his knowledge, skills and competences. It is usually associated with classification of the students.
- **Formative assessment** – the objective is feedback, i.e. acquisition of information to further improve a particular performance or activity. It is oriented at support of effective learning of the student and it provides advice, guidance and instructions to improve his future results. One example of formative assessment are comments and correcting of student´s work, dialogues of team members or investigators working on a student research project, assessment of students' communication during teamwork etc. Formative assessment is not usually connected with classification of students.

Based on the reference used to compare the student´s performance we can recognize:

- **Differentiation assessment** – or assessment of relative performance, which compares the student´s performance with that of other students, as a rule with the average performance of the concerned students.
- **Verification assessment** – or assessment of absolute performance. The student´s performance is compared with a previously set-up standard.
- **Individualized assessment** – the student is compared with the level of his own capacities and abilities, i.e. with himself in the course of time.

Based on the awareness of the student the assessment can be classified as:

- **Formal** – students are informed about the assessment in advance and they can prepare for it,
- **Informal assessment** – is based on observation of common activities of the students in the teaching process.

The **assessment** may focus on the **course of activity** of the students, e.g. laboratory exercise, or on **results of the activity** , e.g. assessment of a completed didactic test, completed model, drawing etc.

The assessment can be performed by a teacher who teaches the students and then the process is called **internal assessment**, or by an external assessor (teacher from another school, expert from practice etc.), and the process is then called **external assessment.**

INTERACTION BETWEEN A UNIVERSITY TEACHER AND STUDENTS AND ITS EFFECTS ON THE ASSESSMENT

The interaction and quality of relationship between a teacher and a student significantly affects the teacher´s impact on the student. The method of interaction and the relationship between the teacher and the student depend on the capability of the teacher, as well as on the capability of the student, to perceive and to assess the other person based on various relatively independent criteria; it also depends on the capability to objectively assess all personal characteristics and not to rely on a single experience, single significant manifestation or feature. However, the teacher and the student are not always sufficiently mature to reasonably assess all properties and manifestations of the other person and to get an objective picture. Therefore in some cases the assessment of the student by the teacher does not truly reflect the student and his performance. In this connection there may be various interpretations and attitude demonstrations which are affected by the character of the relation between the teacher and the student, which include (Chmelárová et.al, 2010):

- **Pygmalion effect** – mechanism of positive influencing of the student´s characteristics and results by the fact that the teacher positively expects favorable changes and favorable outcomes. As a result of the assumption, the teacher applies an interaction with the student which significantly contributes to positive changes and improvement of the student´s performance.
- **Golem effect** – it is the opposite of the Pygmalion effect, i.e. that the teacher assumes and expects weak or insufficient performance and in the end actually causes its worsening.

The Pygmalion and Golem effects are significant at universities particularly during exams in which the teacher under the influence of his expectations or assumptions can, verbally or non-verbally, contribute to a better or worse performance of the student.

Hallo effect – is a generalization of the student´s assessment based on a single characteristic, property or experience by which the assessor was strongly impressed. It may be positive (we ascribe to the person other positive properties after we have seen one positive property) or negative (we ascribe to the person other negative properties).

One of the properties to which teachers often respond with the halo effect is strenuousness. If the teacher finds the student strenuous he often overvalues his abilities and improves assessment of his performance. A better grade as a result of strenuousness may have a negative impact on the student´s personality, e.g. inadequate improvement of the student´s notion of himself, which may lead to excessive increase of self-confidence and subsequently non-acceptance of teacher´s authority. University teachers often experience consequences of such overvaluation of strenuousness at secondary schools. At the university level it is impossible to replace lack of abilities with strenuousness. Students with high self-confidence acquired in this way often quickly lose their belief in themselves after the first failure and such disappointment may lead even to tragic consequences (suicide).

A very important sphere in which the halo effect plays an important role are the student´s previous school results and performance. The halo effect can explain stability of grades throughout the whole time at school. If the teacher cannot decide about how to assess the student he usually tends to look at the previous assessment or the opinion (assessment) made by his colleagues.

In this way personal appearance, behavior and information about the family background may also influence the student´s assessment, both positively and negatively.

Typification and preferential attitudes are other specific effects which operate in the interaction between the teacher and the students. Typification means classification of students as certain types or sub-groups. Preferential attitudes mean stronger focus on certain students.

The teacher interacts differently with students classified as individual types, which the teacher sees either positively or negatively, and thus creates different conditions for their success, development of self-confidence etc. Students are frequently classified based on their study results but also based on gender. Differentiation

between male and female students is fairly common at technical universities because some teachers are still prejudiced against women and they think that girls are not good enough to study technology or some specific specializations (e.g. nuclear engineering).

Another interpretation and attitude demonstration of the relationship between the teacher and the student is the teacher´s approach to the student which depends on teacher´s belief about the causes of the student´s achievements and failures.

If the teacher ascribes student´s achievements to internal and stable factors (student´s abilities) and his failures to external and changing factors (e.g. bad luck when choosing a question for the exam etc.), we refer to **activating attributions**. The teacher assumes that every student has certain internal prerequisites to achieve a certain level of success. If the student fails the teacher stresses the factors which the student can eliminate with his own efforts. He thus contributes to the full utilization of the student´s abilities and develops his self-confidence.

If the teacher ascribes student´s success to external factors and the failure to internal factors then we refer to **de-activating attributions**. They frequently result in student´s resignation (why should I learn if the teacher thinks I am incapable and I will not get a better grade anyway…).

An important factor affecting the teacher´s relationship and interaction with students is whether the teacher believes that the student is successful. The teacher interacts with such a student differently and the assessment is different (e.g. some teachers prefer students with an impulsive cognitive style, while others prefer reflective cognitive style. One teacher´s notion of a successful student can be associated with certain external or internal characteristics which may be totally uninteresting or irrelevant for another teacher, e.g. his hairstyle, clothing, behavior etc.

On the student´s side, the interaction can be affected also by the so-called unsuccessful personality syndrome or the learned helplessness syndrome. Both the cases represent a kind of a "complex", an internal mental factor created based on previous negative experience, in this case associated with failure at school. If the failure in the same or similar situation repeats several times then it becomes such a strong factor that it may adversely affect the student´s behavior and experience in a similar situation in the future.

In respect to all the mentioned factors affecting the interaction it is essential for the teacher to be aware of them and their potential impacts on the student´s personality and to work on himself to rectify his conduct and actions in contact with the students.

CONCLUSIONS

Results of university education represent a specific outcome with expectable specific content which reflects binding documents regulating the respective accredited study program and they are also dynamically confronted with current demands of the practical life and market. According to the ECTS User Manual (2009), education outcomes summarize what the student is expected to know and to understand and what he is able to prove after his education process is completed (Verešová, Čerešník, 2013).

The improvement of efficiency and quality of assessment of education outcomes of university students can be achieved by implementation of the following recommendations. The assessment shall have a previously specified clear methodology for evaluation and measuring of results. The objective is to achieve the highest possible validity and reliability of the assessment, to assess the right facts and to make the assessment accurate and reliable. Another recommendation is to create a portfolio in which the teacher keeps works of each student in the long term (results of tests, measuring protocols, projects, papers, teacher´s records about observation of the student, etc.). This will allow the teacher to monitor the direction, substance and scope of changes in the student´s learning process. The portfolio will provide a comprehensive view of the student and will allow students with different learning styles to succeed.

During exams and assessment the teacher should create a positive atmosphere and minimize stress by means of positive motivation. It is recommended to prefer formative assessment which tells the student how to improve his results and how to avoid mistakes and shortcomings in the learning process and to make it more efficient. The assessment and classification should follow as soon as possible after the assessed performance. In the opposite case the motivation effect of the assessment is diminished. The objective is to involve students into the assessment process as partners, e.g. the students may correct and evaluate their tests themselves based on previously specified criteria which also contributes to formation of their personal qualities, such as honesty, impartiality and demandingness. It is also recommended that students should perform self-assessment and they

should be assessed by their peers in order to learn to assess the others and to reflect on assessment made by others. Last but not least, it is recommended to apply various modern methods of development and evaluation of tests, e.g. IRT method (Item Response Theory), MDT method (Measurement Decision Theory) etc.

High quality education outcomes, such as knowledge, skills and competences, which are also the subject matter of assessment of university students, represent a prerequisite for their success in practice.

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PRE-SERVICE PRIMARY TEACHERS' PERCEPTIONS TOWARDS MATHEMATICS CONCEPT

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Mathematics is in everything we do. It is in our daily lives, in computers, including mobile devices, architecture, art etc. Mathematics as an interdisciplinary language and communication tool. Like reading and writing, math is an important component of learning and doing in each academic discipline. Mathematics is such a useful language and tool that it is considered one of the "basics" in our formal educational system.In this study, pre-service primary teachers‟ perceptions towards mathematics, who will play significant role in their first experience with mathematics, are scrutinized by way metaphors. Metaphors are powerful tools for revealing their point of view towards mathematics and reflecting their experiences, and present and future ideas. In this study, one of the qualitative research method, phenomenology, was implemented. 42 pre-service primary teachers participated to this study in Bartın University department of primary teacher education in 2014-2015 academic year were asked "What is mathematics like? Is it similiar anything in your life?". Analysis of data was carried out some metaphors: "life", "communication tool", "cryptography", "systematic science", "game" etc. Making the focus group discussions with students who have similar metaphoric perception and mathematical meaning of this perception.

Keywords: Mathematics Concept, Perceptions, Primary Teachers'

PRE-SERVICE SCIENCE TEACHERS' PERCEPTIONS OF TECHNOLOGY LITERACY

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ABSTRACT
Science literacy contains understanding technology. Therefore, it raises questions about the role of technology in science education. The aim of the study is to investigate pre-service science teachers' perceptions of technology literacy. Phenomenography served as the methodological framework for the study to gain in-depth insight about the nature of technology literacy in science education. The pre-service teachers discussed about the concepts associated with the key components of knowing, learning, and thinking within technology's everyday experiences, during the interviews. The responses of the pre-service teachers to the questions in the interviews were evaluated and according to this evaluation it was determined that their perception of technology literacy was separated into categories. The findings are expected to provide a basis for discussion about using technology literacy to foster future teachers' instructional efficiency.

Keywords: Pre-service science teachers; science education; technology literacy; phenomenology

INTRODUCTION

Technology affects dramatically our lives, so their growth in education for instructional use has increased (Spotts, 1999). There is much discussion about the integration of technology into education from all disciplines (Georgina & Olson, 2008).

When considered in terms of education, the use of new instructional technologies is multidimensional. It includes the possible use of new or revised materials, teaching approaches and the possible alteration of beliefs (Fullan, 1991). The primary task of technology in education is to support both instructional technology and student learning technology. This includes technology to enhance and support communication between student and instructors (Georgina & Olson, 2008).

Today's information and communication technologies can be addressed to science education as an alternative teaching way. Furthermore, science and technology is a compulsory subject between the grade 4 and 8 in the Turkish Educational System and the education system is expected to produce technologically literate students (Turkish Ministry of National Education, 2005). Therefore it is important to use and understand technology. Russell, Bebell, O'Dwyer, and O'Connor (2003) have stated the quality and availability of educational technology in schools have increased significantly along with the technological literacy of teachers and students.

Schrum (1999) reported bulleting points relating to teacher technology training: it takes considerably longer to learn about technology for personal or pedagogical use than learning a new teaching model; access to the new technology at school and at home is essential; fear of the unknown must be addressed; the use of new technology may require teachers to reconceptualize the ways in which they teach. Therefore, it is important that pre-service teachers to be technology literate.

Technology and literacy were found to be the subjects of ongoing debate in several fields of study (Lewis & Gagel, 1992).Technological literacy means that an individual should have the capacity to "design, develop, control, use and assess technological systems and processes" (Shackelford, Brown & Warner, 2004, p. 7). Davies (2011) has stated that understanding technological literacy involves three levels: (1) awareness, (2) praxis (i.e., training), and (3) phronesis (i.e., practical competence and practical wisdom). Hansen (2003) has indicated that technology literacy as an individual's abilities to adopt, adapt, invent, and evaluate technology to positively affect our life, community, and environment. Eisenberg and Johnson (2002) stated that a technologically literate person can use technology as a tool for organization, communication, research, and problem solving.

It is important to critically analyze technology literacy and how we evaluate successful integration of technology into instructional situations. Therefore, ideas in the minds of teacher candidates about technology literacy have been studied in depth with phenomenographic approach. The aim of the phenomenographic research is to see the world from the point of view of learners (Ashworth & Lucas, 1998). The phenomenographic method, the first contribution to education; is related to the student's learning and defines the diversity of experience in the training process, the second contribution; identifies the qualitative diversity of the student's understanding of the basic issues (Trigwell, 2006). Phenomenological themes may be understood as the structures of experience (Van Manen, 1990).

At this point, in this research, the matter of emphasis seemed to center on technology and literacy. If educators know the views of students' minds, they can arrange the technology learning environments. This study' s aim was to determine students' deeper understanding of technological literacy. There is a limited number of studies using qualitative methods to explore students' perceptions of technology literacy (e.g., Davies, 2011; Gagel, 1997). Results of the study provide in-depth information about pre-service science teachers' views about the implementation of technology in science class.

Teachers should be eager for using technology and evaluating appropriate technology integration first in terms of why we are using the technology, then how well the technology was used to accomplish the learning task. An important part of the instructional technology discipline will always include developing new ways to use technology in educational situations. Training technology users will always include becoming aware of and providing practice with new technology (Davies, 2011). Therefore, to investigate teacher candidates' views on the use of technology may ensure their potentials of integration of education.

Though the data is from a limited population, it helps describe what their thinking. Another possible limitation is in the data collection process. The data was only collected through interviews. Observations of the teachers in their classrooms could be helpful to verify the information they provided during face to face interviews. It was hoped this would provide information beneficial for pre-service science teachers encouraging greater use of technology in science education.

This study was designed to answer the following two main research questions:
1. What are the pre-service science teachers' conceptions about technology and technology literacy?
2. How do the pre-service science teachers'self-perceptions of technology literacy in educational practice?

THE STUDY
The qualitative research method used in this study. The purpose of this qualitative phenomenological study was to explore pre-service science teachers' ideas and perceptions of technology literacy. Quantitative research is generally based on determining, predicting, or testing specific causal relationships based on certain variables, (Creswell, 2005). Ethnography, case study, grounded research theory, narrative, and phenomenology are examples that are more commonly used (Creswell, 2005). This type of qualitative inquiry, phenomenology, was selected for this study because the purpose of this research was to understand a particular phenomena, that is, the perceptions of technology literacy of pre-service science teachers. This approach focuses on exploring lived experienced of participants with rich descriptions from the perspectives of the participants who experience the phenomenon. According to Marton and Booth (1997) with the phenomenographic approach people how they understand certain situations and issues, how they understand, how they make sense and how they interpret are analyzed. Phenomenological research uses rich and distinct descriptions of students' perceptions for insight and understanding about the phenomenon (Moustakas, 1994, p. 101).

Sampling in a phenomenographic study aims that capturing the dimention of variation in perspectives (Bruce et al., 2004). Therefore, the participants of this study were selected purposefully to capture the variations on the nature and use of thought experiments. In purposeful sampling the goal is to select cases that are likely to be information rich with respect to the purpose of the study (Gall, Gall & Borg, 2003, p.165). The participants for this study consisted of pre-service science teachers who had experience with computer instruction from different perspectives, and who volunteer to participate in this study. The sample consisted of 10 pre-service science teachers which took computer courses. Of these participants, five were female and five were male. The research was conducted in Faculty of Education in the spring semester of the 2014-2015 academic year.

Data collection methods of phenomenological research include in-depth interviews, observations, and documents. The most common interview type used in phenomenology and fundamental to many qualitative researches is the semi-structured interviews (Creswell, 2007). In this study, the semi-structured interviews were carried out in order to examine further thoughts of the participants. The answers received were recorded by the

researcher by taking written notes. Each participant's interview lasted for approximately 30 min.

In the analysis of data with phenomenografic approach, interviews recorded with the sound recorder first. In this method these records are transcripted as full compliance with the orginal disscusions. The data written in the paper are divided into proper categories. Researchers using this method should establish clearly categories (Marton, 1994). In this study data were analyzed using Giorgi's (1997) method of descriptive phenomenology under four stages: data coding, developing themes, organizing codes and themes, and describing findings, stated by Yildirim and Simsek (2008). The researchers looked at and listened to the recorded responses of the participants and discussed them. The transcripts were examined by different researhers and this multiple examinations contributed to the trustworthiness of the analysis. Findings are presented in the next section.

FINDINGS

To find out students' perceptions of technology literacy, the responses of students obtained from interviews were analyzed in detail and can be seen underneath the related theme. The interviews focus on the technology literacy is divided into basic headers. Responses were categorized around five thematic topics: (1) definition of technology, (2) definition of technology literacy, (3) features of technology literate individuals, (4) importance of technology literacy, (5) the implementation of technology literacy in science education. Results of this study were presented under thiese categories. Themes, codes and categories are presented in tables. Short quotations from students' responses have been given as an example.

The term technology is a component of the technology literacy, therefore the interviews started with this question: "What is technology?". The students' views of technology are presented in Table 1.

Table 1: Students' definitions of technology

Theme	Categories	Codes	Examples of Definitions
Technology	Software	Programs	"It is a set of programs that facilitate human life."
		Applications	"It is a communication tool that enables communication with the help of applications."
	Hardware	Device	"They are devices that make life easier."
		Computer System	"Technology is the name given to the totality of machines called computers."
	Improvement	Invention	"They are inventions that help the innovations in the world."
		Innovation	"I think that technology innovations are made to make life easier "
	Knowledge	Science	"It called technology that innovation associated with science."
		Information	"Developments that can be carried out with the knowledge."

The categories were obtained from definitions of the students are given in Table 1. Referring to Table 1 it was seen that the technology was not fully defined by the teachers' candidates. They had partial understanding this concept. Although definitions were correct, no participants had the full correct response. They generally believed that technology was the same thing with the computer. They gave lacking answers.

They were asked how they define technology literacy during the interviews. Definitions of students about technology literacy are given inTable 2.

Table 2: Students' definitions of technology literacy

Theme	Categories	Codes	Examples of Definitions
Technology literacy	Producing technological devices	Inventing	"Technology literacy is to make technological tools."
		Striking out	"Technology literacy is to make scientific discoveries using technology."
	Producing software	Writing programs	"Technology literacy is to be able to write computer programs and applications."
	Using technology usefully	Following developments	"Technology literacy is to keep track of technological developments."
		Learning developments	"Technology literacy is the use of technology to learn what's new."
	Being expert	Installing and repearing	"Technology literacy is to be successful in the installation and repair of technological tools."

As seen the Table 2 none of the participants could identify this concept correctly. Some of the students thought that technology literacy was to repair technological devices. Some of them put forward that technology literacy was writing programs. Also some participants said that this term meant following the developments. They gave partial correct answers.

To provide deeper understanding of technological literacy, students were asked to technology literate individuals' features. This theme is given in Table 3.

Table 3: Students' responses about features of technology literate individuals

Theme	Categories	Codes	Examples of Descriptions
Features of technology literate individuals	Profession	User	"They should use the newly developed programs."
	Curious and progressive	Curious	"A person who investigated knowledge on the internet from many sources and websites."
		Progressive	"It is a person eligible for innovation and development."
		Follower	"It is person who follows the science and technology magazine and journals."
	Demonstrating products	Productive	"These people should have research that has been improved science and industry domain."

Responses of the students were correct, but not complete. The technology literate person should be curious, progressive, productive etc. but he/she does not have to be professional.

Considering the scope of science education, students were asked to importance of technology literacy and implementation of technology literacy during the interviews. Table 4 and Table 5 indicated participants' interpretations. Their views were divided into two categories: positive and negative, because responses focused similar views codes were not given for these themes. Examples of interpretations also are given in these tables (4 and 5).

Table 4: Students' interpretations about importance of technology literacy

Theme	Categories	Examples of Interpretations
Importance of technology literacy	Positive opinions about importance of technology literacy	"Technology literacy teacher can prepare slides and can teach lessons in this way in class."
		"To be a technology literate person provides easy access to the information. It is necessary to keep pace with the evolving world."
		"Science education and technology related. Therefore, it is important technology for science education."
		"To be a technology literate person benefits to follow innovations and developments."
	Negative opinions about importance of technology literacy	"I am not technology literate person because I am not writing a computer program. I think it is not very important element for a teacher."
		"I do not understand the technology. When I have a problem with my computer, I take it and go to service. If I were computer literate person I could do it myself. But it is not important thing for a teacher."

Pre-service science teachers' interpretations about the implementation of technology literacy in science education are given in Table 5.

Table 5: Students' interpretations about the implementation of technology literacy in science education

Theme	Categories	Examples of Interpretations
The implementation of technology literacy in science education	Positive opinions about the implementation of technology literacy in science education	"Instructions by using smart boards and projection, teachers is important for science education."
		"Everyone who use the computer is technology literate person. At the same time, Teacher who use the computer in the class is the technology literate person."
		"The technology used during science experiments."
		"Meaningful learning can be accomplished by making

		the instructions with the videos."
		"When the technological tools used in the experiment break down, technology literacy teachers can easily solve this situation."
	Negative opinions about the implementation of technology literacy in science education	"Because the use of technology in science lessons would be a waste of time, technology literacy may not important to this course."

As seen these tables some of the participants thought that technology literate teachers was important for science class environment, but others thought that technology literacy was not a necessary thing. Teachers who had negative ideas were participants who did not identify the concept of technology literacy correctly.

CONCLUSIONS

The research question focused on how pre-service science teachers defined technology literacy, for which purposes they used technology, what they thought about the importance of technology literacy in science class, and which guidelines they suggested for classroom practice. This study employed a qualitative design to gain an in-depth understanding about the nature of technological literacy in science education. Data was collected through in-depth interviews with pre-service science teachers.

Pre-service science teachers defined technology as software, hardware, improvement, knowledge. Although their definitions were correct, none of the participants responded fully accurate. Another theme was technology literacy and it was answered inadequately or incorrectly. Participants had wrong views about technology literacy and technology literate people. Technology literate people know what the technology is capable of, they are able to use the technology proficiently, and they use technology effectively (Davies, 2011). One of the findings was that pre-service science teachers generally emphasized that technology literate person could write programs, they could repair technological devices.

Considering the scope of science education, during the interviews students were asked to importance of technology literacy and implementation of technology literacy. Their views were divided into positive and negative categories. Some of the participants thought that technology literate teachers were important for science class environment, but others thought that technology literacy was not necessary thing. Teachers who had negative ideas were participants who did not correctly identify the concept of technology literacy. Some of them uttered that technology literacy was effective in science education and technology should use in lessons.

When the results of the study were examined as to the understanding of technology in education, it was seen that the pre-service science teachers were not fully aware of the meaning of literacy Some of technology literacy themes, which founded this study, were similar to Gagel's (1997) research. In curriculum design, the themes can serve as conceptual guides in the formulation of decision rules for the choosing of competencies and educational strategies. In addition, these themes answer the purpose to establish a universe of discourse in which a rational discussion of technological literacy can proceed (Gagel, 1997).

The interesting finding was some of the pre-service science teachers considered that using technology did not contribute to learning environment. This view about technological literacy revealed that pre-service teachers should be informed about educational technology. Learning environments should be designed to help future teachers understand, evaluate, and promote effective technology integration.

If educators know the views of students' minds, they can arrange the technology learning environments. Therefore, this study is expected to contribute to the training pre-service science teachers as a technology literate people.

While people maintain to use technology, what it takes to be considered technologically literate will change. Technological literacy, like its functional agent technology, is an everchanging phenomenon. However, technology is defined today, we can be certain that by future it will have changed (Gagel, 1997). Under light of the research, it can be said that an ability to read and write in a technical language with proficiency should be an obvious goal for a curriculum claiming to advance technological literacy.

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PRESENT AND FUTURE OF NANO-BIO-TECHNOLOGY: INNOVATION, EVOLUTION OF SCIENCE, SOCIAL IMPACT

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ABSTRACT

In this work an interesting overview related to the appearance of nano-bio-technologies on the scientific and technological world scene is presented. Starting by the definition of nanotechnology, the scale of work, with the revolutionary associated perspectives, and the ways for operating at the nanometer level are considered. The analysis evaluates also the theoretical efforts for a deeper understanding of the dynamics at the nanoscale, arriving to the processes for testing the scientific data and for predicting new peculiarities and features of nanomaterials with new theoretical models. Important involved areas, related to technology, market and pure science, as well as the peculiar aspects of applied mathematics and the applications of materials and systems obtained through nano-technologies, are examined. It is considered the impact on people and nature, on environment and future, that nano-technologies are producing, ending with interesting aspects related to ethics, future of human society, responsible development, national policies and possibilities of resolution of the global economic crisis also through nano-technology.

Keywords: nano-technologies

INTRODUCTION

The question about the destiny of future is one of the constants in the public debate on the field of nanoscience and nanotechnology, which studies and manipulates the matter at atomic, molecular and macro-molecular scale. Nanotechnology is one of the current key areas of science and technology, with applications in crucial sectors of life and society: from medicine to environment, from information to technology and defense, up to unexpected and seemingly mundane everyday objects. About the effects, development and perspectives of these very small tools and products, enthusiastic and worry voices overlap, so as happy expectations and fears of unknown risks.

Representations of alternative futures, in a debate at different levels, through articles, books, services and TV documentaries, network voices, public meetings, act on our present influencing the processes of legitimation of decisions and therefore the same innovation. Its relevance is not limited to the field of nanotechnology, but it represents an essential aspect of the global debate on techno-science. There is not a universally accepted definition for nanoscience and nanotechnology, but there are several similar ones. According to that given in 2004 by the "Royal Society & The Royal Academy of Engineering", UK (On-line[a]):

Nanoscience is "the study of phenomena and manipulation of materials at atomic, molecular and macromolecular scales, where properties differ significantly from those at a larger scale";

Nanotechnology is "the design, characterisation, production and application of structures, devices and systems by controlling shape and size at nanometre scale".

Similar is the definition given in 2000 as part of the "National Nanotechnology Initiative" (NNI), USA (On-line[b]):

Nanotechnology is "the understanding and control of matter at dimensions of roughly 1 to 100 nanometres, where unique phenomena enable novel applications. At this level, the physical, chemical, and biological properties of materials differ in fundamental and valuable ways from the properties of individual atoms and molecules or bulk matter".

Nanoscience is the meeting point of different disciplines ranging from quantum physics to supra-molecular chemistry, from material science to molecular biology and represents an established reality in the research world. Nanotechnologies aim to exploit and apply methods and knowledge arising from nanoscience. They refer to a set of technologies, techniques and processes that require a multidisciplinary approach and enable the creation and utilization of materials, devices and systems with dimensions at the nanometer level. In summary, with nanotechnology we mean the ability to "observe, measure and manipulate matter at the atomic and molecular scale" (On-line[c]).

1 nanometer (nm) is one billionth of a meter and it is roughly 10 times the size of the hydrogen atom, while the size of a simple protein is around 10 nm. The world of nanotechnology is in the range (1, 100) nanometers and we call *nano-products* those materials or devices in which there is at least one functional component with size of

order or less than 100 nm [Figure 1].
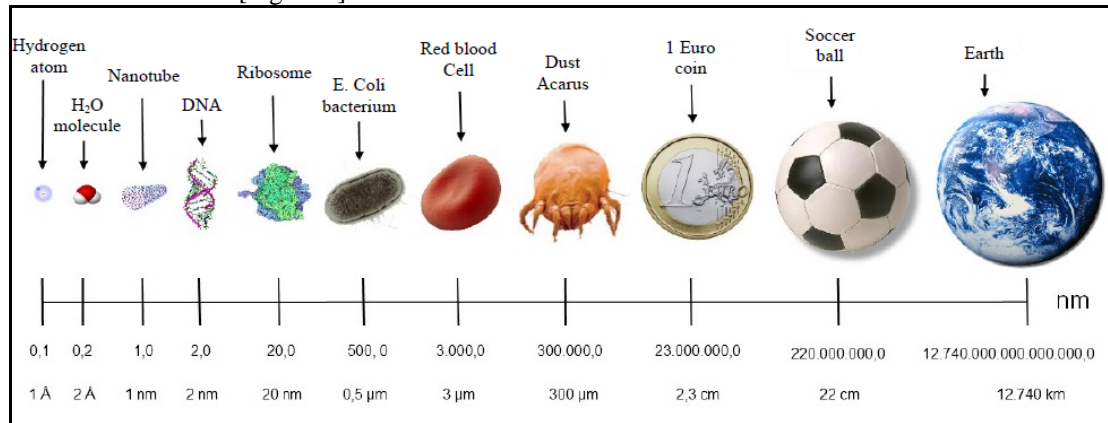
Figure 1: Nanometric scale from a hydrogen atom to Earth.

The revolutionary perspectives associated with nanotechnology derive from the fact that at this size the behaviors and characteristics of matter drastically change; nanotechnologies represent therefore a radically new way for producing materials, structures and devices with properties and functionalities greatly improved or entirely new.
There are two main ways for operating at the nanoscale:

- the so-called *top-down approach*: it means to reduce with physical methods the size of structures towards *nano* levels. The techniques of microelectronics, such as the electron beam or X-ray lithography, are taken back to this approach and constitute an important way for entering into the nano-world. The nano-electronics and nano-engineering are the election areas of this approach; nano-electronics is currently the most widespread application of nanotechnology;

- the so-called *bottom-up approach*: it is the approach in which, starting from small components, normally molecules or aggregates of molecules, scientists try to control and direct its assembly using them as *building blocks*, for creating both inorganic and organic-biological nanostructures [Figure 2].
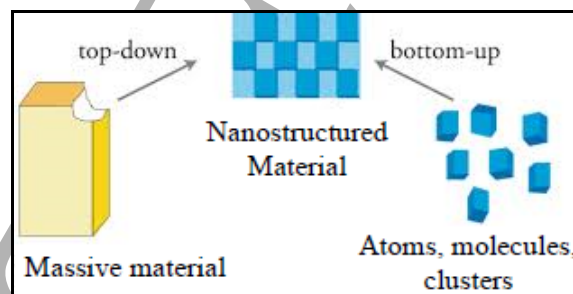
Figure 2: *Top-down* and *bottom up* approaches.

High expectations are associated with the bottom-up approach, i.e. the creation of structures at nanometric level, replicating in a controlled way processes that often already occur in nature, for getting the specific properties at nanoscale. The top-down techniques are currently more consolidated, while concerning the bottom-up techniques we are in a development phase and essentially confined to the laboratory level (On-line[d]; Di Sia, 2013).

INVOLVED AREAS OF TECHNOLOGY AND APPLICATIONS
Several are the perspectives for the immediate future; there are numerous proposed applications in areas such as:
- *food packaging*, designed to increase the *shelf-life* (life on the counter) of products and for an active and smart packaging;
- *encapsulation* of active ingredients, for an increased stability and better miscibility;
- *formulation* of nutrients with increased bio-availability.
Numerous products arising from the use of nanotechnology are already available on the market, or about to be, and their number is constantly growing. Among them we have:
- nanoparticles for cosmetics or for coatings and paints;
- technical textiles and clothing;

- sporting goods;
- hard disks with nanostructured surfaces for recording data at very high density;
- memory chips with size of order or less than 100 nm;
- photonic devices;
- self-cleaning surfaces;
- systems for medical diagnosis based on the *lab-on-chip* principle;
- advanced systems for targeted delivery of drugs;
- more durable medical implants and with improved biocompatibility;
- advanced innovative materials for transport systems;
- new and improved production systems and energy storage.

The potential applications are literally endless; nanotechnologies are practically applicable in all productive sectors. It is expected the largest market volume for materials, electronics, pharmaceutics, chemical processes, aerospace, health care, tools, sustainable processes, environment, alternative energies.

A lot of nanotechnology-based products are currently available; in detail:

1) *electronics for communications, sensoristics, electromeccanical systems*: recording systems based on quantum nanostructures, ultra-flat screens, wireless technologies, new devices and processes for information and communication, non-volatile memories, Josephson junction systems with potentialities in the quantum computation;

2) *chemical products, materials for energetics, energy storage, contamination of the environment*: new batteries types, artificial photosynthesis for production of clean energy, new solar cells, reduction of polluting emissions for motor vehicles, aerogels, spongy highly porous materials endowed with nanostructured texture, photochemical cells, components of the combustion cells, new catalysis of petrochemical processes, new smart non-toxic and highly efficient nano-coatings;

3) *pharmaceutical products, health protection and sciences life, biomedical applications, cosmetic sector*: new systems of medicines release and genetic material for specific parts of the human body, biocompatible prosthesis, substitutes of physiological fluids, self-diagnosis tools, materials for the regeneration of bones and other tissues, nanosystems able to determine the sequence of single DNA molecules, particular designed drug-carrying nanoparticles;

4) *manufacturing industry, textile sector*: sinterized nanopowders with specific properties, biomimetic materials, plastics based on delayed inflammability, surface nanoparticles coverings for increasing the resistance to usury and chemical corrosion, nanoparticles for inks and dyes, ceramic materials with increased hardness, cutting instruments of extraordinary hardness and reduced fragility, ductile cements, nano-electro-devices embedded into textiles for providing special support systems, artificial nanofibres providing flame retardancy, shock-absorbency;

5) *environment, safety, monitoring*: selective membranes for contaminants filtration, nanostructured traps for pollutants removal, detoxificators of chemical and biological agents, new cheap nanosensors for fast and accurate pollution monitoring;

6) *food and drink*: nutraceuticals and functional foods, new tastes, flavours and textures, packaging providing a better barrier against contamination, nano-encapsulation techniques (On-line[e, f, g]; Di Sia[a, b], 2014) [Figures 3, 4].
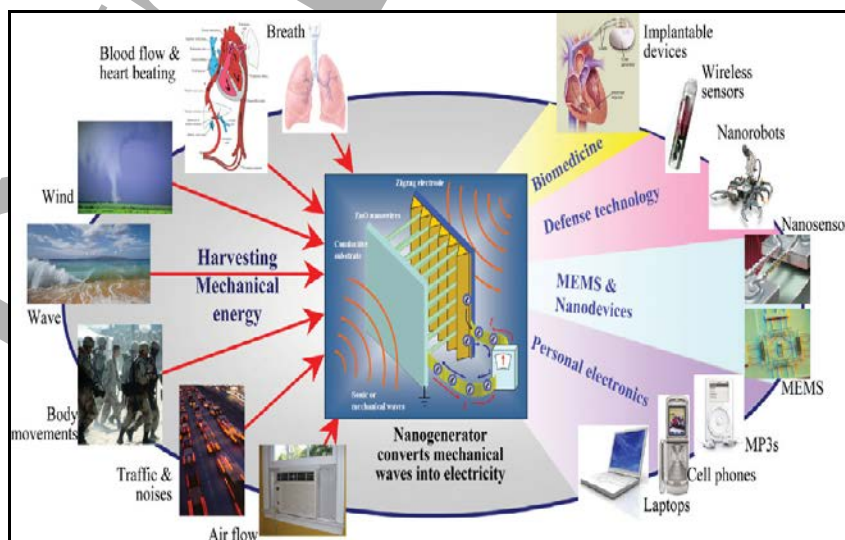
Figure 3: Conversion of energy with nanogenerators (picture: courtesy prof. Z. L. Wang).
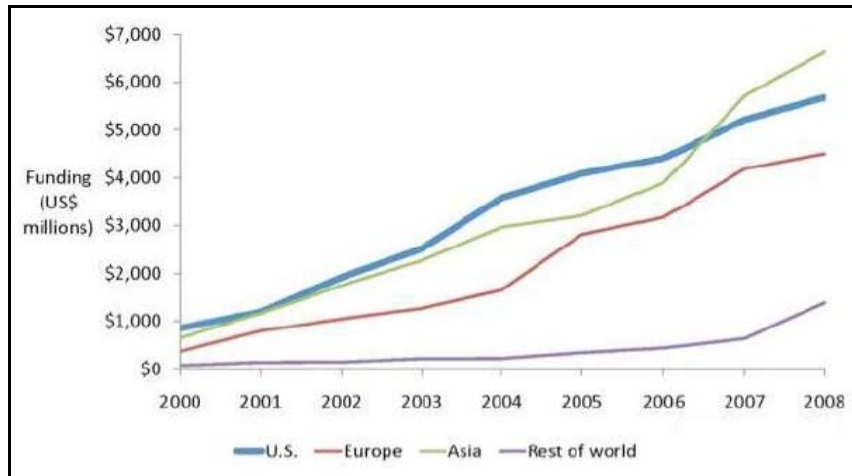
Figure 4: Total funding for nanotechnology by year in the world (source: Lux Research).

INVOLVED SECTORS OF SCIENCE AND MATHEMATICS

During last years, the essential techniques of theory, modelling and simulation developed a remarkable progress in the new field of nanoscience (Di Sia, 2011; Di Sia, 2012; Di Sia[c], 2014). This period saw the development of particular algorithms of calculation, Monte Carlo classical and quantum techniques, *ab initio* molecular dynamics, mesoscale methods for soft matter. Simultaneously, advances in computing hardware have increased the computational power of many orders of magnitude. The combination of new theoretical methods with computational power has made possible the simulation of systems with millions of freedom degrees. Efforts for the creation of new predictive theoretical models, both at numerical and at analytical level, are bringing important results.

Nanoscience poses new challenges to the mathematical representation and to the multiscale analysis. Models and mathematical algorithms must cover the range from discrete to continuous, from deterministic to random. The use of fast algorithms allows big simulations, including in a model a lot of atoms and functions and can simulate detailed physical processes. New methods can predict electronic and structural properties without previous empirical knowledge and/or without experimental input.

Current important investigation areas are:

    i) *nano-constituents* (nanotubes, quantum dots, clusters, nanoparticles),

    ii) *complex nanostructures* and *nano-interfaces*,

    iii) *assembly* and *growth* of nanostructures,

in relation to:

    a) deep interpretation of transport mechanisms at nanoscale,

    b) realization of theoretical and simulation models for complex and heterogeneous nanoscale systems,

    c) accurate simulation of the optical properties of nanoscale structures,

    d) simulation of complex nanostructures involving *soft* and *hard* structures and nano-interfaces between *hard* and *soft* matter,

    e) simulation of self-assemblings,

    f) quantum coherence, decoherence and spintronics,

    g) development of self-validating methods.

The role of applied mathematics in these areas is fundamental, for formulating new theories and developing new computational algorithms.

The experimental techniques for the controlled fabrication of nanotubes and nanocrystals, quantum dots and wells, produced an entirely new set of elementary nanostructures.

The growth of fast workstations, cluster computing, new generations of massively parallel computers, completes the picture of the transformation of theory, modelling and simulation of the last years.

Three big classes of nanosystems can be considered:

    1) *Nano-building blocks*, such as nanotubes, quantum dots, clusters, nanoparticles, which can be sinterized in a completely reproducible way and experimentally well characterized. They are the central element of the new nano-mechanical, nano-electronic and nano-magnetic devices. It is believed that the best characterized building blocks are cluster, molecular nanostructures, nanotubes, nanowires, films and quantum dots [Figure 5].
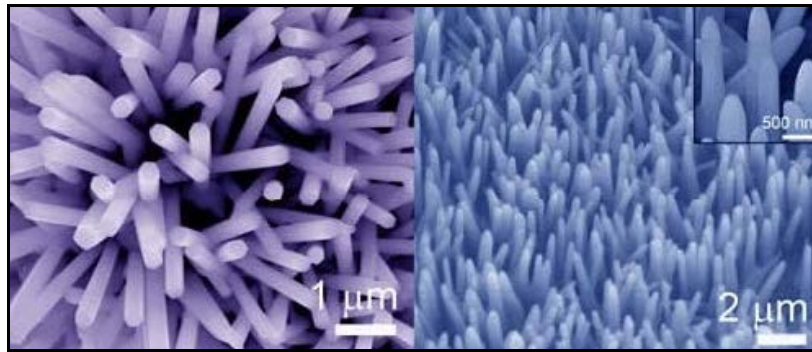
Figure 5: Nanowires going down in length scale.

2) *Complex nanostructures and nanointerfaces*. Central for nanoscience is the assembly and manipulation of the fundamental building blocks for creating structures, materials and functional devices. The large surface/volume ratio, due to the prevalence of nanointerfaces, combined with the complexity of nanointerfaces and nanostructures, offers various challenges in the development of predictive theories in nanoscience.

3) *Dynamics, assembly and growth of nanostructures*. Central aspects of this sector are the transport properties and dynamic processes leading to their creation, in particular the self-assembly. There is a wide variety of relevant transport mechanisms in nanoscience, which include the electron transport (in molecular electronics, in nanotubes and nanowires), spin transport (in the devices based on spintronics) and molecular transport (relevant in biological and chemical sensors, membrane/molecular separations and nano-fluidity) [Figure 6].

Figure 6: Aerogel, the part on which there is the flower is at room temperature, despite the direct contact of the flame.

In every field of science there is the need to estimate the parameters of the system, to find the extremes of the function object of study; mathematical models are so a guide to experimentation and for predicting the right characteristics. Complex nanosystems can have millions or billions of particles, leading to huge optimization problems characterized by a very high number of local minima with energy levels close to the ground state. It is very important the creation of statistical methods to develop a final statement of confidence in the response, recognizing all the possible sources of errors in the process. Modular optimization, statistical algorithms and software must be developed in a context that provides tools for scientific understanding (Di Sia, 2013; Di Sia[a], 2014; Di Sia[b], 2014) [Figure 7].

Figure 7: OLED ultra-flat deformable screen (by Sony).

FOOD AND ENVIRONMENT IMPACT

The incoming of nanotechnologies in the food sector raised new questions about possible risks for consumer health and required new instructions, which regulate the labeling and the presence of these components. Toxicology applied to these nano-elements must therefore go hand in hand with new discoveries and new applications. At the moment there are some food additives, used for a long time, such as silicon dioxide and titanium dioxide, for which it has realized that a fraction is present in nano-form. There are also nanomaterials authorized for use in plastics and in articles intended to contain foodstuffs, as carbon black, silicon dioxide and titanium nitride, the latter authorized for use in *PET* (Polyethylene terephthalate) bottles.

Toxic effects of specific nanomaterials *in vitro* and *in vivo* have been observed, but more statistical data on oral exposure and from studies of sufficient duration and realistic doses must be collected. The departments of public health and food safety are working in this direction. There are also several European projects, from *Nanogenotox* to *Nanoreg* (On-line[h]; On-line[i]), that can give useful answers to the risk assessment.

Another important point is the evaluation of the effect of digestive process on nanomaterials in foods. If the nanoparticles or their aggregates in foods are completely degraded and solubilized by the digestive process, there is not possibility of absorption of nano-objects. Conversely, gastrointestinal digestion can generate new particles (Szakal et al., 2014; Joseph & Morrison, 2006).

The currently developed nanotechnologies in food are mainly aimed to improve the nutritional value of food, the taste or safety, to optimize production processes. Applications of nanotechnology directly on foods and drinks are under research and development, given the sensitivity of the matter.

The packaging industry is promising for the use of nanotechnology in the food industry, but it raised many questions about their safety in food contact and actual consumer exposure.

The main applications of nanotechnology in the environmental field include:

- nanofiltration,
- drainage of soils and waters,
- photocatalysis of pollutants,
- use of nanosensors in industrial or drainage activities,
- improve of selectivity of pesticides and water conservation.

Many applications of nanotechnology to soil drainages or other environmental matrices have been tested in laboratory and at pilot scale, but their effectiveness and safety have yet to be confirmed in large-scale deployments (Joseph & Morrison, 2006; Di Sia[d], 2014).

Applications of nanotechnology in catalytic processes for reducing air pollutants are widespread. Thanks to the increased specific surface area of nanostructured materials, their efficacy as catalysts is much higher than the corresponding materials at a larger scale. A widely used catalyst is titanium dioxide (TiO_2), which is able to dissociate, for example, nitrogen oxides produced by vehicular traffic.

The treatment with nanomaterials for the construction and roofing artifacts gives self-cleaning and anti-pollution power, thanks to the joint action of sunlight. An example of application of nanotechnology in the energy sector are the new semiconductor nanoparticles in thin solar panels. This technology seems to provide better efficiency and lower production costs.

Nanomaterials are characterized by new properties, therefore can expose humans and the environment to new risks; the available knowledge on behaviour of chemical substances are still not sufficient to conjecture the behaviour of the same substances in the nanometric form.

The greater reactivity and mobility of nanoparticles with respect to the corresponding at bigger dimensions implies that the metabolic pathway could be different from the known one. The target organs, the elimination times, the accumulation mechanisms and the recombination in aggregates of nanoparticles are unique aspects

that require further research. Nanoparticles are of the same scale of the DNA, therefore there is the possibility that they can interact with it directly, causing possibly dangerous changes to the genetic code (On-line[l]).

The current regulatory framework is able to cover in principle the potential risks to health, safety and environment of nanomaterials. At the request of the European parliament, it has been introduced specific provisions with regard to nanomaterials for legislation on cosmetics, novel foods and food additives, with possible regulatory changes in relation to the progress of research in this area.

ETHICS, POLITICS, SOCIETY

An essential condition for the expectations placed in nanotechnology is that the possible risks and the socio-economic implications associated with them are carefully evaluated and minimized. This requires:

- the definition of a clear and shared terminology,
- an active approach to risk management,
- a possible revision of existing legislation, cooperation and coordination between the various public bodies, industry and research at national and international level,
- accurate and reliable information and dialogue with the public, reassuring and preventing the occurrence of prejudices.

The problem is particularly acute in all countries involved in the development of this sector. All major countries devote significant and growing resources to nanotechnology, in the belief that these enabling technologies are one of the "driving forces" of future technological development. Nanotechnologies have become a key growth factor and in many countries national initiatives dedicated to nanotechnology have been activated, with the objective to strengthen and streamline the objective, orienting the initiatives, bringing out the excellence and optimizing the use of human and financial available resources.

It grows the number of events in the world with the goal of compare scientists and researchers on the major issues of humanity: hunger, infant mortality, AIDS, biodiversity, renewable energy, epidemics, cancer and environment, all critical for the development of civilization.

Nanoscience marks the transition between the present and the future world, because almost all areas of our lives can become "nanoscientific". Nanoscience is changing the way we live and will help more and more men to find solutions to cure their ills.

Nanotechnology, if properly used, can provide many opportunities for growing the world economy. Important benefits are expected to arrive in the field of diagnosis and targeted therapies, which will affect only the diseased cells. In next years the idea is to get an extraordinary nano-diagnostic, capable of detecting signals, now invisible, of diseased cells, thanks to nano-robot introduced into the body, as well as the ability to have implantable devices releasing drugs.

It has been developed nanoparticles that release insulin when glucose level in the blood increases, nano-sponge that act like real sponges, absorbing toxins or free radicals and removing them from the blood.

The final goal is to have, inside the body, medicines which can be activated in time of need, for example for diabetic and cardiopathic patients, to those who risk anaphylactic shock.

Nanoforum is an important nanotechnology information network, which provides informative support to the European nanotechnology community. On Nanoforum website members of public communities, of industries, members of government and business communities can access, search for databases of nanoscience and nanotechnology organizations, find events and new informations about nanotechnology. Nanoforum publishes reports on nanotechnology, the socio-economical impact of nanotechnology, organizing events. The Nanoforum consortium consists of:

- Institute of Nanotechnology (UK) (On-line[m]);
- VDI Technologiezentrum (Germany) (On-line[n]);
- CEA-Leti (France) (On-line[o]);
- Malsch TechnoValuation (Netherlands) (On-line[p]);
- METU (Turkey) (On-line[q]);
- Monte Carlo Group (Bulgaria) (On-line[r]);
- Unipress (Poland) (On-line[s]);
- FFG (Austria) (On-line[t]);
- NanoNed (Netherlands) (On-line[u]; Joseph & Morrison, 2006).

CONCLUSIONS

Nanotechnology is destined to make numerous changes to the products with which consumers come daily into contact. The legislative framework must regulate nanotechnology products already in circulation on the market, very important aspects such as risk assessment and exposure, labeling and impact on health and environment. Waiting for clarification of any possible doubts on nanomaterials, the health protection and transparency in information must be the guiding principles. The results of research on nanomaterials must be made accessible to consumers and everyone involved in their regulation.

The diffusion of the nanotechnology products on markets must be carefully monitored. The product labeling facilitates the traceability of potential environmental disturbances, human exposure and adverse effects on environment and health. It is necessary that safety assessments on nanomaterials are performed by independent scientific authorities and that the products of nanotechnology on the market are safe both for the health of consumers and for the environment. Only through the parallel development of knowledge, regulation and awareness, nanotechnology will prove a success story for both the scientific-productive world and for consumers.

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PROBLEMS IN INFORMATION RETRIEVAL FROM 19TH-CENTURY CZECH TEXTS: PRESENT AND PLANNED LINGUISTIC SOLUTIONS

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ABSTRACT
The paper surveys linguistic problems in making Czech historical texts searchable for students, scientists, as well as for the general public unfamiliar with the extensive changes of the Czech language in the 19th century. The authors sum up the linguistic solutions resulting from their work in the Czech Ministry of Culture's *Tools for Accessing Printed Texts from the 19th Century and the First Half of the 20th Century* project, commenting on the results from the users' perspectives, including the anticipated needs of students and teachers in science, history, literature and language classes. Plans for further development of the tools are also introduced, with the focus on specific linguistic problems found in the areas of 19th-century technical terminology and personal and geographical proper names.

Keywords: historical digital libraries, information retrieval, historical texts

INTRODUCTION

As was pointed out almost 20 years ago by Soloway (1996), digital libraries (DLs), bringing networked collections of digital resources into middle- or high-school classrooms, provide both the students and teachers an opportunity to put more emphasis on inquiry rather than just instruction and memorization. Even at this early stage of development of DLs, "an intensity and involvement of the students that is too often missing in the more traditional didactic-style classrooms" was observed. Although, understandably, the use of DLs was, and still is, primarily aimed at science classes, it has found its way to history, language and literature classrooms as well. In history classes, for example, historical DLs, including digitized searchable authentic historical texts, make it possible for the students to find out, through their own research of period newspapers and other documents, such first-hand information as what impact major historical events like wars, natural disasters or political changes had on the life in their communities and what reactions they provoked. Also, DLs are invaluable in helping the students to understand what the everyday life and problems of their country, city or community were decades ago, perhaps – to make the search more personal – on the days when they were born or any other particular days). Similarly, students in language and literature classes may probe into the life stories of particular words, word forms and phrases, or discover different authors' individual predilections for certain words, phrases, motifs or expressions like similes, sayings, proverbs etc.

As promising as the experience with DLs has been so far, in most countries their integration into education has been hindered by various factors, the main one being a lack of financial resources. There are, however, also other, if not so vital, problems that have to be solved to make DLs full-fledged educational tools. The focus of the present paper is on one of such problems – a specific problem to be dealt with if the use of historical DLs in history, literature, language and other classes are to become effective devices for immersing the students in activity- and inquiry-based education and active data collection, making them increasingly aware of the historical background, context and traditions, as well as their own roots. Thinking about history just in terms of the past two centuries, the problem (namely the changes happening in a language, eventually making the old texts hard-to-understand or even unintelligible to new generations) may not be too apparent in some languages (including English) but in others, such as Czech, it may become a critical barrier in retrieving information from the texts and understanding them. In a work-in-progress manner (in the third year of a project designed to overcome the main obstacles in making the texts searchable), the problems in information retrieval from 19th-century Czech texts were outlined by Kučera and Stluka (2013). The present text, written in the last year of the project, briefly reviews both the problems and their solutions, and identifies further difficulties planned to be resolved in the follow-up to the project.

In the case of Czech texts, the general cause of the rather extraordinary concentration of problems can be seen in the fact that the language underwent a series of significant changes during the 19th century both in its system and its social and cultural status. At the beginning of the century, German had been the dominant language of science, high poetry, prose and to some extent even conversation in the Czech lands, while by the 1890s the

German influence had largely abated and Czech was becoming firmly established in all areas of social and cultural communication. Its vocabulary was being expanded with thousands of neologisms, most of them concentrated in poetry, scientific and technical texts and – especially towards the end of the century – with borrowings from French and English providing a growing counterweight to the former strong influence of German. Although many of the 19th-century borrowings and new coinages still exist in modern Czech, a lot of them, including a large number of early technical terms, have been rather short-lived, and consequently are generally unknown to today's Czech speakers.

The unfamiliarity of 19th-century texts to contemporary Czech speakers was further increased by three rather radical spelling reforms, implemented in 1809, 1843 and 1849, which have changed the phonological values of several high-frequency letters and, consequently, put a considerable distance between the texts from the first half of the 19th century and those written or printed later, making the first all but illegible to present-day readers. The impact of the three reforms can be illustrated by the spellings of the following sample sentence meaning 'All mean people are foreign to me':

modern (post-1849) spelling: *Všichni skoupí lidé jsou mi cizí.*
post-1843 spelling: *Wšichni skaupí lidé jsau mi cizí.*
post-1809 spelling: *Wssichni skaupj lidé gsau mi cizj.*
pre-1809 spelling: *Wssichni skaupj lidé gsau mi cyzý.*

However, the problems caused by the period spelling conventions persisted even after the reform of 1849 as a result of a surviving tradition preferring the original spelling of borrowings from languages like French and English, as opposed to the new Czech spelling that has been generally characterized by a tendency to largely reflect or approximate the pronunciation, rather than the spelling, of borrowings (cf. for example the modern Czech spelling with the one used in the 19th and early 20th century in words like *bulvár*:*boulevard, angažmá*: *engagement* or *klaun*:*clown*).

Technical problems (such as a low quality of print, aging and crumbling of paper etc.) aside, the variability of the Czech spelling (furthermore combined with the use of different varieties of the Fraktur typeface in early 19th century) can be identified as a major obstacle in optical character recognition (OCR) of Czech texts of the 19th century, and in turn, as a major obstacle in making 19th-century texts searchable for scientists and the public, as well as a major problem anticipated in introducing historical digital libraries to Czech schools.

PRESENT SOLUTIONS

Generally speaking, the success rate in converting digitized pages into searchable texts can be considerably improved if the OCR software's interpretations of individual characters (and, effectively, its interpretations of the word forms used in the text) can be compared with wordlists including word forms attested in the language in question, so that non-existent word forms provided as interpretations by OCR can be subsequently replaced with correct (or at least existent) ones. The practice has been tested and successfully used in large-scale digitization of modern texts for about two decades now, and its application has proved to be as useful in historical texts (see *IMPACT 2011 Project Periodic Report*).

Based on the IMPACT's encouraging results of tests on nine languages (Dutch, German, English, French, Spanish, Polish, Czech, Slovene and Bulgarian), the five-year project *Tools for Accessibility of Printed Texts from the 19th Century and the First Half of the 20th Century* was launched in 2011 by the Ministry of Culture of the Czech Republic (part of the of the *Applied Research and Development of National and Cultural Identity Programme*; for details see *http://www.isvav.cz/programmeDetail.do?rowId=DF* and *http://kramerius-info.nkp.cz/projekt-naki*), aiming at solution of the principal problems which the changing spelling and vocabulary as well as archaic inflecting forms present to today's researchers and students searching for information in digitized Czech texts published between 1801 and 1950. The relevance of the project has been accentuated by the fact that in many respects the time between 1801 and 1950 represents a crucial period in the history of the modern Czech science and culture.

The principal goal of the project was to develop four types of tools to facilitate the access to printed documents of the time, namely

(a) to develop an application for creating and managing knowledge bases of the period Czech language,

(b) to develop a set of utilities to be used in providing lemmata (dictionary or citation forms of words) to the forms found in period Czech texts and in expanding the lemmata into full paradigms,

(c) to compile, with the use of the above utilities, five wordlists reflecting the changing Czech vocabulary and spelling conventions used at different times during the the 19th and early 20th century,

(d) to carry out an elementary analysis of the variety of the Fraktur typeface used in Czech prints of the first half of the 19th century, the variety representing a major obstacle to OCR of the period Czech prints.

The work on the linguistic part of the five-year project (2011-2015) has resulted into the compilation of five wordlists – the major result of the linguistic part of the project. Each of the lists, sized between 450,000 and 650,000 word forms, was focused one of the distinct periods in the history of the Czech language between 1801 and 1950. Four of the five periods (1801–1809, 1810–1842, 1843-1849, 1850–1900) have been delineated with primary respect to the abovementioned spelling reforms, while the fifth one (1901–1950) was defined with the view to the general significance of the social, cultural and linguistic changes and transitions that occurred around the turn of the 19th century and noticeably influenced the Czech vocabulary. The building of each wordlist included compilation of a list of headwords found in historical dictionaries, and word forms found in an extensive selection of period texts. A modern lemma (a form representing all the forms of a word, such as the English lemma *do* representing the forms *do, does, did, doing...*) was then assigned to each item on the list, and the lemms were distributed into groups according to the way they inflect. After that, all headwords found in the same group were expanded into full paradigms, with each form of the paradigm spelled in the period spelling and followed with the lemma spelled in its modern orthographic form. As to the foreseeable future, all the five wordlists are planned to be continually extended with words and forms found in newly OCRed texts. The resulting lists have been designed to serve two different purposes:

(a) in the conversion of digitized pages into searchable text, they will be used, as indicated above, to distinguish between correct/existing and erroneous/non-existent word forms offered as interpretations by the OCR program, thus improving its success rate, and

(b) in retrieving information from the texts, they will make it possible for the user to key in just the modern lemma of the word to find all its 19th-century forms, including attested archaic inflecting forms and spellings (in English, for example, this would be equivalent to using just the lemma *do* to find *do, does, did, doing...* as well as archaic forms and spellings like *doest, didst, doeth* or *doth*). A presentation application has been developed to demonstrate and verify the functionality of the whole concept. By way of example, but not by way of limitation, it makes it possible to use just the modern spelling to find any of the archaic spellings used in the four time-specific versions of the sample sentence quoted above (modern: *Všichni skoupí lidé jsou mi cizí*; post-1843: *Wšichni skaupí lidé jsau mi cizí*; post-1809: *Wssichni skaupj lidé gsau mi cizj*; pre-1809: *Wssichni skaupj lidé gsau mi cyzý.*). Moreover, it makes information retrieval from the 19th-century and 20th-century texts more robust by enabling the user to use any word form and/or any period-specific spelling to retrieve all the inflecting and spelling forms – no trivial task in a highly inflectional language like Czech where a simple query such as the form *jsou* (or *jsau*, or *gsau*, or *gsau*) from the sample sentence may lead to searching for more than a hundred different forms and spellings present in the paradigm (in this particular example *begt, begti, bejt, bejti, buď, buďa, budau, budauc, budauce, bude, budeme, budess, budeš, budete, buďme, budou, budouc, budouce, buďte, budu, byl, byla, byli, bylo, byly, být, býti, byv, byvše, byvši, byw, bywsse, bywssi, bywše, bywši, ge, gest, gsa, gsau, gsauc, gsauce, gsem, gsi, gsme, gste, gsy, je, jest, jsa, jsau, jsauc, jsauce, jsem, jsi, jsme, jsou, jsouc, jsouce, jste, nebegt, nebegti, nebejt, nebejti, nebuď, nebuda, nebudau, nebudauc, nebudauce, nebude, nebudeme, nebudess, nebudeš, nebudete, nebudiž, nebuďme, nebuďmež, nebudou, nebudouc, nebudouce, nebuďte, nebuďtež, nebudu, nebyl, nebyla, nebyli, nebylo, nebyly, nebýt, nebýti, nebyv, nebyvše, nebyvši, nebyw, nebywsse, nebywssi, nebywše, nebywši, negsa, negsau, negsauc, negsauce, negsem, negsi, negsme, negste, negsy, není, nenj, nejsa, nejsau, nejsauc, nejsauce, nejsem, nejsi, nejsme, nejsou, nejsouc, nejsouce, nejste*).

PLANNED ADVANCES

To further improve the accessibility of information in the texts, plans have been made for solution of specific linguistic problems concentrated in the areas of proper names and technical terminology, and the project has been proposed to the Czech Ministry of Culture for financing from 2016 through 2020 (evaluation of proposals is currently in progress). Predictably, most of the problems connected with searching for particular proper names in old texts are also related to the changing spelling, and at first sight, they could also be avoided with compilation of wordlists combining the outdated spellings with their modern equivalents and linking them with modern lemmata. However, the wordlists making information retrieval of proper names from Czech 19th-century texts possible will have to handle more difficulties. For example, the searching for a particular person's name may be further complicated by the fact that during the Czech National Revival period (from about the 1780s

through the 1840s) most Czechs were looking back at the past as at the golden age, and some of them spelled their names, patriotically but inconsistently, in old-fashioned ways that were outdated even in the 19th century (e.g. *Wácslaw* instead of the then standard *Wáclaw,* now *Václav*). Many other Czechs, especially 19th-century authors, were deliberately using invented patriotic middle names or used pen names which were Czech renditions of (or Czech replacements for) their real German surnames. Moreover, the spelling (and, obviously, in many cases also the pronunciation) of foreign proper names, both personal and geographic, was rather loose, so that a search for one particular name in the Czech texts of the 19th century must, in fact, often involve searching for its several variants (compare, for example, the attested period variants like *Aaron – Áron – Árón – Aron*; *Rakoci – Rákoci – Rakoczy*; *Aegypt – Ejypt – Ejipt – Egypt*; *Stuttgart – Stuttgard – Štutgart* etc.).

As to searching for geographic names, the problems caused by the overall changes of the Czech spelling (as well as its inconsistent use) have been aggravated by widespread coexistence of several synonymous lexical variants of many names, some of them utterly unknown to most today's Czechs, such as *Čudsko – Čuchonsko – Finsko* ('Finland'), *Chorvatsko – Charvátsko – Hrvatsko – Chorvaty – Charváty* ('Croatia'); *Itálie – Taliánsko – Italiánsko – Wlachy – Vlachy* ('Italy'), *Norsko – Norvéžsko* ('Norway'), *Šwédy – Švédy – Šwédsko – Švédsko* ('Sweden') etc. As a result, to make effective searches possible, wordlists of personal and geographical names are planned to be compiled which will cover all of the above types of variants. The proposed software solution, based on the existence of these wordlists, will consist in retrieving all of the variants every time any of them is part of the query entered by the user into the search engine.

The same linguistic and software solutions, just much more laborious, have been proposed for the retrieval of technical terms used in the 19th century. The extraordinary amount of work to be done to compile the terminological wordlists for all the then existing branches of technology and science is a consequence of the vast difference between the modern Czech technical terms, which are largely international, and the revivalists' effort to create a purely Czech terminology as part of a proof of independence and possibilities of the Czech language (compare, for example, pairs of 19th-century terms and their modern equivalents such as *lučba – chemie, chvořík – wolfram, hlať – krystal, přenoška – metafora, prýštěninopis – mineralografie* etc.). As has been mentioned above, hundreds of new terms have been coined, many of them short-lived, so that to map the subject – and to link the 19th-century terms, including their spelling variants, with their modern counterparts – represents a task that inevitably will take decades rather than years. However, the work has to be done if the authentic texts documenting the development of modern Czech science and its terminology are to be readily available for historical research. As to the digital libraries and their use in education, the prospects are more optimistic: it can be realistically expected that within the five years of the proposed project the wordlists could be extensive enough to accommodate the needs of inquiry at the middle-school or high-school level.

CONCLUSION

The concept of compiling large period-specific wordlists including complete paradigms of words found in authentic period texts and dictionaries has proved to be an efficient, if work-intensive, way of minimizing the influence of spelling and lexical changes as major obstacles to information retrieval from Czech prints of the 19th and early 20th century. Both the abovementioned present results and planned solutions are expected to markedly reduce the number of OCR-related errors in digitized 19th-century texts and to make the texts easily searchable even for users with no knowledge of the radical changes in the Czech language that took place in the past two centuries. For students at middle or high schools, most university students, scholars as well as for the general public, this may arguably be the first opportunity to successfully retrieve a full variety of information directly from digitized authentic Czech texts printed before 1950, not just from the selective modern editions encompassing mainly the literary works of classic authors but, understandably, no newspapers or periodicals and practically no technical or scientific texts.

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PROBLEMS OF TEACHING THE OFFICIAL LANGUAGE IN THE ENVIRONMENT OF MINORITIES

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ABSTRACT

The influence of majority environment on teaching the official (the so called state) language represents several communication barriers for minorities within language education. The solution may be choosing foreign language learning strategies with emphasis on mother tongue and communication learning through foreign language teaching methods. Such an approach of second language education prefers working with texts of different kinds and thematic focus, related to narrowed language skills confronted with minority (not mother tongue) languages.

INTRODUCTION

Globalization and integration processes cause that people – not only within the Slovak republic - are interested in the Slovak language. It is indicated also by growing research tendencies in applied linguistics that deals with Slovak as a foreign language. Methods how to acquire Slovak effectively are under examination of many applied linguistics scholars and methodologists of the Slovak language. Emphasis is put on learner´s individuality and diversity of types of learners (memory, analytical, visual, auditory or impulsive or reflexive types and so on) regarding effectiveness of an acquired target language. Activities that are supposed to develop basic communicative skills and an overall approach to teaching the target language of minorities within the majority environment are adapted and modified. New, more modern and innovative approaches that respect learners´ individual styles are searched for.

INNOVATIVE APPROACHES IN THE CONTEXT OF UNDERGRADUATE LANGUAGE EDUCATION OF TEACHER TRAINEES IN MINORITY ENVIRONMENT

The use of innovative techniques brings a number of positive reviews by methodologists. Many of them agree with a view that when teacher trainees (i. e. future teachers) know qualities of innovative techniques and methods and moreover they are identified with them, in their teaching practice they will prefer them themselves and therefore they will naturally implement them into their lesson plans. Qualified teachers who use modern methods are able to eliminate language barriers of their students who belong to minorities [...] (Píšová, 2013, p. 4, source: http://www.jazyk-literatura-komunikace.cz/index.php/2-2013/category/23-clanky). Here we can see a multiple effect of implementing innovative methods into mother tongue teaching – already in undergraduate tertiary training. The quality of undergraduate education affects also the very quality of education and society. (Sirotová, p 120). Another positive phenomenon of implementing innovative approaches already within tertiary education is recognition of students´ creativity capacities, their abilities and possibilities to use them appropriately in teaching and also in their practical lives. When entering and doing tasks within innovative methods, students learn *the process of preparing/creating a communicatively focused lesson*; a *course of innovative methods in practice* and new *interactive approach towards mediating information* in the educational process. Innovative methods offer wide spectrum of possibilities how to innovate and modify learning/teaching processes in order to fulfil the educational goal that has been set. In the current school conditions we may work with cooperative methods, problem solving activities, project teaching, drama techniques, mind maps, reading with comprehension techniques, creative writing, methods of brainstorming, questionstorming, snowballing, and various intellectual and didactic games. Creative writing is significant for its integrating of artistic and journalistic texts into the educational process in a more attractive manner. It enables students to *understand works of art and critical texts better through discovery methods* and stimulate interest in writing. Top attributes of creative writing are: *free access to texts, creative atmosphere, teacher-student partnership in the process of communicative education. Tasks aimed at word plays, creation of original phrases, poems, short stories* that may be combined with *art, movement, music and other activities* could be taken as a source of inspiration. Creative writing is designed for groups of various size and also for individual studies.

The aim of undergraduate teacher training of the Slovak language is to stimulate interest of future mother tongue teachers in some of the innovative methods that contribute to communicative and creative teaching of the Slovak language and Slovak literature. Textbooks may help as they serve as a tool to improve university training of future teachers of the Slovak language and literature in primary and secondary schools with the language of instruction of minorities. Those textbooks are written by J. Píšová (2015), K. Hincová (2014, 2015), E. Tibenská (2014, 2015), P. Gregorík (2015), Z. Kumorová (2015 a, 2015 b), collective of the authors: E. Tkáčiková, M. Konečný, M. Kamenčík (2015).

Innovative trends of education have penetrated tertiary education with a primary aim: to deepen - with the use of constructive and creative way – and consequently to "materialise" knowledge of linguistic and literary education. As accompaniment in teacher training, a didactic moment is applied. It means that if innovative trends are implemented with a didactic aim already in undergraduate tertiary education, the result in linguistic and literary education in all types of schools is not accidental and average but targeted and effective.

When teaching minority language, motivation takes place right from the beginning. Through motivation students are activated and start discussion, they can do create tasks and think critically. At the beginning of targeted motivation within education, we may also face negative or unusual reactions of students – *surprise, dislike, misunderstanding*. Surprise – because teachers make them think and work actively. The teacher expects that the knowledge that students have gained until now is used in interdisciplinary relations in a flexible and creative way. The opposite is true and the information gained during their previous studies in other subjects/disciplines is usually not used when solving activating tasks. There may be (but also does not need to be at all) a change – after "showing directions" and a long-time motivating process through activating methods. According to Kumorová (2015), through didactic innovative activities, students:

- implement syllabus of a subject into tasks,
- answer problematic questions on their own,
- when looking for solutions, do not forget to analyse (problem within a subject),
- accept attitudes and arguments from a common life as well as from other scientific areas.

This is how general issues - except for linguistic matters - are to be solved: in open communication, students involve such sources that present a broader sense of a linguistic topic; they may cooperate as a team of scientists who brainstorm their ideas and work with them creatively.

The role of the school is to mediate knowledge to their students, however, not through the teacher´s knowledge and acquaintance but through learners´ own acquaintance. The traditional view of school has already been outdated and a new social situation requires a new approach to learning. Constructivism gains ground – the student himself constructs his own knowledge. The theory and practise of constructivism make students face problems that need to be solved and those tasks are created in such a way so as to be adequate to syllabus of a study discipline and also with regards to deliberate development of students´ cognitive operations (Hincová – Húsková, 2001, p. 12). The role of the teacher has been changed (in comparison to a traditional view of teaching); a new role provides his students with space to be able to gain knowledge and solve problems on their own. Tasks and exercises in students´ textbook and exercise-books should be adapted to this situation; however, it is not a condition. The most important aspect is the teacher´s approach and the result of teaching should be knowledge gained by students´ own activity and understanding. Constructivism is based on *experience, perception, cognition, behaviour, inner experiencing of an activity* that lead to sustainable knowledge/acquaintance that students understand and use further in practice. It is also related to a pragmatic point of view on learning – as learning for life and students themselves can formulate results or solutions and plan practical steps to use gained knowledge. Activating methods help make the process easier and more effective but require maximum of teacher´s enthusiasm. The teacher – under pressure of new lesson planning - often gets back to a traditional way of teaching: *mediating stable information.* Active learning requires much time before the teacher enters a classroom; planning requires creative ideas that must be directed to constructive tasks and exercises. The teacher should also predict reactions of his students – some may show enthusiasm, others may feel disgust. Speaking about activating lessons, a certain level of balance between communicative (activating and inspiring) approach and theoretical (information and conceptual) frame of activating activities should be present. After an activity, summary of the process (of the activity) and its results should follow. This is to get students understand pragmatic knowledge and reflection of their own experience.

Creative - activating tasks are those ones that educate students and their final result is always a text and talk about it. A student feels responsibility as he is the one who passes information on another student and he should know which information and which way to select. To teach students something that is far beyond the interest of teachers or students is nonsense for the teacher as well as for the students. Methods of methodology of foreign languages are divided into direct and indirect ones. The direct ones are aimed at communication and indirect ones at grammar and translation. The direct methods consist of communicative or activating methods and are suitable for teaching target languages. They finally lead to pragmatic educational goals – to functional use of language units which depend on different communicative needs (thematic curriculum) and mostly focused on language skills in linguistic practice (tasks aimed at practising pronunciation, vocabulary, morphology, stylistics and syntactic units).

At the beginning of a creative lesson, it is important that students learn techniques and gain materials that develop creativity. It is also essential that they learn the creative process and finally the teacher must teach

students how to use actively creative processes. As it is the so called cyclical process of gaining creative skills, when keeping to all the aspects and steps of the cycle, a desired creative effect is supposed to come.

In a motivating-stimulating stage, students could be involved in a creative process already when a topic is to be decided. Various techniques of selecting a topic (such as voting, brainwriting, modern words, sounds, literary works titles, etc.) may be implemented.

Creating appropriate climate that would invite inspiration and creativity is one of the key elements belonging to a preparatory stage. During this stage, writers and lecturers of creative writing use methods and techniques that stimulate writing (e.g. file/register of ideas, travelling, drawing and writing, and so on). All tasks must be controlled by a methodologist of creative writing (a teacher) and when the writing stage has ended, written products must be presented, evaluated and edited.

Nowadays, during Slovak language classes, techniques of writing that are aimed more at reproducing are in practice rather than those that focus on productivity. Reproductive writing techniques teach students how reproduce (or imitate) final model texts without involving emotions, creativity and their own experiences. The results are then imitations and copies of tasks without any deeper interpretation, analysis and assessment. The evidence is present in the form of alarming results of PISA that show the insufficient literacy of students. They are low at tasks comprehending, communicative approach of linguistic-didactics that would have impact on students´ activity is absent as well as applicability of linguistic knowledge in common communication. Pupils and students learn selected words (those are such words in Slovak in which after the consonants b, m, p, r, s, v, z the vowel "y" instead of "i" is written – students always learn them by heart – note of the author) or rules of writing commas, but do not learn what perhaps is even more important for everyday usage of the language - the correct pronunciation (Gregorík, 2015, p. 20). Knowledge and skills gained in this way – that focus on only one certain situation – are quickly becoming outdated and useless. On the other hand, as Smetanová (2013, p. 3377) says, "writing may combine the usage of all the four language skills (writing - of course, reading, speaking and listening). It brings fun and strengthens verbal skills of the student".

Texts that are found in textbooks to teach a foreign language – not a mother tongue – are closely connected to a young generation, they are interesting, up-to-date and adequate to students´ age. They are full of information, however, often too boring and long-winded; communicative tasks are related to a close environment, students´ own experiences and opinions on a current life. Questions focus on text content, they are topical or comparing the past, widely-thematic, various (from the point of view of interest and addressee). Texts are popular science or in a form of compositions. Every single article is appropriately involved in exercises and tasks that follow texts to be read.

Textbooks that are aimed at teaching a foreign language, not a mother tongue, contain topics that belong to final state exams (the so called maturita exams) on the Slovak language. The Internet is the source of topics and they are lively, rich in vocabulary, asking for students´ own opinions and they broaden their general education and views. The content involves information from different angles, in communicative parts there are many contributions to the topic set, always followed by tasks and exercises. Texts present also more serious topics full of new words - such as nationalism, xenophobia, repulsion, empathy, plurality, cosmopolitanism - that require active work with dictionaries. The final block of the late textbook is most comprehensive in topics and content and depicts the state system of the Slovak republic – and the information that the text contains are checked in the form of quiz. Topics relate to the Constitution, legal system, police and are always followed by questions and tasks. This is a fully saturated conversation block and as it is the most complicated conversational component, it is placed at the end of the textbook and studies. To find solutions to the exercises is quite difficult and students are required to have knowledge on the European Union or human rights and this may be taken also from other sources.

Tasks and exercises are various, there are different types of them, such as brain teasers and riddles and puzzles. In the educational process, it is not necessary to use all of them at once, however, teachers may decide and select those which are appropriate for their students regarding their age, language level, skills and interests. The results of such tasks enrich knowledge and broaden general overview of students. Part of the textbooks is a CD that contains recordings of texts and dictates. The advantage for students is that they may hear someone else speaking in Slovak, not only their teacher. Textbook illustrations are of various types – from pictures through pictograms and photos that accompany texts and create part of tasks and exercises. Students are supposed to describe them and answer questions. Pictograms lead students throughout the whole textbook and make students understand better or highlight for example new words.

In a linguistic section, language competence strengthens through language and stylistic exercises. In a grammar section, indirect forms of fostering a given language phenomenon are used. The language phenomenon is

explained at the beginning of each chapter; examples or model sentences are introduced as well. Textbooks dedicate quite much space to differentiate vocabulary – from single words to compound ones and idioms. Passive vocabulary in texts is introduced in vocabularies at the end of each chapter. Language practice combines theoretical knowledge, definitions, divisions and examples with tasks that follow after theory so as to the curriculum may be understood. Language practice tasks tackle language issues through problem solving activities, such as: do you think that ... what is your opinion on ... Indirect tasks that encourage grammar fixation are presented as well, such as: according to what criteria the division is made ... substitute the words ... write out ... This part is aimed at practising grammar, spelling and stylistics and most often, tasks for effective foreign language teaching are introduced: here students are required to complete fill in exercises, multiple choice tasks, correct suffixes; they are also asked to re-arrange a word order and work with dictionaries. Language practice focuses on syntax and word relations, words compounding, grammar categories and word classes. Presented language phenomena are repeated in further sentences and new facts or information is added. The end of textbooks is devoted to compound sentences – the most complicated syntactical part. They are practised in tasks that show mutual sentence relations.

There is a section aimed at writing compositions as well. It comprises a brief theoretical introduction followed by texts with exercises, such as: choose the way you will process the text; and at the same time work with texts requires the use of dictionaries in order to check the function and adequacy of the used words. In this section, students also meet with practical tasks that are part of general communicative situations, for example how to fill in correctly a form (a postal order, various application forms, etc.). Composition practice is dedicated also to various styles, e.g. publicistic style – and questions are directed towards definitions of the style, its usage in everyday conversations, genres analysis in specific texts (according to genres definitions, students are supposed to match the text with an appropriate genre or find a text in newspapers and define the genre).

A conversational section covers questions such as: have you heard about ... what do you think about ... which activities are related to ... would you like to try / have you ever tried ... what is your opinion on ... do you think that ...? There is also a section Say your opinion – and students are asked about their opinion and experience regarding a previous text. Topics are wide and devoted to regional specifics in Slovakia and at the same time we may see an element of comparison with the past or with other countries. Conversational blocks are often refreshed by humorous stories, jokes or catch phrases which – in order to be understood – requires good knowledge of vocabulary and language. Those parts that are more extensive ask for creating an outline which makes the text to be understood better. Pictures in textbooks represent not only a source of knowledge but they are also implemented in tasks. All tasks in textbooks are created in order to develop single communicative competencies that are included in the State Educational Programme:

- reading (with comprehension): a reading exercise to understand a dialogue – true/false statements, pictures and pictograms in textbooks – describing them, comment on them, fill in missing vocabulary: text with a blank space and number which hides a correct missing text, fill in missing words after listening to a CD; text divided into parts A – G and match general content to every one of them;
- listening (with comprehension aimed at correct pronunciation): playful conversational exercises: puzzle out an anagram and fill it in a sentence; mark incorrect statements; choose correct statements; generalise definitions of key words that students identify in a heard text. In Text to listen section, a text that students are supposed to listen without reading it in textbooks could be found – this kind of text is only a guide text in textbooks, essential is to understand it from listening and comprehension is reflected in answers to questions and tasks at the end of the text; text reproduction and getting key words; content reproduction after listening; re-tell stories in the first person of any character in the text (i. e. from various perspectives); say what problem is being solved in a story; show your attitude towards any character in stories;
- writing: tasks developing creativity and imagination and feedback is part of it – exercises to fill in a dialogue; students are supposed to take notes while dealing with a text and then the text is freely re-told; there are exercises in which students are to substitute expressions by their equivalents, synonyms or antonyms;
- speaking: fill in a dialogue – either questions according to answers or answers according to questions; drama activities such as act out the dialogue; re-tell the text; end the story ...; create questions according to a certain topic; use pictures to tell a story ...; to understand how human rights may be violated or on the other hand applied, role plays or situational dialogues are used to evoke experiences.

CONCLUSIONS

The aim of mother tongue as well official language acquisition is to gain functional communication literacy in which a language serves as a tool for communication in various communicative situations. This is to gain ability to succeed on the labour market in the country whose official language is acquired. There are differences in the majority (official) language acquisition and minority language acquisition – they mostly differ in approaches and intentions of teaching under the influence of environment and target-directed language. The Slovak language in minority environment represents a natural Slovak environment where minorities live and speak their language. The Slovak language as a mother tongue creates a natural Slovak environment where majorities live and speak the existed language. These facts influence content and range of the acquired language. There is a question that arises: how to deal with teaching the mother tongue in primary schools - how to teach the Slovak language in a society that is constituted as part of a comprehensive (global) European macro-society (Luptáková, 2013, p. 2, source: http://www.jazyk-literatura-komunikace.cz/index.php/2-2013/category/23-clanky). When learning a second language in minority environment the key element is to gain mostly communicative competence and a background of language knowledge – it is a language/communicative standard that respects intercultural components of the minority. On the contrary, when a mother tongue is being acquired, the key element is to gain knowledge about the language system and its use in communicative practice, it means the emphasis is put on language and communicative competence that respects cultural phenomena of the majority. To acquire compressed curriculum of the language, methodology of Slovak as a foreign language is used and to acquire full curriculum, methodology of a certain mother tongue is used – as mother tongue serves as basis for majority of a certain country and for minorities, it is their target language.

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PRODUCING FIRST AID LEARNING MATERIALS for ELEMENTARY STUDENTS with PROSPECTIVE TEACHERS

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ABSTRACT
Unfortunately, the people between 0-14 years old who died from open wounds and poisoning in Turkey in 2014 comprise 5.26 percent of the total death rate in the same year. Most of these deaths could have been prevented by people with first aid knowledge and even in schools with the help of teachers. The present research aims to enhance the first aid knowledge of prospective teachers in elementary teacher education programs by making them produce learning materials for children from 6 to 11 years old. The research was carried out by exploratory mixed-method. A 40-item first aid questionnaire developed by the researcher was administered as pre-test and post-test to (n=76) prospective teachers in an elementary teacher education program to identify the effects of material production on first aid learning. The first aid education including theoretical education with case studies was continued for 9 weeks. Then for 4 weeks, each group with four participants produced learning materials using puzzles, cartoons, games, and animations as part of the technology applications. They shared and demonstrated their products with other prospective teachers. In the qualitative section of the research, the prospective teachers were asked three interview questions to explain the reasons for the quantitative findings in detail. According to the results, the mean post-test score was 33.40, which was greater than the mean pre-test score of 23.46. The results of the paired sample t-test revealed significant difference between the mean values of the pre-test and post-test (t (76) = 16.056), p<.00. The participants (n=60) indicated that the use of materials in class is the best way of learning first aid.

Keywords: first aid education, material development, elementary teacher education

INTRODUCTION
First Aid is the application of emergency treatment to an injured or ill person without recourse to complex medical equipment. In 2012, an estimated 56 million people died worldwide and injuries caused 9% of all deaths (WHO, 2012). In Turkey in 2009, 11,176 people died from poison and physical injuries, 9,005 died from accidents, 3,909 from sanitary transport, and 214 from poisoning (TUIK, 2013). Other death rates for Turkey in 2014 included 20.7 percent from malign tumors, 10.7 percent from respiratory disorders, 5.1 percent from endocrine-nutritional-metabolic disorders, 4.3 percent from open wounds and poisoning, and 4.4 percent from nervous and sensory organ disorders. Unfortunately, the people between 0-14 years old who died from open wounds and poisoning in Turkey in 2014 comprise 5.26 percent of the total death rate in the same year. In Turkey, according to data gathered from newspaper and television reports (Report, 2013) a total of 609 children died in 2012, of whom 20 died in workplaces, 28 from violence in the family, 20 in schools, 4 from peer violence, 16 from homicides, 11 in hospitals, 114 from traffic accidents, 47 from other accidents, 15 from electric shocks, and 40 children of foreign parents died from various causes. In Turkey, children comprise about 30% of the population and to protect their wellbeing, first aid education is essential in elementary schools. In this respect, the state of affairs in Turkey is not exceptional. In England in 2002, for example, 3,000,000 people required first aid treatment in the emergency rooms of hospitals (Campbell, 2012). In Cambodia, a developing country of 13 million people, there are an estimated 20,000 burns and 2000 burn deaths annually (Hsiao et al, 2007). Karaoz (2010) found that, in 130 families contacted in the Milas region of Turkey, 53 children (40.8%) experienced a burn event. The knowledge of first aid is not related to people's education levels (Emir and Kus, 2015, Davies, et al, 2013, Edward et al, 2010). But any kind of education even compulsory education with traditional methods was shown to improve the first aid education level of students, drivers, prospective teachers, and parents (Davies et al, 2013, Adelborga et al, 2011, Bildik et al, 2010, Wei et al, 2013). Young people especially from 7 to 12 years old are perfectly capable of learning and applying first aid (Bollig et al, 2009), and there is a chance to educate a lot of people during the compulsory education period to help prevent bad situations from happening or reduce the number of deaths among patients or injured people. In Turkey, first aid and traffic courses are taught during the fourth grade in elementary education. Unfortunately, students cannot learn about first aid properly due to time restrictions, teachers' competencies, the national exam system, the high number of students in classrooms, inadequate learning tools, and traditional teaching methods (Parim, 2015, Charlier and De Fraine, 2013, Marx et al, 1998, Hammig et al, 2011, Hassoy et al, 2011). Yet, there are some good examples of different teaching methods investigated in the literature. For instance, Celik (2011) used online and face-to-face methods for different groups and found that although both methods were effective on the learning of first aid, online courses were more effective than face-to-face education. Charlier and De Fraine (2013) used game-based method and traditional method on 120 students to compare the effectiveness of the two in first aid education. They found that while traditional lectures increase knowledge level more than game-based lectures,

students enjoy game-based lectures. So they suggested using different methods together with theoretical education. In this study, video records, case studies, and models were used alongside on prospective teachers during theoretical education. It has been shown that using video clips in lectures may motivate students, provide better understanding, help them remember key points of lectures, and improve learning process (Ljubojevic et al, 2014, Kay, 2012) and examples from social life may attract interest and the need to learn. After theoretical education, the prospective teachers in the present research investigated specific content about first aid to produce teaching tools for kids from 6 to 10 years and used those tools in the lecture as teachers. Accordingly, these prospective teachers were given the opportunity to use the learning tools they themselves developed with the elementary students for whom the materials were intended. They transferred their knowledge of first aid to teaching tools and used their tools on their peers by acting as their teachers, a fact which was mentioned by Wicklein and Schell (1995): "If knowledge has no apparent application, it may not be perceived as meaningful nor readily transferred to other situations". Also, Darling-Hammond (2006) explained the skills of teachers in the 21st century, which are to construct and manage classroom activities efficiently, communicate well, use technology, and reflect on their practice to learn from and improve it continually.

Research problem

How did the production of first aid learning materials affect the first aid knowledge level of prospective teachers? Specifically;

Which related topic, item or application about first aid did they learn better than the others?

Which wrong applications or incorrect knowledge did they change after the implementations?

Which teaching method or techniques can be recommended to teach first aid?

THE STUDY

Method

The research was carried out by using mixed methods explanatory design. Mixed methods approaches combining quantitative and qualitative data provide complimentary perspectives on the research problem (Sparkes, 1992). A researcher first collects and analyzes the quantitative (numeric) data. The qualitative data are collected and analyzed second in the sequence and help explain, or elaborate on, the quantitative results obtained in the first phase (Ivankova et al, 2006). In this research, a questionnaire was administered to a sample group as pre-test and post- test to obtain the quantitative data with the aim of determining the effects of material production on the learning of first aid. The qualitative method was used for the interview documents to explain in detail and to understand the reasons of quantitative data. The integration of quantitative and qualitative data may take many forms including connecting results from one data set to the collection of data from another; juxtaposing quantitative and qualitative results for comparison; transforming one form of data to facilitate the other form of analysis; or forming interpretations from the two sets of results (cited from Plano-Clark, et al, 2014).

Participants

The sample group was composed of 76 prospective teachers at senior level who will soon become primary school teachers. They attended the first aid lectures two hours a week at for 14 weeks Istanbul Aydın University.

Measurements

In this research, a 40-item first aid test produced by the researcher and checked by a professional first aid doctor was used to collect the quantitative data in order to determine the first aid knowledge levels of prospective teachers. The items explained some first aid applications, giving information about some concepts and definitions of some terms in a sentence. For each sentence there were three choices: "yes", "no" and "no idea" (Tables 1, 2, 3, 4). The items could be classified as follows: 3 questions about poisoning, 3 questions about burning, 3 questions about fracture-luxation, 4 questions about bleeding, 3 questions about respiration, 5 questions about unconsciousness, 3 about sunstroke, 3 about electric shock, 2 about frostbite, 5 about cardiac arrest, 3 about sanitary transport, 3 about general first aid knowledge, 1 about open wounds, 3 about sensory organs, and 1 about organ transplantation. The test was administered twice. The first administering was done at the beginning of the study. Also, at the end of the research a structured interview was carried out with the prospective teachers to obtain detailed data for interpreting the questionnaire results. The interview included the following three questions:

- Did any topic, subject or application you had known before about first aid turn out to be incorrect after you studied the research applications?

-Which related topic, item or application about first aid did you learn better than the others? Explain why.

-Which subjects or applications did you learn best during this lecture? Explain why.

Implementation

The questionnaire was administered at the beginning of research to 76 prospective teachers attending the first aid lecture. The researcher gave them theoretical knowledge with case studies by using short videos from Turkey or other countries and the students were encouraged to participate in discussions. The topics discussed included

what is first aid, the purposes of first aid, the ABCs of first aid, first aid in cardiac arrest, respiration, bleeding, injuries, fracture –luxation, poisoning, burning, animal bites, open wounds, home accidents, traffic accidents, sunstroke, electric shocks, frostbite, shocks, loss of consciousness, diabetic patients, epilepsy patients, organ transplantation, and sanitary transport. This period of teaching lasted for 9 weeks. Then, groups of 4 prospective teachers each developed learning materials for students between 6 - 11 years old. The materials were produced by using five techniques including puzzle games, drama, animations, and cartoons and by using technology like goanimate and toondoo. The prospective teachers presented their materials to their peers in the classroom. Finally, a first aid test and interview were carried out.

Data analysis

In the quantitative section of the study, the questions in the first aid questionnaire were evaluated by assigning 0 to wrong responses, 1 to correct responses, and no scores to the response "I have no idea". The frequency of each question for both the pre-test and post-test was calculated to determine the effects of the implementations on the sample group. Also, t-test was performed to compare the mean scores for each question for the pre-test and post-test. The participants (n=76) were analyzed by the method of content analysis (Yıldırım and Simsek, 2008). The data from the interviews were encoded by the researcher and two other experts to test for validity and to generate the themes. Using the formula Reliability = Consensus / Consensus + Dissidence X 100 (Miles and Huberman 1994), the researcher found inter-coder reliability for the codes and themes to be 93 percent. All the codes were compared and discrepancies were addressed until 100-percent agreement was reached.

FINDINGS
Quantitative Results
Table 1 gives the percentages of responses for each item in both pre-test and post-test. Correct responses are shown in bold.

Table 1. Percentages of responses for items 1 to 8 in the pre-test and post- test questionnaires

	Questions	Responses	Pre-test		Post-test	
			N	%	N	%
1	A pill can be given to a patient to whom first aid has been applied.	TRUE	14	18.42	12	15.78
		FALSE	54	71.05	64	84.21
		NO IDEA	8	10.52	0	0
2	158 is the phone number for first aid.	TRUE	10	13.15	4	5.26
		FALSE	57	75	70	92.10
		NO IDEA	9	11.84	2	2.63
3	Ruptured organs are transported to the hospital in a hygiene bag with a warm environment.	TRUE	15	19.73	3	3.94
		FALSE	57	75	73	96.05
		NO IDEA	4	5.26	0	0
4	A first aid bag contains safety pins, gauze, scissors, notepad, pen, bandages, and aluminum foil.	**TRUE**	50	65.78	74	97.36
		FALSE	19	25	2	2.63
		NO IDEA	7	9.21	0	0
5	The lungs are the first damaged organ when respiratory tract is blocked.	TRUE	62	81.57	73	96.05
		FALSE	6	7.89	3	3.94
		NO IDEA	8	10.52	1	1.31
6	The nose should be blocked when air is blown into the mouth.	**TRUE**	46	60.52	70	92.10
		FALSE	22	28.94	4	5.26
		NO IDEA	8	10.52	2	2.63
7	We understand that a person is breathing if we see vapor on a piece of metal we place in front of their mouth.	**TRUE**	58	76.31	73	96.05
		FALSE	12	15.78	3	3.94
		NO IDEA	6	24	0	0
8	In cases of fainting, patients are laid down on flat ground and their feet are kept at heart level.	**TRUE**	55	72.36	71	93.42
		FALSE	10	13.15	4	5.26

			NO IDEA	11	14.47	1	1.31

Table 2. Percentages of responses for items 9 to 20 in the pre-test and post- test questionnaires

	Questions	Answers	Pre-test		Post-test	
			N	%	N	%
9	Epileptic patients are made to smell onion	TRUE	57	75	11	14.47
		FALSE	0	0	62	61.57
		NO IDEA	19	25	3	3.94
10	When unconscious, patients cannot respond to environmental stimuli.	**TRUE**	71	93.42	74	97.36
		FALSE	2	2.63	2	2.63
		NO IDEA	3	3.94	0	0
11	A tampon is used in first aid for fractures, dislocations and sprains.	TRUE	17	22.36	17	22.36
		FALSE	52	68.42	59	77.63
		NO IDEA	7	9.21	0	0
12	Cold compress should be applied to the sprained area.	**TRUE**	63	82.89	71	93.42
		FALSE	2	2.63	3	3.94
		NO IDEA	11	14.47	2	2.63
13	Luxation is the dislocation of joints.	**TRUE**	63	82.89	68	89.47
		FALSE	3	3.94	7	9.21
		NO IDEA	10	13.15	1	1.31
14	Carbon dioxide is a gas that causes gas poisoning.	TRUE	41	53.94	33	43.42
		FALSE	12	15.78	42	55.26
		NO IDEA	23	30.26	1	1.31
15	The most important sign of food poisoning is frequent vomiting.	**TRUE**	67	88.15	72	94.73
		FALSE	4	5.26	4	5.26
		NO IDEA	5	6.57	0	0
16	Patients poisoned by acid and alkaline should be forced to vomit.	TRUE	27	35.52	16	21.05
		FALSE	34	44.73	50	65.78
		NO IDEA	15	19.73	0	0
17	Burning people can be saved by rolling on the floor to eliminate oxygen contact with fire.	**TRUE**	33	43.42	63	82.89
		FALSE	17	22.36	13	17.10
		NO IDEA	26	34.21	0	0
18	The most severe burns are first-degree burns.	TRUE	46	60.52	26	34.21
		FALSE	27	58.69	40	52.63
		NO IDEA	3	3.94	0	0
19	Blisters on the skin are observed in first-degree burns.	TRUE	37	48.68	41	53.94
		FALSE	10	13.15	31	40.78
		NO IDEA	29	38.15	4	5.26
20	Cold compresses are applied to the neck and nasal cavity is blocked during nose bleeding.	**TRUE**	41	53.94	62	81.57
		FALSE	12	15.78	11	14.47
		NO IDEA	23	30.26	3	3.94
		NO IDEA	28	36.84	2	2.63

Table 3. Percentages of responses for items 21 to 32 in the pre-test and post- test questionnaires

	Questions	Answers	Pre-test		Post-test	
			N	%	N	%
21	Gushing of blood from the body is a symptom of venous bleeding.	TRUE	16	21.05	43	56.57
		FALSE	29	38.15	29	38.15
		NO IDEA	31	40.78	4	5.26
22	Capillary bleeding can be stopped by applying tampon.	**TRUE**	42	55.26	55	72.36
		FALSE	6	24	19	25
		NO IDEA	28	36.84	2	2.63
23	Symptoms of internal bleeding include dehydration, yellow skin, and dizziness.	**TRUE**	46	60.52	72	94.73
		FALSE	6	24	4	5.26
		NO IDEA	24	31.57	0	0
24	Water and ayran with salt can be given in sun strokes.	**TRUE**	19	25	64	84.21
		FALSE	8	10.52	9	11.84
		NO IDEA	49	64.47	3	3.94
25	Abdominal pain is a symptom of sun stroke.	TRUE	48	63.15	27	35.52
		FALSE	0	0	45	59.21
		NO IDEA	28	36.84	4	5.26
26	Cold ice packs to the neck and head should be applied for sunstroke.	**TRUE**	53	69.73	66	86.84
		FALSE	8	10.52	3	3.94
		NO IDEA	15	19.73	2	2.63
27	The most severe burns occur at the entry and exit sites of electric current in the body.	**TRUE**	44	57.89	71	93.42
		FALSE	4	5.26	2	2.63
		NO IDEA	28	36.84	3	3.94
28	Death occurs too fast when the brain is affected by the flow of electric shock.	TRUE	60	78.94	7	9.21
		FALSE	5	6.57	67	88.15
		NO IDEA	21	27.63	2	2.63
29	Our urine transmits electricity.	**TRUE**	23	30.26	67	88.15
		FALSE	5	6.57	7	9.21
		NO IDEA	48	63.15	3	3.94
30	Warm drinks are given to frostbitten individuals.	**TRUE**	51	67.10	64	84.21
		FALSE	14	18.42	11	14.47
		NO IDEA	11	14.47	1	1.31
31	Frostbitten organs turn to purple.	**TRUE**	70	92.10	72	94.73
		FALSE	4	5.26	3	3.94
		NO IDEA	2	2.63	1	1.31
32	An insect in the ear can be removed by a cotton swab.	TRUE	12	15.78	17	22.36
		FALSE	54	71.05	56	73.68
		NO IDEA	10	13.15	3	3.94

Table 4. Percentages of responses for items 33 to 45 in the pre-test and post- test questionnaires

	Questions	Answers	Pre-test		Post-test	
			N	%	N	%
33	When a foreign object gets into the eyes, they must be washed out with water.	**TRUE**	64	84.21	62	81.57
		FALSE	7	9.21	13	17.10
		NO IDEA	5	6.57	1	1.31
34	The letter A in the ABCs of first aid means to ensure an open airway.	**TRUE**	23	30.26	73	96.05
		FALSE	0	0	2	2.63
		NO IDEA	53	69.73	1	1.31
35	Slurred speech, blurred vision, sleepiness, irritability, sweating are symptoms of low blood sugar.	**TRUE**	38	50	64	84.21
		FALSE	16	21.05	9	11.84
		NO IDEA	22	28.94	4	5.26
36	A sick or injured person can be carried on the back if they are self-conscious but cannot walk.	**TRUE**	28	36.84	66	86.84
		FALSE	34	44.73	10	13.15
		NO IDEA	14	18.42	0	0
37	Tetanus vaccine should be given as a first aid measure in all kinds of open wounds.	**TRUE**	24	52.17	46	60.52
		FALSE	29	38.15	26	64.21
		NO IDEA	23	30.26	4	5.26
38	In children, cardiac massage should be applied on the breast bone with a depth of 5 cm and a compression rate of 100 per minute.	**TRUE**	23	30.26	53	69.73
		FALSE	12	15.78	4	5.26
		NO IDEA	41	53.94	9	11.84
39	If both breathing and the heart stop in adults, 30 chest compressions and two artificial respirations should be applied to provide basic life support.	**TRUE**	29	38.15	64	84.21
		FALSE	1	1.31	9	11.84
		NO IDEA	48	63.15	5	6.57
40	Fever and pain radiating from the back towards the front chest, sweating, pain in neck region, and vomiting can be the symptoms of heart attack.	**TRUE**	41	53.94	64	84.21
		FALSE	10	13.15	9	11.84
		NO IDEA	25	32.89	3	3.94
41	The area of the body bitten is washed with soap.	**TRUE**	18	23.68	62	81.57
		FALSE	35	46.05	3	3.94
		NO IDEA	23	30.26	1	1.31
42	The head of the patient should face downwards when carried on a stretcher down the stairs.	**TRUE**	33	43.42	44	87.89
		FALSE	18	23.68	30	39.47
		NO IDEA	25	32.89	2	2.63
43	Children suffering from a seizure should be washed in cold shower.	**TRUE**	49	64.47	61	80.26
		FALSE	17	22.36	12	15.78
		NO IDEA	10	13.15	3	3.94
44	Pulse control is generally done on the neck.	TRUE	34	44.73	49	64.49
		FALSE	38	50	25	32.89
		NO IDEA	4	5.26	2	2.63
45	The pulse rate of a healthy person is 70-90.	**TRUE**	65	85.52	61	80.26
		FALSE	2	2.63	14	18.42
		NO IDEA	7	9.21	1	1.31

To indicate which items were learned better than the others and to compare quantitative results with qualitative results, the percentages of responses for each question were listed as shown in the tables. At the beginning of the research, many prospective teachers responded to most items by choosing "no idea", particularly for items relating to the meaning of the ABCs of first aid (question 34), sunstroke (question 24), bleedings (questions 21, 22, 23), electricity shock (questions 29, 27), and CPR technique (questions 38, 39). These results in fact were surprising in that the sample group was at the senior level of elementary teacher education. All had taken first aid classes during their secondary school education and these questions were generally assessed the scientific knowledge level of prospective teachers. Although there was a decrease in the percentage of "no idea" responses in the post-test, some students still provided some "no idea" responses. Furthermore, in the pre-test, wrong responses were obtained for items related to scientific knowledge, such as "The lungs are the first damaged organ when respiratory tract is blocked" (question 5), "Epileptic patients are made to smell onion" (question 9), "Carbon dioxide is a gas that causes gas poisoning" (question 14), burns (question 19), the types of vessels (question 21), sunstroke (question, 25), CPR techniques (questions 38, 39), animal bites (question 41), and the ABCs of first aid (question 34). In the post- test, the percentage of correct responses for item 4 about the first aid bag rose from 65.78 to 97.36; item 10 concerning unconscious patients was answered correctly by 97.36 percent; item 3 dealing with organ transplantation was answered correctly by 96.05 percent; and 96.05 percent correctly responded to item 7 about respiratory check. But the highest increase in correct responses from the pre-test to the post-test was achieved in the following items: the rate of correct responses for the item about first aid during an epilepsy crisis increased from 0 to 61.57 percent; from 15.78 to 55.26 percent for the item concerning carbon dioxide gas causing poisoning; from 25 to 84.21 percent for item 24 about sunstroke; and from 0 to 59.21 percent for item 25 similarly about sunstroke. Similar increases in correct responses were obtained in item 28 about electricity shock from 6.57 to 88.15 percent; in item 29 similarly dealing with electrical conduction from 30.26 to 88.15 percent; in item 34 about the ABCs of first aid from 30.26 to 96.05 percent; in the item about CPR for children from 60.26 to 69.73 percent; and in the item concerning CPR for adults from 38.15 to 84.21 percent. There was also an increase in the rate of correctly answered questions in the item relating to animal bites from 23.68 to 81.57 percent. Nevertheless, there was some decrease in the rate of correct responses to some of the items from the pre-test to post-test. For instance, the rate for item 45 decreased from 85.52 down to 80.26 percent; from 50 to 32.89 percent for item 44; and from 7.89 to 3.94 percent for item 5.

Table 5 gives a comparison of the differences between the pre-test and post-test mean scores for the questionnaire about first aid.

Table 5. Paired sample t-test results of the responses to the pre-test and post-test first aid questionnaires based on mean scores.

	n	$\overline{x}$	S	sd	t	p
Pre-test	76	23.46	4.56	75	16.056	0.00*
Post-test	76	33.40	3.71			

P<0.005

As seen in Table 5, the mean score for the post-test was greater ($\overline{x}$ =33.40) than the mean score for the pre-test (χ= 23.46). The paired sample t-test revealed a significant difference between the mean values of the pre-test and post-test (t (76) = 16.056), p<.00).

Qualitative Results
The qualitative data were obtained from 72 prospective teachers at the end of research with the help of three questions. Two themes were obtained from content analysis. One of them concerned identifying the areas and the reasons for incorrect knowledge about first aid, while the other aimed to determine the best-learned concepts with their reasons.

Theme 1: Determining incorrect knowledge about first aid and their reasons prior to the applications in class
Most prospective teachers (n= 14) indicated that "applications during the nose bleeding" was incorrect knowledge on their part before the implementation of the research. In general, they knew about tilting the head backwards as a first aid response. "*I knew pressing on the upper part of the nose and tilting the head backwards as correct first aid responses*". That epileptic patients should be made to smell onion was another piece of incorrect knowledge held by 11 participants. 7 participants explained that they had incorrect knowledge about burns; such as "*I thought that the most severe type of burns was the first-degree burns instead of third-degree ones*". The presence of incorrect knowledge was identified in 6 participants for each of the first aid items concerning sanitary transport techniques, cardiac arrest, and forced vomiting in people poisoned by acid and

alkaline liquids. 43 prospective teachers indicated their incorrect knowledge about most of the subjects such as sunstroke, electrical burns, bleeding, animal bites, fracture-luxation, ABCs of first aid, and treatment with pills during first aid response. They explained the reasons for their incorrect knowledge about first aid as follows: Learning directly from the social environment like the media, family, friends or hearsay learning (n= 30).
"I learned from my grandmother that we should vomit for all kinds of poisoning"
"I don't remember from where I learned this wrong information"
"Generally we believe whatever we hear; I think that's how I know the incorrect applications during sunstroke"
"Why I didn't think heart is working with electricity current."
9 of them have no knowledge about some first aid applications and gave responses such as:
"I have no incorrect knowledge but I have no sufficient information about first aid".
"I have no such experience in my life", "I didn't think logically" and "I didn't do any research about it".
One student surprisingly said: *"I am not an idealist teacher like you, I will do my job as much as I am paid. So I am not willing to teach first aid".*

Theme 2: The teaching methods and techniques to learn about first aid

72 participants identified the best topic they learned during the research implementations and explained the reasons why they think so. In general, the meaning of 'A' in the ABCs of first aid, the main rules and aims of first aid (n=13), first aid responses to epileptic patients (n =12), nose bleeding (n=11) and general bleeding (n=11) were learned better than the other topics. Animal bites (n=10), injuries (n=9), fracture-luxation (n= 8), burns (n=8), sanitary transport (n=6), sunstroke (n=5), cardiac arrest (n= 4), poisoning (n= 4), artificial respiration (n= 4), electric shocks (n= 4), frostbite (n=4), and all other topics were also learned through the research applications. Also some of them said that they had learnt some rules during these applications, such as keeping the head down instead of up during nose bleeds, removing people around an injured person, pinching the nose shut during artificial respiration, pulse measurement, understanding whether breathing is continuing or not, and transport rules for organs separated from the body to hospital.
The participants wrote about the teaching methods and techniques related to the best-learned topics. These included material production for students (n = 45), the use of materials to explain the topics to the class (n= 60), visual materials (n=15), drama (n= 15), peer presentations (n=6), and case studies with videos (n=30). In addition to the teaching techniques, they also said things like '*I will need them in my life in the future* (n= 15) and *I had experienced it* (n= 28). Below are some examples of the responses:
"I learned about animal bites because it was our homework and we had to read a lot about it."
"We learned about the first aid rules for sanitary transportation; my peers performed drama in the class very realistically."
"I was particularly influenced by the videos about burning and bleeding; they were so interesting."
"Drama was the best method for me; I learned about CPR from your drama and about sanitary transportation from my peers."
"When we were devising a drama about sanitary transportation, we read the book and your notes over and over again and we had a lot of fun with my friends. After the lecture presentations, we actually carried one fainted janitor in the university, and thank you for your life-long learning method."
"After we learned about the first aid rules about bleeding, I cut my finger and I realized the importance of first aid.
"I learned about fracture and luxation because recently my brother had broken his leg and the topic attracted me.
"I learned about the first aid methods in frostbites because it was my homework and when I was preparing for it, I read many articles and news"
"I learned about food poisoning because it was my homework and I corrected my mistakes".
"It was not interesting for me; I learned that I cannot do anything about first aid because my character is not suitable for that, but I learned important things like stopping screaming, clearing the surroundings of a patient and certain precautions against accidents.
I reorganized my home to protect my daughter from home accidents; I think videos should be used to educate mothers.
The best response obtained through the research was the following:
"I realized that if you had given us PowerPoint assignments, then we wouldn't have learnt as is the case with other lectures. I think your assignments involved many learning methods such as research, creativity, reading, visual learning, production of materials, so other than first aid, the methods and techniques you used for a simple lesson also taught me many things. I was especially surprised at the silence and interest of a class of over 90 students."

CONCLUSION

Even though the sample group was comprised of senior-level students of teacher education and they had received compulsory education about first aid during their high school training, the results of the responses to the questionnaire in the pre-test demonstrated that there were some prospective teachers who gave a 'no idea' response to all questions. This could be attributed to reasons such as traditional teaching methods, time restrictions, teacher competencies, and insufficient materials in the schools (Parim, 2015, Charlier and De Fraine, 2013, Marx et al, 1998, Hammig et al, 2011, Hassoy et al, 2011), and the results that the knowledge of first aid is not related to people's education levels (Emir and Kus, 2015, Davies, et al, 2013, Edward et al, 2010), which indicates that there was no relation between the first aid knowledge level and people's education levels. Yet, a relationship was found between the socio-economic level of parents and the first aid knowledge level (Wei et al. 2013). As far as the quantitative results are concerned, most of the students provided incorrect answers usually in items such as "The lungs are the first damaged organ when respiratory tract is blocked", "Epileptic patients are made to smell onion", "Carbon dioxide is a gas that causes gas poisoning", burns, the types of vessels, sunstroke, CPR techniques, animal bites, and the ABCs of first aid.

As for the reasons of incorrect responses, which was dealt with in the qualitative section of the research, the prospective teachers explained their reasons by saying, for instance, *"I learned from my grandmother that we should vomit for all kinds of poisoning," "Generally we believe whatever we hear," How could I not think that heart works with electric current."* And from this, it could be concluded that individuals' social environment like the family and media has a greater impact upon their learning than schools and also insufficient learning in science education reflected the students' first aid knowledge level (Parim, 2015), examples of which included thinking that carbon dioxide causes poisoning and people who drunk acid should be forced to vomit. Responses like '*I have no such experience in my life'* showed that if a student or anyone had no experience or has not been in similar situations in their life related to the concept taught, then long-term learning, meaningful learning, and forming connections are not possible. A significant difference was observed between the pre-test and post-test results. Apparently, developing teaching tools and presenting or applying them in class ensured the increase in the first aid knowledge levels of prospective teachers. The items that were learned best were similar to those about which they had incorrect knowledge before the research; such as epileptic patients' need to smell onion, carbon dioxide, sunstroke, and electric shocks, the ABCs of first aid, CPR techniques, and animal bites. Their incorrect answers in the pre-test and their explanations aiming to identify the unknown or misknown items in the qualitative section were also similar. The most important result of this section was that the same units were learned better than the others. When they explained which method or application provided better learning, thirty students indicated that their best learning method was the use of videos by the researcher during theoretical education. Both videos like the statement of one prospective teacher '*I was particularly influenced by the videos about burning and bleeding; they were so interesting.*' Also, explanations by the researcher about the first aid concepts affected their learning. So even though they were older than elementary students, a long-term training of 9 weeks was required in this research (Kirschner et al 2010, Parim, 2009), and videos from daily life were attractive and helped better learning (Ljubojevic et al. 2014, Kay, 2012). Sixty prospective teachers defined the best learning method as the use of materials in class. They used sentences such as *"I learned about animal bites because it was our homework and we had to read a lot about it; I learned about the first aid methods in frostbites because it was my homework and when I was preparing for it, I read many articles and news; Drama was the best method for me; I learned about CPR from your drama and about sanitary transportation from my peers; "I learned about food poisoning because it was my homework and I corrected my mistakes."* The common point of all these sentences is that giving chance to students in which they could construct their learned concepts, the outcomes of their learning as tools, the use of these tools as a teacher in the classroom (Wicklein and Schell, 1995) and acting as students when their peers apply the tools ensured the best learning about first aid. This is not new; in fact, it was long ago that Bransford et al. (1989) noted that students must have the opportunity to apply their learning and experience its effects on their own performance (p.188). Finally, looking at the comments of prospective teachers like *"I think your assignments involved many learning methods such as research, creativity, reading, visual learning, production of materials, so other than first aid, the methods and techniques you used for a simple lesson also taught me many things. I was especially surprised at the silence and interest of a class of over 90 students",* it could be underlined that using different teaching approaches in lectures enhance interest, deep learning and realization of different teaching methods and techniques (Charlier and De Fraine, 2013, Celik, 2011). Friedlan (1995) also stated that using different approaches engage many different skills on students as is done in this research with drama, the use of technology, creating games and puzzles, all of which supported the learning of prospective teachers with different learning styles.

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PROPOSED TRAINING PROGRAM TO GIVE MATH TEACHERS MATHEMATICAL PROBLEM SOLVING STRATEGIES

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هدفت هذه الدراسة إلى التعرف على فاعلية برنامج تدريبي مقترح لإكساب معلمي
الرياضيات بمدينة عرعر استراتيجيات حل المشكلات على القدرة على حل المشكلات وعلى
تنمية التفكير الرياضي ونحو الاتجاه والرياضيات لدى تلاميذ الصف السادس الابتدائي .

ولتحقيق أهداف الدراسة قام الباحث بإعداد برنامج تدريبي قائم على استراتيجيات حل
المشكلات الرياضية كما تم إعداد اختبار في القدرة على حل المشكلات واختبار في
التفكير الرياضي مقياس للاتجاه نحو الرياضيات وكذلك اختبار في أداء معلمي
استراتيجيات حل المشكلات الرياضية ، وقام الباحث باستخدام مقياس للاتجاه نحو
واختيار عينة الدراسة من معلمي وتلاميذ المرحلة الابتدائية
ناتئمئم معلمين عشرة من العينة تكونت حيث (يئادتبالا سداسلا فصلا) في عرعر مدينة
وست وثلاثون تلميذاً، وتم تدريب المعلمين ثم تطبيق الاختبارات قبلياً وبعدياً على عينة التلاميذ
،تمت ثم تمت المعالجة الإحصائية التي تتناسب بطبيعة البيانات ومتغيرات الدراسة وكانت **أهم**
:يلي ام ةساردلا اهيلإ تلصوت يتلا جئاتنلا

1. توجد فروق ذات دلالة إحصائية عند مستوى (0.05) بين متوسطي درجات معلمي الرياضيات
في التطبيقين القبلي والبعدي لبطاقة قياس أداء المعلم لاستراتيجيات حل المشكلات
الرياضية قبل البرنامج التدريبي وبعده لصالح التطبيق البعدي .

2. توجد فروق ذات دلالة إحصائية عند مستوى (0.05) بين متوسطي درجات تلاميذ الصف
السادس الابتدائي في التطبيقين القبلي والبعدي لاختبار القدرة على حل المشكلات
الرياضية لصالح التطبيق البعدي.

3. توجد فروق ذات دلالة إحصائية عند مستوى (0.05) بين متوسطي درجات تلاميذ الصف
السادس الابتدائي في التطبيقين القبلي والبعدي لاختبار التفكير الرياضي ككل
لصالح التطبيق البعدي

4. لا توجد فروق ذات دلالة إحصائية عند مستوى (0.05) بين متوسطي درجات تلاميذ الصف
السادس الابتدائي في التطبيقين القبلي والبعدي لاختبار التفكير الاستقرائي
لصالح التطبيق البعدي .

5. توجد فروق ذات دلالة إحصائية عند مستوى (0.05) بين متوسطي درجات تلاميذ الصف
السادس الابتدائي في التطبيقين القبلي والبعدي في اختبارات (التفكير

يدعبلا قيبطتلا حلاصل (يقطنملا ريكفتلا-زومرلا ريبعتلاب ميمعتلا – ميمعتلا – يجاتنتسالا
.

6. توجد قورف تاذ دلالة إحصائية عند مستوى (0.05) بين متوسطي تاجرد تامالعت ذيمالت فصلا
السداسي الابتدائي في التطبيقين القبلي والبعدي لمقياس الاتجاه نحو الرياضيات
لصالح التطبيق البعدي .

وفي ضوء هذه النتائج قدّم الباحث مجموعة من التوصيات .

Keywords: math education

PROSPECTIVE CHEMISTRY AND SCIENCE TEACHERS' METAPHORIC PERCEPTIONS OF SCIENCE

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ABSTRACT

The aim of this study is to determine freshmen and senior prospective teachers' views of science by using their metaphors. Case study as a qualitative research design was benefited in the research. 145 prospective chemistry and science teachers from a university in İstanbul were participated in the study. Participants were asked to complete some sentences about science (science is like...;because...). The meaning of metaphor was briefly explained in order to guide the participants to construct relevant metaphors. The data of the study was analyzed with content analysis. It was found that prospective teachers constructed 69 different metaphors under 9 categories including "science is open to change", "science is infinite", "science combines different areas of studies together", "science enlightens/guides people". Among these, the most commonly constructed metaphors were sun (n=11), tree (n=11), light (n=10), ocean (n=7), space (n=7) and book (n=6). The findings of the study showed that most of the participants considered science as a tentative and infinite way. Some conclusions were discussed in the light of the findings.

INTRODUCTION

Science has a vital role in our lives. We search answers to questions of the natural world with the help of scientific studies. Our knowledge of health, transportation, agriculture, technology, education and industry depends heavily on scientific research. Science is a way of knowing and thinking as well as it guides people to understand the universe and social structures (Lederman, 1992). According to the Turkish National Ministry of Education, science is an area that everyone can participate in and make contribution to (MNE, 2007). Even though science addresses all people who are interested in it, there are a lot of different definitions of science in minds and these include misconceptions and myths (McComas, 1998; Abd-El Khalick, 2004). Determining and reducing these misconceptions will help to improve citizens' images of science. In this manner, science education programs and teachers play a key role in this process, as they are mostly responsible for educating people.

The aim of Turkish science teaching programs is to raise scientifically literate students (MNE; 2013). Scientific literacy is defined as "the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity" (NRC, 1996, p. 22). Citizens who understand the characteristics of science will be able to distinguish pseudo-scientific claims from scientific research and use scientific knowledge in everyday life decision-making processes (Bell & Lederman, 2003). When the number of scientifically literate citizens increases, it is considered that society will have positive views towards science (Driver, Leach, Millar & Scott, 1996). Therefore, it is important to find out what prospective teachers think about science, as they will be mostly responsible for educating students in future. At this point, metaphors play an important part revealing prospective teachers' ideas of science. Thinking with metaphors is an important part of scientific process. Metaphor is defined as "a novel or poetic linguistic expression where one or more words for a concept are used outside of its normal conventional meaning to express a similar concept" (Lakoff, 1993, p. 202). Metaphors help understand and explain concepts as well as they relate solid facts and abstract ideas (Gültekin, 2013). Therefore, metaphors make complex ideas and concepts more understandable (Yıldırım & Şimşek, 2013).

The aim of the study is to find out freshmen and senior prospective teachers' metaphors that they constructed for the concept of "science". The research questions of the study are;

1- What metaphors do prospective chemistry teachers (PCT) and prospective science teachers (PST) construct to define science?
2- Which categories can these metaphors be classified in?

THE STUDY

The study was constructed in the light of constructivist/interpretive paradigm. Prospective teachers' metaphors of science and their explanations were deeply analyzed in a qualitative way. For this purpose, case study as a qualitative design was benefited. According to Yin (2003, p. 13), case study "investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident".

The participants of the study are freshmen and senior prospective chemistry and science teachers from a university in Istanbul. 120 female (83%) and 25 male (17%) students participated in the study voluntarily (Table 1).

Table 1. The distribution of the participants according to their majors and grades

Participants	Female	Male	Total
Freshmen Prospective Chemistry Teachers	14	2	16
Senior Prospective Chemistry Teachers	18	8	26
Freshmen Prospective Science Teachers	43	8	51
Senior Prospective Science Teachers	45	7	52
Total Number	**120**	**25**	**145**

The participants were asked to complete some sentences about science (science is like...;because...). For this purpose, a questionnaire consisting of these open-ended questions were designed. Before administering the questionnaire, the meaning of metaphor was briefly explained in order to guide the participants to construct relevant metaphors. They were asked to write only one metaphor to explain their ideas about science.

The data were analyzed by content analysis technique. The main aim of the content analysis is to reach some relationships that will explain the research data. For this purpose, similar data are brought together within some main concepts, and then they are organized. Finally, themes are constructed to explain data (Yıldırım & Şimşek, 2005). Data were analyzed in five stages according to Saban (2008). In the **coding and elimination stage**, metaphorical images were coded (tree, light, child, etc.). The answers in which metaphors were not clearly constructed were eliminated. In this stage, 8 answers were eliminated. In the **classification stage**, metaphors (n=69) were examined to find similarities with other metaphors. In the **categorization stage,** each metaphor was analyzed in terms of similar characteristics that were related to the *science* concept. 9 different conceptual categories were defined after this inductive analysis procedure. In the **establishing inter-rater reliability** stage, an expert from science education department analyzed the data independently from the researchers. The level of agreement between the expert and the researcher was 92%. According to Miles & Huberman (1994), the analysis is considered to be reliable when there is 80% or over coherence between two codings. In the **last stage**, all of the data were transferred into computer and percentages and frequencies were calculated for each category.

FINDINGS

Participants' metaphors were presented in Table 2. Findings have shown that the participants constructed 69 metaphors. Among these metaphors, the most commonly constructed ones are sun (n=11, 7,59%), tree (n=11, 7,59%), light (n=10; 6,90%), ocean (n=7; 4,82%), space (n=7; 4,82%) and book (n=6; 4,14%).

Table 2. Frequencies and percentages of participants' metaphors for the concept of "science"

Metaphor	Freshmen PCT	Senior PCT	Freshmen PST	Senior PST	Frequency (f)	Percentage (%)
Human brain	1	-	-	1	2	1,38%
Locked door	1	-	-	-	1	0,69%
Time	1	-	-	-	1	0,69%
Rocks	1	-	-	-	1	0,69%
Flower seed	1	-	1	-	2	1,38%
Baby tiger	1	-	-	-	1	0,69%
Ocean	**1**	**-**	**2**	**4**	**7**	**4,82%**
Drug	1	-	-	-	1	0,69%
Child	1	1	1	2	5	3,45%
Excavation	1	-	-	-	1	0,69%
Factory	1	-	-	1	2	1,38%
Hope	1	-	-	-	1	0,69%
Baby	1	-	3	-	4	2,76%
Mother	1	-	-	-	1	0,69%
Weapon	1	-	-	-	1	0,69%
Tree	**1**	**3**	**1**	**6**	**11**	**7,59%**
Death	-	1	-	-	1	0,69%
Book	**-**	**2**	**4**	**-**	**6**	**4,14%**
Comma	-	1	-	-	1	0,69%
Space	**-**	**2**	**4**	**1**	**7**	**4,82%**
Human	-	2	1	-	3	2,07%
Kinder surprise	-	1	-	-	1	0,69%
Google	-	1	-	-	1	0,69%
Cocktail	-	1	-	-	1	0,69%
Destructive force	-	1	-	-	1	0,69%
Pomegranate	-	1	-	-	1	0,69%
Fruit salad	-	1	-	1	2	1,38%
Woman	-	1	-	-	1	0,69%
Fashion	-	1	1	1	3	2,07%
Cat	-	1	-	-	1	0,69%

Bag	-	1	-	-	1	0,69%
Black hole	-	1	-	-	1	0,69%
Water	-	1	-	-	1	0,69%
Adventure	-	1	-	-	1	0,69%
Sun	**-**	**1**	**8**	**2**	**11**	**7,59%**
Puzzle	-	-	1	-	1	0,69%
Limitless	-	-	1	1	2	1,38%
Door	-	-	1	-	1	0,69%
Light	**-**	**-**	**3**	**7**	**10**	**6,90%**
Star	-	-	1	-	1	0,69%
Horizon	-	-	1	-	1	0,69%
Nutrition	-	-	1	-	1	0,69%
Path	-	-	2	-	2	1,38%
Plant	-	-	1	-	1	0,69%
Snowball	-	-	1	-	1	0,69%
Tourist guide	-	-	1	-	1	0,69%
House	-	-	1	2	3	2,07%
Earth	-	-	2	1	3	2,07%
Library	-	-	3	-	3	2,07%
Sky	-	-	3	-	3	2,07%
Universe	-	-	1	3	4	2,76%
Tornado	-	-	1	-	1	0,69%
Culture	-	-	-	1	1	0,69%
Human life	-	-	-	1	1	0,69%
Endless well	-	-	-	1	1	0,69%
Ladder	-	-	-	3	3	2,07%
Fish	-	-	-	1	1	0,69%
Pet	-	-	-	1	1	0,69%
Medicine	-	-	-	1	1	0,69%
Pen	-	-	-	1	1	0,69%
2 standing mirrors	-	-	-	1	1	0,69%
Mountain	-	-	-	1	1	0,69%
Diamond	-	-	-	1	1	0,69%
Lighthouse	-	-	-	1	1	0,69%
Domino	-	-	-	1	1	0,69%
Gold mine	-	-	-	1	1	0,69%
Nefron	-	-	-	1	1	0,69%
Past and present	-	-	-	1	1	0,69%
Istanbul	-	-	-	1	1	0,69%
Total	**16**	**26**	**51**	**52**	**145**	**100%**

The findings have shown that the participants constructed these metaphors under 9 different categories as it can be seen in Table 3.

Table 3. Frequencies and percentages of metaphorical categories for the concept of "science"

Categories	Freshmen PCT	Senior PCT	Freshmen PST	Senior PST	F	%
Science is infinite	2	8	14	6	30	21%
Science is open to change	2	4	13	9	28	19%
Science enlightens/guides/helps people	1	2	13	11	27	18%
Science is open to inquiry/research	2	1	7	6	16	11%
Science combines different areas of studies together	1	5	2	6	14	10%
Science requires effort and practice	2	3	2	6	13	9%
Science involves/produces (new) knowledge	2	3	0	6	11	8%
Science is based on solid ground	1	0	0	2	3	2%
Science has both negative and positive effects/sides	3	0	0	0	3	2%
Total	**16**	**26**	**51**	**52**	**145**	**100%**

The results have shown that most of the participants (n=30; 21%) think science is infinite and open to change (n=28; 19%). Some metaphors and explanations in these categories are presented below:

> "Science is like time because it never ends. It always keeps on progressing." (Freshmen PCT, 3)
> "Time is like comma. Because scientific researches always continue. Science always keeps on going forward." (Senior PCT, 3)
> "Science is like horizon because people always try to go beyond their dreams and ideas. They make

explanations, then new ideas are added and it keeps on going like that" (Freshmen PST, 15)
"Science is like a child because a child's likes and dislikes change with the developmental stage. Science looks like this. Scientific theories change with new evidence or reinterpreting the existing knowledge" (Senior PST, 10)

Also, the majority of them believe science enlightens, guides or helps people (n=27; 18%). Some of the participants underline that science combines different disciplines of inquiry together (n=14; 10%). Some examples for these categories are presented below:

"Science is like sun. Because it enlightens everything around it and it is necessary for life. Science, like sun, guides people and make their lives better." (Senior PCT, 24)
"Science is like a house because, a house consists of rooms such as kitchen, bathroom, living room. Science has branches and they look like rooms. Chemistry is like kitchen." (Senior PST, 28)

16 participants (11%) underline that science is open to inquiry and research and 13 of them (9%) believe that science requires effort and practice. Also, some of the participants (n=11, 8%) think science involves/produces (new) knowledge.

"Science is like a child, because it always asks questions and tries to find answers to these questions. Like a curious child, science seeks answers to the unknown." (Freshmen PCT, 10)
"Science is like tree because in the first place, it takes patience and effort for a long time. After that, scientific knowledge develops." (Senior PCT, 27)
"Science is like factory because it produces new knowledge all the time." (Senior PST, 12)

In Table 4, there are categories for the concept of "science" and some examples from metaphors that the participants have constructed.

Table 4. Metaphorical categories for the concept of "science" and some examples of them

Categories	Metaphors
Science is infinite	-Time, ocean (Freshmen PCT) -Death, comma, space, book, black hole, child (Senior PCT) -Limitless, puzzle, snowball, space, horizon, ocean, earth, sky, universe, path, book, library (Freshmen PST) -Human brain, Endless well, sun, two mirrors facing each other, limitless, space, universe (Senior PST)
Science requires effort	-Mother; flower seed (Freshmen PCT) -Tree, adventure (Senior PCT) -Tree, plant (Freshmen PST) -Culture, pet, child, earth, fish (Senior PST)
Science is open to change	-Human brain, baby (Freshmen PCT) -Human, woman, fashion, cat (Senior PCT) -Baby, human, space, seed, book, child, fashion, earth (Freshmen PST) -Fashion, Istanbul, limitless, universe, tree (Senior PST)
Science combines different areas of studies together	-Tree (Freshmen PCT) -Human, fruit salad, book, cocktail, tree (Senior PCT) -House, library (Freshmen PST) -House, tree, ocean (Senior PST)
Science enlightens/guides or helps people	-Hope (Freshmen PCT) -Sun, water (Senior PCT) -Light, sun, tourist guide, star, nutrition (Freshmen PST) - sun, light, lighthouse(Senior PST)
Science is based on solid ground	-Rocks (Freshmen PCT) -Ladder (Senior PST)
Science involves/ produces (new) knowledge	-Factory, unlocked door (Freshmen PCT) -Kinder surprise, Pomegranate, Google (Senior PCT) -Ocean, universe, factory, tree (Senior PST)
Science is open to inquiry/research	-Excavation, child (Freshmen PCT) -Bag (Senior PCT) -Ocean, book, human, space, sun (Freshmen PST) -Nefron, gold mine (Senior PST)
Science has both negative and positive effects/sides	Weapon, baby tiger, drug (Freshmen PCT)

CONCLUSIONS

Developing people's images of science is a key goal of science education. Especially teachers have an important role, for they are mostly responsible for educating students. Science educators and science education programmes need to focus on misconceptions about science as the programme's major aim is scientific literacy. Using metaphors is effective for the reflection of students' ideas for various topics. Also, metaphors will enhance students' language skills as well as creativity. In the study, prospective teachers constructed 69 different metaphors under 9 categories. Most of the prospective teachers mention that science is infinite (it never ends) and it is open to change. Their explanations show that they put emphasis on nature of science tenets such as the tentative nature of science. Also, most of the participants view science as a guide. They appreciate the necessity of science for human life. From this point of view, it is possible to say that most of the prospective teachers have contemporary views of science because their explanations are consistent with the science description given by Lederman (1992). Besides these, prospective teachers use both the living (human, animal, plant etc) and inanimate objects (book,light, house) as metaphors. Metaphors can be used as an alternative method when determining both students and teachers' ideas about science or any other concept (including nature of science tenets like theory, law, scientist etc).

ACKNOWLEDGEMENTS

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PROSPECTIVE CHEMISTRY TEACHERS' OPINIONS ABOUT TEACHING PRACTICE AND ITS EFFECTS ON ATTITUDES TOWARDS TEACHING PROFESSION

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ABSTRACT

The aim of this study is to determine chemistry prospective teachers opinions about Practice Teaching course and the problems occured during the applications. Also, it was aimed to determine the effect of this course on the attitudes towards teaching profession. Sample of the study consists of 40 students attending Hacettepe University, Faculty of Education, Department of Secondary School Science and Mathematics Education. As data collection tools "Attitudes towards Teaching Scale" developed by Eroğlu (2011); "Problems Occured During Applications Scale" developed by Davran (2006) and students' diaries were used. In order to evaluate the results, qualitative and quantitative analyse methods will be used and recommendations will be done.

INTRODUCTION

Teachers are one of the fundamental components of education, which is a social system because the properties and quality of education in a country are largely associated with the quality of teachers. Teaching is defined in laws on national education in Turkey as a profession requiring expertise. In the Basic Law of National Education (1973) bearing number 1739, such statements are available for teaching profession: "Teaching is an expertise profession taking on the educational, instructional and related administrative duties of the state. Teachers have the liability to perform those duties in accordance with the goals and fundamental principles of Turkish National Education."

Since teaching is a profession requiring expert knowledge and skills, people choosing this job should possess certain efficacies (Şişman, Acat, 2003).

Teacher training is addressed in three aspects: field knowledge, general knowledge, and knowledge of teaching profession. Prospective teachers keep up to date, interpret events and can find more effective solutions to contemporary problems due to general knowledge they acquire; they instil in their students the knowledge, skills and values related to the domain of teaching due to field knowledge they acquire; and they teach their subject to their students in the best way possible due to the knowledge of teaching profession (Küçükahmet, 2002, quoted by Özkılıç, Bilgin, Kartal, 2008).

The courses that prospective teachers take in faculties of education and the gains that those courses provide prospective teachers carry great importance in prospective teachers' gaining the relevant efficacies. Prospective teachers are offered- in teacher training programmes in faculties of education- courses related to their branch of study, theoretical courses to shape them pedagogically, and such courses as School Experience and Teaching Practice so that they can get acquainted with teaching profession and so that they can observe the educational applications in place.

"Teaching Practice is an important course transforming theoretical knowledge into practice. The purpose of the course is to make sure that prospective teachers can develop their teaching efficacies by teaching in differing classrooms; they can understand the curriculum of their field, can evaluate textbooks, can perform measurement and evaluation, and can share their experiences with classmates and the course lecturer (Council of Higher Education, 1998). It is expected in this course that prospective teachers perform at least 3 hour a day teaching practice out of 6 hours in the school of practice teaching under the supervision of the teacher responsible, and that they make observations in the remaining time. It is also predicted with 2-hour a week course in the faculty that discussions and evaluations are carried out in relation to the presentations done in practice teaching schools" (Şişman, Acat, 2003).

In this process, the task of educational faculties is to determine the schools for practice teaching in cooperation with the coordinators in provincial directorates of national education and in district national education directorates, and to make sure that the activities in those schools are conducted effectively and efficiently. The duty of the lecturer of practice teaching is to prepare their students- prospective teachers- for practice teaching

activities, to plan the activities jointly with school coordinators and with teachers in the schools of practice teaching, and to help prospective teachers at every stage of teaching practice. The duty of the teachers responsible in the schools of teaching practice is to cooperate with the school coordinator and with the lecturer of teaching practice and to ensure that prospective teachers in their school conduct the activities, to guide the prospective teachers, and to make evaluations in cooperation with the lecturer at the end of the practice (Eroğlu, 2011).

As is apparent from above mentioned issues, Teaching Practice course bears great importance in order for prospective teachers to get familiarized with the profession and to internalise it. Research studies conducted have demonstrated these courses influence prospective teachers' expectations of the profession, their self-efficacy, and their beliefs in and attitudes towards effective teaching (Wang, Nicholas, Williams, 2010; Fives, Buehl, 2010; Ekici, 2005).

Teaching attitudes are an issue that needs to be attached great importance and be taken into consideration in teacher training; because teahers' attitudes represent the attitudes of the whole society. The experiences that prospective teachers have during practice teaching cause them to develop positive or negative attitudes towards the profession. Şahin Taşkın and Haciömeroğlu (2009) found that Knowledge of Teaching Profession course affected the majority of prospective elementary school teachers' and almost half of the prospective pre-school teachers' perspectives of the profession in a positive way. In a similar vein, Gürbüz and Kışoğlu (2007) also found that courses related to teaching practice influenced attitudes towards the profession in a positive way. However, prospective teachers may occasionally develop negative attitudes towards the profession owing to the environment, the teacher responsible in the school of practice teaching and the lecturer of practice teaching, or there may be descreases in their levels of attitudes (Saracoğlu, 1992; Güdek, 2007).

Therefore, it is important that the problems prospective teachers encounter during practice teaching be deterrmined and that research in which prospective teachers evaluate the self and the process be performed and thus solutions be sought to the problems. In a study conducted by Kale (2011), where the problems that prospective elementary school teachers of five different branches encountered during practice teaching were researched, it was found that the prospective teachers faced problems in such issues as being informed by school administration of administrative issues, being informed by their lecturer, communicating with the teachers responsible in the school of practice teaching, receiving help related to classroom activities, and being accepted into teachers' room. Kyriaccou and Stephens (2010), on the other hand, described the problems that prospective teachers encountered as not being considered as real teachers in classes, the difficulties stemming from the responsibilities of classroom management and planning, workload, inexperience, and the stress caused by the fact that they were being assessed.

This research also aims to determine prospective teachers' views of Teaching Practice course and the problems they encounter in teaching practice as well as the effects of the course on attitudes towards the profession.

Thus, answers are sought in this study to the following questions:
1. Are there any significant differences between the Attitudes towards Teaching Scale pre-test and post-test scores given before and after teaching practice?
2. What is the level of prospective teachers' views of teaching practice?

SAMPLE
The research was conducted with 40 prospective teachers attending the Secondary School Science and Mathematics Education Department of the Educational Faculty of Hacettepe University.

DATA COLLECTION TOOLS
Attitudes towards Teaching Scale
The scale developed by Eroğlu (2011) in order to measure prospective teachers' attitudes towards teaching profession is composed of 23 items, and is a five pointed Likert type scale. The maximum score receivable from the scale is 115, and the minimum score receivable is 23.

The Form for Questionnaire of Problems Encountered during the Practice
The form was developed by Davran (2006) so as to identify the problems prospective teachers encountered during teaching practice. The questionnaire contained 20 items and 4 dimensions. The dimensions are the teacher responsible in the school of practice teaching, the lecturer of teaching practice, the coordinator of the school of practice teaching, and the prospective teachers. The questionnaire was designed to measure the problems encountered on these dimensions. The extent to which participants agreed to the items on the questionnaire was

graded as "Never", "Rarely", "Sometimes", "Often", and "Always"; and the participants were asked to state their views accordingly.

Reflective Diaries
In order to determine the problems prospective teachers encountered during practice teaching, unstructured reflective diaries in which prospective teachers wrote their feelings, thoughts and experiences were used. Throughout the practice, a total of 220 diaries were used as the tool of data collection each participant wrote 4 diaries for the overall process and 1 diary for their experiences, feelings and thoughts about their own presentations.

STAGES OF IMPLEMENTATION
The study was conducted for 14 weeks within the framework of the Teaching Practice course. Coordination was established with three schools in Çankaya district of Ankara. The prospective teachers made observations six hours a week in the schools of practice teaching under the supervision of teachers responsible in those schools. Discussions and evaluations were made with the participation of the lecturer of teaching practice – which was taught two hours a week in the faculty- and the prospective teachers on presentations and observations and applications in the schools of practice teaching. At the end of the semester, the prospective teachers prepared their files related to teaching practice, and they made a presentation in a class at the presence of both the lecturer and the teacher responsible in the school of practice teaching, and thus they were assessed accordingly.

FINDINGS
In relation to the sub-problem "Are there any significant differences between the Attitudes towards Teaching Scale pre-test and post-test scores given before and after teaching practice?", the dependent sample t-test analyses were performed for the answers the prospective teachers gave to the items of the Attitudes towards Teaching Scale; and the findings obtained are shown in Table 1.

Table 1. Dependent Sample t-test Results for the Attitudes towards Teaching Scale (ATTS) pre-test and post-test Scores

	Mean	N	Std. Deviation	t	df	p
ATTS(pre-test)	84,43	40	15,75	-,795	38	0,432
ATTS(post-test)	86,38	40	11,92			

On examining Table 1, it was found there there were no statistically significant differences between prospective teachers' pre-test and post-test scores ($X_{(pre-testt)}$=84.43; $X_{(post-testt)}$=86.38; p>0.05).

Table 2: In relation to the question "what is the level of prospective teachers' views of teaching practice?" the descriptive analysis of the prospective teachers' responses to the Questionnaire of Problems Encountered during the Practice was performed, and the analysis results are shown in Table 2.

1- THE TEACHER RESPONSIBLE IN THE SCHOOL OF PRACTICE TEACHING (The teacher in whose class you have done teaching practice)	Mean	Never		Rarely		Sometimes		Often		Always	
		f	%	f	%	f	%	f	%	f	%
1He/she helped me find the reference book for the course.	4,20	2	5	1	2,5	5	12,5	11	27,5	21	52,5
2-He/she helped me prepare my daily plans.	3,22	5	12,5	8	20	8	20	11	27,5	8	20
3-He/she was with me throughout the practice.	4,35	1	2,5	0	0	1	2,5	20	50	18	45
4-When he/she needed to leave the classroom, he/she was in a place easy to find.	4,35	0	0	1	2,5	1	2,5	21	52,5	17	42,5
5-He/she regularly made evaluations on my performance.	4,02	3	7,5	0	0	8	20	11	27,5	18	45

		Never		Rarely		Sometimes		Often		Always	
6-He/she had positive influences in developing my teaching skills.	4,25	1	2,5	0	0	7	17,5	12	30	20	50
7-He/she guided me in out-of-the-class activities.	3,60	4	10	3	7,5	10	25	11	27,5	12	30
8-He/she contributed to my establishing good relations with students.	4,22	3	7,5	0	0	2	5	15	37,5	20	50
2-THE LECTURER OF TEACHING PRACTICE (the lecturer at university)											
9-He/she informed us of teachers' efficacies.	4,35	1	2,5	2	5	5	12,5	6	15	26	65
10-He/she informed us of evaluations on the practice.	4,35	2	5	1	2,5	6	15	3	7,5	28	70
11- He/she informed us of the rules to obey.	4,57	1	2,5	0	0	2	5	9	22,5	28	70
12-He/she served as a guide and an advisor.	4,57	2	5	0	0	1	2,5	7	17,5	30	75
13-He/she supervised my presentation in the scool of practice teaching.	5,00	0	0	0	0	0	0	0	0	40	100
14-He/she negotiated with the teacher responsible in the school of practice teaching, and made sure I took precautions to promote my success.	4,05	4	10	0	0	7	17,5	8	20	21	52,5
3- THE COORDINATOR OF THE SCHOOL OF PRACTICE TEACHING (school administrator)											
15-He/she assured that we observed different teachers.	3,05	11	27,5	5	12,5	7	17,5	5	12,5	12	30
4-THE PROSPECTIVE TEACHERS (the final year students of the faculty of education)											
16-I enjoyed attending the practice classes regularly.	4,52	0	0	2	5	1	2,5	11	27,5	26	65
17-I had healthy communication with the teacher responsible in the school of practice teaching.	4,72	0	0	0	0	2	5	7	17,5	31	77,5
18-I had healthy communication with school administration.	4,20	1	2,5	4	10	4	10	8	20	23	57,5
19-I observed that the lecturer and the teacher responsible in the school of practice teaching had healthy communication.	4,42	0	0	2	5	3	7,5	11	27,5	24	60
20-I enjoyed obeying the rules and regulations in the school of practice teaching.	4,30	2	5	1	2,5	5	12,5	7	17,5	25	62,5

On examining the prospective teachers' responses to the "Questionnaire of the Problems Encountered during the Practice", it was found that the prospective teachers gave responses above average to all of the items. Only in the item "he/she helped me prepare my daily plans" in relation to the teacher responsible in the school of practice teaching, 80% of the participants chose "Never", "Rarely", and "Sometimes". In item 7, regarding "he/she guided me in out-of-the-class activities", only %30 chose the option of "Always". In item 15 also regarding "he/she assured that we observed different teachers", only 30% chose "Always". Apart from those, the rate of choosing the options of "often" and "Always" in relation to the support of the teacher responsible in the school of practice teaching was 70% or above. In the items related to the lecturer and the coordinator in the school, the rate of choosing the options of "Often" and "Always was 70% or above.

The problems encountered by prospective teachers during the practice stated in their unstructured reflective

diaries were as what follows:
- The prospective teachers stated the fact that they could not receive support from the teacher responsible in the school of practice teaching in parallel to their answers to the items in the questionnaire form.

"I was offended when the teacher said 'there is nothing you can do, you can go!' in response to my question ' are there things that I can do?"

"... It seemed as if the teacher escaped from us".

"When we first entered the classroom the teacher did not introduce us to the class, neither did he/she tell us to take a seat. This causes lack of authority for us."

- Another problem that the prospective teachers had was related to classroom management.

"The more flexible my behaviour was the more demanding they were."

"I am discouraged. We first need to teach how to learn, then how to love learning and lastly chemistry to a generation unwilling to learn. This is a frightening thought. "

"9th graders show extreme interest to us. They even exclaim "Yippee! Here comes the trainee teacher!"."

"The majority of the students are busy with their mobile phones. I do not know how to deal with this problem."

- They stated that teaching in a real classroom made them too excited or nervous.

"I made a small presentation in today's class. I don't remember feeling so excited before. I was trembling with excitement. Thanks God, the classroom was not very crowded, and I did not faint."

"I was so excited until I came to school that I thought I would die of my intense feelings. Before the class, I found the teacher and I talked about the topic of my presentation. The teacher uttered sentences supporting me and told me to be calm and not to panic. But I was still too excited."

CONCLUSIONS AND DISCUSSION

A close examination of the research findings showed that prospective teachers had positive attitudes towards teaching profession. Statistically significant differences were not found in prospective teachers' attitudes towards the profession before and after teaching practice. This is a finding parallel to the one obtained by Saracaloğlu (1992) in research conducted with prospective physical education teachers. It was claimed in the study that courses related to teaching practice were not influential in developing positive attitudes towards the profession. In the study conducted by Can (1992) analysing the effects of educational faculty graduate programmes and of teaching certificate programmes on prospective teachers' attitude, it was stated that teaching practice did not affect prospective teachers' attitudes in a positive way and that it even caused a decrease in their attitudes. Eroğlu (2011), in research where the effects of teaching practice courses offered to prospective physical education teachers on their gaining occupational efficacy and on their attitudes towards the profession were investigated, found that prospective teachers had positive attitudes towards the profession, but that at the end of the teaching practice course a decrease occurred in their attitudes.

Such diverse findings might have stemmed from prospective teachers' concerns about not being appointed to a teaching post, from classroom management problems due to inexperience, and from the excitement caused by the first teaching experience. Moreover, the negative attitudes displayed by the teachers responsible in the schools of practice teaching, and their comments on the profession might be among the reasons for the results obtained.

According to the results obtained in the Questionnaire of Problems Encountered during the Practice, the prospective teachers stated that they did not receive sufficient support from the teachers responsible in the schools in such matters as helping to prepare daily plans and guiding in out-of-the-class activities. These findings are parallel to the ones obtained by Gökçe and Demirhan (2005), who also found that the cooperation between university lecturers and teachers responsible in schools of practice teaching was not at the desired level and that those teachers did not offer sufficient support in developing course materials. These might have been the result of too much workload on the shoulders of those teachers and of prospective teachers, of the fact that those teachers had limited time or did not want to spare much time to prospective teachers, or that they felt being watched and controlled.

RECOMMENDATIONS
- The quality of teacher training programmes should be revised in parallel to changing world and to changing youth profile, and be renewed accordingly. Although prospective teachers are the young individuals to graduate soon, they should be trained as informed of classroom management, compatible with the needs of changing new generation.
- Feedback concerning the practice should be given to prospective teachers by both university lecturers and teachers responsible in the schools of practice teaching.

- Teachers responsible in the schools of practice teaching should be chosen from those who are experienced and who are willing to act as mentors.
- The time allocated to and the number of courses such as Teaching Practice and School Experience in which theoretical knowledge is transferred into practical fields, and in which prospective teachers gain more detailed and livelier knowledge about the profession and also gaining experience may also be increased.

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PROSPECTIVE TEACHERS' PERCEPTIONS ON INTERDISCIPLINARY INSTRUCTION AND INTEGRATION BETWEEN HISTORY AND GEOGRAPHY LESSONS

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ABSTRACT

Geography and history are complementary and interdependent subject areas. Geographical factors are indispensible for illuminating and understanding historical facts and historical factors are crucial for comprehending geographical facts in the strict sense. This interrelatedness might be beneficial to build cross-curricular lines for interdisciplinary instruction as one of the key concepts of effective teaching. But in practice they are usually taught in isolation. In this situation perception of teachers is a significant factor. The aim of this study is to elicit the knowledge and perceptions of prospective history and geography teachers who are on the threshold of the profession about the integration of these two subject areas. For this purpose opinions of 40 senior prospective history and 36 senior prospective geography teachers were taken. Open ended questions were asked them in data collection tool. Answers were analyzed according to descriptive analysis technique. As a result majority of the prospective teachers similarly described the concept as interactive instruction between disciplines, took a bright view and found this integration useful. Despite majority of them perceived themselves as efficient in integrating two disciplines, the rate of negative opinions in this regard was quite a lot. According to these results some suggestions were given.

Keywords: Interdisciplinary instruction, integration between history and geography, prospective teachers' perceptions

INTRODUCTION

Interdisciplinary study as one of the key components of effective teaching in today's' educational understanding is defined as "*a process of answering a question, solving a problem, or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession . . . draws on disciplinary perspectives and integrates their insights through construction of a more comprehensive perspective*" (Newell, 2007) and interdisciplinary understanding is "*the capacity to integrate knowledge and modes of thinking drawn from two or more disciplines to produce a cognitive advancement-for example, explaining a phenomenon, solving a problem, creating a product, or raising a new question-in ways that would have been unlikely through single disciplinary means*" (Mansilla, 2005). Foundation of interdisciplinary instruction is based on the educational movements in early 21th century (Vars, 1991; Akins & Akerson, 2002; Applebee et al., 2007). Since then lots of supportive researches had been produced, besides the challenging ones as well.

Today in the curriculum reforms interdisciplinary instruction is offered and educational organizations frequently promote this in various levels of instruction in US and Europe (Akins&Akerson, 2002; Fidalgo-Neto et al., 2014; Krishnan, 2009). There are some justified reasons put forward by researches. One of them is the ineffectual outcomes of traditional disciplinary approaches. The other and mostly referred one is the relevancy of interdisciplinary teaching in 21th century's educational needs and approaches. The other is the benefits of interdisciplinary teaching for students, teachers and learning environments.

Increasingly global society of the 21th century creates socially interdependent and complex human relations. Traditional disciplinary studies are not sufficient to comprehend and teaching various dimensions of this global world (Lee, 2007; Marzano, 1991; Newell, 2007). Newell (2007) who shows the interdisciplinarity as "*the only game in town for understanding and addressing this complexity*", had stated the various advantages of this in complete form (Newell, 1994). Then in many studies the researchers set potentials and the educational outcomes of interdisciplinary instruction. Interdisciplinary instruction provides students to develop critical thinking skills, creativity (Duerr, 2008), deeper knowledge about disciplines, higher success rate, level of interest and active learning environment (Akins & Akerson, 2002). This kind of an instruction relates students' knowledge to their everyday lives supports participatory, dynamic and stimulating learning environment between teachers and students and enables them to develop inter-cultural perspectives, outlook of cultural sensitivity and global interdependence (Lee, 2007). At the same time interdisciplinary instruction was challenging because it is time consuming, difficult to plan, dependent on the skills and perceptions of teachers, easy to be confused and overlap in terms of disciplines (Adler & Flihan, 1997; Duerr, 2008; Jones, 2009).

Instruction of various disciplines in integration might be possible through interdisciplinary approach. History and geography courses are convenient for this because of the interdependent natures of these two disciplines. Just in

1988, Bradley Commission report included history and geography relationship among the priorities of history courses, suggested curricular patterns for this. Courses were offered to be designed including human interaction with environment (Bradley Commission on History in Schools, 1988). Then, in History- Social Science Curriculum Framework for California Public Schools (2005) geography and history was shown as two great integrative studies of the field and the importance of the variables of time and place, when and where, history and geography were stressed repeatedly throughout this curriculum. Boehm, Saxe, Rutherford (2003) developed a history curriculum framework that offers teachers the opportunity to teach traditional U.S. history course enriched by a consistent injection of the geographical aspects. They think that geography and history are completely separate academic departments in universities and there is a limited communication between these two camps. So the students can't grasp the complexities related with human/environment interactions (Boehm et al., 2003). In another study named MIH (Multicultural Interdisciplinary Handbook) Project, researchers developed a handbook including tools for learning history and geography in a multicultural perspective. Its purpose is to provide new methodological tools that could help teachers and secondary school pupils to develop a deeper understanding about the cultures and languages of other nations and construction of a European identity via history and geography integration. As the result of the project essential outcomes were carried out in terms of realizing their goal (Penalvo et al., 2012).

As seen above, despite it is strongly promoted, there is limited integration between these two courses' instruction in practice. Competency and perceptions of the teachers had an important role in growing the interdisciplinary instruction up. So this research aims obtaining the knowledge and opinions of prospective history and geography teachers about integrating these two courses.

METHODOLOGY

The main purpose of this research is to elicit the knowledge and perceptions of prospective history and geography teachers regarding interdisciplinary instruction and integrating history and geography courses. The design of this qualitative research is phenomenology which describes the meaning for several individuals of their lived experiences of a concept or a phenomenon (Cresswell, 2013). Participants were 40 prospective history and 36 prospective geography teachers. The research was carried out in 2014-2015 academic year. A questionnaire including open ended-questions was employed as data collection tool after specialists' opinions were taken and pilot study was made. After the data was descriptively analyzed, findings were presented in tables and typical answers were cited.

FINDINGS

In this section answers of the prospective teachers to the questions were presented. Some of them were displayed in tables and some others were given in prose form. Frequently mentioned categories were illustrated by citations from the speeches of the participants.

Opinions of the prospective teachers about the definition of interdisciplinary instruction

Prospective teachers were firstly asked "*how do you define interdisciplinary instruction*?". Findings extracted from the answers to this question are summarized in Table 1.

Table 1: Prospective History and Geography
Teachers' Definitions of Interdisciplinary Instruction

Categories	Prospective History Teachers		Prospective Geography Teachers	
	f	%	f	%
Instruction which based on the cooperation/interaction between lessons	32	80	28	78
Evaluation of a problem or question from different disciplines' view points	2	5	–	–
Gathering related lessons under a single roof	1	3	4	11
No answer	5	13	4	11
TOTAL	40	100	36	100

As it is shown in the table most of the participants defined the interdisciplinary instruction as "instruction which based on the cooperation/interaction between disciplines". One of the answers that can be

given as an example to this category is "*teaching the different disciplines interactively within a common theme framework*". The second example is "*relating the subject with other subjects covered in different lessons. For example while telling an historical event using geography by considering the climate and landforms in which the event took place*" The third one is "*relating the lessons with others instead of covering them individually. While discussing a subject it's not enough to explain it within the boundaries of a certain discipline.*" Two of the prospective history teachers had a problem or question based look at the concept. Against this 1 prospective history and 4 prospective geography teachers had a misidentification about interdisciplinary instruction that "*gathering related lessons under a single roof*". Totally 9 prospective teachers didn't respond the question.

Opinions of prospective teachers on their source of knowledge about interdisciplinary instruction
The second question asked to the prospective teachers was "*What is the source of your knowledge about interdisciplinary instruction?*". Findings were displayed in Table 2.

Table 2: Prospective History and Geography Teachers' Source of Knowledge about Interdisciplinary Instruction

Categories	Prospective History Teachers		Prospective Geography Teachers	
	f	%	*f*	%
Courses attended at university	16	40	15	42
Preparation books and special courses for teaching entrance exam	15	38	14	39
Personal researches	6	15	3	8
Teacher training high school	–	–	2	6
No answer	8	20	5	14
TOTAL	40	100	36	100

According to the table prospective teachers obtained knowledge about interdisciplinary instruction especially in the courses they attended in university. One of the prospective teachers mentioned that "*we learned about interdisciplinary education in the scope of the subject of preparing program proposal through the program development lesson in faculty*". Yet there is a remarkable issue that preparation books and special courses for teaching entrance exam is another important source of their knowledge. As an example a prospective teacher said that "*this concept was described in the special course for teaching entrance exam. I'm a student in faculty of education. But there wasn't given any knowledge to us about this.*" Moreover personal researches and high school education are the other sources for the participants.

Opinions of prospective teachers about the lessons which can be integrated with history/geography lessons
The prospective teachers were thirdly asked "*Which lessons can be integrated with history/geography lessons*". Findings were shown in Table 3.

Table 3: Opinions of prospective teachers about the lessons which can be integrated with history/geography lessons

Categories	Prospective History Teachers		Prospective Geography Teachers	
	f	%	*f*	%
Geography	40	100	–	–
History	–	–	26	72
Sociology	22	55	3	8
Psychology	12	30	–	–
Philosophy	14	35	2	6
Literature	15	38	9	25
Biology	–	–	20	56
Mathematics	2	5	7	19

Chemistry	1	3	11	31
Physics	2	5	16	44
Art	6	15	2	6
All lessons	2	5	3	8
TOTAL	40	100	36	100

As it is seen in the table prospective history teachers mostly mentioned "geography" and similarly prospective geography teachers mostly referred "history" as lessons appropriate to integration. One of the prospective history teachers stated that "*History lesson can be integrated with geography to establish place-time and cause-effect relationship.*" The other said that "*geography should be firstly and certainly integrated with history because their subjects are closely related with each other.*" The other often mentioned lessons by prospective history teachers are sociology, literature, philosophy and psychology whereas by prospective geography teachers are biology, physics and chemistry.

Opinions of prospective teachers on integration between history and geography lessons
In fourth question prospective teachers were asked that "*what do you think about the integration between history and geography lessons?*". 39 prospective history teachers answered this question positively and 1 negatively. Besides the answers of 32 prospective geography teachers were positive while 2 of them were negative and 1 of them was doubtful. 1 prospective geography teacher did not answer this question.

Opinions of prospective teachers about their own sufficiency of integrating history/geography lessons
The prospective teachers were fifthly asked "*Do you feel yourself sufficient or not in integrating history and geography lessons?*". According to the answers 29 of prospective history teachers felt themselves sufficient while 7 thought to be insufficient and 4 partially sufficient. 11 out of 36 prospective geography teachers regarded themselves sufficient, 14 insufficient and 11 partially sufficient.

Opinions of prospective teachers about through which subjects the history/geography lessons can be integrated

The sixth question asked to the prospective teachers was "*Through which subjects the history/geography lessons can be integrated?*". The findings were displayed in Table 4.

Table 4: Opinions of prospective teachers about through which subjects the history/geography lessons can be integrated

Prospective History Teachers			Prospective Geography Teachers		
Categories	*f*	%	Categories	*f*	%
Political history	21	53	Human geography	22	61
Social history	11	28	Political geography	10	28
Ancient history	5	13	Cartographic subjects	2	6
Medieval history	2	5	Geological times	6	17
Ottoman history	5	13	Geopolitical subjects	3	8
Economical subjects	5	13	Natural Systems	2	6
World history	3	8	Global environments	4	11
All subjects	8	20	All subjects	1	3
Turkish history	4	10	Basic concepts and methodology of geography	4	11
TOTAL	40	100		36	100

As it is seen in the table political and social history were mostly stated subjects by prospective history teachers and human and political geography were mostly mentioned by prospective geography teachers. In this regard answers of two groups seemed equivalent. One of the prospective geography teachers stated that "*subjects*

related with people like population and migration in human geography are strongly related with history. So we can integrate these two lessons on this kind of a subject." A prospective history teacher said that "*the causes for the migration of Turks from Middle Asia were climate, natural resources and some political issues. It can be useful to establish a connection from this point.*" In addition the two groups of prospective teachers gave various answers about the subjects relevant to integrate.

Opinions of prospective teachers on the teaching methods and techniques which can be used for integrating history and geography lessons

The other question asked to the prospective teachers was "*which methods and techniques can be used to integrate history and geography lessons?*" Their answers were summarized in Table 5.

Table 5: Opinions of prospective teachers on the teaching methods and techniques which can be used for integrating history and geography lessons

Categories	Prospective History Teachers		Prospective Geography Teachers	
	f	%	*f*	%
Using visual materials	22	55	–	–
Observation trip	12	30	3	8
Brainstorming	2	5	–	–
Project based learning	1	3	4	11
Inquiry based learning	2	5	10	28
Problem based learning	4	10	3	8
Question and answer	2	5	–	–
Discussion	2	5	3	8
Case study	–	–	7	19
Cooperative learning	–	–	4	11
Lecture	–	–	4	11
No answer	12	30	4	11
TOTAL	40	100	36	100

The methods and techniques based on using visual materials and observation trips were mostly referred by prospective history teachers according to the table whereas inquiry based learning was often stated by prospective geography teachers. Although various methods and techniques were mentioned by the participants, the number of participants didn't respond the question was not less.

Opinions of prospective teachers on the benefits of integrating history and geography lessons
The last question asked to the prospective teachers was "*What can be the benefits of integrating history and geography lessons?*" Findings were shown in Table 6.

Table 6: Opinions of prospective teachers on the benefits of integrating history and geography lessons

Categories	Prospective History Teachers		Prospective Geography Teachers	
	f	%	*f*	%
Enables the retention of knowledge	14	35	12	33
Provides effective learning	9	23	11	31
Makes subjects concrete	10	25	–	–
Provides ease of learning	8	20	1	3
Develops thinking skills	7	18	7	19
Helps to establish cause and effect relationships	7	18	4	11

Develops intellectual knowledge	1	3	–	–
Makes lesson interesting/entertaining	–	–	5	14
Expands the perspective	–	–	4	11
Has no effect	–	–	2	6
No answer	1	3	4	11
TOTAL	40	100	36	100

As it is seen in Table 6, one of the most referred benefits of integrating history and geography lessons that prospective history and geography teachers mentioned is that it enables the retention of knowledge. In this category one of the prospective teachers said that "*The students easily forget historical subjects they learn in lessons. I think the reason is that subjects are detached from real life. Integrating geographical subjects to history lessons helps to remove this disconnection and so make the retention of knowledge easier.*" The benefit of integrating the two lessons that is believed to provide effective learning is another mostly mentioned subject by the participants. One of the participants stated that "*This allows for a more efficient learning process by enabling the information transfer.*" Development of thinking skills, establishment of cause and effect relationship, making subjects concrete, providing ease of learning were the other expected benefits of this integration. Only two of the prospective geography teachers answered that it has no effect.

CONCLUSION AND SUGGESTIONS
According to the results of this study most of the prospective teachers described the interdisciplinary instruction as the instruction which based on the cooperation/interaction between lessons. There are some others who have some misconceptions and have no idea about the concept. Moreover prospective teachers mentioned mostly the courses they attended at university as the source of their knowledge about interdisciplinary instruction. Yet for quite a large part of the participants preparation books and special courses for teaching entrance exam were the sources of knowledge. This may be interpreted that the courses in faculty of education is not sufficient to inform them about interdisciplinary instruction. Due to these results it can generally be suggested that the number of courses in educational faculties covering interdisciplinary instruction should be developed in terms of quantity and quality.

As another result most of the prospective history teachers described the geography and most of the prospective geography teachers mentioned the history as the most appropriate disciplines for integration. So they may be enthusiastic and enterprising to integrate these two disciplines when they start to work. Most of them already mentioned that they are keen on this integration in their answers to the fourth question. Besides the prospective teachers described various subjects from their subject areas appropriate to this integration, related various methods and techniques with interdisciplinary history and geography instruction. Moreover they expressed lots of expected benefits of this integration. But it was identified that many prospective teachers felt themselves insufficient for this. As another suggestion history and geography education departments specially should cooperate to develop prospective teachers' knowledge and experiences in theory and practice to integrate these two disciplines. In doing so, the positive perceptions and enthusiasm of prospective history and geography teachers can be supported.

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PSYCHOMETRIC PROPERTIES OF TURKISH SHORT VERSION OF CHILDHOOD TRAUMA QUESTIONNAIRE AMONG ADOLESCENTS

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Child maltreatment is a serious threat to children's physical and psychological well-being (Damashek,Balachova, Bonner, 2011). Child maltreatment can result in significant long-term emotional and behavioral consequences, including posttraumatic stress disorder (e.g., Dubner & Motta, 1999), aggression and anger (Shields, Cicchetti, & Ryan, 1994; Korkut, 2011; Taner & Gokler, 2004; Chapple, Tyler & Bersani, 2005), school difficulties (Erickson & Egeland, 2002), depression (Boney-McCoy & Finkelhor, 1996), social difficulties (Mannarino & Cohen, 1996), criminal behavior (Gelles & Straus, 1990), low life satisfaction (Korkut & Çeçen-Eroğul, 2012) and self esteem (Bagley, Bolitho & Mallick, 2001; Baldry, 2003; Durmuşoğlu & Doğru, 2006) and long-term health problems (Anda et al., 2006). The Childhood Trauma Questionnaire (CTQ) is a self-report questionnaire that retrospectively assesses childhood abuse experiences among adolescents and adults. Based on literature there is no research related to Turkish short version childhood trauma questionnaire validity and reliability on adolescent's population.Thus, the aim of this article is to investigate the psychometric properties of the Turkish short version of Childhood Trauma Questionnaire (CTQ) and its subscales among adolescents. The study involved a community sample of 385 adolescents (14-18 years) with a mean age of 16.07 (SD=1.04). The participants comprised 215 (56%) girls and 170 (44%) boys from different public high schools which represented middle socio-economic status according to Muğla Province National Education Directory statistic service. All students were volunteered for complete the questionnaires. For validity CTQ, confirmatory factor analysis applied to 25 item questionnaire for five factor model was tested. The results has shown that five factor model was very good fit to data. By using ULSMV, consistent with Bernstein et all. (2003), with all of the following cutoff criteria for fit indices outlined by Muthen & Muthen (2009) in either the "good" (c^2=386.542 ; df= 265 ; p <.000) Comparative Fit Index (CFI) .97, Tucker Lewis index (TLI) .97or "fair" Root Mean Squared Error of Approximation (RMSEA) .035 (CI= 0.027-0.042) for the current sample. The results of confirmatory factor analyses provided support for the construct validity of the CTQ subscales, consisting of five clear content factors relating to physical abuse, physical neglect, emotional abuse, emotional neglect and sexual abuse. For reliability cronbach alpha internal consistency coefficients were calculated and has been found for total scale (.87), for physical abuse .72, for physical neglect subscale .46, for emotional abuse .73, for emotional neglect .77, and for sexual abuse .87. Test-retest reliability coefficient was calculated and has been found as .77. As a result, the finding of the study has shown that Turkish short version of childhood trauma questionnaire is psychometrically valid and reliable.

Keywords: Childhood trauma questionnaire, Turkish adolescents, validity, reliability

INFERRING PROGRAM DELIVERY NEEDS THROUGH STUDENT EVALUATION OF FACULTY-IN-CHARGE: QUALITY ASSURANCE OF A PROGRAM DELIVERED ON OPEN AND DISTANCE LEARNING IN THE UNIVERSITY OF THE PHILIPPINES

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ABSTRACT

One thousand and sixty-two (1,062 or 30%) of online students of the University of the Philippines Open University (UPOU) evaluated 95 course faculty-in-charge (FICs) who taught 88 courses during the first semester of academic year 2012-2013. The students evaluated the competence of their FICs, as well as the effectiveness of seven program course delivery components identified as (1) the course guide, (2) learning resources, (3) learning activities, (4) discussion forums, (5) student learning, (6) student support, and (7) the course site. Results of the study revealed basis for inferring program delivery needs. Moreover, results of the student evaluation of FIC becomes a framework for working improvements in the program delivery and strengthening FIC competencies in managing teaching and learning classes online to ensure quality learning.

Keywords: online program delivery components; program delivery evaluation, student evaluation of faculty-in-charge

INTRODUCTION

Within the framework of quality assurance is the process of evaluation which provides feedback and responses that served as bases for corrective and improvement measures attuned to meeting standards of quality and sustainability.

Evaluation is a system's component in effective management of quality. Most educational institutions views it as a process by which the management is able to determine whether the desired educational objectives are achieved and what more are needed to improve and sustain the delivery of the program.

The University of the Philippines Open University (UPOU) consistently makes deliberate strides to find evidences that will throw light on the student's development. It recognizes the essential function of evaluation as an approach in the continuous improvement of the teaching and learning processes. It always takes interest in assessing how the different courses of the academic programs are delivered such that decisive results can be observed and desired goals determined.

The student evaluation of faculty (SEF) is a process for program and professional improvement. It involves collection of performance oriented data through systematic and objective manner. These data are then used as information that leads to inferring needs for improvement of the programs, including professional updating and upgrading of competencies to make better future performance.

Evaluation of faculty-in-charge (FIC) is a university wide activity held towards the end of the semester. Students evaluate the program course delivery components to include teaching effectiveness of each course FIC who handles the course. The student evaluation of faculty-in-charge (SEF) questionnaire is made available online only for students to complete. All students are urged to evaluate their course faculty-in-charge (FIC) regularly towards the end of the trimester/semester. They are asked to rate their Faculty-In-Charge and how the program course was delivered during the period. Through this exercise both the teacher/course FIC and the student allow some ways of knowing how the learning and teaching process has succeeded in achieving desired academic goals and course objectives as perceived by the students.

How the students perceive the effectiveness of the program delivery and the competence of the course faculty – in-charge is reflected in the ratings they give. The student participation in the conduct of student evaluation of course faculty-in-charge (SEF) provides information on students' perceptions of their engagement, learning outcomes, the instructor's behavior and course activities. This feedback helps guide responsive and appropriate changes in future iterations of the program course delivery particularly the FIC's instructional competencies.

The results are pictures of strengths and weaknesses of the program delivery. Where weaknesses are indicated, needs or gaps are signified. Thus, the information gathered provides a profound image of the landscape where ODL operates.

THE STUDENT EVALUATION OF FACULTY IN CHARGE AND PROGRAM COURSE DELIVERY
This paper presents the results of the evaluation of program course delivery in ODL at the UPOU. It intended to determine students' ratings on the seven (7) components of the program course delivery and of the course faculty-in-charge (FIC), as well as the level of effectiveness of the program delivery. The results provide summative information on the level of effectiveness of the program delivery components and level of competence of the course FIC which becomes a framework for inferring program delivery needs.

METHODOLOGY
This study covered 1,062 SEF ratings for the first semester of academic year 2012-2013 gathered using a questionnaire fielded to UPOU students online using the UPOU platform, 'My Portal'. A total of 95 course faculty-in-charge who taught 96 courses were involved.
The instrument is a standard evaluation form developed by UPOU and regularly used for the ODL program delivery operation. It is divided into 2 parts where Part 1 contains the program course delivery components and Part 2 defines the criteria for competence of the FIC such as mastery of the subject matter, ability to cater to diverse learning needs and capabilities, ability to use a variety of technologies / tools to facilitate communication and learning. The components included in Part 1 are known requisites in carrying out the function and activities in online learning and teaching. These are:

• **Course Guide**. The course guide refers to the clear statement of learning objectives, explicit presentation of topics covered, specified course requirements, detailed schedule of course activities, clear policies on scholarship, intellectual honesty, and other academic matters. In sum it defines the adequate guidance to the course.

• **Learning Resources** refer to the materials for students to meet learning objectives, developed to fulfil standards of adequacy, sufficiency, relevance of the learning.

• **Learning activities** refer to the varied undertakings or exercises which engage the students towards achieving learning objectives, develop critical thinking, and synthesize learning for application.

• **Discussion Forums** refer to the platform where students are able to interact through sharing and exchange of ideas, reflection on the lessons, do collaborative construction of knowledge, as well as the ability of the FIC to moderate the forum.

• **Evaluation of Student Learning** refers to the variability of assessment tools i.e. assignments & examinations relevant to the course goals, sufficient time to work on assignments, timely feedback on student performance, clear statement of criteria for evaluating students, and adequacy of assignments and examinations to indicate a full picture of student learning.

• **Student Support** refers to the constructive, timely response of FIC to the inquiries and questions of students, as well as accessibility and availability of FIC for consultation.

• **Course Site** refers to the logical organization of learning resources, clear announcements, defined identification of assignment submission bins, and easy navigation of course site.

For each component, several specific sub-statements were posted. The sub-statements define the operational concept of each component. Students rate the sub-statements of the component which signifies the extent to which he/she agrees or disagrees. The numerical description of the extent of agreement by the student to the statement ranges from 1 to 5, with 1 as the highest and 5 as the lowest. Below is the numerical and adjectival rating:

1.00 – 1.49 Excellent   2.45 – 3.44 Good   4.45 – 5.00 Poor

1.50 -   2.44 Very Good   3.45 – 4.44 Fair

Data Preparation. Data were pre-coded for ease and convenience in encoding and processing using the SPSS program. The processing of data involved computation of group mean rating. Course FIC were grouped according to Degree Programs and Faculty. Ranking of the overall mean for program delivery components and competence of Course FIC followed.

Descriptive Analysis Employed. Quantitative analyses of data were presented in tables. Distribution of data was in means, overall means of group means and standard deviation. Cross tabulation of overall mean according to groups i.e. degree programs and faculty was also applied. Ranking of overall mean was done to determine which component of the program delivery and the course FIC were strong or high and weak or low as perceived by the students. Logically, the ranking would indicate the aspects where students would like their needs to be met and appropriately attended to. From the results can be inferred areas for developing programs towards the strengthening of program course delivery and enhancing competence of course FIC.

THE CONTEXT

The University of the Philippines Open University (UPOU) is the 5th constituent unit of the University of the Philippines instituted on February 1995. It offers degree and non-degree programs on open and distance e-learning. The UPOU has 3 Faculties, namely: The Faculty of Education (FEd), The Faculty of Information and Communication Studies (FICS), and the Faculty of Management and Development Studies (FMDS).

The basic statistics include the first semester of AY 2012-2013 (i.e. number of enrollees per program, number of enrollees who participated in the evaluation, number of courses offered and evaluated, number of course FIC and were evaluated).

Programs	No. of Enrolled Students	No. of Student Evaluators		No. of FIC Evaluated	No. of Courses Offered	No. of Courses Evaluated	
FACULTY		n	%			n	%
FEd	706	217	20	24	24	22	92
FICS	894	258	24.	22	21	18	86
FMDS	1966	587	55	49	51	48	94
Total	3,566	1,062 (30%)		95 (99%)	96	88	92

Table 1. Distribution of Enrolled Students, Number of Student Evaluators, Number of Courses Offered & Evaluated for the First semester of AY 2012-2013 by Faculty .

The Faculty of Education (FED) had a total of 706 students enrolled in 24 courses with 24 course FIC evaluated. Among the 24 courses offered only 22 or 92% were evaluated. Two hundred seventeen (217) or 20% students participated in the evaluation of the course FIC.

The Faculty of Information and Communication Studies (FICS) on the other hand, posted a total of 894 enrollees gathering 258 or 24% student participation in the evaluation of course FIC. It offered 21 courses with a total of 22 courses FIC teaching the courses, and with only 18 or 86% of the courses offered evaluated.

The Faculty of Management and Development Studies (FMDS), posted 1966 enrolled students in 51 courses offered, with 48 0r 94% of the courses evaluated. Moreover, there were 49 course FIC evaluated by 587 or 55% students. For the first semester of AY 2012-2013, a total of 3,566 students enrolled (excluding those in residence) in 96 courses offered; 1,062 or 30% of the students participated in evaluating the 95 course FIC. Out of the 96 courses offered only 88 or 92% were evaluated.

RATING AND RANKING OF THE PROGRAM COURSE DELIVERY AND THE FACULTY-IN-CHARGE

This part of the report presents a discussion and analysis as well as interpretation of results which include: ratings (in means) of program course delivery components including the course FIC competence, the ranking, and the standard deviation.

Faculty	Faculty of Education n= 217	Faculty of Information & Communication Studies n=258	Faculty of Management & Development Studies n=587	Total (n=1,062
Components	Rank	Rank	Rank	Overall Rank
Course Guide	**4th**	**2nd**	**1st**	**2nd**
Mean	2.15	1.89	1.64	1.83
SD	0.94	0.78	0.34	0.68
Learning Resources	2nd	4th	4th	4th
Mean	2.10	1.96	1.87	1.95
SD	0.84	0.68	0.39	0.60
Learning Activities	7th	5th	7th	7th
Mean	2.24	2.04	1.99	2.06
SD	0.83	0.79	0.55	0.69
Discussion Forum	8th	8th	8th	8th
Mean	2.22	2.20	2.01	2.13
SD	0.81	0.91	0.53	0.71
Evaluation of Student Learning	6th	6th	6th	6th
Mean	2.21	2.05	1.94	2.03
SD	0.95	0.75	0.43	0.68
Student Support	5th	7th	5th	5th
Mean	2.19	2.10	1.93	2.03
SD	0.95	0.78	0.65	0.77
Course Site	3rd	3rd	3rd	3rd
Mean	2.11	1.92	1.77	1.90
SD	0.95	0.82	0.46	0.71
Course Faculty-in-Charge (FIC)	1st	1st	2nd	1st
Mean	1.97	1.88	1.76	1.85
SD	0.96	0.72	0.51	0.69

Table2. Rank, Mean and Standard Deviation of Program Course Delivery and Course FIC Competence

The discussions of results were grouped according to the 3 different faculties and its degree programs. Note that the data presented in tables were in overall means of groups. The mean defines the location measure. The overall means were analyzed and given corresponding rank. Ranking was meant to determine which among the program delivery components was better done and managed than the other as perceived by the students who evaluated the course FIC. The mean and the standard deviation are similar in some ways for they are affected by extreme scores. The standard deviation is a measure of spread. It describes the dispersion of distribution of

observations. The Standard deviation on the other hand showed the homogeneity of character of the data. (See Table 2)

Faculty of Education (FEd). The course guide with a mean of 2.16 and SD of 0.94, ranks 4th; the learning resources with a mean of 2.11 and SD of 0.84, ranks 2nd; learning activities with a mean of 2.24 and SD of 0.83, ranks 7th; the discussion forum with a mean of 2.30 and SD of 0.81, ranks 8th; the evaluation of student learning with a mean of 2.22 and SD of 0.95, ranks 6th; student support with a mean of 2.19 and ,SD of 0.95, ranks 5th; the course site with a mean of 2.15 and SD of 0.95, ranks 3rd; and the course faculty in charge with a mean of 2.0 and SD of 0., ranks first.

The patterns of the overall mean which fall within the range of 1.50 and 2.44 indicates an adjectival rating of *very good*. Hence, the level of effectiveness in the program course delivery and course FIC competence is viewed as *very good.*

The standard deviation shows no extreme observation implying homogenous character.

Faculty of Information and Communication Studies (FICS). For the FICS, the course guide with a mean of 1.89 and SD of 0.78, ranks 2nd; the learning resources with a mean of 1.96 and SD of 0.68, ranks 4th; learning activities has a mean 0f 2.04 and SD of 0.79, ranks 5th; the discussion forum with a mean of 2.20 and SD of 0.91, ranks 8th; the evaluation of student learning with a mean of 2.05 and SD of 0.75, ranks 6th; student support with a mean of 2.10 and SD of 0.78, ranks 7th; the course site with a mean of 1.92 and SD of 0.82 ranks 3rd; and the course faculty in charge with a mean of 1.88 and SD of 0.72, ranks first. The data shows a homogenous character.

Effectiveness of the delivery of program components and the course FIC competence fell within the range of 1.50 and 2.44 which indicates the adjectival rating of *very good,* giving the level of effectiveness in the program delivery and course FIC competence as *very good.*

Faculty of Management and Development Studies (FMDS). For the FMDS, the course guide has a mean of 1.64 and SD of 0.34 , ranks first; the learning resources with a mean of 1.87 and SD of 0.39, ranks 4th; learning activities has a mean 0f 1.99 with SD of 0.55, ranks 7th; the discussion forum with a mean of 2.20 and SD of 0.53, ranks 8th; the evaluation of student learning with a mean of 1.94 and SD of 0.43, ranks 6th; student support with a mean of 1.93 and SD of 0.65, ranks 5th; the course site with a mean of 1.77 and SD of 0.46, ranks3rd; and the course FIC with a mean of 1.76 and SD of 0.51, ranks first.

The data shows no extreme observation and homogeneity in character.

Effectiveness of the delivery of program components and the course FIC competence fell within the range of 1.50 and 2.44 which showed the adjectival rating of very good. Effectiveness of the delivery of program components and the course FIC competence were indicated by the overall means which fell within the range of 1.50 and 2.44 and an adjectival rating of very good. It shows that the level of effectiveness in the program delivery and course FIC competence is at very good.

In summary, the **total** overall mean show that the course guide with a mean of 1.83 and SD of 0.68, ranks 2nd; the learning resources with a mean of 1.95 and SD of 0.60, ranks 4th; learning activities has a mean 0f 2.06 with SD of 0.69, ranks 7th; the discussion forum with a mean of 2.13 and SD of 0.71, ranks 8th; the evaluation of student learning with a mean of 2.03 and SD of 0.68, ranks 6th; student support with a mean of 2.03 and SD of 0.77, ranks 5th; the course site with a mean of 1.90 and SD of 0.71, ranks 3rd; and the FIC with a mean of 1.85 and SD of 0.69, ranks first.

The patterns of the standard deviation and the mean rating falling within the range of 1.50 – 2.44 show no extreme observation and homogenous character.

It indicates that the level of effectiveness in the program delivery and course FIC competence is *very good*.

FINDINGS

The ranking is meant to show which among the program delivery components were more effectively managed than the others as perceived by the students who evaluated the course FIC.

1. The capability and the competence of the course FIC extends to his/her ability to provide adequate guidance to the students. The course FIC was rated *very good* and generally ranks *First* among the components.

2. A quality course guide specifies clear statement of learning objectives, defined presentation of topic coverage, specified course requirements, detailed schedule of course activities, clear policies on intellectual honesty, scholarship and other academic matters. The students rated the course guide component as generally *very good* and ranks *Second* among the components.

3. Course site is a critical component in the delivery of programs and courses online. It serves as a hub similar to the traditional classroom. In here, the dynamics between course FIC and among students exists i.e. a place to post course materials, assignments, communicate with students, performs collaborative tasks, monitor performances, among others. It is a virtual place for interaction and a support for social learning. Using the internet, one can access the course site 24/7.

   The UPOU course site was found to be very good and ranks *Third* place.

4. Learning resources is a component of program delivery which is deemed essential in the achievement of learning objectives. It comes in the form of texts or printed material, videos, software, and other materials which teachers use to help the students meet the learning objectives required by the course.Accordingly, learning resources should be adequate, sufficient, and relevant enough to meet learning objectives.

   Student evaluators find the learning resources as *very good* but ranks *Fourth*.

5. Student support is another component considered for an effective delivery of program courses online. It includes constructive, timely response of course FIC to the inquiries and questions of students, and access & availability of course FIC for consultation. Students would like to have access to and immediate attention from their course FIC. They feel that an effective FIC is attentive to one's queries, request for clarification and guidance.

   The students at UPOU expressed in their rating that student support is still *very good* but ranks *Fifth*.

6. Evaluation of student learning involves the various assessment tools like adequate assignments and examinations, reaction or research paper, among others. It also includes the time element required in the submission of output, clear and specific criteria which reflect standard for measuring student's learning. Punctual feedback on student evaluation helps motivate the learners to cope and do better such that one would be able to get good or better grades.

   The evaluation of student learning component in the delivery of the program appears to be *very good* as rated by the students but ranks *Sixth*.

7. The learning activities spells the engagement of the students that would enable them achieve learning objectives, develop critical thinking skills, integrates and synthesize learning in the work place or be able to apply learning in whatever intended endeavor. Students do want to be engaged in active learning, wanting lessons to be interesting and practical, useful and meaningful enough to be applied in the work place. UPOU students find the learning activities as *very good* but the component ranks *Seventh* place among the other components.

8.   Discussion forum is a kind of student support. It is a forum held online taking place inthe course site. Recitation or discussion and conversation in the form of posted messages take place in here. One will find varied interactions i.e. collaborative tasks, sharing of ideas, to construction of new knowledge among distance learners as shown by the development of the "thread". It is a fact that many of the course FIC were affiliate faculty members who are familiar with teaching in the traditional classroom setting and that the extent of their knowledge & skills in optimizing features of online technology is rather functionally basic. Since, the learners appear to be strongly led by course FIC in using technologies for learning, hence, course FIC skills in ICT, and trustworthiness becomes critical.

UPOU students rank the discussion forum as *Eighth* though they also find it *very good.*

INFERENCES AND CONCLUSION

The findings discussed provide empirical basis for inferring program delivery needs. From all the gathered information it can be inferred that the competence of FIC still has a lot of room for improvement for excellence to be achieved. It is an indication that the faculty-in-charge who is known to be in command of the delivery of the program courses and the utilization of various technology, learning resources, among others have yet to work harder in order to fulfill the standards of excellence which the University strives to maintain.

It is interesting to note that what brings meaning and life to the teaching and learning process is always the teacher. Apparent among the components is the role and function of the course faculty-in-charge whose mastery of the subject matter and whose creativeness makes a difference when able to cater to diverse learning needs. Likewise, the abilities of the course FIC to optimize the use of the online technology motivate the students to learning more. However, the course FICs need to make their social presence more visible by spending more time 'attending' the discussion forums, being prompt in responding to queries, and giving immediate feedback.

In conclusion, effective delivery of the programs and its courses of the different UPOU faculties are primarily anchored on the competence of the course facult-in-charge. The course FIC has to be socially present online so as to encourage student-faculty- interaction, effect cooperation and collaborative activities among students thus encouraging active learning and participation. Prompt feedback should be given by course FIC so as to communicate expectations, as well as punctuality in the submission of marked outputs from the students, and in responding to the individual learning needs. Moreover, they have to be clear on expectations and establish rules and regulations in communication.

Many, if not most of the FICs are considered digital migrants and understandably needs to be updated in the optimal use of technology.

Noted as the strength in the delivery of the program, is the course FIC who should make bigger strides to effect better program delivery. Being rated as *very good* as indicated for program delivery components, implies that the course FICs have to be honed on the job of ODL, putting in more time to harness their potentials to fulfill the standards of excellence in the delivery of quality education.

RECOMMENDATIONS

1.   In planning the program delivery components, the course FIC should primarily take into consideration the stages of development of the learner. In the case of UPOU where most of the students are professionals, the FIC should attend to the needs of the adult learner for well-organized online activities; for reduction of anxiety in their study; relevant activities for participation considering the affective, cognitive, and the motor skills of the learner; prompt feedback; and application of learning in the work place and the real world.
2.   The skills of the course FIC and the tutors especially those who are not so technologically savvy should continually be guided and polished so as to optimize utilization of the student portal.
3.   Policies to ensure regularity of meeting classes online and other engagements i.e. utilization of mobile and social media should be developed or refined.
4.   Students expect prompt reply or appreciate to receive feedback immediately to assignments/tests and other queries including their academic status in class. Thus, course FIC should make their social presence online be felt by responding promptly to students queries and by giving assessment results.

5. This study needs to be expanded to cover not only recent SEF data, but also an assessment of the responsiveness of FICs in responding to the evaluation results.

Finally, it should be noted that evaluation stands as report or information and as incentive. It is a report or information because it keeps tab of the student and FIC performance. It should be viewed as an activity meant for helping and reinforcing appropriate behavior. The findings provides conditions for satisfying present needs and coping with the demands as well as being able to meet future needs. It also becomes an incentive for FIC when they get promoted. It challenges all concerned how to keep on striving in the phase of growth.

Continuous evaluation of program course delivery and faculty-in charge (SEF) is an exercise that stimulates quality assurance, a commitment of the University to the maintenance of academic excellence as manifested by quality teaching and learning.

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READING LITERACY SKILL OF 15-YEAR-OLD SLOVAK STUDENTS WITHIN INTERNATIONAL AND NATIONAL CONTEXT

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ABSTRACT

The article is devoted to reading literacy, which is tracked by international and national measurement. Based on theanalysis of the results of OECD PISA international and national testing – Testing 9 and testing of reading literacy of the 9th graders students in elementary school contribution points to the level of reading literacy Slovak 15-year-olds. Attention is given to problematic aspects of students' reading performance.

Currently, there are theoretically defined several models of literacy: Base literacy, functional literacy, literacy as a socio-cultural phenomenon and e-Literacy (Gavora, 2002, p. 171 – 180) defines reading literacy model of functional literacy as a comprehensive set of reading skills necessary for effective work with the text. Its aim is the reader who has a readership competencies that enables it to work with different kinds of texts used for different purposes. Text information processing is carried out of the process: identifying the hierarchy of information in the text, distinguish important information from marginal, looking for relationships between the main idea and supporting information, compression (squeezing) of the text, draw conclusions from text, extract the explicit and implicit information (reading between the lines) evaluation of the use, usefulness, novelty, reliability and truthfulness of information and critical reflection.

Reading literacy is seen as a non-subject and as a penetration skill. As our school system (in Slovak Republic) does not have special teaching subject in which pupils learn to work effectively with the text, the basic skills of reading literacy learner acquires on the first lessons on the language. Later it is necessary to develop these skills in all subjects. While at the first level of primary school is the development of reading skills within a number of subjects within the competence of one particular teacher, the second step is getting this process in a more complex situation because there is already a sharing of content, but also the competence of different teachers (Lapitka, 2006, p. 85).

The timeliness of that issue is especially increasing in the face of outputs of various international measurements (PISA, PIRLS) that have made the global professional and educational forums, discussion focused on the level of reading literacy of students and measures to increase the level of reading skills of students.

The Slovak Republic is among the countries that the international PISA are below average or average in OECD countries. Fifteen years old-Slovak students achieved in reading literacy test performance a statistically significantly lower result than the OECD average. Support for the development of reading literacy therefore requested a general change in the concept of teaching the subject Slovak language and literature, where a team of experts started to work after the results of PISA 2003. Their analysis has become one of the starting arrangement changes as the content of the subject and part of the new concept of teaching Slovak language and literature, which was published in 2007 as a proposal of curricular transformation of the Slovak Language and Literature. The basic objective has become to develop communication skills of students based on understanding the language as an instrument of thought and communication between people, which was reflected in the gradual development of communication competences within communication and experiential learning model (Gregorová, Hincová, Lapitka, 2007). The alarming findings of international research OECD PISA attention of the National Institute of Certified Measurement of Education (NÚCEM) which right from its inception (2008) began to prepare instruments for evaluating mathematical and reading literacy of students nationally. Since 2008, it carries out testing of mathematical and reading literacy of the ninth year of primary school on a representative selection of primary schools with instruction in Slovak and Hungarian nation-wide testing of students and 9 of primary schools under the name Testing 9th.

READING LITERACY IN THE EDUCATIONAL STANDARDS FOR THE SUBJECT OF SLOVAK LANGUAGE AND LITERATURE

Reading literacy is included in the educational standards for the subject of Slovak language and literature in both components of the object (component linguistic, literary component). The basic structuring element in language are components as communication language and one of them is reading comprehension. The literature component of the subject is reading comprehension as it develops fully-conceptually in logical and figurative-metaphorical context (Gregorová, Vaškaninová, 2011, p. 46 – 47).

The concept of educational standards emphasizes the ability to recognize the aim and context of the communication situation, supports the student's ability to understand the nature of the text, search in the text the problem or the issue, the to define and solve it, in order, to apply the theoretical knowledge and practical skills of listening and reading comprehension to real life situations.

READING LITERACY IN PISA RESEARCH

The main objective of the OECD PISA international research is to determine the level of knowledge and skills that are relevant for the involvement of young people in life. "The research is designed to provide educational policy-makers in various countries and provide important information about the functioning of their education systems' (Palečková, Tomášek, Basl, 2010, p. 9). It aims at determining the level of reading, mathematical and scientific literacy of fifteen year old pupils.

The essence of reading literacy in PISA is the ability of the fifteen year old student to understand written text, plus emphasis is also placed on control procedures, understanding of concepts and the ability to use knowledge in different situations and not to reproduce information which is specific to individual subjects. To the foreground is becoming the applying knowledge to new situations (Koršňáková, Kováčová, Heldová, 2010, p. 4).

PISA framework in the area of reading literacy is built on three fundamental aspects:
> 1) texts (different types of written materials)
> 2) activity (cognitive processes of the reader when working with text)
> 3) situations (intended use of the text in terms of its author).

Requirements for the reading skills of students represents the seven levels of reading literacy. 1b is the lowest level and Level 6 is the highest level of reading skills.

READING LITERACY IN TESTING 9 (T9)

Nation-wide testing of students is Grade 9 school certification testing. Its ambition is to obtain objective and reliable information on the performance of students when they leave the school. Its aim is to give students information about what the results are compared with other pupils of the 9th graders in Slovakia, schools, feedback and comprehensive picture of the test object.

Priority status of the reading literacy was also reflected in testing 9 as a certain percentage of tasks aimed at reading comprehension. Testing 9 understand reading comprehension "as cross-subject competence as a condition for successful progress of students in school practice. Reading literacy is not just a good command of reading techniques, but assumes the understanding of the read text and other information work '(Testovanie 9-2013, 2013, p. 4 – 13).

READING LITERACY BY TESTING READING LITERACY FOR THE 2ND LEVEL OF PRIMARY SCHOOLS AND FIRST TO FOURTH YEAR OF GRAMMAR SCHOOLS

Reading literacy tests based on the definition of reading literacy PISA, accepting some situations and processes of continuous and discontinuous reading the text as specified in the above mentioned study and teaching of valid documents of the Slovak language and literature.

Distinguish the four basic reading situations:
1) reading for private purposes (letters, fiction, various popular informational texts);
2) reading for public purposes (official documents and information about public events);
3) reading for professional purposes (to know how the labor market);
4) reading for education (to gather information in a larger classroom tasks).

ANALYSIS OF THE ROLE OF THE INTERNATIONAL RESEARCH OECD PISA COMPARED WITH THE TASK OF TESTING 9 (T9) AND TESTING READING LITERACY (RL)

Tasks that in their test uses the OECD study PISA have the same structure. Start incentive that introduce you to the student (short, long text, image, table, graph), followed by incentives for more independent issues, the so-called items. PISA tests include items with multiple choice questions from a number of options offered and make your own questions requiring answers.

Tasks in the T9 are closed items with multiple choice questions from the four options, the majority of items is linked to demonstrations and a small percentage of the items is free, respectively is linked to shorter texts.

Testing reading literacy of Grade 9 school includes tasks of different types: open - with the formation of short answers and closed - with a choice of one correct answer from four options. But predominantly item choice questions from four options.

In the PISA study, the most frequently used texts by:
a) forms: continuous; incoherent; combined; composite, which consist of several separate text
b) type: description, narration, exposition, argumentation, instructions.

Demonstrations in the PISA testing are based mainly on the substantive - professional and popular science texts (eg. Technical descriptions, journal texts).

T9 uses texts by:
a) forms: continuous; incoherent; combined
b) contents: art; kind.

Artistic and continuous text outweigh in testing 9, which stems from the fact that the lessons of the Slovak language and literature, primarily works with literary texts.

When choosing the type of text in testing reading literacy of 9th Graders at school it reflects the specificity of PISA testing research, which focuses on incoherent texts (graphs, charts, etc.). Therefore, to test more closely it needs to operate with a discontinuous combined texts.

The PISA study within individual items is pursuing the following actions to work with text:
a) finding and obtaining information;
b) the integration and interpretation;
c) reflection and evaluation.

Activities vary in complexity, progressing from simple joining parts of the information through categorizing ideas according to given criteria to critically examine and foresee the creation of a text.

Items in the 9 testing of the subject Slovak language and literature are focused not only on remembering and understanding, but also they verify the depth of knowledge and skills, the ability of students to apply knowledge, and discover the strategy for solutions. In terms of cognitive performance items can be divided into the following levels:
a) memorizing and understanding - a simple thought operations, assignment, queuing, grading, matching;
b) specific transfer - complex thought operations, application of knowledge - induction, deduction, demonstration, evidence, etc .;
c) non-specific transfer - complex applications that require a creative approach, problem solving, evaluation and so on.

Items in testing reading literacy pursue a variety of types of activity when working with text, such as:
a) **obtaining information** - ability to identify explicit information;
b) **interpretation of the text** - to deduce implicit information, compare information from the text, organize information according to importance and continuity, draw the main idea, explain the meaning of some of the text to include evidence from the text;
c) **thinking and assessment** - the ability to critically analyze and evaluate the content and format of the text through their knowledge and experience, substantive arguments, present evidence beyond the text.

We analyzed a sample of released jobs - a study of the OECD PISA 2003, 2009 because we did not have available role from the 2012 PISA tests but based on the hypothesis that the nature and structure of the OECD PISA tests, we came to conclusion that they are stable.

From testing at the national level, we chose to analyze test in Slovak language and literature and loose T 9-2013 task of testing reading literacy of the 9th graders of elementary school in school year 2010/2011 as it also includes parts of the population samples of PISA.

The analyzed sample tasks - tasks from reading literacy used in PISA testing in 2003, 2009 have the same structure, beginning to stimulus - continuous, discontinuous or combined motivational text. Mainly reflect the substantive text (eg. homework Balloon, tooth brushing, give blood). Literary texts, on which it is based reading in Slovak schools are represented in small quantities (eg. It is just a game). In 2003, the task based on the consolidated text about two-thirds of all tasks of reading literacy. Had the largest percentages of explanatory texts.

The released PISA tasks represent not only different forms and types of texts and different levels (lowest 1b - the highest 6), types of activities carried out by the pupil in addressing these challenges and different types of

questions: Question choice questions from four options open question with the creation of answers, closed questions with answers formation. In terms of the type of questions it was in the OECD PISA study in 2003 used approximately 43% of the outstanding issues with the free formation of answers (Koršňáková, Heldová, 2006).

Test of the Slovak language and literature T 9-2013 contains four samples in the form of continuous text and one combined text. Tasks are closed choice questions from four options. Twenty items were linked to demonstrate the various types of texts - artistic and informative. Five items are free, some are linked to short texts. Most of the items required from the pupils more complex operations and the application of knowledge (76%). A small percentage of jobs (8%) is focused on remembering and understanding a more complex application that requires a creative approach, problem solving, evaluation (16%).

Released samples of each task reading literacy from r. 2011 are appropriate to the age of students. As in the OECD PISA study begin stimulus in the form of continuous (Underground Tatra field), discontinuous (youth and media, Equity poster) and combined text (Beauty of Slovakia). Behind every motivational text followed by two to three separate tasks (10 tasks). The majority (60%) are open to the creation of jobs with short answers, a smaller percentage (40%) closed multiple choice questions from four options. Six tasks is to integrate and interpretation. The author tests the ability of pupils to follow them and to look in the preview information that you enter in the job or explicitly named with the ability to read with understanding incoherent texts and interpret them.

In PISA testing back in 2003 students successfully managed a combination of two of the above information. Difficulties have caused problems with a combination of more information at greater length below. They mastered as well the determination of topics, concluding continuous and discontinuous educational texts, selection of evidence directly from the text of the citation or paraphrase. As Insufficient was proven to show the level of thinking and speaking abilities of students in self-formulated answers to open questions (Koršňáková, Heldová, 2006, p. 24 – 25).

In T 9-2013 of the Slovak language and literature the students have mastered really good job focusing on reading comprehensions which were included in the first cognitive level as well as the role of literature linked to demonstrations of artistic and dramatic text. As one of the problematic role turned a process which was focused on reading comprehension, covering the demonstration of educational text (Správa Testovanie 9-2013, 2013).

Analysis released task of testing the RL showed that the percentage of students is relatively large with closed multiple choice questions from four options for tracking pupils' ability to find simple information explicitly stated in the text. Moderately difficult to difficult are things for students who have had bi-annual report card on the 9th grade of the Slovak language and literature, grade 3 tasks aimed at the integration and interpretation, especially when it comes to working with discontinuous texts (chart, advertising leaflets). Open task of making short answer where to monitor the capacity of students to think and evaluate arguments was Wednesday to be difficult even for students graded first.

CONCLUSIONS

Results of the OECD PISA study, T 9-2013 and testing reading literacy shows that Slovak students are successful in identifying the correct answers in closed tasks and answering open-ended tasks with a lower degree of difficulty. They thus have significant problems with finding clear information in the text in unambiguously identifying themes, significantly lagging behind in activities requiring critical thinking for example in evaluation, synthesis, creativity and reformulation of the correct answer on their own reasoning with respect to the questioned text. Better performance was proven in achieving targets based on continuous text as in tasks based on discontinuous, combined texts as they had more difficulty with comprehension of the material – especially in specialized texts.

The starting point for improving reading literacy levels are the requirements for the concepts that are directly integrated in the national educational program and educational standards for the subject Slovak language and literature in key language competences. The transformation of the educational standard, which is supported by communication and experiential learning model and activities aimed at developing pupils' reading competence, respectively to set their knowledge, skills and attitudes aimed at receiving the text as its analysis and interpretation, but also in the process of implementation of school practices which are met with positive reactions of teachers.

In addition, the results of testing 9 are central to the enrollment of students in secondary schools under the Education Act. School directors, teachers, parents and students therefore attach great importance to the national measurement as manifested itself that is preparing pupils. Performances in testing indicate that students in the learning process are often working with continuous text in comparison to discontinuous. They are trained on multiple choice questions.

In doing so, as shown by the results of the testing, it is necessary to combine the competence development of reading comprehension to speaking and writing capabilities. If we give students more space for written and oral

expression, critical thinking of teh students will solve tasks more open and more attention will be given to working with incoherent processes in combined texts.

We fully agree with K. Hincová (2009, p. 97) that "if we want to change the students, first we have to change teachers'. It is especially vital in the preparation of the future teachers to have access to reassessment of specialization in subjects and teaching disciplines. To the second degree in the study of teaching academic subjects are supporting the core themes of knowledge is bound to the subject field and didactic context of subject, but mostly only in theory. Master's degree graduates need their knowledge of the essential content and methodology of disciplines of their subject specialization, plus as well the theoretical context, trade union didactics in the respective specialization, as they need to apply them in practice. Often we see the poor knowledge of school documentation for recent graduates of teachers' unions. Each college should be closely based on the content and methods of teaching in primary and secondary education.

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RECENT TENDENCIES IN HIGHER EDUCATION RESEARCH IN THE SCOPE OF FUNCTIONING OF THE HUNGARIAN HIGHER EDUCATION

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ABSTRACT

Nowadays, practical and theoretical disputes' central question is "Higher education as an issue" in different groups of the society. The question arises how higher education institutes set in the service of mass education could train intellectual professionals who meet the expectations of the new century. These tendencies have transformed the role of state. In parallel, the expectations of society towards higher education system have also changed.

The investigation of historical, social, constitutional and political grounds of higher education have already pointed out the complexity of this question and that the classical views on higher education cannot be maintained in the 21st century.

This issue could be examined with several tools of different scientific disciplines which support to draw multidisciplinary conclusions on the issue.

Accordingly, the authors of this paper – holding scientific degrees in political science, law, sociology and economics – are examining which questions of social, economic and education management have influence on the day-to-day operation of higher education. Through the evaluation of Hungarian examples the authors are providing examples to support their conclusions.

GENERAL STATE OF HIGHER EDUCATION RESEARCH

Education as a research area has primarily appeared in the context of public education but the rapidly growing social significance of higher education in the '80s induced the emergence of a research area specially focusing on this sector. These changes affecting higher education as a social subsystem led to the consequence that scientists of different fields choose to study higher education itself. As a result of the interaction of these processes the research in higher education lost its "auxiliary science" nature and become self-discipline. The common feature of these research works is that - normally - they only deal with the factor that is closest to them. The scientists of liberal arts are especially interested in the "idea of the university", the researchers of history of science are describing the history of higher education, while the pedagogy experts made didactic works (Hochschulpädagogik). The economists expressed their opinion in particular regarding the issues of governance, management or financing of institutions. The empirical social scientists mainly produce papers in educational psychology, and sociology of education. Thus research of higher education is ultimately a science research, mainly performed by persons who are in the scope of it (Kozma 2004). The importance of this issue, as well as the research and the higher education itself is increasingly internationalized, encouraged the comparative analyzes. Co-operation in higher education was considered one of the most successful feature of the European integration process. The support and follow-up of the integration would be unfeasible without such comparative analysis. Number of researchers engaged in this area is growing significantly. The reason for this is that over the last few decades as a result of social and technological development the demand for information in higher education increased greatly. Having reviewed these publications, it can be stated that there is a few synthesizer-type publications regarding the national higher education systems as a social subsystem. This is because, inter alia, the government with its higher education policy - recognizing the major social changes related to higher education – regularly interferes with it, thus keeping the higher education system in a continuous change and movement.

Major examples for significant changes in the higher education are a) growing public demand for higher education b) as a result of it, the mass education effect and the increasing number of lecturers c) thus necessary structural changes in higher education d) new directions of higher education policy – most typically the Bologna-process (Hrubos, 2006) e) and as a result of before mentioned reasons an emotional change affecting lecturers' daily lives emerges because of the changes in higher education system as a social subsystem (Inayatullah, 2005). In the developed countries as a result of the expansion in number of students, in addition to the earlier only existing universities the non-university sector institutions have emerged. They provide shorter training time and usually deliver good functional knowledge on the labor market. In the Anglo-Saxon countries the linear model became generally accepted, in which certain levels of trainings are based on each other. This model has spread to most parts of the world. In continental Europe, the dual model emerged: universities and colleges operate in parallel, with quite different systems from country to country.

The reason behind these large scale changes in higher education systems shall be searched in its expansion. Before the World War II, less than 10 % of the typical higher education age groups attended a higher education institution; at the beginning of '60s in Western Europe a very rapid and then slower enrolment growth rate was observed. By the millennium this rate exceeded 50% across whole Europe (Trowe, 1974). This can be considered as a "mass". According to experts, this growth is unstoppable because of individuals failure to attend higher education is generally considered as a significant risk (Hrubos, 2004). The composition of the mass of students', their social background and previous experience, motivation, career plans become increasingly heterogeneous, which led to expression of a wide variety of interests and values. The scope of prospective employers and their demands increased likewise (Hrubos, 2006) since they represent a wide variety of industries and sectors, employing a large number of graduates. As a result of the large number of students, and the economic recession it is not at all guaranteed that a graduate will be able to find a job. For this reason students' increasingly put pressure on higher education to adapt to the current and future requirements of the labor market thus de-emphasize the academic thinking and long-term considerations (Hrubos, 1999). These previously unknown challenges to higher education now become increasingly important for this independent social subsystem. As a result, both the governments and higher education institutions are facing serious challenges.

Nowadays, practical and theoretical disputes' central question is the "Higher education as an issue" in the different groups of the society. The question arises how higher education institutes set in the service of mass education could train intellectual professionals who meet the expectations of the new century (Redl, 2001). This question was examined from several aspects by higher education researchers, and several of them and - being their scientific areas best experts – provided adequate answers in this respect: today a researcher may choose and rely on a rich national and international literature to research the historical, theoretical and practical aspects of higher education (Altbach, 2002). The importance of this fact is that the research of the higher education system is classic example for field of studies which cannot be examined by methods of a single discipline. The question of financing the education – and within this the higher education – is one of the evergreen topics of social sciences, since the financial operation of the colleges and universities also raises many – important – side questions (Kozma, 2006).

It can be concluded that the number of students continuously rises since 1960s. Highlighting the last 25 years: in 1991 68 million, in 2004 132 million people studied in the higher education worldwide (in Hungary in 1990/1991 school year 108 376, while in 2004 (which was a top year concerning the numbers of the students) 424 161 students attended colleges and universities. Between 1995 and 2008 in the OECD member countries the cost on one student have been increased by 16%, while the higher education expenses increased by 75% on average.

All in all, we can state that higher education is under major changes all over Europe as the state's role has been redefined. Earlier the state was basically an institution maintainer; it regulated, examined and funded higher education. In contrary to the recent tendencies where it assures quality, makes guidelines and monitors them and the emphasis is on the improvement of the social mobility. The recurring financial-economic crises led to funding problems and as a result financial constraints have been made. The aim is to allocate public funds more efficiently, and the given financial sources have to be used more effectively. Basic requirements are accountability and transparency. In this situation increasingly sharply appear the questions about the economic and social usefulness of higher education. In Hungary as a result of the last 2-3 decades expansion of underfinanced higher education the quality has been inflated. This negative result can be deducted from undersized infrastructural-staff structure and led to further organizational, institutional network and financial viability disorders.

This situation became worse in the last decade because of the demographic reduction, as the increased institutional size (educational and research capacity) in system level could not be maintained with the previous

selection mechanism such as recruitment process and admission requirements. In Hungary the public higher education and the ecclesiastical higher education financially supported by the state together have 335 000 students. This huge system cannot be maintained and financed according to the analysts and policy makers. With regards to the developed European countries and the status of the Hungarian national budget the obvious aim has to be stated that the state higher education has to be transferred into self-financing.

According to this article's authors this aim is not reasonable, as there are areas in higher education which hardly or cannot be interpreted in market basis. If, however the previous and current state financing methods would be revised and reformed - with maintaining or even increasing the quality of higher education – higher education could be turned into a mainly self-financing system.

If the question is about the financing of a system - including higher education system -, or manufactory, etc. it is important to note that the funding itself is always multi-player process in which the income flow is regulated between the participants (agreements, institutions, rules, practices).

In the case of higher education, it would be possible to examine the indirect funding instruments system too. However the scope of the analysis is limited to domestic (Hungarian) higher education system - and within it to the higher art education funding - and the tax system in Hungary in recent years moved away from the involvement of individuals or businesses (e.g. with tax incentives) to fund higher education institutions or education in them, thus we are unable to analyze these funding solutions through practical examples.

SOCIAL, ECONOMIC AND ORGANISATIONAL CONTEXT OF THE HUNGARIAN HIGHER EDUCATION IN THE LIGHT OF CONTEMPORARY TENDENCIES OF HIGHER EDUCATION

The Hungarian society (thus the political elite as well) inherited two fundamental articles of faith from the social-political-economic bankruptcy of socialism: on the one hand, there is entitlement to higher education as public service, on the other hand university or college education is a public good ensuring personal advantages but only for few people. In practice, all of these resulted in the following: whereas the wave of expansion of higher education forming after the wave following the end of the second world war happened in Western Europe at the time of economic slowdown of '70s and '80s, until it happened in Central and Eastern Europe during the economic-social transformation.

Consequences of the two above articles of faith: on the one hand, higher education need(ed) to be broadened to make it available - thus giving a chance - for many people, which incidentally matched international trends, requirements and the social and economic rationality of '90s and 2000s; and on the other hand, mostly contrary to international practice, we tried to realize higher education emphasizing state involvement and ignoring the financial role of individuals (families) and companies. Of course by this time, private and ecclesiastical higher education could appear in addition to state financed higher education, in the financing of which the state played a decisive role for a long time.

It can be concluded that while at the beginning - previously according to the international practice as well - the expansion of higher education was built on young people leaving public education, now the non-traditional forms of education play a decisive role as well; furthermore, the combined demands appearing due to demographic and labour market training simultaneously supported the high level of development of higher education in Hungary. The overall conclusion is that the governments of the past quarter of a century - regardless of political, ideological affiliation - treated the expansion of higher education as priority until 2006 when a conceptual change occurred: expansion of state-subsidized places was terminated indicating that the state does not intend to ensure greater source than the level achieved for higher education financed from the central budget.

Furthermore, it can be concluded that the ratio of participants of college and university education changed from the beginning of '90s until the adaptation of Bologna process in the Hungarian higher education because while the university education providing mainly academic knowledge and the practice-oriented college education were present in nearly half and half two decades ago, the ratio of participants of university education did not reach 40% for the mid-2000s. However, in addition to these it can also be concluded that the sharp line between colleges and universities seems to be dissolved as well because from the beginning of 2000s the university education accredited by colleges were frequent and universities also launched a significant number of popular college programs thus the two types of institution were approaching towards each other considering their financing.

In addition, it shall be stated that the GDP ratio of sources spent on Hungarian higher education (around 1%) has not changed for more than a decade, which means significant proportional expense reduction in practice due to the increase in number of students; the current real terms of state subsidy is in fact half of the subsidy for the year 1991. Even the state subsidies, tenders, EU sources, PPP investments, student loan financing (which substitutes student support) and the tuition fees collected by the institutions together are not enough to operate the system. It can be declared that the system cannot be financed sustainably under this practice thus the (quasi) normative financing - based on the number of students - developed during the expansion must be terminated in the short run because its incentive effect is contrary to the quality-based operation of higher education in the present demographic situation.

The current model of maintenance of institutions is no longer able to sustainably finance the Hungarian higher education capacity that increased in the past decades, the general utilization of which is decreasing simultaneously with the decrease in number of applicants and the previous capacity expansion of which often contained inherently distorting, unnecessary elements, by the toolkit of normative financing based basically on input indicators. However, it can also be concluded that the capacity decrease of the previous five-seven years as well as the increased budgetary control and the recurring cuts then paybacks do not allow the present quality improvement of higher education in Hungary. Accordingly, those facts must be kept in mind in the future, which determined not only the present but also the recent past (even if they were disregarded): extension of the Hungarian higher education is completed, concentration of the training - within the fragmented institutional system - took place in favor of institutions operating mainly in the capital and to a lesser extent in the county seats and all of these results/resulted in significant differences (over- and under-funding) compared to the financing under grant.

CONCLUSIONS

The solution may be that the current close state management and maintenance control stemming from the public finance framework will be replaced by the institutional organizational and management autonomy, which can make the universities and colleges founded by the state competitive through the operating logic similar to the private institutions, or the government undertakes to reorganize the institutional system and rationalize it based on the domestic demand decline next to the narrowing economic-budgetary options, namely coordinates the new contraction phase of the Hungarian higher education in parallel with liquidation of certain elements of the institutional system - even with stronger central process control. The latter seems to emerge nowadays, however, in relation to this we can also say that the higher education governance currently walks the path of development of sectoral strategy (accepted and known by the actors as well) ensuring the basic condition of operation under strategic oversight of the Hungarian higher education.

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REFLECTIONS FROM LESSON STUDY: A PERSPECTIVE TO PROMOTE STUDENTS' METACOGNITIONS IN THE PROBLEM SOLVING ENVIRONMENT

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ABSTRACT

The aim of the study is to reflect the lesson study cycles, applied with middle school mathematics teachers, to promote students' metacognitions in the problem solving environment. Four mathematics teachers participated this research. The lesson study cycles were carried out two different groups separately. Five lesson study cycles were carried out. Interviews used as data collection tools. In conclusion, it is determined that the lesson study has positive effects on the behaviors of mathematics teachers and on promoting the students' metacognitions, in the problem solving environment. However, the teachers' belief is an effective issue on the behaviors.

Keywords: lesson study, problem solving, metacognition, teacher training

INTRODUCTION

Metacognition is defined as rethinking of thinking. Thus, the people, having superior metacognition ability, display better performance during the problem solving process (Artzt & Armour-Thomas, 1992; Gardner, 1991; Karmiloff-Smith, 1992; Montague, 1998; Pugalee, 2001; Veenman, Kok & Blöte, 2005). Furthermore, teachers' caring about metacognition leaves positive impression on students' learning (Hacker, Dunlosky & Graesser, 2009). Thus, it is essential to answer what to be done to promote the students' metacognition in the problem solving environment by teachers. Therefore, in this study, the behaviors of teachers promoting students' metacognition are tried to be developed.

Although the studies with teachers about metacognition become more necessary, those studies are not, generally, discussed in the literature so far. As Capraro (2000) stated before, the beliefs and the applications inside the classroom of teachers affect the achievement of problem solving. Among the few studies about metacognition with teachers, (Houtveen & van de Grift, 2007; Kramarski, 2008), it is seen that the teachers were given the theoric information directly and the application of the information and the discussion of those applications were given no chance.

However, the teachers require an education for applications and after that, for discussion (Fernandez & Yoshida, 2004; Lewis, Perry & Hurd, 2009). So, lesson study becomes an important and promising approach for teachers' vocational education. There are some steps while application. These steps are to plan the lesson together, observing the lessons, and the discussion of the lesson.

After these steps, if it is necessary re-planning, the application of the new plan, and the discussion of the new plan can be exchanged. These are different from the inservice courses. Nonetheless, none of the studies in the literature touched upon the effort to develop the teachers' professional competence oriented problem solving process, and by this means none of them could help the students. Thus, in this study, it is aimed to reflect the lesson study to develop the behaviors of teachers which promote the students' metacognition in the problem solving environments. The study will contribute to teachers who direct the application on the problem solving.

METHOD

In this chapter, the information has been given about the method of the study, the design, the participants, data collection and analysis.

The Method of the Study

To reveal some parts of the lesson study obliges, it becomes necessary to use qualitative research method.

The Design of the Study

The aim of this study has been tried to be achieved with three stages. The stages are preparation, pilot study and the main application.

Preparation Stage

To give education about metacognition concept to teachers has been seen to be insufficient in literature. Furthermore, it was understood that it is possible for teachers to promote the students' metacognition and the students to be successful in the problem solving process in a good learning environment. In this regard, the guidebook, thought to be used in lesson study, has been composed with the related literature and the interviews with the experts of this field. Thus, the content of the guidebook are; the definition of the problem, the type of the problem, the stages of problem solving, problem solving strategies, the definition of the metacognition, the relation between metacognition and problem solving, the metacognitive behaviors during the problem solving process, forming the problem solving environment, the titles and the activities about the titles.

Pilot Study and the Preparation for the Main Application

The pilot study took part before the main application, according to the guidebook after the pilot study, some changes were decided to be made with the experiences gained. Moreover, the interviews were listened again during the pilot study, the answers were reanalyzed and the questions thought to be used for the main application were tried to be decided how to be asked.

Main Application

At the beginning, the teachers' applications, in the classroom, were observed and the interviews were done with them. Because with the lesson study, the teachers were tried to improve the behaviors prompting the metacognition of students in the problem solving environments, and thus, the lesson study were examined. Then, in the last months of second term in 2011-2012 academic year and in the first term of the next academic year, the lesson study were carried out with the teachers. This study was carried out to two groups separately; two teachers working at the same school with the researcher, and two teachers working at the other same school with the researcher. In this regard, 5 lesson study were carried out with two groups independent from each other. During these studies, every meeting was held with the gathering the participants together once in a week about 150 min. out-of-lesson hours.

The Participants of the Study

The participants were all male. Burak and Emre teacher were working at the same school, on the other hand, at a different school, Gökhan and Barış teacher were working together.

Data Collection

In this study, the data were collected with interviews. These interviews were held during the lesson study for stating the teachers' feeling and opinions.

The Analyzes of the Data

The data collected from the study were analyzed with the qualitative data analyzing methods. The interwievs with the teachers, transcripted and tried to be analyzed.

FINDINGS

The reflections of the lesson study is summarized as follows for each of the teachers.

Burak Teacher

In the first study lesson cycle, Burak teacher emphasized that problem solving is very important in the education of mathematics. During the information session of the second lesson study cycle, he stated that he enjoyed to know problem solving strategies and to prepare the questions about these strategies. But, later, the teacher used those sentence "we have to use the time efficiently to prepare the students for the exam and to complete the curriculum". The third lesson study cycle, he expressed those opinions. During the information session for the fourth lesson study cycle, he participated the process more actively. During the application, the teacher show more effort to promote the students' metacognition. For sure, there are some behaviors that the teachers did not act. This situation was reminded in the discussion part with the views of the other teacher. In the last lesson study cycle, the teacher realized that the completed cycles were just the ground fort his cycle. But the teacher always complained about the exam system, the time problems, the exeditions of parents and the school. The expressions are as follows:

> Burak teacher: I saw that the metacognition of fourth application assisted the students problem
> solving. But the exam system and the time problems cause troubles.
> Researcher: You may be right, but which one is the correct? To ask the students more questions or
> to upskill about thinking of students?

Generally, Burak teacher did not give a place to problem posing activities because he believed that this activity taked a lot of time. Furthermore, there is no positive effect on the importance of the ability to predict of the teacher.

Emre Teacher

During the first lesson study cycle, it is confirmed that, although, the teacher tried to upskill the abilities of process and there were few students answering the questions correctly, he, almost never, formed a behavior promoting metacognition of students. For this reason, in the discussion part, Emre teacher was talked about this situation. During the information session of the second lesson study cycle, he stated that he enjoyed to know the problem solving strategies and to prepare the questions about these strategies like Burak teacher. During the application session of the third lesson study cycle, he asked the students to be interested in working sheets as a group work. In the discussion session after the application, Emre teacher stated that he saw the advantages of the group work by means of the assistance of students to each other. In the information session of the forth lesson study cycle, the teacher accepted the important role of the metacognition in problem solving but he said that there is lack of time. The expressions are as follows:

> As far as I understood, metacognition is a situation upon thinking. I think this situation will help the individuals to solve the problems . But the time prevents the process during application.

In the fifth lesson study cycle, the teacher tried to give more place to behaviors promoting metacognition. However, the teacher was told that he was more attentive in planning and application of the plan for promoting the students' metacognition. On the other hand, Emre teacher did not believe the importance of predicting abilities like Burak teacher. Furthermore, Emre teacher was confirmed that he did act the essential behaviors in the problem posing part.

Gökhan Teacher

Gökhan teacher was willing to attend the lesson study because he wanted to provide learning by reaching the whole class and he wanted his students to express their opinion when they confronted a problem. In the information session of the first lesson study cycle, the teacher stated some expressions on the importance of the problem solving and the steps of it. But, he is the most disgruntled teacher for the affluence of the subjects in the curriculum. Gökhan teacher was willing to prepare problem with knowing different strategies in the second lesson study cycle. In the information part of the third lesson study cycle, Gökhan teacher expressed that "We did not know the names of these strategies like in the previous meeting. But sometimes, we apllied them. However, the curriculum affected the applications in the classroom". As seen, the teacher still complained about the curriculum. In the information session of the forth lesson study cycle, Gökhan teacher was more interested in the concept of metacognition which he had not heard before. During the application, the teacher tried hard to promote the metacognition of the students. In the discussion part, it was seen that Gökhan teacher started to change his mind about time using. In the fifth lesson study cycle, the teacher was seem to adopt the role of the metacognition in the problem solving process. However, because of some beliefs and the differences in the success rates of different classrooms, he did not give place to some behaviors promoting metacognition. For example, the teacher still did not do the activities of problem posing like other teachers because of shortage of the time.

Barış Teacher

The teacher took short the problem solving process as taking the answers, discussion on the answers, and problem solving. The attitude of the teacher was effective for students' to promote metacognition. In the application of the first lesson study cycle, the teacher gave instructions in the working sheets one by one. Thus, in the discussion part, during the group work, it was discussed how a teacher was supposed to behave. In the information session of the second lesson study cycle, Barış teacher was willing to prepare and solving problems. The third lesson study cycle, generally was the same like that. In the fourth lesson study cycle, according to Barış teacher, metacognition is one of the main factors affecting the metacognition process but as others stated before, he thought that it was time consuming. Therefore, the teacher was told that, actually, the main application was not time consuming. Hence, the teacher was determined to increase the behaviors to promote the metacognition of students, in the problem solving environments, in the application of the fifth lesson study cycle. When analyzed the duration of the Barış teacher, he act less behaviors to promote the metacognition of students unlike the others. Moreover, like the other teachers, Barış teacher thought that problem posing activities were time consuming.

DISCUSSIONS AND RESULT

In this study, the teachers, in the problem solving environment, in order to promote the students' metacognition, could see the difference of both their behaviors and the applications of the other teachers. As stated by Crawford and the others (1998), due to realizing the differences, the teachers could get a chance to change the methods of teaching. Hence, all teachers tried harder to promote the students' metacognition compared to the past.

Sarkar Arani, Keisuke and Lassegard (2010) argued that lesson study may not be concluded with positive changes every time. Thus, it is determined that the beliefs of teachers are effective to state the behaviors to promote the metacognition of the students in this study. On the other hand, Barış teacher continued to think that the communication among students creates caos. However, Nathan and Knuth (2003) expressed that the discussion inside the classrooms has important role during the teaching of the mathematics. Thus, it was emphasized, several times, to teachers that this situation would not crate any caos.

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REFLECTIVE PRACTICUM CLASS: SOMEBODY'S WATCHING YOU

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ABSTRACT

Reflective teaching is a contemporary issue in foreign language teacher education. This paper reports on the use of video-taped lessons as a tool for reflective practices. Two full-length lessons taught by the prospective teachers of English that are enrolled in the practicum program were recorded by the researchers, and the reflections of the participants were examined through a qualitative approach. The results showed that the prospective teachers' attitudes and in-class practices changed significantly after video-taped reflection feedback.Furthermore, it has been suggested that teacher candidates learn to make analogies by watching entirely different models.In this respect, reflective video-taped activity can be defined as a step-by-step process and at the same time an active element for critical thinking.

Key Words: Reflective Teaching, English prospective teachers, practicum, video-based reflection

INTRODUCTION

Reflective teaching is an approach to second language classroom instruction in which current and prospective teachers collect data about teaching, examine their attitudes, beliefs, assumptions and teaching practices, and use information obtained as a basis for critical reflection about their efforts in language courses (Richards and Lockhart, 1994:1). Accordingly, it is a critical exploration of one's own teaching practice and is essential to life-long professional development (Wallace 1998). Dewey (1910) defines reflection as the ability to interpret a task or problem from a number of standpoints rather than a single view determined by a person's assumption and tacit personal theories (Roberts, 1998, p.47).

The purposes of reflective teaching are defined in three-fold: (1) to expand one's understanding of the teaching-learning process; (2) to expand one's repertoire of strategic options as a language teacher; and (3) to enhance the quality of learning opportunities one can provide in language classrooms (Murphy, 2001, p.499). According to Gebhard and Oprandy (1999) a central reason to be interested in reflective teaching is to gain awareness of our teaching beliefs and practices and to learn to see teaching differently (p.4). Farrell (2004, p.27) identifies the following fundamental questions that a teacher should reflect on:

1. What am I doing in the classroom?
2. Why am I doing this?
3. What is the result?
4. Will I change anything based on the information gathered from answering the first three questions?

Brookfield (1995, p.72) outlines six additional points of entry for teachers to enter in self-reflection:
• Teaching Logs: Recording weekly events of teachers' lives that have impressed themselves most vividly on their consciousness.
• Teacher Learning Audits: Responding to questions that are expressly designed to probe how the teachers have changed over the previous 12 months.
• Role Model Profiles: Talking to colleagues that teachers admire and outlining their qualities and abilities that could be emulated.
• Survival Advice Menus: Advising future teachers about how they can survive in a job such as their own.
• Videotaping: Viewing one's own teaching to see how much teacher talk occurs instead of student talk.
• Peer Observation: Inviting colleagues to view their teaching

Video-taping has special value for non-native English speaking trainees because it enables them to focus not only on the nonverbal aspects of their teaching but also to reflect on their communicative competence. As opposed to the limitations of text-based case studies Diaz and Smith (2002) praises the use of technology for examining actual classroom settings. All in all, using digital recordings of practice for analysis and reflection, teachers can engage with their peers to develop a shared understanding of excellent practice. It not only helps trainees notice and

respond to both strong and weak aspects of their teaching but also allows trainees to view a DVD immediately and re-examine it many times (Murphy 2001; Barlett, 1990).

One of the main advantages of videotaping provides observation of paralinguistic features such as facial expression, intonation, gestures and other visual clues (Harmer, 2001) This is also essential in adding extra dimension to the reflective teaching.

THE STUDY
RESEARCH QUESTIONS
1. What are the teacher candidates' opinions about video-based reflection sessions
2. How do you reflect on your current professional practice?
3. Is the reflecting practice helpful for determining the future goals of the teacher candidates?

PARTICIPANTS
The purposive sampling was used to select the subjects of 36 teacher candidates of English as they were expected to have unique ability to explain, understand, and yield information about the problematic discourse. According to Denzin and Lincoln (1994:202) qualitative research employs this technique when they seek out groups, settings and individuals where the processes being studied are most likely to occur. All of the participants were graduated from the department of English Language and Literature and applied for 'The Pedagogical Formation Program' in spring semester of 2014-2015 academic year.

METHODS
Students participated in this study were required to videotape a lesson and sent a copy of the tape to the corresponding supervisors. After viewing the videotape, the supervisors arranged a post-lesson conference with the student. Two semi-structured group interviews were conducted with the students.. All interviews were audio-taped for analysis.

DATA COLLECTION
The data were collected during the spring semester of 2014-2015 academic year. The data collection instruments included; video-taped samples; interviews and the self-evaluation journals kept by the teacher candidates during the practicum.
a) Video-taped Samples:

Participants recorded two consecutive lessons in the same language class. They brought the samples to the class. All of the participants watched the videos and made written records of the teaching practice in general.

b) Interview

The researcher conducted semi-structured interviews with participants after the video-taped discussion so as to gain deeper insights. Each of the interviews has been tape-recorded. The purpose of the interview questions was to understand whether the use of the video-taped lectures influenced their teaching experience. Examples of the questions are: What are the weak and strong aspects of your teaching? How did video analysis influence your teaching practices? What do you think about the teaching profession?What did you like about being a teacher?What are the advantages of video-taped lessons?

c) Self-evaluation Journals

The participants kept a diary of their own language teaching for six weeks. The diaries were analyzed categorized.

DATA ANALYSIS
The qualitative research design is used to examine the video-taped reflection activities for the teacher candidates.The interview reports and the self-evaluation journals were examined separately.Then the data were coded and categorized via constant comparison method (Glaser & Strauss, 1967). All of the participants debriefed with the practicum supervisor immediately after teaching their lesson. They later wrote about critical incidents that occurred during their teaching. Each interview was transcribed and the transcriptions were sorted to seek patterns that emerged from the data. A framework including two categories was generated. These were; the reflections on the teaching performance and the reflections on the teaching profession, the psychological effect of the teaching procedure
FINDINGS
The findings indicated that after watching their performances on the video the teacher candidates evaluated themselves more critically. They defined the video-based reflection sessions as useful and practical. Furthermore,

they put forward that this practice shed light on their future goals. The findings are categorized into three themes. The first one is about the participants reflections on their teaching performance during the practicum sessions, and the second one is about their reflections on the teaching profession in general. The third one is about the psychological effect of the video-taped sessions.

1. Reflections on Teacher Candidates' Opinions on Their Video-taped Teaching Performance

Recent developments in digital video technologies permit teacher candidates to collect, review, and manipulate video to demonstrate their growth as a professional and as a reflective practitioner (Cunningham and Benedetto, 2002). In this study video-taped tool is used during the process of teacher training. The findings revealed that the participants of the study regarded it as a kind of feedback method that has a positive outcome. The participants indicated their comments on the issue as follows:

R1: I think limited time affected negatively all of us. After watching my previous practicum lesson, I realized that this was worse than the others. I had very difficult in managing the class.

R1: After the lesson, I watched the video, and something surprised me. There were very simple mistakes while I was teaching. I couldn't believe myself in making such simple mistakes. However, it was very helpful for me to see my mistakes and correct them, and this assured me to see my body language as well. I can say it was not bad, but it could be better. This video turned out to be a very useful feedback for me.

R1: Thanks to the video, I get it what I need to do and not to do. Making a video and monitoring and employing self-evaluation after watching the video is quite a useful method.

2. Reflections on the Teaching Profession

Research on teachers' knowledge, beliefs, and thoughts has shown that teacher candidates approach teaching with a plethora of initial beliefs and ideas about teaching. Reflection enables teacher candidates to construct knowledge through asking questions, critiquing, evaluating, etc., helping them bridge the gap between imagined views and the realities of teaching (Lee,2008). The teacher candidates of this study, conveyed their thoughts on the teaching profession as follows:

R2: Looking back on my teaching experiences I learned that the teacher is the motivator and the most important task is the responsibility. The teacher is the mirror of the class, what she gives, reflects on her back

R2: After watching my performance on the video, I started to believe that it would be very good to be a teacher in the future even though I have never wanted to be a teacher up until now. I think there is only one important reason that makes me love this job. I believe that the only one thing that makes this world livable is the pure and innocent children.

R2: I have always had a positive impression about being a teacher but after the video-taped discussion, I became aware that there are some hardships of being a teacher, but it can be enjoyable too.

R2: I realized that being a teacher is not an easy task, you should give your soul and heart. There exists no more 'you', all your thoughts are your teaching and your students. Your aim is to get the best out of your students. When you do not see the improvement, you get upset. You have to know what type of a student stands in front of you and which methods suit the student best. As a teacher your best way is important as well. You have to be creative and sacrifice your time. You must know what is going on in the world. There are so many responsibilities, so I think one has to be ready for all of that as being a ''real'' teacher means this. As for me whether I am ready is a mystery I will see this in time.

R2: Previously, I assumed that being a teacher was simple, and everyone can do this job if they try it. However when I started to teach in my practicum school, I realized that it was not as easy as it was seen. Every step of teaching need a great importance and knowledge. If you don't have plans while you are teaching, it would be the hardest job in the world. While I was teaching I understood that being a teacher requires so many responsibilities. Each student is a kind of a product of a teacher and this product will build the future generation. So being a teacher includes many wonderful aspects behind it. I believe that if I work harder and love this job much more, I would be one of those people whom they won't be forgotten.

R2: I had a positive impression about being a teacher but I also realized that being a teacher is not just being a teacher at all. Being an English teacher is not just teaching English. Being a teacher is to manage the class, being

on the true track to teach, teach the students how to behave, when to talk, what to talk etc. I have my hope to be a good English teacher since I have my belief about that. Believing is the half of the way.

R2: I had worries about becoming a teacher, but now, I honestly feel that I have no hesitation to become a teacher. After watching the videos, I came up the idea that I had prejudices against this profession and myself. Indeed, teaching is something else, beyond my previous thoughts.

3. Reflections on The Psychological Effect of The Video-taped Sessions.

Some of the researchers are on the idea that having someone film you when you are teaching can be a challenging experience. Related to this, the findings of a recent study (Coşkun, 2013) revealed that the idea of videotaping during the teaching practices, watching and critiquing the lessons together with classmates and the supervisor are defined as a stressful requirement of the practicum by the English teacher trainees. However, it can extremely be valuable if it is not taken solely as a self-criticism. In the following reflection, one of the participants reveals her ideas on this matter explicitly:

R3: Watching the videos of myself or my peers gives a clue about how to behave when there is a new profile of students with different schools. Seeing what they did wrong or good was a useful experience, I'll try to do it better or at least not to do it worse. Also, one cannot see oneself, during lecturing so it is a good visual material to see oneself and it is exciting as well as embarrassing. It is better to see a video than being told of the wrongs and getting embarrassed. One day after ten years of time, one could watch the video and say ''Oh, my GOD!''.Nonetheless, it would be a good memory.

R3: When I watched the video, I realized that I was very nervous during the lesson. I think it was out of the students. They forced me to yell at them because they never listen to me and do anything during the class. This made me feel upset.

R3: After watching the videos I changed my mind. I was too strict during my lecturing. My ideal teacher type is rather more friendly, motherly and friendly. I hope I can reach my goals.

CONCLUSION

Research studies in second language learning and teaching clearly indicate that attitude, motivation, and interest of the learner are factors of crucial importance in determining the achievement. Accordingly, visual instructional materials such as video-tapes might be used to promote and sustain motivation and to reinforce language learning or teaching skills. The present study has supported that video-taped lesson can be an alternative model of reflective teaching. Video-taped lectures give opportunity for precise observation. Furthermore, it enables teachers to measure the performances of their students objectively. At this point, we should keep in mind that videotape activities are tools for keeping records of the students and evaluating their performances in turn. In order to promote autonomous learning, teachers may also use this activity as a stimulus for discussion. Consequently, teachers can have students reflect on the various aspects of the learning experience by employing visual aids that can help in the process. To determine the effectiveness of the videotapes on the reflection practices, the evaluation of the types of their future use should be studied in diverse settings.

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RELATIONS AMONG ADOLESCENT BULLYING, HEALTH PERCEPTION AND LIFE SATISFACTION. A TRANSCULTURAL ANALYSIS IN SOUTHERN SPAIN

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Objective. The purpose of this study is to examine the relationship between adolescent bullying, health perception and life satisfaction in Moroccan, Romanian and Spanish Adolescents.

Method. This is a cross-sectional study with a cluster sampling in two Primary schools and seven Secondary schools. The sample has been formed by 1840 students between 11 and 18 years old; where 1313 were Spanish, 367 Moroccans and 157 were Romanians. The instrument applied was an adaptation of the Kidscreen questionnaire, an instrument to assess health related quality of life in children and adolescents transculturally adapted.

Results. Descriptive data show that more than 7,5% of the students perceive their health regular or badly, a 16,1% students enjoy little or nothing life and it is also exhibit high levels of usual feelings of fear (4,3%), tease (8%) and threats and intimidation (4,1%) by their peer group. According to their precedence, Moroccan youth provide the worst results for all variables. Contrast analysis identifies significative and positive correlations between health perceptions and life satisfaction for all cultural groups. It is also important to highlight correlation between adolescent bullying and health perception in Spanish and Moroccan; and with life satisfaction just with the Spanish group.

Conclusions. Relations among bullying, health and life enjoyment suggest the relevance of improve takin actions against bullying, not just to improve coexistence but either to improve adolescents health and well-being. In addition, the immigrants situation and status must be targeted in order to tackle discrimination and to implement a transcultural approach in all health and living programs.

Keywords: Keywords: cross-cultural health; bullying; life satisfaction; health perception; adolescent;

RELIABILITY ISSUES BETWEEN RESILIENT AND NON-RESILIENT TURKISH STUDENTS ON PISA 2012

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Assessments of reliability are mostly investigated out in terms of internal consistency. Internal consistency of scores are commonly assessed by Cronbach's Alpha and several other indexes. Although these indices provide information about the consistency of the individual's responses, they do not answer the question of whether individuals agree on their responses on the aspects being evaluated. To obtain an answer to this, inter-rater reliability coefficients are used. Among the indexes available, Intraclass Correlation Coefficients are the mostly used ones. There is no direct relationship between internal consistency and inter-rater consistency indices. Thus it should not be naively assumed that having a high degree of internal consistency among raters' scores guarantees a high degree of agreement by raters. While responding to a measure, the individuals may be consistent about the objects being assessed; however, half of the individuals may positive opinions about the object and the rest may have negative. Thus, it is of importance to assess inter-rater reliability as well as internal consistency if one wishes to obtain information about the trait being rated.

The present study differences between reliability approaches were investigated in the context of Program of International Student Assessment (PISA) 2012. Several decisions, some are high-stake, can be made based on PISA 2012 results. If this is the case, not only internal consistency should be sought but also inter-rater reliability should also be assessed. Although an instrument is valid, scores obtained from this instrument may not be reliable.

Thus, reliability of scores from PISA should be assessed in after implementation phase. In this study, PISA 2012 Turkey results were studied in terms of internal and inter-rater consistency between two groups of students: (i) individuals with low SES and (ii) those who are resilient (low-SES and high-achieving students) ones. Turkey is among the counties with the highest resiliency rates, despite its very low rank in reading, science, and mathematics domains. There are several studies conducted by the researchers of this study on the resiliency of Turkish students. Thus researchers focused on reliability analysis of scores from the two different groups defined above.

Preliminary analysis indicated that although high degree of internal consistency for both groups, inter-rater reliability indices showed that resilient and non-resilient students have not the similar degree of agreement on the dimensions stated in PISA questionnaires.

Keywords: PISA 2012, reliability, internal consistency, inter-rater reliability, resilient students

RELIGIOSITY ELEMENT IN YOUNG MUSLIM PROFESIONAL ACCOUNTABILITY

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ABSTRACT

Accountability issues have attracted worldwide discussion, particularly with respect to the contribution of Western scholars. In addition, the existing theories failure to assess the suitability of the existing accountability issues, lead the higher probability to evaluate the accountability in religiosity (Islamic) view which are holistic (*syumul*). Therefore, this paper reviews the relevant of religiosity element in influencing the young Muslim professional performance in the workplace. It also intend to the existence of various negative elements in the young Muslim professional's accountability. A number of discussions have been highlighted and it is a hope that it can contribute fresh ideas to the existing literatures.

INTRODUCTION

Young Muslim professionals play a major role in the national development related to the social, economics and political. According to Bandar N.A. (2009), young professional's development is directly influenced by the individual self-development, globalization issues and their level of professionalism at the workplace. Therefore, it is vital for young professional characterized by aspects such as competence, integrity, altruism, intellectual, neutrality, creative and innovative, possessed a leadership and efficient time management skill (Bandar N.A., 2009). The religiosity practice such as honesty, trust and respect is the "backbone" to the efficient work practices and emphasized it based on the religiosity elements (Young, 1999). Yet, positive practice and inner strength concomitant with the Islamic philosophy encouraging the potential in spurring ethics and durability enhancement during encounter the challenges and dilemmas to deflect workplace pressure, to gaining the value-based success and interpreting accountability concept.However, the unethical behavior issues existence related with the lack of religiosity strength. The existence of scandals and competition in the workplace (Hyatt, 2005; Marschke, 2008) provide the impacts for the need to internalize religiosity elements (Connolly & Myers, 2003; Milliman, Czaplewski & Ferguson, 2003). This issue also gains attention in academic writing as its influence to the unethical issues that occur in the workplace and influencing the professional workforce's accountability (Kaptein, M., & Schwartz, M., 2007)

THE STUDY

Unethical behavior issues received attention from the government and academicians in recent decades regarding from various scandals that occurred in the workplace. When the young professional's self-interest is the main factor and being information accessibility on his or her profession, lying would be the priority when conflict appeared (Holstrom, 1979; Grover,1993; in Beu D., 2000). In fact, Becker (1976) in Beu D. (2000) believe that human is pure egoists and designed the own utility maximizing. For example, bribes chosen by individuals when has the opportunity and possibility to be uncaught.

This present scenario lead the young professional that have the potential to partake in workplace's unethical behavior. Young employees image as "problematic" has been dominant in public, social sciences and professional discourse even the applied work theory emphasis the young professional employees impact as an

important resource in an organization. Furthermore, unethical behavior occurs in society areas, covering business, government, religion, education and has become *taboo* in the society (Baucus & Baucus, 1997). In addition, the self-interest motive affects every human behavior. Jeremy Bentham (1780) in *"Introduction to the principle of morals and legislation"* stated that *"what one does, says and thinks generally govern one's behavior."* This showed self-interest motive affected the professional code and the regulations form, causing scandal in injustice, corruption and misuse of power.

Besides that, the unethical behaviors occur when the morality values declined and influenced the public sector accountability (Siddiquee, 2010 in Salleh D. and Abdul Khalid S.N., 2011). For example, in year 2012, Malaysian was ranked 49th and increasing to 53third out of 180 countries in year 2013 on the Corruption Perception Index released by Transparency International. In reality, unwilling to compromise with the personal values and the importance of the accountability, lead the difficulty in resolving ethical dilemmas occur (Jones, 2001). Therefore, young Muslim professional is expected to study the differences in ethical behavior from one situation to another due to the malfunction in self-accountability that simultaneously unethical behavior (Millage, 2005; Ross, & McClung, 2006).

The existence of religiosity aspect concomitant with the world and human civilization history (Professor Frederich Max Muller, 1823-1900). The evidence include artifacts and documents written by Johann Gotfried von Herder (born in 1744) regarding the importance of cultural and religiosity (Sulaiman M., Abdul Mutalib M.M., Mohd Ramly R. and Wan Razali W.M.F.A., 2011) shows that religious emphasize a high standard of element such as trust, honesty and reliability concerning overall accountability, conducted by the strictest obedience to Allah S.W.T. commandments. As instance, Bryan D. Burks (2006) stated people in the United States believe in God and the *"golden rule"*, significantly mean that young professional performance with high accountability when working would receive same performance from others in actual scenario. While in Islam, young Muslim professional efforts to increasing the accountability level based on religiosity element strength as Islamic law is unbiased, preaches justice without discrimination and requires stability between the world and the hereafter.

Religiosity element being the dominant and comprises interconnected relationship between young Muslim professional beliefs and accountability actions in decision-making process. Young Muslim professional make accountable decisions every day while working and various aspects will affect the final result, involve a difficult situation and constraints, as not all the involved colleague see it as a positive decision. However, young Muslim professional decisions based on al-Quran and as-Sunnah need to ensure this anomalous situation does not affect the accountability but assessed in accordance Allah S.W.T. pleasure. Therefore, individual that work hard tend to successful (Ali, 2001) when exploring the elements, understand and affiliation on religiosity practice thus apply it to reach a professional level (Mohamad Juoi P., 2010). Consolidating and strengthening the integrity, efficiency, excellence in the world and in the Hereafter was the catalyst to young Muslim professional.

There are six characteristics contained in religiosity elements recognized as *hisba* (self-learning), aims to realize the cultivation of excellence in the world and in the hereafter. It is for young Muslim professional accountability awareness through strong religious affiliation, parallel with the nature and based on the Islam requirements. *Hisba* evaluated through six *muhasabat al-nafs* process involving *musyaratah, muraqabah, muhasabah, mu'aqabah, mujahadah* and *mu'atabah* practice (Makhsin M., Tamuri A.H., Che Noh A. and Elias M.F., 2012).

1. *Musyaratah* (Heart Agreement)

Intends to create the conditions through agreements in the heart or build determination in life. Based on the conditions stipulated by individual, he or she perform its duties as prescribed. *Musyaratah* vital to prevent conflict and internal conflict that exists in human beings. In conclusion, *musyaratah* process initiated with the intention or ambition, then embedded into the heart to be applied by the body (Muhammad Jamaluddin al-Qasimi, 1990; Makhsin M., Tamuri A.H., Che Noh A. and Elias M.F., 2012). It would produce sanctity of life that brings happiness, safety and profitability. Allah S.W.T. says in surah al-syams, 91:9-10 :

"He has succeeded who purifies it, And he has failed who instills it [with corruption]."

2. *Muraqabah* (Behavioral Observation)

Significantly mean vigilant and wary of the negative attitude that exists in human beings and aims to maintain decorum themselves. *Muraqabah* is capable to overcome young Muslim professional accountability weaknesses by performing obedience to Allah S.W.T., the Almighty and regulate the inclination to perform vices (Hamzah Jacob, 1985; Makhsin M., Tamuri A.H., Che Noh A. and Elias M.F., 2012). These properties can be sown through the belief that God is always seeing and observing human behavior. Allah says in surah al-An'am, 6:3:

"And He is Allah , [the only deity] in the heavens and the earth. He knows your secret and what you make public, and He knows that which you earn."

3. *Muhasabat* (Self- consideration)

Significantly mean to calculate or analyze individual against all behavior. It requires an assessment by analyzing every action to identify errors that have occurred. As a result, adjustments and improvements can be implemented. It also aims to develop self-discipline to constantly make an assessment in determining behavior in life (Lutfi, 2000; Makhsin M., Tamuri A.H., Che Noh A. and Elias M.F., 2012). Allah S.W.T., the Almighty says in surah al-Hasyr, 59:18:

"O you who have believed, fear Allah . And let every soul look to what it has put forth for tomorrow - and fear Allah . Indeed, Allah is Acquainted with what you do."

These three characteristics describe how *muhasabat al-nafs* process was conducted in young Muslim professional accountability. The process begins with self-assessment through behavioral review and the results of the behavior assessment as an evasion guide from continuing. Next, choose favorable decision to the future for errors rectified immediately.

4. *Mu'aqabah* (Affirmation)

Assess the young Muslim professional decision in the workplace to against shortcomings and mistakes. Therefore, initiatives will be taken to rectify past mistakes and need to ensure that it unrepeated.

5. *Mujahadah* (Resistance Temptation)

Means had fought hard in Allah S.W.T. and regardless of trepidation (Lutfi, 2000; Makhsin M., Tamuri A.H., Che Noh A. and Elias M.F., 2012). It aims to avoid laziness. The nature of *mujahadah* encourage individual excited in the struggle of life.

6. *Mu'atabah* (Soul-Purification)

The process of self-criticism, giving rise to resentment against offenses committed (Sa'id Hawwa, 1998; Makhsin M., Tamuri A.H., Che Noh A. and Elias M.F., 2012). It aims to create peace of mind, confronted with the test and believe that Allah S.W.T., the Almighty observing and regulatory affairs.

In conclusion, *muhasabah* level is the key against religiosity and self-discovery journey. While *musyaratah* and *muraqabah* stage is a preparatory self-measure. Meanwhile, *mu'aqabah* and *mu'atabah* level as self-evaluation measures and purification. Finally, *mujahadah* level is the mirror that determines the individual persistence to foster the young Muslim professional accountability.

FINDINGS

Young Muslim professional is the important source in promoting the country development, generally espoused the ideals themselves, enthusiastic and possess commitment to improving the performance. They require in working with a set of self-prediction, resulting from the religiosity enhancement, educational experience and understanding on the importance of the accountability philosophy. The young Muslim professional development objectives is to shift the paradigm from the significant unethical behavior issues to arouse the self-development comprehensive approach as effort in increasing the understanding and practicing religiosity level, simultaneously assist the ethical self-contained development. On the other side, accountability able to generate the young Muslim professional disciplined with a high work performance due to dignity as employee for organization and servants to Allah S.W.T., the Almighty (Agil S.O.S., 1994)

The young Muslim professional accountability emphasizes the avoidance unethical behavior misconduct in the workplace. Muslims who believe and practice Islam are more committed and assumed higher satisfaction dealing with to their tasks than non-believers of religion (Yousef, 2001). Collectively, the accountability concepts inspire confidence in the workplace, reinforce positive transition and motivate young Muslim professional to focus on their primary responsibilities (Ali, 2005). By accepting a task, it indicates young Muslim professional acceptance of the *amanah* (trust) to perform work with accountability, honesty and perfection encouragement. Besides that, young Muslim professional that stress accountability in the workplace view the decision-making activities as an obligation. As a result, the young Muslim professional able to utilized their ability and inherent the efficiency and effectiveness.

Through the understanding of religiosity-based program and accountability implemented able to create positive ethical behavior culture. The development approach of young professional progressed with the human development potential perspective in an attempt to changes systematically self-attitude (Theokas & Lerner, 2006). Young Muslim professional accountability enhancement aims to create an environment and ability to increase the confidence and competence to meet the productive needs, according to the substrate and regulations from Allah S.W.T.

The type of Accountability

i. Personal accountability and relationship with Allah S.W.T.

Individual has different execution work but need to be responsibility and accountability as mentioned in the al-Quran and al-Hadith. Therefore, the statement regarding behavior were caused by others is unacceptable because the sense given by Allah S.W.T. is adequate to distinguishes the unethical behavior. Islamic law that determined the established principles and be obeyed by individuals indicates each young Muslim professional is accountable for compliance with all the *halal* and *haram,* which has been established by Allah S.W.T. (Agil S.O.S., 1994)

The accountability will be tested in an environment where young Muslim professional does not feel accountable to the people due to human greed and selfishness continued. Experience in the workplace shows the changes from young Muslim professional external only in temporary period. In other words, the change must come from within. It requires internal transition as correct intention to produce external action accountable. The accountability will be built when human spirit is enhanced in accordance with the purpose of creation, to worship Allah S.W.T. and apply the faith in each decision-action making process. The attitude that emphasizes accountability is the result of spirit increasing and formed by God-conscious feeling (Omar S.A.S., 1994).

ii. Employee Accountability

Young Muslim professional responsible to carrying out its duties based on job specifications outlined. In this context, they must comply to achieve an organization goal. Besides accountable to Allah S.W.T., young Muslim professional has accountability in the workplace by knowing the policy, regulatory and organizational performance targets. Any failure of accountability during the final decision-making process requires a continuous process of self-improvement (continuous improvement), which was responsible for carrying out the work with full trust and evade from involved in behavior that contrary to Islamic law such as bribery, breach of trust and fraud (Agil S.O.S., 1994)

Furthermore, reconcile religiosity element to form and firm the young Muslim professional accountability with the practical reality workplace involving Islamic law concept and decision-making processes to build empowering individual, become and act as a genuine Muslim. Therefore, young Muslim professional need to be awareness regarding their accountability and responsibility not only to the organization, but its ultimate to Allah S.W.T. The reward and punishment concept and caution regarding the world and in the hereafter as the main guidelines during the current conflict, dilemma or ethical considerations, drafted by Allah S.W.T. is suitable practiced by each individual. Meanwhile, the concept of reward and punishment, drafted by humans just a complement or as an adjunct in the plan of making any final decisions.

CONCLUSIONS

Islam is a comprehensive lifestyle and accountability is an Islamic regulations foundations. While accountability enhancement defined as constructive character, personality and behavior with the goal of a civilized, intellectual, moral and viable. Individual should strive and willing to change themselves that lead to greater transformation. Personal values and individual personality will also influence accountability standards. Through encouragement and a sense of obedience to Allah S.W.T, people will comply with moral regulations and represents individuality characteristic without any external pressure, from situating a professional mindset and changed attitude to measure results creatively and learning to cultivate and followed the best instincts. The properties of trust at work, honesty, accountability, responsibility and integrity should be established by continued in the religious affiliation and education. Level of consciousness and practice must be nurtured and enhanced in preparing the young Muslim professional as the major leader to the workforce. Moreover, personality accountability needs commitment and patience and ethical practices will give positive impact on families, communities, countries and ultimately to achieve the pleasure of Allah S.W.T.

ACKNOWLEDGEMENT

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REMOTE EXPERIMENT ON TIME DOMAIN PHENOMENA IN RLC CIRCUITS AND THEIR CHARACTERIZATION

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ABSTRACT
Knowledge of general RLC circuit is one of the basic block of physics lessons at high schools and lower levels of universities. To determine the values of the individual circuit components is in general not straightforward. In the paper we want to show, how the transient response of a RLC circuit may provide information enough for the circuit components determination.

First, we describe the basic properties of the RLC circuit and its mathematical description. Next, we focus on the created remote experiment for the elucidation of transient phenomena in the RLC circuit for the students. At the end of the paper we describe the workflow with the remote experiment in teaching process and show, how the parameters of the circuit may be determined from the measurements.

RLC CIRCUIT – PHYSICAL BACKGROUND

RLC circuit is an electrical circuit consisting of a resistor, an inductor and a capacitor connected in series or in parallel. Every letter in the name RLC stands for one of the usual symbols for the resistor, inductor and capacitor. The RLC circuit is always, in fact, a harmonic oscillator and resonates in a similar way as an ideal LC circuit without damping. The main difference is caused by the presence of the dissipative processes, which damp the current in a circuit. Because of that oscillations amplitude induced in the circuit decreases with the time after the voltage source is disconnected. Presence of the resistor in the circuit generally causes damping, and also affects the resonance frequency. In real circuits the presence of the resistance is unavoidable, even if the resistor is not included as a component of the circuit. A pure LC circuit is an idealized case, which exists only in theory.

There are many applications for this circuit. It is used in various types of electrical oscillators. Another important application is the tuning in a radio receivers or a television sets. It is used to select from the whole spectrum of signals a narrow range of frequencies we want. The RLC circuit can be also used as a band-pass filter, band-stop filter, low-pass filter or high-pass filter. The tuning application, for instance, is an example of band-pass filtering. The RLC filter is described as a second-order circuit; it means that any voltage or current in the circuit can be described by a second-order differential equation in the circuit analysis (Nilsson, 2011).

GENERAL EQUATION OF RLC CIRCUIT

$$i = \frac{dQ}{dt} \tag{1a}$$

$$Q = \int_{-\infty}^{t} i(\tau)d\tau \tag{1b}$$

$$v_R = R i_R \tag{1a}$$

$$i_R = \frac{1}{R} v_R \tag{2b}$$

$$v_C = \frac{Q}{c} = \frac{1}{c}\int_{-\infty}^{t} i_C(\tau)d\tau \tag{3a}$$

$$i_C = C \frac{dv_C}{dt} \tag{3b}$$

$$v_L = L \frac{di_L}{dt} \tag{4a}$$

$$i_L = \frac{1}{L}\int_{-\infty}^{t} v_L(\tau)d\tau \tag{4b}$$

Time constant

$$\tau_{RL} = \frac{L}{R} \tag{5a}$$

$$\tau_{RC} = RC \tag{5b}$$

Natural frequency

$$\omega_0^2 = \frac{1}{LC} \tag{6}$$

SERIES RLC CIRCUIT

In a series RLC circuit passes the same current through the circuit components (see Figure 1), but the current through every component is identical and in general with different amplitude and phase shift with respect to voltage on it. The current through the resistor has zero phase shift with respect to the voltage on it, U_R. The current through the coil is behind the voltage U_L by -90° and that through capacitor is ahead of the voltage U_C by +90°.

The same phase of the current and the voltage across the resistor is given by the properties of the resistor. There is no physical reason why the phase shift should occur, as there are no delays in the mechanism of conductive current, on which the resistor is based. With a coil and capacitor, the situation is different.
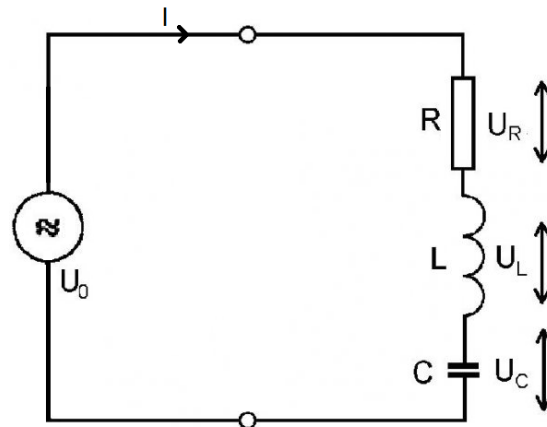
Figure 1.Serial RLC circuit

The current delay with respect to the voltage on the coil is caused by the electromagnetic induction effect in the coil, through which the time dependent current flows. By passing of this current the time dependent (i.e. non-stationary) magnetic field is created in the coil. The magnetic field changes create the induced voltage on the coil creating opposite current component. Consequently, the current starts passing through the coil with the opposite direction as the current which generates the magnetic field. The coil is trying to keep the original magnetic field, which it was there before it started to change, the phase shift of -90° results (Nilsson, 2011).

It is principle of Lenz's law:

An electric current, induced by a source such as a changing magnetic field, always creates a counterforce opposing the force inducing it ("Lenz' Law", 2005).

The overtaking of current due to the voltage on the capacitor is caused by periodic charging and discharging of the capacitor. It is charged in the first quarter of the AC period. When the capacitor voltage reaches the maximum value, the current through the capacitor is zero. Then the capacitor begins to discharge. It means that the voltage between the plates is gradually decreased and the current that flows through capacitor is increasing. When the current reaches its maximum (middle of the AC period), the capacitor is discharged and begins to charge in opposite polarity to the originally charged. The current gradually decreases until it reaches the zero value again. At that moment, the capacitor is charged to the maximum voltage but in opposite polarity as in first case. In the last quarter of the AC period, the capacitor is discharging and the current is increasing. Process just described is repeated periodically.

Due to described phase difference between voltage and current on the coil and capacitor the effective value of the resulting voltage in circuit can't be obtained by a simple arithmetic sum.

MATHEMATICAL BACKGROUND OF SERIES RLC CIRCUIT

From Kirchhoff's voltage law (KVL) we know that the net voltage (potential) change around a circuit is zero (Ciletti, 2004). You end up where you started.

$$v_L + v_R + v_C = v_s$$

(7)

Write in terms of the loop current i, (equations (2a). (3a), (4a)).

$$v_L = L\frac{di}{dt}; \quad v_R = Ri; \quad v_c = \frac{1}{c}\int_{-\infty}^{t} i(\tau)d\tau \tag{8}$$

Plug into (7)

$$L\frac{di}{dt} + Ri + \frac{1}{c}\int_{-\infty}^{t} i(\tau)d\tau = v_s \tag{9}$$

The integral is a problem so take the time derivative of every term in (9)

$$L\frac{d^2i}{dt^2} + R\frac{di}{dt} + \frac{1}{c}i = \frac{dv_s}{dt} \tag{10}$$

Divide by L

$$\frac{d^2i}{dt^2} + \frac{R}{L}\frac{di}{dt} + \frac{1}{LC}i = \frac{1}{L}\frac{dv_s}{dt} \tag{11}$$

Rewrite using equations (5a) and (6)

$$\frac{d^2i}{dt^2} + \frac{1}{\tau_{RL}}\frac{di}{dt} + \omega_0^2 i = \frac{1}{L}\frac{dv_s}{dt} \tag{12}$$

Solution of eq. (12) is

$$u(t) = u(0)e^{-bt}\sin(\omega_1 t + \varphi) \tag{13}$$

Where

$$b = \frac{1}{2R_2 C} + \frac{R_1}{2L} \tag{14}$$

And

$$\omega_1^2 = \omega_0^2 - b^2 \tag{15}$$

PARALLEL RLC CIRCUIT

The physical background of activity of the parallel RLC circuit (see Figure 2) comes from the behavior of the resistor, inductor and capacitor in the AC circuit. This behavior was described above. The difference lies in the fact that the parallel connected circuit components have the same voltage, but different currents flows through them. Currents differ not only by value, but also by phases: current IR flows through the resistor has the same phase as the voltage on the resistor, the coil current IL is delayed compared to voltage by a quarter of period and the capacitor current IC is overtaking by the quarter of period (Nilsson, 2011).
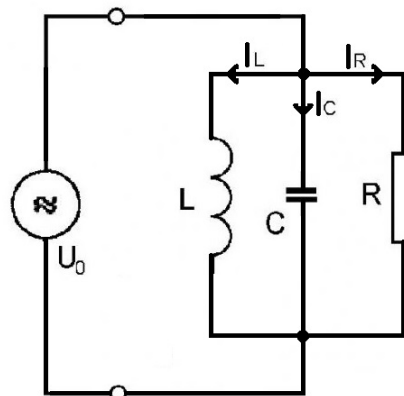
Figure 2. Parallel RLC circuit

MATHEMATICAL BACKGROUND OF PARALLEL RLC CIRCUIT

From Kirchhoff's current law (KCL) we know that the total current into a node equal the total current leaving the node (Ciletti, 2004). The electrons have to go somewhere.

$$i_{LC} + i_R = i_s; \quad i_L + i_c = i_{LC} \tag{16}$$

Combine to give

$$i_L + i_R + i_C = i_s \tag{17}$$

Write in terms of v, the voltage across all components:

$$i_L = \frac{1}{L}\int_{-\infty}^{t} V_L(\tau)\, d\tau; \quad i_R = \frac{1}{R}v_R; \quad i_C = C\frac{dv_C}{dt} \tag{18}$$

Plug into (14)

$$\frac{1}{L}\int_{-\infty}^{t} V_L(\tau)\, d\tau + \frac{1}{R}v_R + C\frac{dv_C}{dt} = i_S \tag{19}$$

The integral is a problem so take the time derivative of every term in (16). Reorder.

$$C\frac{d^2v}{dt^2} + \frac{1}{R}\frac{dv}{dt} + \frac{1}{L}v = \frac{di_s}{dt} \tag{20}$$

Divide by C

$$\frac{d^2v}{dt^2} + \frac{1}{RC}\frac{dv}{dt} + \frac{1}{LC}v = \frac{1}{C}\frac{di_S}{dt} \tag{21}$$

Rewrite using equations (5b) and (6)

$$\frac{d^2v}{dt^2} + \frac{1}{\tau_{RC}}\frac{dv}{dt} + \omega_0^2 v = \frac{1}{C}\frac{di_s}{dt} \tag{22}$$

TRANSIENT PHENOMENON

A transient event is a short-lived burst of energy in a system caused by a sudden change of state. The source of the transient energy may be an internal or a nearby event. The energy then couples to other parts of the system, typically appearing as a short burst of oscillation. In electrical engineering, oscillation is an effect caused by a transient response of a circuit or system. It is a momentary event preceding the steady state (electronics) during a sudden change of a circuit. Mathematically, it can be modeled as a damped harmonic oscillator (Milias-Argitis, 1998).

An example of transient oscillation can be found in digital (pulse) signals in computer networks. Each pulse produces two transients, an oscillation resulting from the sudden rise in voltage and another oscillation from the sudden drop in voltage. This is generally considered an undesirable effect as it introduces variations in the high and low voltages of a signal, causing instability (Milias-Argitis, 1998).

From the previous paragraph it is obvious that it is necessary to cause a certain event to occur transient phenomena in the RLC circuit. This event may be a unit step voltage, which is admitted into the circuit. The RLC circuit starts to oscillate at the frequency of natural oscillations ω_1. Electric and magnetic energy is transformed subsequently into the heat due to dissipative losses caused mostly by resistors. For this reason, there is a gradual attenuation of oscillations to a zero. The speed of this process is characterized by a damping factor.

This coefficient is dependent on the total resistance of the circuit and can be determined from the time dependence of the voltage drop amplitude on the circuit. There is a linear damping factor dependence of the damping factor on the value of serially connected resistor and the reciprocal dependence on the on the parallel resistor value. From these two dependencies the values of the components of the RLC series circuit can be derived. An example of the measured data evaluation is presented in section "Determination of circuit parameters".

TRANSIENT IN RLC CIRCUIT AS A REMOTE EXPERIMENT

The remote experiment (RE) "Transient phenomena in electric oscillators", accessible via the Remote Laboratory Management System (RLMS) REMLABNET has been built (http://remlabnet.eu). It is a real experiment running in a real laboratory by using real instruments and equipment (Schauer, 2014). It can be controlled by a teacher, student or any other user from his/her computer through the Internet on the general controlling scheme of server-client (Krbeček, 2013). Controlling of the experiments is enabled via Web interface, by means of which the user can perform the appropriate settings, options, and starting or stopping the experiment. The measured data from the experiment are transferred across the Internet and presented through the web interface to the client. The web page includes the option to export data directly into one of the spread sheets editor (most often Microsoft Excel) for easy processing. Experiment also includes the web camera that allows monitoring of the on-going experiment in real time (Auer, 2009). The experiment is built, using the Internet School Experimental System (ISES) a powerful tool for the process and experiments control, acquisition, collecting and data processing in real time. Let us mention the basic features of the ISES system, more detailed

description may be found elsewhere (Schauer, 2006). The basis of the system is ISES board, which is available in several versions, differing depending on the number of inputs/outputs and also on type of communication with the control PC (by PCI card, USB connector, Wi-Fi). To this board are plugged in ISES sensors like: ammeter, voltmeter, thermometer, position sensor, ohmmeter, load cell, anemometer, microphones, sonar, light gate, pH meter, conductivity meter, heart rate monitor, etc. (Schauer, 2006).

Due to its maximum signal transfer frequency (100 kHz) the system allows the study of dynamic signals like sound or electronic signals. The system allows simultaneous measurement, processing and displaying data via maximum eight input channels, as well as process control via two analogue and two binary output channels. But the uniqueness of this system is its possibility of using the same equipment both for experiments in the laboratory (so-called hands on experiments) and also for their remote versions - remote experiments (Schauer, 2006).

The RE "Transient phenomena in electric RLC oscillators" is designed for the measuring the transient responses with changing the damping resistors, series and parallel, respectively. The RE does not provide detailed processing of the measured transient responses, but allows the export of measured data for the external processing. Experiment is composed from RLC components and is connected to a DC voltage source (see Figure 3). There is the ISES V-meter and ISES A-meter, measuring the transient voltage /current, respectively. Another part of the experiment is a relay board, which contains 16 of controllable relays. One of them is used for creation of the unit step voltage. Other relays allow connecting serial and parallel resistors to the circuit (10 for serial and 10 for parallel resistors). These resistors change the response to the unit step voltage, both on the series or parallel resistor, changing the damping factor b. The dependence of the damping factor on the value of both resistors we can determine circuit components values of L, C and RL. Schematic diagram of the experiment is shown in Figure 3.
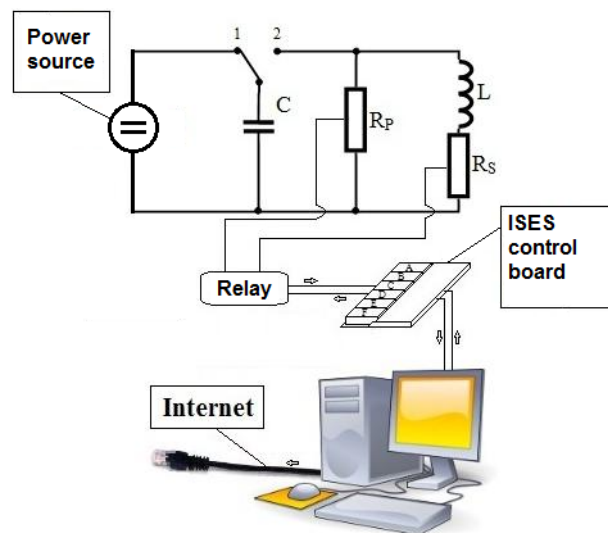
Figure 3. Schematic arrangement of RE

The control page of the RE is shown in Figure 4. On the right side of the page there is a window with an actual view of the experiment and the scheme of experiment. On the left side of the web page there are the controls of the experiment. The first group of controls elements (upper part) is used for the setting of the serial resistance. It consists of the display, which shows the adjusted resistance and the buttons serve for their adjusting. Below is the similar group of controls for adjusting the parallel resistors. Bellow it is a "Start" button by which the experiment is started. The remaining part of the control page is occupied by graphs of both measured quantities – voltage and current. In the bottom there are buttons for the export in two typical formats.
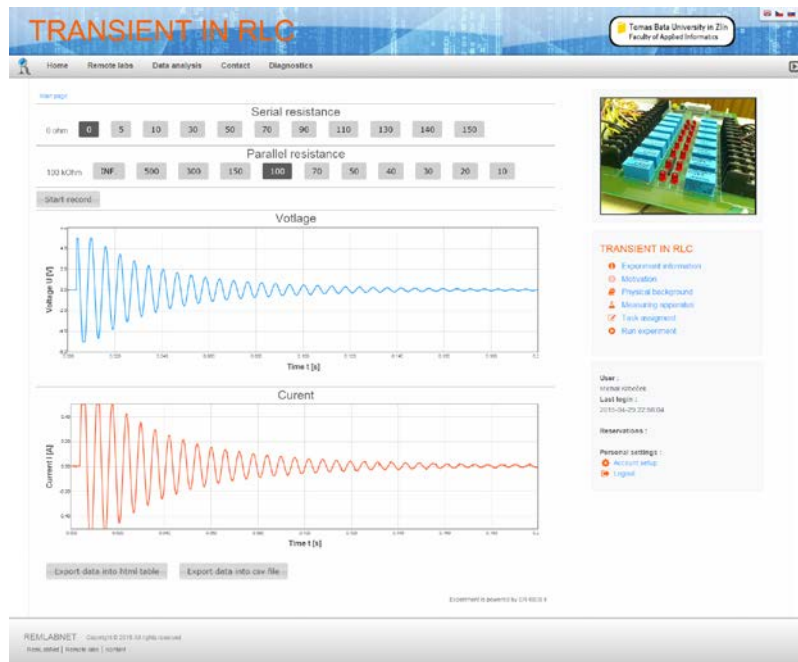
Figure 4. Control web page of remote experiment

DETERMINATION OF CIRCUIT PARAMETERS
Let us present the set of measurements with the goal to determine the RL L and C components of this series RLC circuit using artificial inserted damping.

SERIAL RESISTANCE
For the serial resistance the following values were measured:

R [Ω]	b [s^{-1}]
0	33.4
10	38.2
20	41.8
30	44.4
40	46.3
50	54.7
60	61.4
70	63.5
80	71.5
90	72.1
100	79.6
110	83.878
120	87.090

Table 1. Values for serial resistance

Following graph (Figure 5.) shows the data from Table 1. Data were fitted by a linear approximation with the corresponding regression equation.
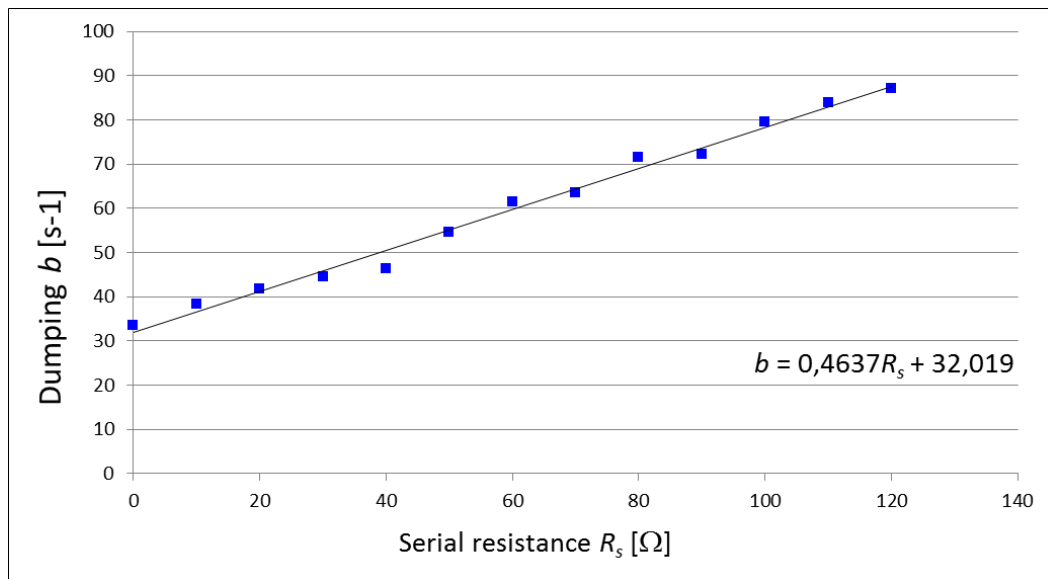
Figure 5.Dependence of damping coefficient and serial resistance

Parameters of coil can be obtained from the coefficients of the linear regression of the dependence b = b (R$_S$), based on eq.

$$b = \frac{R_s}{2L},\tag{24}$$

And found:

$$b = a + c\,Rs, a = 32.019 s^{-1}(\Omega\,H^{-1})\;\; c = 0.4637\;s^{-1}\,\Omega^{-1}\,(or\,H^{-1})\tag{25}$$

$$c = \frac{1}{2L} => L = \frac{1}{2c}\quad a = \frac{R_L}{2L} => R_L = a2L\tag{26}$$

$$L = \frac{1}{2\cdot 0,4637} = \underline{1.1H}\,;\quad R_L = 32.019\cdot 2\cdot 1.07 = \underline{69.1\,\Omega}$$

PARALLEL RESISTANCE
For the parallel resistance the following values were measured:

R [kΩ]	b [s-1]
10	79.4
20	51.0
30	43.8
40	40.1
50	39.4
60	38.0
70	35.8
80	35.5
90	35.7
100	35.2
110	33.8
120	33.5
130	34.5

Table 2.Values for parallel resistance

Following graph (Figure 6) shows the data from Table 2. Data were fitted by a linear approximation with the corresponding regression equation.
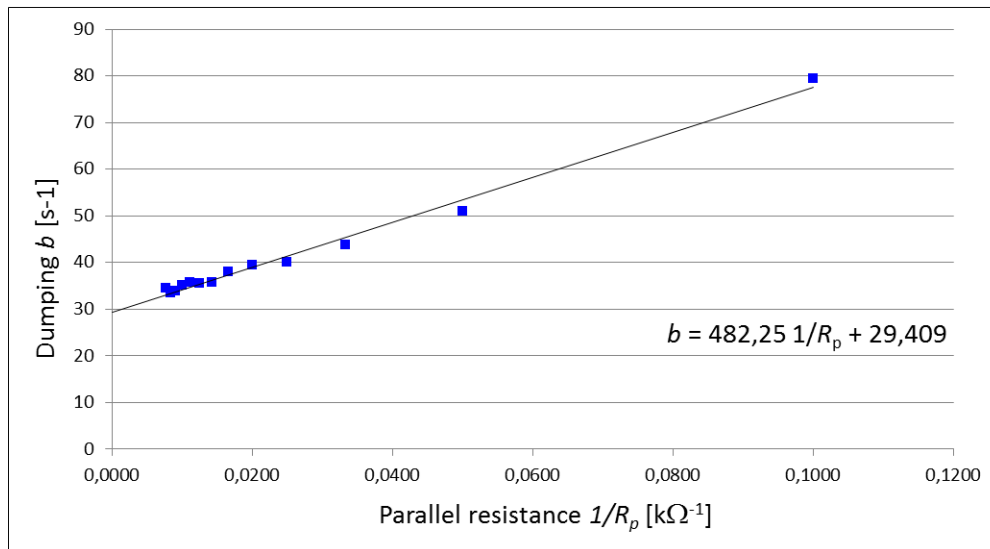
Figure 6.Dependence of damping coefficient and parallel resistance

Parameters of capacitor can be obtained from the coefficients of the linear regression equation:

$$b = a + c \, 1/Rp \tag{27}$$

$$b = \frac{1}{2RC} \quad a = 32.019 s^{-1}, \quad c = 0.4637 \, F^{-1} \tag{28}$$

$$c = \frac{1}{2C} => C = \frac{1}{2c} \quad a = \frac{1}{2CR_C} => R_C = \frac{1}{a2C} \tag{29}$$

$$C = \frac{1}{2 \cdot 482272} = \underline{1.04 \cdot 10^{-6} F}$$

$$R_C = \frac{1}{29.409 \cdot 2 \cdot 1.04 \cdot 10^{-6}} = \underline{163.5 \, k\Omega}$$

CONCLUSIONS

Paper was focused on the RE for the study of the RLC circuit in the time domain and the assignment was to determine by the measurements the parameters of the RLC circuit components by the measuring of the transient phenomena.

The transient response occurs as the response to the step voltage. Value of the damping coefficient of the circuit varies depending on the artificial damping, inserted by external resistances. By changing the damping and finding the dependences b=b(Rs) and b=b(Rp) we may, based on the theoretical dependence, to determine the values of all the circuit components of the resistor R, inductor L and capacitor C of the circuit and also internal resistance of the inductor RL.

For obtaining the real data, the remote experiment "Transient phenomena in electric RLC oscillators" was constructed. It allows the recording in the graphs and export of the corresponding data of both instantaneous voltage and current time dependences for subsequent processing.

All outputs from this paper will be used in the lessons of physics at the Faculty of Applied Informatics of Tomas Bata University in Zlín

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RESEARCH OF THE ESSENCE OF THE PUPILS' ACTIVITIES BASED ON THE EMOTIONAL LEVEL, OR, WHAT DOES THE PUPIL EXPERIENCE DURING THE INSTRUCTION?

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ABSTRACT

The treatise, based on the current trends distinct in the pedagogical theory and practice, reacts on the need of development of a research about the pupils' activities that manifest themselves during the realization of the inquiry-based instruction. It reflects the requirements of the society that requires training and education of the individuals who are able to solve the problem situations. That allows further education and successful integration into the society as well. The treatise follows the theory of problem solving, theory of emotions and their application during instruction.

The performed investigative research was focused on discovery of emotions that manifest themselves during the process of education in connection to problem solving and acceptance-based learning. The investigative research was oriented on the pupils of the secondary level of the basic school (ISCED 2).

We can state on the basis of the investigative research that the inquiry activities are significantly linked to pupils' emotions and experience. The treatise based on the analytical, comparatively-critical and inductively-deductive methods creates a basis for a suggestion and construction of a model of the pupil's emotional character during the problem solving processes. The investigative research itself is based on empiricism – interviews and direct observation of the individuals solving problems.

From the executed investigative research, the emotional diversity within inquiry-based instruction emerges, i.e. the pupil experiences different emotions during the tuition – calmness, joy, astonishment, tension, sadness, anger. Those emotions seem to be important for an effective learning process. On the other hand, the acceptance-based instruction seems to be not as emotionally rich. The principal finding is that during the inquiry-based instructions are the experienced emotions of the pupils connected more often to the subject matter, resp. to the learning content. During the acceptance-based instruction, the emotions were for most of the time related to the circumstances that are not related to the subject matter itself.

Keywords: pedagogical theory

EMOTIONS OF THE PUPILS DURING THE EDUCATION – THE CURRENT EXPLORATORY TOPIC

The significance of the emotions in the educational fields does not have to be proved, e.g. J. Maláč and M. Francová (1975) have already some time ago noticed a fact that when the pupils access learning with the joyous expectations of new information and the classes will allow them to at least sometimes experience some adventures of the new discoveries, their interest will be nurtured in such a way that can make it deep and permanent. The direct bond of the emotions and pupils' research is mentioned by J. Linhart (1976) who states that the discovery of a problem and its solution are both accompanied by emotional states. Other authors oriented on the pedagogical research are e.g. V. Janíková (2005), J. Kratochvílová (2003), and Z. Friedmann and B. Lazarová (2009). However, emotions that are bonded to the inquiry-based instruction were not analysed in detail and in other authors' works was no attention paid to them – therefore the further analysis and research are needed.

From publications published in the Czech Republic and abroad is it obvious that the authors pay a significant attention to the bond between emotions and education, i.a. in the Czech Republic is the education of experience developing recently. In practice, there is an apparent interest paid to the emotions related to the humanizing tendencies that are being applied in education.

The term emotion is, considering the different understandings during the historical development (i.a. behaviourism, cognitive psychology and humanistic psychology), very hard to define unambiguously. As D. Heller (2007, p. 1) states, emotions have always been considered to be an experience of excitement that was caused by a specific and important situation in life, or, as experiencing of vegetative changes. The feelings of something pleasant and unpleasant have originally signalized a biological value of the stimulus (either positive or negative). Nowadays, these situations are considered as an integration of excitement and cognitive treatment. M. Nakonečný (2000, p. 16) defines emotions as phenomenally specific and as a complex psychical phenomena of assessment of the situation or the stimulation; they have a new experience (emotional) component that is a key component because it constitutes with getting to know the importance of the situation in unity; furthermore a behaviourist (inclusively expressional) component and a somatic (mostly visceral) component. They are

basically a reaction to the life important situations that, besides the identification of their importance, also include the activation of the individual to the essential adaptation to the given situations. Emotions are key phenomena, because they create a basis of the behaviour's organization and motivation and they give it a psychological sense.

Emotional system and its effects include the whole individual and therefore it is the development and direction of the emotional system a necessary condition of the development not only from neurological, mental health and mental hygienic point of view, but also from the essential cognitional and educational point of view (V. E. Fernandes, 2004, p. 240).

I. Stuchlíková (2002, p.120) pointed out the following bond: the emotions are tied to the cognitive processes very tightly, inseparably and in every moment since the whole beginning of the information about the acting stimuli processing. Emotions, as V. E. Fernandes (2004, p. 242) states, cause integration or discrepancy, motivation or demotivation, interest or disinterest in what is being done or has to be done. Directly to the process of learning says V. E. Fernandes (2004, p. 239-250) that: there is a conspicuous need of a certain amount of emotions that are included in the process of learning that means amount of a positive and dynamic excitement and stimulation. Thanks to the emotions the child is looking for an object that he/she wants, experiences, gets involved in and acquires experience. It is without any doubt that every human is learning better with joy and pleasure than with sadness and pain.

Abroad, we can encounter researches that are not common in the Czech Republic. The influence of emotions on the problem solving and creative thinking is investigated. For example, A. M. Isen (2000) should be mentioned because she performed a research dealing with the influence of the positive emotions on effective problem solving, decision making and evaluating of situations. She found out that positive emotions support elaboration and organization of thoughts that lead to the flexible thinking. Positive influence on the flexibility of thinking and creative problem solving are also mentioned by F. G. Ashby et al. (1999). G. Kaufmann and K. S. Vosburg (2002) emphasized also the role of the positive mood that appeared to be in their research a factor with positive influence on creativity and sorting out thoughts.

By an analysis of the literature and other informative sources, we have not come to a cognition of emotions during thinking process, individual's problem solving and influence on solving process itself. It is only possible to find the knowledge that supports new reasoning. For example, P. Benešová (2008) sees a great potential in the emotions, whether it is about thinking processes, creativity or problem handling. She is convinced that people's thinking in positive emotional state exhibit unusual signs – it is more creative, more flexible and more accessible to the stimuli that come from the surroundings of the given individual. Persons that experienced some positive emotions have broader repertoire in handling problems than people who experienced some negative emotions. Even the other studies that are dealing with the relationship between the cognitive activation (e.g. Pekrun and Schiefele, 1996) and emotions in detail confirm that the positive emotions support activation of the cognitive devices. That means that the task-related learning processes are strengthened by that and, conversely, there are reduced cognitions connected to the individuals (in English self-related cognitions) – all of this has the positive influence on performance (Janík, Lokajíčková and Janko, 2012).

Negative emotions, in contrast with the positive ones, do not support the flexibility of thinking – they narrow the present thought-active repertoire of an individual (Stuchlíková, 2002, p. 106). M. Nakonečný (2000, p.85) states similarly that in the states of anxiety, anger, depression and sadness gets the thinking narrower and its content is circling around the same topics. In an investigative way made by P. Hertelová and S. S. Rudová it was possible to find out that presence of negative emotions decreases the readiness of an organism to perform cognitive activity.

As it was already mentioned, the purpose of the inquiry-based instruction is to teach the pupils to get to know the surrounding world together with exploring knowledge that have to be acquired (remembered). The knowledge explored by a pupil him/herself is accompanied by emotional states that can in case of the positive emotions contribute significantly to the permanence of adaptation. V. E. Fernandes (2004, p. 241) states that emotions and affects accelerate and facilitate the integration of new pieces of information and knowledge to the old ones, they accelerate accommodation, change mental structures and create a positive perspective of the process of a common structure between the cognizing person and an object of cognition.

INSTRUCTION AND ITS CONCEPTION FROM THE COGNITIVE POINT OF VIEW

The contemporary education is based mostly on transmitting of the knowledge, cultural formulas and social experience to the younger generations that were reached by the mankind during historical development and that are socially important considering the present or the future needs and expectations. The curriculum given to the pupils is created by applying of different cultural areas (science, technics, art, activities and values) to the curricula, syllabi, workbooks and educational process (Skalková, 1999, p. 63). The operational and factual knowledge that humanity disposes of is transformed as well as the social activities, value orientation and attitudes of the pupils (Skalková, 1999, p. 64).

The particular educational content during learning becomes a knowledge or another disposition of the pupil

(Slavík and Janík, 2005). The pupil is learning to cognize and cognizes the surrounding world in which they integrates and they tries to influence it and get influenced by it. The surrounding world is complex and not only for the pupil is it often difficult to grasp it. It is possible to divide it into four basic spheres – the sociosphere (which includes i.a. the cultural habits, morality, ideology and policy of the human society, science or legal system), the biosphere (which includes the parts of the planet Earth where is present any form of life), the geosphere and the technosphere (which is the net of artificial human culture used to lead the motion of natural resources that we need for our lives).

The purpose of education is therefore not only to get to know the world as a complex unity but also the important facts that have some effect on the life of the individual or even influences them. The further purpose is to integrate the individual into the society and teach him/her how to live in it fully. However, different nations consider different facts as substantial and that is why the educational contents differ. But what actually is in the common framework identical is the fact that from gnoseologic point of view the pupil reaches the cognition that includes both the process of acquiring knowledge about the real world (i.e. the cognition) and its result (i.e. the knowledge, information). The pupil acquires the knowledge that is a representation, mental (cognitive) reflection of the surrounding world; they reflects all of the spheres, in the concrete level by a model of a specific object, phenomenon or mutual relations. Mental model as a unity can therefore be understood as an inner representation of a reality, a surrounding world that we create in our mind. These are conceptions of the real facts and therefore this is a representation of real world. These are the results of the sensory perceptions combined with already saved knowledge. The pupil is therefore building the cognitive model from his/her birth, he/she gradually reconstructs and develops it. On the basis of the pieces of information mentioned above, this may seem as the one-sided orientation on the cognitive component of an individual that is from the educational point of view carrying, but from the formative point of view the emotional, affective and behavioural components cannot be neglected. Their importance is unquestionable and demonstrable in a relation to any cognized entity of the world that is a subject of thinking or on which all the attention is focused, e.g. there appear some opinions and thoughts in the cognitive component, feelings in the emotional component and there is a tendency to act or behave in behavioural (conative) component. Therefore, it is not an aim to "transmit" the knowledge, but to cause a change in pupils' consciousness as well.

The pupil enters the educational process at the level of a basic school already with some ideas about the surrounding world, i.a. he/she has a cognitive model on a specific level (rate, accuracy, vagueness) that corresponds to his/her psychosomatic development and therefore it is needed to diagnose it and to consider other connections as well while its remaking – the transformation, reconstruction. This fact is in the pedagogical theory already being solved for a long time and we encounter such terms (in this context) as the preconcept, a naive idea that is associated directly to the cognitive pupil's model. It is desirable and necessary to consider (diagnose, reconstruct, develop, enrich, create bonds) the current cognitive model of the pupil, i.a. the form with which he/she enters the process of education.

The cognitive model of a pupil can be actually transformed and developed on the basis of two approaches of acquiring an image about the surrounding world in all of its dimensions that include also integration of an individual to the society. It is not possible to reach the complex cognition without any sign of vagueness in none of these cases. However, it is possible to agree with the objection that those cases are extreme and that they do not appear in their distinctiveness in the educational reality as a whole. In the historical context, there are obvious tendencies to incline to more or less one of those models or to apply them in a modified form.

In the first of those cases, the cognitive model is developed on the basis of transmission of the substantiated amount of knowledge about the surrounding world, values, attitudes and skills chosen by the teacher or by some other suitable devices, or with a help of sustainable devices and their acceptance by the pupils as a truth that has to be accepted and become adapted to it. The pupil accesses to the content of the education dogmatically and his/her work is to acquire the transmitted curriculum most precisely and in the shortest possible period of time, to learn a lot of knowledge, to accept the required formula of behaviour, to take the assumed attitudes and to acquire the needed skills. In this case, the pupil perceives the adopted curriculum as "something complete", as a truth that has to be accepted and to which it is needed to become adapted to. In contrast with dogmatic education, the teacher supports his/her statements with the scientific underlay and expediency of the adopted knowledge to the pupils, he/she verifies it continuously. From the psychological point of view (according to the character of the educational content), on the pupil's side is taking place the conceptual education, sensorimotor education or sensorimotor education under increased use of memory.

This conception of transmitting knowledge is in literature named as "transmissive", "instructivistic", "reproductive", "reception", "drill", "memory acquisition", "memorization" or a "principle of funnel". However, none of those, partly overlapping, terms, captured fully the essence. Therefore it seems to be essential to emphasize the essence of this form of the cognitive model reconstruction, which is the "acceptance", and to introduce the concept of "acceptance-based instruction". It reflects the core principle of this type of instruction, i.a. the pupil does not dispute the transmitted content internally and on the basis of his/her own motives, so that he/she actively "explores" the truthfulness and can get to know also the broader context, and it is not made to be

aware of conflicts that were caused by artificially created situations. The acceptation is defined (Vymětal, 2000, p. 505) as the individual's attitude that is characterized by the willingness to accept the facts that influence the pupil and to acquire them possibly (unless they are already part of their inner world).

The pupil is rewarded positively for the acceptance of the subject-matter and its acquirement in the form of knowledge, skills and attitudes. The typical activities are memorizing of knowledge, learning of activities, acquirement the formula of behaviour.

The acceptance form of instruction, as it was characterized, was in past subjected to several criticism, e.g. A. M. Matyushkin (1973, p. 18) was observing, that when a child starts attending a school, it sometimes happens that he/she unlearns to think. The teacher thinks for them. The teacher explains knowledge that they should acquire, asks the questions and immediately answers them; they creates tasks and explains immediately how to solve them. In this kind of instruction, the pupils are becoming so passive during the few years that, in the process of adaptation, they never make a step on their own. According to the possibilities, they are trying to avoid the intellectual burden and they transfer it to the closest adults or classmates. It is not possible to execute a significant part of educational content, which is the experience from the creative exploring activity – skills and habits, transmitting experience in searching for a solution of a new problem – through the repetition of accepted knowledge and activities that are already shown or told. For the acquisition of the experience's content of creative activity, the pupils have to encounter completely new problems that they have to solve during the process of exploring (Lerner, 1986, p. 69).

Another possibility to transform the cognitive model of a pupil is to bring it into a conflict with his/her already existing knowledge, skills, attitudes and behaviour, with a form of the real world or needs that cannot be satisfied by the current cognition of the pupil, level of his/her skills or by the readiness to solve the given situation. Through the conflict, the pupil is led, activated to explore, to find possible ways how to solve the given state, how to come to the new cognition and how to balance the new cognition with the surrounding world. The artificially caused situations may help the pupil to feel the conflict. Also, the inner motives that cause sceptical opinion on the world and stimuli that he/she perceives or he/she interacts with them may help him/her as well.

It is very substantial to create the conditions that are vital for children's need to explore, to acquire the ways of human behaviour and thinking. The conditions causing the intellectual difficulties are caused by a fact that a person (child) cannot accomplish the task with the help of already known or acquired ways. For its accomplishment he/she needs to find a new way of solution. Those situations cause inevitable thought processes that are in psychology called as the problematic situations and the given tasks are called the problematic tasks (Matyushkin, 1973, p. 20).

When the pupil is actively cognizing the surrounding world, he/she develops his/her thinking, learning of intellectual activities. This definition of transmitting knowledge is in literature called "exploring", "investigative", "heuristic", "discovering", "problematic" and "critical" instruction.

With inquiry-based instruction is closely connected to a term problem which has to be more analysed. The analysis includes formulation and problem solving, although it is not done only by these means. In the pedagogical theory, the problem is understood as a difficulty of theoretical or practical character that cause exploring attitude of a subject and leads him/her to enrichment of his/her knowledge (Cz. Kupisiewicz, p. 16). Another Polish scientist, W. Okoń (p. 79), understands the problem similarly as he defines the didactic problem as a practical or theoretical difficulty that the pupil has to solve by their own active exploring. The basis of this difficulty is usually systematically and intentionally organized situation in which the pupil tries to overcome the problems in accordance to specific needs and they acquires new knowledge and new experience by doing so. An analysis of this situation leads to the formulation of a problem – the lexical definition of the difficulty.

INVESTIGATORY PROBLEM, AIM OF THE RESEARCH AND THE RESEARCH QUESTIONS

As already mentioned, a number of authors do in their works mention a connection between the emotions and acquirement of knowledge (i.a. Maláč and Francová, 1975; Fernandes, 2004; Pekrun and Schiefele, 1996) and the problem solving (i.a. Linhart, 1976).

In connection to information mentioned by the authors it is not clear enough what exactly is the emotional source that influences the pupils during the instruction. By a logical consideration it can be concluded that the device is the teacher, but any other element of the education can serve as device as well. The emotional source can, however, exist outside the instruction, outside the educational content. The previous consideration deduces a very simplified conclusion, because, as it was already described in the theoretical part of this article, the instruction can be understood as acceptance-based or inquiry-based. The pedagogical theory does not provide a clear answer how does the pupil experiences the instruction and what is therefore the source of emotions he/she experiences. The positive influence of the emotions is very often mentioned, nevertheless, it is still unclear what kind of emotions do appear during the instruction and what is their source.

The qualitative research was aimed to find out what emotions do appear during the inquiry-based and acceptance-based learning of the pupils of the secondary level of the basic school (ISCED 2). This aim results from the assumption that the pupil experiences the acceptance-based instruction differently (during which they

acquires new knowledge most of the time passively) and inquiry-based instruction (during which is the pupil activated to acquire new knowledge by his/her own activity and problem solving).

For the needs of clearly focused research and possible receiving of concrete answers were the questions formulated as following:

   • Which emotions does the pupil experience during the acquiring of the new knowledge related to acceptance-based instruction and inquiry-based instruction?

   • Which emotions experienced by pupils in acceptance-based instruction and inquiry-based instruction are different?

   • Are the emotional devices in acceptance-based instruction and inquiry-based instruction different?

THE PREPARATION OF THE RESEARCH, THE SAMPLE OF THE RESEARCH, THE DESCRIPTION OF THE METHODS USED AND THE PROCESS OF THE RESEARCH'S EXECUTION

For the needs of execution of the research it was needed to create a set of different emotions that are typical for a human's behaviour. For this purpose the literature sources that deal with emotions from different point of views were used, i.a. the works of M. Nakonečný (2000, p. 16), I. Stuchlíková (2002, p. 120) or V. E. Fernandes (2004) can be mentioned. Concurrently with the use of information sources, there was an investigation on the sample of 12 teachers which ensured the reflexion of educational practice. The teachers were asked by a form of questionnaire with opened questions to write down emotions that they observe among the pupils during the instruction. There was given sufficient time to the teachers (5 days exactly) to think through the questions which eliminated the stress related to the quickly answered questions as well.

The results are written in the table number 1 where it is possible to make mutual comparisons and to observe the frequencies as well.

Emotion	Written in literature	Frequency in teacher's answers	Emotion	Written in literature	Frequency in teacher's answers
satisfaction	yes	12	enthusiasm	yes	6
gratitude	yes	8	affection	yes	0
shame	yes	7	love	yes	1
courage	yes	4	appreciation	yes	0
joy	yes	12	bitterness	yes	5
anger	yes	5	fear	yes	12
disgust	yes	6	fulfilment	yes	4
calmness	yes	8	astonishment	yes	3
trust	yes	6	boredom	yes	12
reconciliation	yes	2	guilt	yes	4
hate	yes	6	jealousy	yes	5
pride	yes	4	disappointment	yes	8
anger	yes	5	welfare	yes	0
amusement	yes	2	hope	yes	7
admiration	yes	6	contempt	yes	2
relief	yes	8	wrath	yes	12
sadness	yes	12	hopelessness	yes	7
expectation	yes	3	nervousness	yes	10
devotion	yes	4	panic	yes	7
amazement	yes	8	happiness	yes	2

Table number 1: a set of emotions occurring during the instruction

Characteristics of the teachers: the teachers were between 29 to 38 years old that means that the younger teachers were asked. There were 7 women and 5 men. All the teachers were certificated and they teach the following subjects: natural science, technical education, Czech language, geography, mathematics, physics, chemistry, IT and German language – these were the subjects covered the research. The teachers teach also some other subjects but there was no investigation performed and therefore are they not mentioned. The teachers teach at the secondary level of the basic school (ISCED 2).

In the table number 1 is mentioned a set of different emotions and it proves their occurrence among the pupils of the secondary level of the basic schools (ISCED 2). It is obvious that the teachers indicated the occurrence of the emotions in different degree which results in different frequency of them. However, the results are also

influenced by the fact that the teachers were on purpose given no other choices.

By this research it was investigatorily found out not only which emotions do appear among the pupils during instruction according to the teachers, but mainly also which emotions the teachers are aware of. From the performed investigation arises the fact that teachers are aware of the fact that the pupils experience some emotions during the instruction. However, this finding does not answer our research questions – what emotions does the pupil experience during different kinds of instruction and what is their source?

In order to answer the beforementioned questions it was needed to continue with empirical exploration. The next phase was therefore consisted of interviews and the direct observation that was performed according to the following plan.

The observation was performed during the instruction of the already mentioned 12 teachers that work at total 8 schools in the Olomouc Region. The instruction was always led by one teacher. However, the problem was in penetration into the depth of the selected problem area, the indication of problems and interception of the possible contexts. There was considered a possibility of recording a video and on the base of its playback afterwards to perform the identification of emotions experienced by the pupils. Nevertheless, it would be necessary to set a few cameras which can lead to distraction and the instruction in which the investigation was to be performed would differ from the instruction in a normal situation. As the main obstacle appeared to be a problem with the approval for recording the instruction from the legal representatives of the pupils. They were asked to agree with the recording for the purpose of the research and few of them did not approve it, or have not responded at all. For that reason the direct observation was used during which the identification of emotions took place on the basis of the observed emotional indicators. For this research was designated time in length of 12 months which enabled to perform observation in series, always by the same three observers. It was possible to capture emotions of the pupils more precisely and to compare the results of the observation not to the aim of demarcation of objective conclusions, but to create a source of knowledge for exploring the problems.

The observers were informed about the emotions and their characteristics and expressions, about the emotional indicators and also about the ways of recording them. For that purpose there were designed and created record sheets to enable synoptic, fast and reliable capture of the pupils' emotions.

There are described 40 kinds of emotions in the abovementioned table; their number, however, makes it difficult the further investigation. A lot of emotions is very hard to indicate, even more in conditions of the education, therefore it was desirable to perform their categorization and to work with the overarching emotions later on. The categorization of emotions was a subject of research of a number of authors such as J. R. Averill (1975) who, on the basis of clusters analysis, extracted six basic categories: love, joy, amazement, anger, sadness and fear. This classification is used for the needs of further investigation.

The research was taking part in two lines: "acceptance-based" and "inquiry-based". In the first one, the "acceptance-based" line, there was performed an observation on the 6 basic schools that are, because of the anonymity that helps to the objectiveness of the investigation, marked as A, B, C, D, E and F. Schools B, D and E were established by the villages (local authorities) and schools A, C and F were established by the cities (city authorities, city hall). In the second one, the "inquiry-based" line, there was performed an observation on another 6 schools that were for the same beforementioned reason marked as G, H, CH, I, J and K. Schools CH, J, K were established by villages (local authorities) and schools G, H, I were established by the cities (city authorities, city hall).

It was desirable to influence the conditions in which the investigation will take place so that we acquire information from both completely different kinds of instruction, i.a. acceptance-based one and inquiry-based one. There were interviews made with the teachers and the lessons of specific characteristics were selected on purpose to be divided into one of the two given categories. During the interview the teachers were given relatively detailed and specific information and characteristics of the inquiry-based and acceptance-based instruction because both the terms were not fully understood to all of the participants, however, their content was. After the complete understanding of all of the terms of acceptance-based and inquiry-based instruction there were performed observations that were aimed to check the correctness of the understanding of the given terms. It was confirmed that the teachers do understand the difference and on this basis were chosen the lessons for the observation itself in amount of 6+6.

The observers have been educated also in pedagogical psychology which was a good basis, however, they were instructed about what and how they should observe. They were introduced to the observation sheets that were supposed to help them record the results of observation. For one observer there were 6 – 9 pupils depending on the class abundance.

The participating observation was chosen for the purpose of the research. Pupils and teachers were not informed about the real subject of observation so they were not trying to affect or to alter their behaviour. Because there was used the unmasked observation the observers had been present in the lessons of a given subject in a given class already one lesson before their observation so that the pupils and teachers weren't considering the observer as a completely new element.

The aim of the observers was to capture the outside emotional expressions of the pupils, either oral (speech) or

mimic and pantomimic in accordance to the activities that were happening during the instruction.

THE RESEARCH FINDINGS

1) The first research line – the "acceptance-based"

The expression of love was captured only once and it was related to a relationship among the pupils. The pupils expressed joy when the teacher said that she wouldn't examine that day or that the pupil could go to the interactive board to perform a task. The joy also appeared when pupils were achieving excellent results during the written or oral examination. The joy was also noticed from a beautifully drawn picture that the pupils had to redraw from the book. The joy was obvious not only during the evaluation by marks but also during the praise by the teacher when it was not marked. The amazement was captured during notification that the teacher would not examine that day. The anger was noticed when writing an unexpected test and when the teacher warned a pupil who was not making any notes in his notebook. Furthermore, it was also noticed in connection with the reading when the pupil wanted not to read aloud in front of all classmates. The sadness was most of the time connected to negative evaluation of pupils. The fear was indicated in connection to going back home after getting a bad mark. Moreover, it also appeared when the teacher said that the pupils will be given next lesson a summary test because of their indiscipline.

The results of observation in accordance to the acceptance-based instruction show that the emotions expressed by the pupils are mostly not related to the content of education. There was an obvious tendency from the side of teachers to supress those emotional expressions from the side of pupils.

2) The second research line – the "inquiry-based"

The expression of love was indicated by a pupil who was displaying deep personal interest in the execution of the experiments in physics. The joy appeared mostly during the solving of the tasks that represented an obstacle the pupils had to overcome. It was also indicated in the relation to the positive evaluation from the teacher's side. As expected, the joy also appeared in connection to rewards – those were e.g. the feeding of a crayfish or showing an experiment to the whole class. The amazement appeared during the description of the phenomena which the pupils were not familiar with and facts that were related to the pupils' lives. During the inquiry-based activities there also appeared the "Eureka effect" – mostly in the situations when the pupil was thinking about a problem and solved it. The anger was clear in cases when the pupils were solving a certain task and they were not able to find the solution for some time. It also appeared in a moment of realizing that they were trying to solve the problem in a wrong way. If they were not able to find the solution for a long time and the situation seemed to be hopeless, the sadness appeared instead.

The fear was obvious in the cases of pupils who thought that the tasks they were supposed to solve were unmanageable or manageable but with lots of difficulties.

It is possible to notice that in case of inquiry-based instruction the emotions are more connected to the curriculum. The emotions appear to be consequences of the learning activities.

CONCLUSION

By the qualitative investigation, it was possible to find out that the emotions do accompany acceptance-based instruction as well as the inquiry-based one. They appear to be a natural part of instruction. In both types of instruction it was possible to encounter all of the investigated emotions – love, joy, amazement, anger, sadness and fear. It is remarkable that the emotions had in different kinds of instruction different sources that showed mutual elements.

In the acceptance-based instruction, it was obvious that emotions are caused mostly by the subjects standing outside the education. On the other hand, in the inquiry-based instruction it was characteristic that emotions are closely related to subject of education which could influence positively more permanent memorizing of the new knowledge and adaptation of the new skills and attitudes; maybe it could also help the linking with the knowledge, skills and attitudes that had already been acquired. This assumption that has arisen from the performed research needs, however, further investigation.

Another finding was the fact that teachers tend to supress the emotions of the pupils and sometimes even punish the pupils for them. These tendencies occurred within inquiry-based instruction less, however, there was the suppression of emotions from the side of teachers noticed as well. This activity appears to be in conflict with the published knowledge by a number of authors about the fact that emotions influence positively the permanence of acquired knowledge. It seems that the teachers are in fields of managing the pupils' emotions not fully competent.

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REVISION OF STUDY MATERIALS FOR VISUALLY AND HEARING IMPAIRED STUDENTS OF THE UNIVERSITY OF WEST BOHEMIA IN PILSEN

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ABSTRACT

In this presentation we will discuss several pedagogical and technological items related to university level teaching for students with special educational needs. Special needs education means the special education arrangements which are in place for people with disabilities. Counselling for persons with special needs is a special type of professional service designed to provide information, advice and recommendations in order to find a solution to problems related to personal or study issues. Its major task is to increase the proportion of successful graduates and prevent study failures and drop-outs. The aim is to support students' motivation and to help them address the problems they face.

This document contains recommended quality standard for teachers, administrators, support staff, and other university representatives providing appropriate educational services to visually and hearing impaired students. The educational services for these students are governed by mandates established in state laws and regulation. The standardized services mentioned in this document were developed to implement them.

In a first part, we will discuss the different types of limitations that applicants and students with special educational needs might have. In the second part, we will give an overview of the standardized service measures for visually and hearing impaired people. All the activities described in our presentation were developed and extended from the programme "Investments in Education Development", which is financed by the European Social Fund and the budget of the Czech Republic (project CZ.1.07/2.2.00/29.0016 "Equal opportunities for all - tertiary education for persons with special needs").

INTRODUCTION

The University of West Bohemia in Pilsen is a public institution of higher learning of a university type. The University of West Bohemia (UWB) was established on 9 August 1991. Today, nearly 14,000 students can choose from a wide range of bachelor's, master's, and doctoral (PhD) study programmes at 9 faculties. An ideal structure provides students with the most comprehensive study possibilities with the options of full-time, combined, or distance study in technical, arts and humanities, and medical fields.

The Centre of Consulting and Support Services with the UWB's Information and Counselling Centre (CPPS) provides personal, social, legal and educational counselling for prospective students as well as enrolled students with special educational needs. Counselling is a specific activity by means of which counsellors help their client (Act No. 111/1998, Higher Eduction Act). Counsellor are specialists in particular fields – social workers, psychologists, psychotherapists, lawyers, etc.

CPPS helps with creation of alternative settings to deliver the highest quality services possible. Individualized education plan is the written document of action for students with special education needs describing education program a services required by the student. Plan identifies learning expectations that are modified (no alleviations) and is upgraded periodically (every 6 months). Each plan includes a report of specialized health clinic, a diagnostic report, a statement of measurable goals, a description of any modification, a list of aid tools used, an informed consent of the student.

The consulting services are complemented by the organization of assistance, the possibility to borrow mobility aids for the course of studies, offer of correction work, practice, and short-term internships aboard. For the physically disabled and weak students the UWB offers a physical education class, in which students are assigned on the basis of a doctor's recommendation. Teaching is focused to purposefully influence the weakened body in terms of prevention, compensation, and recovery. Students can enjoy free use of study rooms equipped with special information technologies.

The aim of working with students with special educational needs is to compensate the negative consequences arising from their disabilities and equalize opportunities for them. It is about creating conditions that will help them realize themselves in all aspects of their lives.

The special education needs services coordinators work to provide a reasonable study environment to students with special needs and to ensure that university programmes and activities are accessible to individuals with disabilities.

POSSIBLE LIMITATIONS FOR PEOPLE WITH SPECIAL EDUCATIONAL NEEDS AND METHODS OF THEIR ELIMIMATION

Students in academic classes come from a wide variety of backgrounds and equipped with different learning styles.

Below we mention examples of methods that employ principles of universal design at the University of West Bohemia which obviate possible limitations make studies accessible to people with a wide range of abilities a disabilities.

Assessment: Regularly assess student progress using multiple, accessible methods and tools and adjust instruction accordingly. Methods used: Assess group performance as well as individual achievement.
- *Access to resources:* Ensure that all study materials, notes, and other information resources are flexible and accessible to all students (see below: "Standardized Service Measures").
    - Methods used: Choose printed materials and prepare them early enough to allow students the option of process them further and to allow adequate time to arrange for alternate formats.
- *Access to information:* Use multiple accessible instructional methods.
    - Methods used: Use multiple modes to deliver study materials such as internet-based communication, Elearning-based communication, collaborative learning options, hands-on activities, field work, etc.
- *Physical access:* Ensure that activities, materials, and equipment are physically accessible to and usable by all students.
    - Methods used: Develop safety procedures (internal legislation) for all students,

Inclusive education: Ensure that inclusive education is a right, not a privilege. All must have the access to the general education curriculum.
    - Methods used: Develop internal legislation, focus on regulatory compliance.

Interaction: Develop effective interactions between students and academic and administrative staff and between students, assure that communication methods are accessible to all.
    - Methods used: Support group work, joint seminars, team work and project work for which learners must support each other.

Feedback and evaluation: Provide specific feedback.
    - Methods used: Create a system of quality standard, let student participate in quality assessment.

Application of universal design principles must not affect the educational requirements and standards. By making environment and services accessible to people with special educational need can contribute also the others.

STANDARDIZED SERVICE MEASURES FOR VISUALLY AND HEARING IMPAIRED PEOPLE

The UWB takes medical aspects, i.e., a report of specialized health clinic as input information in order to apply standardized service measures for visually and hearing impaired people. Those people display wide range of vision a hearing difficulties an varying adaptation to vision and hearing loss, i.e. the student population includes persons who are blind or deaf and persons with varying degrees of low vision or hearing. In addition, students with same or similar degrees of vision or hearing loss may function very differently due to their family and educational background (case-by-case basis). Some are used to read a write, others use large print, computer and other electronic devices, braille line and printer etc.

The practical impact of these measures on communication and working procedures, which schools must select with respect to a particular student so that they enable the student to adequately pass through a given field, is the

aim of the CPPS activities. The measures are the result of an agreement between a visually or hearing impaired person, CPPS, and the faculty where the student is enrolled.

The term assistive technology refers to any device that helps visually and hearing impaired persons to communicate. With the rapid development of digital technologies, now devices are becoming available to help in daily lives of disadvantages.

Assistive technology has a positive effect on the development of student´s overalls self-confidence and self-esteem. Students are taught the skills necessary to approach their special needs in most beneficially way. Access is fully in compliance with the general curriculum offered by the university.

1. Standardized service measures for visually impaired people

It follows from the above mentioned that those persons whose disability enables them to work with eyesight with certain limitations and those working with printed documents or voice outputs (or a combination of both) constitute the target group.

An increase in time allocation, where the time limit that is usual for a given task is increased, is among the standardized service measures. Increasing the time limit is dependent on the type and level of disability and the type of assignments and ranges from 25 to 100%. Students are also offered the option of occasional, temporary, or continuous modification of the curriculum in one or more subjects. If, for any reason, it is impossible to use the special technology available and thus ensure the independence of the disabled person, the CPPS offers them the opportunity to take advantage of an occasional, regular, or permanent academic assistance, which includes primarily guided tours (visits to new places or places that are not easily accessible), administrative assistance (visits to the study department, library, special study room), or help in practical training, or sports activities.

Revision and processing of study materials belong to the most significant standardized service measures. This is to arrange for written documents in such a form that is accessible to the visually impaired using special technology:

Editable electronic document
- An editable document has an A4 paper format, portrait layout, and always 2.5 margins.
- All documentation is processed for a Microsoft Word text editor (version 7.0 and higher, coding ISO 10646, MIME type: text/plain, letters are stored in the so-called ASCII code); the format is designed as a continuously flowing text (with paragraph breaks and without hard page breaks) with automatic formatting features (automatic contents using styles in headlines and hyperlinks).
- The text does not contain header, footer, page numbers, blank lines, tabulators, font formatting, or underlined text.
- The editable electronic document is stored in such a special format that allows archiving of the text structure.
- The adapted document is processed so that a tactile eight-point output (printing on Braille printer) is possible.
- Modifications of the original text are in tables, charts, graphs, mathematical and chemical formulas, musical notation, photos and images, etc.
- In terms of contents, the graphics is divided into accompanying (aesthetic), and informational (carrier) graphics.
- The basic rule for editing of the original text: Interpret as much of the original text as possible and retain the supporting information.
- When editing graphs, tables, charts, the pictorial design will be cancelled and replaced with a text option containing an explicit definition of the stated values.
- When adjusting mathematical and chemical formulas and music recording, we use special processing software (e.g., MathType, Lambda, LeTeX, Cakewalk Sonar, Catetalking).
- The image contents with the contextual meaning (illustrative and decorative pictures are not described) are reproduced verbally and separately.
- Tables, charts, graphs, mathematical and chemical formulas, musical notation, photos and images are included on a separate page as an attachment if they do not form a fixed part of the text. The attachment is tied with the text by a hyperlink. Only a brief description is given in the text.

Non-editable document, non-editable electronic document
- A non-editable document is a paper document.
- A non-editable document is intended for further use with the help of camera magnifying lenses.

- A non-editable electronic document is a document designed for work with eyesight, is not accessible to the reader, and cannot be edited.
- A non-editable electronic document is intended for use with the help of additional software lenses, enlargers, deducting and assistance programs (SuperNova, ZoomText, FineReader).
- This concerns the following an image formats: PDF, JPG, BMP, GIF, PNG, TIFF, EPS, etc.

Content records of the subject learnt
- This concerns the record of study notes.
- This is the type of record in which the emphasis is placed on the substantive contents of a message (not the form).
- The record is acquired in real time; as a rarity, it may be completed subsequently as an excerpt from the simultaneous transcription.
- The record is made with the knowledge of the recorded issue.

Tactile document, tactile graphics
- Tactile document is a document that is printed in the Braille system, which allows visually impaired people to perceive the embossed objects.
- The structure of a tactile document is governed by the national Braille six-point standard language norm.
- This concerns for example plans, maps, artwork, etc.
- The tactile graphics are also reflected in models created by 3D printers.
- This concerns tactile books, cartographic documents, music, etc.

Musical output, audio document
- An audio document is a document in which information is provided by means of a sound recording.
- It is mostly a complementary method of processing of study and information materials.
- An audio document is always created on the basis of the consent of a presenter.

To apply above mentioned standardized service measures for visually impaired people school has to purchase essential equipment (assistive devices and software).

A screen reader is a form of assistive technology, it is a software application that attempts to identify and interpret what is being displayed on the computer. This interpretation is represented to the user with text-to-speech, sound icon, or a braille output. Microsoft Windows have included the Microsoft Narrator light-duty screen reader, Apple Inc. Mac operation system includes VoiceOver. The most widely used screen readers are:

Table 1. Screen reades

Screen reader / Author	Platform	Description
Dolphin Supernova / Dolphin Computer Access	Windows	Screen reader supports MSAA, Java and Pdf. Includes a screen magnifier and the output to Braille devices. Offers trial download. Applicable for education, job and leisure use.
ChromeVox / Google	Chrome OS, Linus, Mac, Windows	Screen reader for Chrome. Free.
JAWS / Freedom Scientific	Windows and DOS	Screen reader supports MSAA, Java and Pdf. Provides access to computer applications and the internet. Includes speed synthesizer and computer sound. Applicable for education, job and leisure use.
VoiceOver / Apple Inc.	Mac OS X, iPhone, iPad, iPod, Apple TV	Offered for free with any Apple product, no installation or set up. Offers more than 30 languages. Reads web pages, mail messages, SMS, ets.
Window-Eyes / GW Micro	Windows	Screen reader support MSAA. Includes the output to Braille devices. Applicable for education, job and leisure use.
ZoomText / Ai Squared	Windows	Includes a screen magnifier and NeoSpeed synthesizers with human-sounding voices. Offers trial download. Applicable for education, job and leisure use.

There are many other ScreenReader creators all over the word (capture Assistant / Renovation Software, ClickHear / gh LLC, COBRA / BAUM Retec, Emacspeak / T.V.Raman, HAL / Dolphin Computer Access, Kurzweil 1000 / Cambium Learning Group Inc., Mobile Speak / Code Factory, Orca / GNOME, Simply Talker / EcoNet Ingernational, Spoken Web / Eyal Shalom).

Other unnecessary computer tools are extensive screen magnification programs. Software allows the user to enlarge text and graphical information displayed on the screen. The most widely used extensive screen magnification programs are:

Table 1. Extensive screen magnification programs

Destop Zoom / LittleGemsAdmin	Windows	Screen magnification software is a complete zoom tool, free download.
Supernova Magnifier / Dolphin computer Access	Windows	Screen magnification software supports users with enlargement of information displayed on the screen.
ZoomText Magnifier / Ai Squared	Windows	Screen magnification software supports users with enlargement of information displayed on the screen.

Many visually impaired persons are currently attracted to the idea of operation their pc, notebook, tablet etc. by voice. The is still no system offering easy verbal interaction between human and machine, but there are more likely complex solution that work quite well. One way to communicate is the voice recognition software (IBM Via Voice, J-Say, Dragon Naturally Speaking).

Another support could be seen in use an application for automatic transcription of spoken dictation into written form. Programs help visually impaired persons work by using speech (MacBasics, Speech Recognition for Windows, NEWTON Dictate, SpeechTech MegaWord etc.).

Aid tools used by the visually impaired persons during lectures
- notebook, tablets
- dictaphone
- scanner
- optical aid tools (e.g. magnifying lenses, monocular)
- optoelectronic devices (CCTV magnifiers)
- braille line, computer driven Braille printer, Braille dymotape machine
- watches and other devices for counting time (a pendant with a built-in clock and voice output, watches and an alarm clock with palpable signs)
- measuring tools with voice or tactile output
- school supplies (talking calculator, drawing accessories, exercise books for the visually impaired)
- special devices:
  o high contrast keybord
  o large key keybord
  o alternative mice
  o communication devices (button switches, communicators, playback communicators)

2. Standardized service measures for hearing impaired people
Hearing impaired individuals use oral or manual means of communication (or combination of both). Oral communication includes speech, lip reading, and the use of residual hearing (with devices). Manual communication involves signs and finger alphabet (fingerspelling). Total communication is method of instruction and is a combination of the oral method and usage of sign language and finger alphabet.

Interpretation
- Interpretation ensures a communication between a speaker of the spoken language (e.g. the hearing person) and the user of a sign language (i.e., people with hearing impairments).
- Sign language is the language of communication for the deaf and students with severe hearing impairment; it is their native sign language.
- The Czech sign language and signed Czech are considered sign languages. Signed Czech is an artificial language system facilitating communication between the hearing and the deaf, which uses means of the Czech language, and that is simultaneously articulated aloud or without signs when the signs are expressed. The sign language has two components that can operate simultaneously:
  o The manual component is the part which is produced by the hands; this concerns the signs of the sign language.
  o The non-manual component is the part consisting of the head, face, and torso; the non-manual component constitutes the means to express the grammar of a sign language.
- Interpreting services can be delivered in multiple modalities (on-site, telephonic interpreting, video remote interpreting).
- The finger alphabet is a visually motoric tool for communicating with hearing impaired persons.
- The finger alphabet uses formalized and standardized positions of fingers and a palm of one hand to display individual letters of the alphabet.
- The finger alphabet is an integral part of the Czech sign language.
- The finger alphabet is used to spell foreign words, names, and technical terms.

- There is a one-and two-handed finger alphabet.

In the presence of a sign language interpreter the following should be ensured:
- Teachers should provide to the interpreter, in advance, materials to the discussed topic (e.g., a written presentation) so that the interpreter can prepare for a lecture (especially if it will be necessary to consult technical signs).
- The interpreter is a mediator between the teacher and the student; the teacher always communicates directly with the student (maintains eye contact).
- External influences should be eliminated (e.g., noise).
- The lecturer must pronounce clearly and loudly.

Content records of the subject learnt
- This concerns the record of study notes.
- This is the type of record in which the emphasis is placed on the substantive contents of a message (not the form).
- The record is acquired in real time; as a rarity, it may be completed subsequently as an excerpt from the simultaneous transcription.
- The record is made with the knowledge of the recorded issue.

To apply above mentioned standardized service measures for hearing impaired people school has to purchase essential equipment (assistive devices and software). There are several types of assistive listening devices helping amplify the sounds (hearing loops, personal amplifiers etc.) and augmentative and alternative communication devices (range from a simple picture to a computer program).

Aid tools used by students in the classroom (devices available for communicating face-to-face)
- Induction loops
- Communicator
- FM system
- Personal amplifiers
- Volume-control earpiece
- Vibrating Alarm clock

Other aid tools (devices available for communicating by phone)
- TTY machines (typewriter keyboard displaying typed conversation onto a readout screen or printing on paper)
- Software for voice recognition software
- Pager

Students also have access to the main dictionary (available on web) a special dictionaries of Czech sign language (signs for biology, geography, mathematics, technology, sports etc).

STORAGE AND DISCLOSURE OF ABOVE METIONED MATERIALS

Libraries for the visually impaired are perceived as full-fledged libraries. A CPPS's special library of study materials for the visually impaired is a collection of information in electronic form. Documents are stored in different formats; it is a hybrid library.

Study materials are accessible only to the CPPS's registered clients (i.e., university students and external visually impaired clients).

STATISTICS

The special needs services coordinators work to provide a reasonable study environment to students with special needs and to ensure that university programmes and activities are accessible to individuals with disabilities.

Table 3. Number of students with special needs studying at the University of West Bohemia

	2015	2014	2013	2012
students with visual impairment	4	1	5	4
students with hearing impairment	2	2	2	2
students with mobility impairment	12	10	7	7

students with psychological disorders	17	9	8	4
students with learning disability	73	58	38	35

CPPS carries out every year a questionnaire concerning standardized service measures for students with special needs. The objective is to estimate the impact of those arrangement on subsequent educational. Questionnaires are distributed personally to students via study departments. Participant are students with special educational needs enrolled on University of West Bohemia.

Used method of collecting information: questionnaires.

Questionnaire design: closed-ended questions.

Target group: student with special educational needs enrolled on University of West Bohemia.

Sample size: up to 110 students per year.

Used methodology of sampling: selected group sampling.

CPPS kept respondent identities confidential (regulatory compliance of ethics), if possible, anonymity was ensured (CPPS is not able to link student names to the questionnaire). All students singed the informed consent with survey participation.

Main results for students with visual and hearing impairment:

Significance of CPPS for successful studies

Significance of CPPS for successful studies
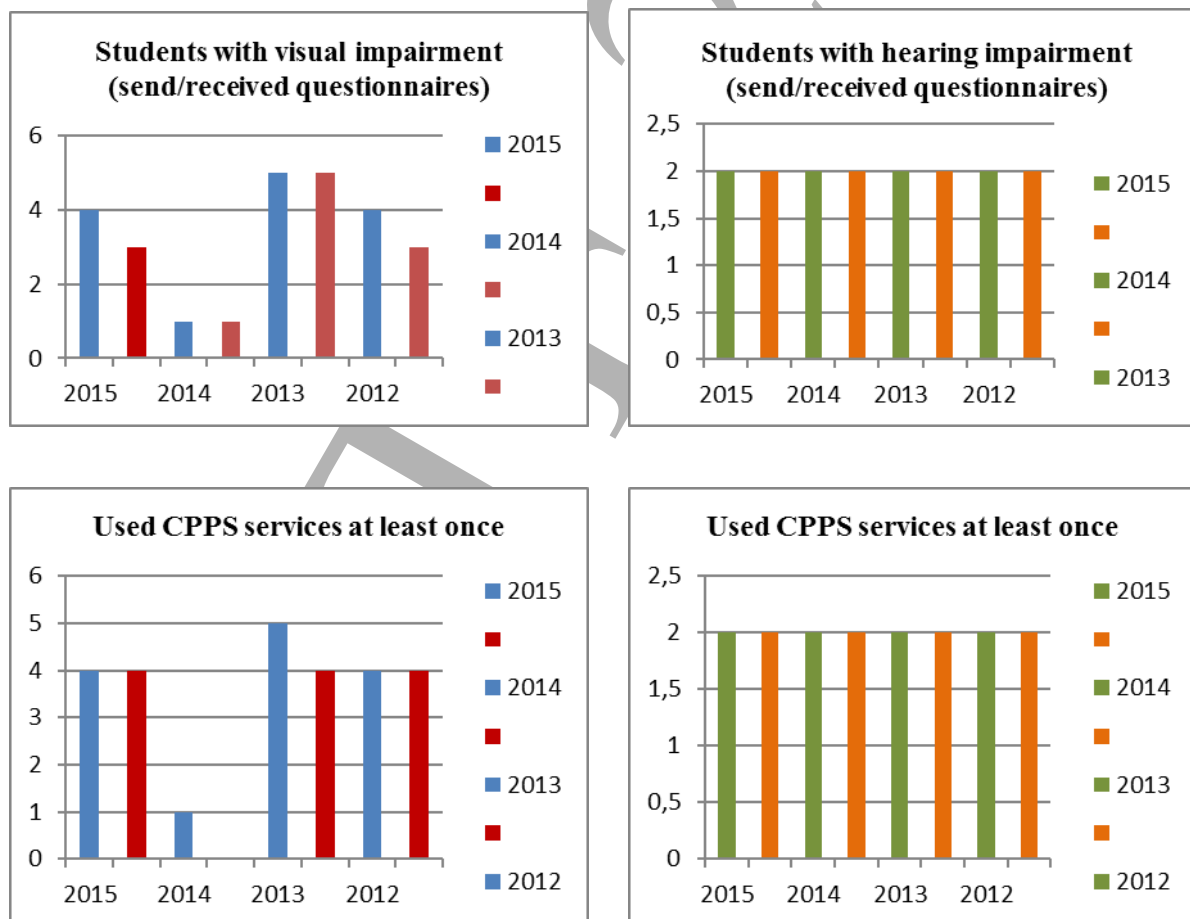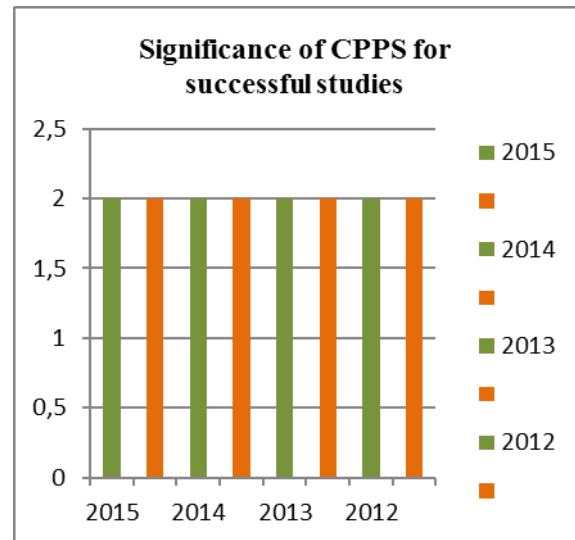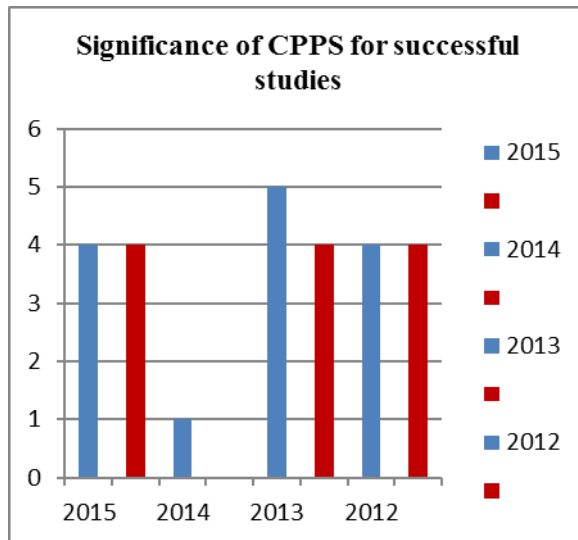
CONCLUSION

The main goal of activities offered by CPPS is to create an inclusive non-discriminatory environment. The activities are designed to help applicants and students with special educational needs to fulfil basic human rights, incl. the right to education. The aim is to achieve a place that is accessible, comfortable and safe for everybody.

The fundamental purposes of special education are the same as those of regular education. Special education services provided by CPPS to students with special needs are standardized. However, it is necessary also to provide special supplementary services suitable for each individual.

All students with special educational need are entitled to an appropriate education and services that lead to an independent living, productive engagement in the community, participation in society. Access to intellectual development must be based on individual educational need.

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ROLE OF DNA STYLING: THE CREATION OF LOCAL BRAND IDENTITY RECOGNITION FRAMEWORK

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ABSTRACT

This paper reviews the significance of current design practice and its future contribution for establishing product DNA Styling of brand identity based on Malay culture influences. In the paper, we suggest to explore the design DNA of product that could represent brand and identity, especially for the establishment within a Context of Malaysian Design. In regard with the lack of clear theory exist in current literatures pertaining to characteristics of product DNA in design embedded, based on the representation of mind by designers' from the perspective of culture influences in Malaysia. An advanced theory regarding the design DNA of Malaysian design will be produced. The research framework was developed based on DRM, to uncover 3 Level of gaps beginning with sampling design research methodology and inquiry, consumer expectation & expert designer about cultural influence and the gap between abstract-semi concrete-concrete design levels. Thus, the objectives of this framework is to propose a future study to uncover the method use by designers interpret styling DNA based on Malaysian culture influences. This theory will benefit local designer and researcher to further study on local brand identity recognition by exploring it to other domain of research.

INTRODUCTION

The brand identity is tangible and appeals to the sense, which is u can touch it, see it, touch it, hold it, hear it, and watch it moves. Brands identity fuels recognition, amplifies differentiation, and makes big ideas and meaning accessible. This research is exploratory with intention to develop Malaysian brand and identity embodied agent through design methodologies that can be used as a unified point of reference for product design. Traditional design methodology recommends that design should be moved from existing problem descriptions to an abstract solution model. The abstract models are then developed towards concrete solutions via functional principles and principle structures. In product design, especially in the interpretation of visual appearance, concepts such as form and shape are used when describing the form of object. Here, the researcher want to explore whether the designer is using some kind of Malaysian brand and identity embodied agent characteristics structure principles in designing a product. Items that represent the characteristics of Malaysian brand and identity can based on (1) Icon, sign and symbol; (2) Object and artefact; (3) Building and architecture; (4) Art, culture, heritage, decoration and costume; and (5) Nature resources. However, there is no clear evidence exist in current literatures relating to characteristics of Malaysian brand and identity in product design embedded through the representation of mind by designers' from the perspective of Malaysian items influences in Malaysia. Thus, the objectives of this framework are: (i) To uncover designers' interpretation of product "deoxyribonucleic acid" (DNA) based on Malay culture influences, (ii) To understand the influence of incremental radical design that changes respective to brand identity, and (iii) To confirm the similarities of characteristics of product DNA representation in the context of syntactic that can be generalized as a visual brand recognition for Malaysian product design.

AN OVERVIEW OF DESIGN THEORIES

How and what is the differences between research conducted and research investigation was defined by Frayling

(1993), Cross (1999) and Falman (2008). There is a finding from Frayling 1993, which he defined a PhD student. Based on his research and respondents of a 6 PhD student, he defined that every student especially in design field, they was conducted a research, they are using a 3 approaches which is a research into design, a research through design and a research for design, which determine to design history in industry method and through practice. Dis is how the PhD student investigating their research, it means that how the PhD student conducted their research, But in 1999, cross, he agreed with Frayling, but based on cross finding, he defined the activity to see what was the focus of investigation, and he defined that all the PhD student, even though they conducted the research with 3 approaches but it always have a focus group which is, to the people to the process and to the product. However, Fallman in 2008, he found out that even though Frayling and Cross mentioned about how the research conducted and what of the focus group research, but every activity has been done by those PhD student can divided into three design area which is design practice, design studies and design exploration. This is current trend of the design activity especially in art and design, but this kind of research actually from this scholar is using a design research based on engineering design studies. So this is the overview how this research investigation activity influence my research activity.

LITERATURE REVIEW: A FOUNDATION OF DESIGN RESEARCH MODEL
This research explores the notion that product DNA is fundamentally a sign of human embodied mind in product design. There is "no clear theory" exist in current literatures pertaining to characteristics of product DNA in design embedded based on the representation of mind by designers' from the perspective of Malay culture influences in Malaysia. However, Toni-Matti Karjalainen (2004) has mention that - three examples of topics recently become popular for product design research in Malaysia

- The first topic is about *brand image and identity*;
- Second, *visual recognition of brand and*
- Third, products has become a *central competitive factor within various product categories.*

Abidin in his discussion mentioned about the comprehension, the second mode, is about making 'sense of things', such that products are "understandable to their users" (Krippendorff & Butter, 1984). Through comprehension, we understand characteristics such as level of quality and nature of the product; the product describes its operation, expresses its properties, and exhorts certain types of action or even non-action; it informs and advises about itself. In comprehension, perceivable references in the product point towards the product itself, providing meaning related to the nature, behavior, properties and essential physical characteristics of the product. Semiotically, indexical and symbolical signs create references for comprehension of the product. For example, a typical door handle is an example of an indexical sign, describing operation and function. The hard and shiny quality of a stainless steel surface or the sturdiness expressed by a Jeep, are examples of symbolic references, referring to the nature of the product (Abidin, 2012).

In product design, especially in the interpretation of visual appearance, concepts such as form and shape are used when describing the form of object. Traditional design methodology recommends that design should be moved from existing problem descriptions, which is the problem, described depends on an individual perspective of a person. And abstract solution model, which is abstract functional representation and concrete form representation – to open up new solution space (Blessing and Chakrabarti, 2009). The abstract models are then developed towards concrete solutions via "functional principles" and "principle structures". The argument on the Malaysian identity establishment is always referring on the three dominant races (Malays, Chinese and Indian). Which in our point of view, there is a big gap of similarity and very difficult to be align as local design representative. In this case, we agree with The Brand Meaning by Keller (2001) introduces a comprehensive new approach (See figure 2), the customer-based brand equity (CBBE) model. We will reframe the steps for building a strong brand:

- establish the proper brand identity
- create the appropriate brand meaning
- elicit the right brand responses
- forge appropriate brand relationships with customers
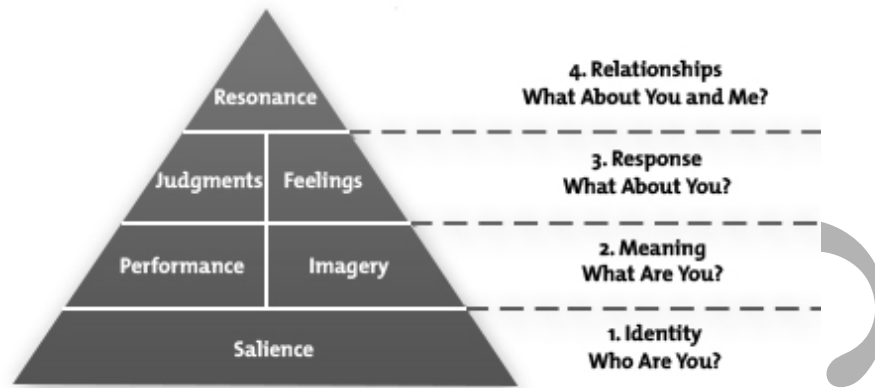
Figure2. The Brand Meaning developed by Keller (2001). A. Customer-based brand equity pyramid, B. Sub-dimensions of brand-building blocks, C. Customer-based brand equity pyramid

EXPLORATORY INVESTIGATION

The study will restrict to the product design industries and academia. The selection of respondent is within three hundred respondents will be involved as samples to answer the questionnaires based on a descriptive study and empirical research through design activities. It seeks answers to questions, which were formulated on literature reviews and on what is often practiced by designers in product industry and academia by focusing on three elements such as product design, form development and design thinking. These three different levels involve: 1) Different level of form development level such as explorative, explanatory and persuasive; 2) Different level of career development such as expert, senior, intermediate, novice and student; and 3) Different level of learning/work such as product design art-based and science-based. The process of investigation is expected to be iterative. There is a continuous need to re-look at the research questions and sources of data and to refine them after verifications from new findings.

This study is based on a descriptive study and empirical research through design activities. It seeks answers to questions, which were formulated on literature reviews and on what is often practiced by designers in product industry and academia by focusing on three elements such as product design, form development and design thinking. The process of investigation is expected to be iterative. There is a continuous need to re-look at the research questions and sources of data and to refine them after verifications from new finding. As a multivariate procedure, it is used when there are two or more dependent variables, although statistical reports provide individual p-values for each dependent variable in order to test for statistical significance. Consisting of six levels of brand identity. Consisting of six levels of brand identity (Freling and Forbes, 2005):

- Product information only (i.e. no brand identity).
- Product information + a sincere brand identity.
- Product information + a competent brand identity.
- Product information + an excited brand identity.
- Product information + sophisticated brand identity.
- Product information + a rugged brand identity.

DESIGN RESEARCH FRAMEWORK

There are several model of design to approached sampling of design research methodology Traditional design methodology recommends that design should be moved from existing problem descriptions to an abstract solution model (Blessing and Chakrabarti, 2009). Blessing who develop Design Research Methodology (DRM) mention to stresses the need "to facilitate the research development of appropriate means to support design in DNA styling related with identity and its management based upon a fundamental to understanding of design. As mentioned in the introduction section, no clear evidence exist in current literatures relating to characteristics of Malaysian brand and identity in product design embedded through the representation of mind by designers' from the perspective of Malaysian items influences in Malaysia. Thus, we have to search the research question, which is; First, HOW do designers assess product DNA through their sketching assignments with respect to proposed ideas? Second, WHAT types of important elements exist in designers sketch and what is the characteristics of these elements? And third, HOW, then, are elements product DNA by designers with respect to completeness of brand identity?
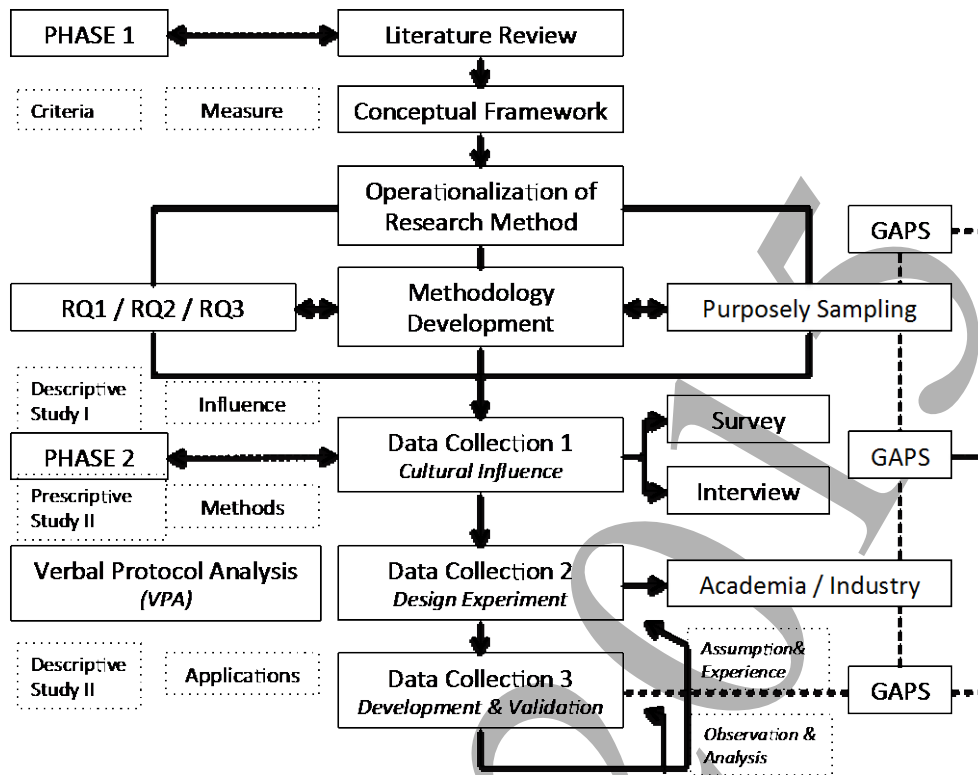
Figure 4. DNA Styling for Local Brand Recognition Research Framework

To confirm the research question we come out with the objectives of this study are: First, to uncover designers' interpretation of product DNA based on Malay culture influences; Second, to understand the influence of incremental radical design that changes respective to brand identity and; Third, to confirm the similarities of characteristics of product DNA representation in the context of syntactic that can be generalized as a brand identity for Malaysian product design. For these reasons, three different levels of form development level such as explorative, explanatory and persuasive put in practice. In order to conduct the investigation of DNA styling to the establishment of local brand identity, we suggest a design framework (see Figure 4) and define three research gaps as an agreement to develop a solid line of argumentation (Blessing and Chakrabarti, 2009). The gaps divide into; Level 1, the gap of sampling design research methodology and inquiry; Level 2, the gap between Consumer Expectation & Expert Designer about cultural Influence; Level 3, the gap between abstract-semi concrete-concrete design levels. A local brand identity should going through the different phase in research methodology, in this framework, we designed the verification a research approached into four level, considering the research Descriptive study, continue with Prescriptive Study ii, and repeat by Descriptive Study ii. The reason why we do the process is too explore whether the designer is using some kind of Malaysian brand and identity embodied agent characteristics structure principles in designing a product in furniture. Items that represent the characteristics of Malaysian brand and identity can based on Icon, sign and symbol it also can be object and artefact, building and architecture, art, culture, heritage, decoration and costume, nature resources.

We develop mixed methods through qualitative inquiry and quantitative inquiry to uncover the designer's think aloud. A kind of protocol suggested by Yin (1994) adapt with the inclusion of four sections: (1) Overview of the case study project; (2) Field procedures; (3) Case study question; and (4) Guide for the case study report. A video observation based on verbal protocol analysis (Abidin et. al., 2009) of designer sketching activities at several design academies and practitioners in Malaysia will be conducted. It will be strengthened by semi-structured interview on experts on evaluation of selected sketches in the analysis of syntactic representation (Warel, 2001) in relation to Malaysian brand and identity embodied agent characteristics in product design (Abidin et. al., 2014). At the end of the studies, Malaysian brand and identity embodied agent for product design will be produced. This finding will benefit local designer and researcher to further study by exploring it to field of research. In this stage, a different level of career development such as expert, senior, intermediate, novice and student and different level of learning/work such as product design art-based and science-based (Anwar et. al., 2014). For sampling, there is no rule on the amount of respondent and the quality of the respondent is important to gain an accurat e data (Openheim, 2014 and Patton, 1990). Unless it is very clear that a sample is randomly drawn from the very

population it is supposed to represent, the external validity of a large group study cannot be inferred from the sample. External validity can only be addressed by judging the logical probability that other populations share the germane characteristics of the individuals who did not participate in a given study (Ninnes et. al., 2002). Therefore, we suggest a total of 400 respondents from university's students contribute with product design course from North Coast, South Coast, West Coast and East Coast University will participate in the study.
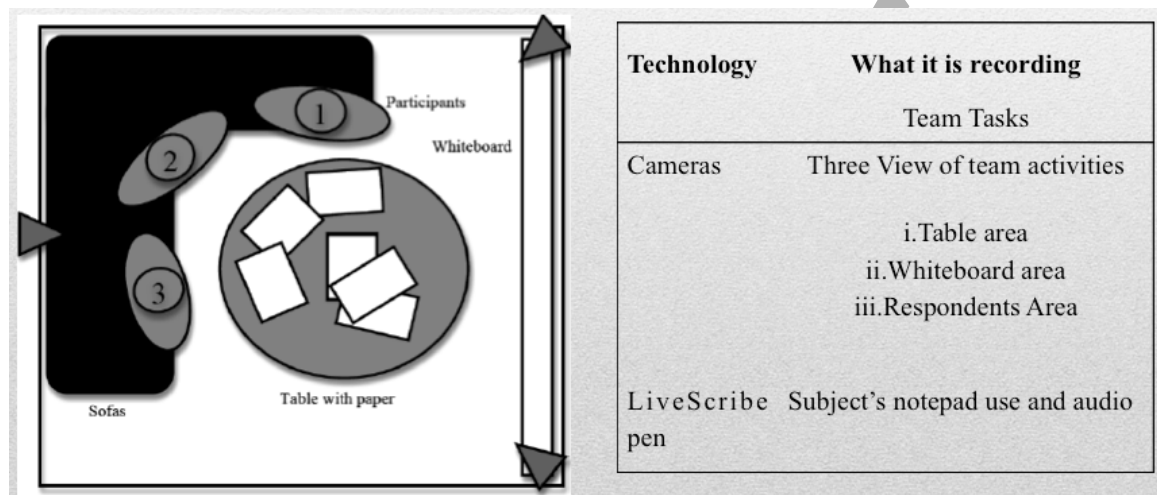
Figure 5. Artificial set up by Cash (2012) for VPA group observational set up.

Recommendations in the form of guidelines, theories, and tools will be generated to establish and improve systematically in the areas of brand identity based on product DNA in design based on Malay culture influences, at the end of the studies, an advanced theory regarding the styling DNA of Malaysian design will be produced. This theory will benefit local designer and researcher to further study by exploring it to other field of research. Initiative should be taken by Malaysians designers to promote Malaysian product design identity. Researches on brand image and identity, design in relation to DNA investigation and user perceptions of local products should be carried out at the largest setting. This should be supported by the education, which is academia and research industry in terms of opportunities and recognition (Karjalainen, 2007). The future challenging in Malaysian product design identity will be on the reliability, verification and validation (Abidin et. al., 2014). Reliability is the quality or state of being and the extent to which an experiment. Test or measuring the procedure yields the same results on repeated trials (Abidin et. al., 2009). Verification of results is concerned with establishing the truth or accuracy and the predictive and explanatory power of proposed theories, methods and models. Verification can look into the concepts of logical verification and verification by acceptance. Validation of research results is concerned with established the relevance and meaningfulness of theories, methods and models. This is how the structured research conducted with phase one, follow by phased two and three. The first issue will be resolved by the first phase which is the gap of sampling design research methodology and inquiry, follow second phased is the gap between consumer expectation and expert designer about cultural influences and third phased is the gap between abstract –semi concrete design levels (Anwar et. al., 2015).

RECOMMENDATION FOR FUTURE WORKS
The research could give and impact in establishing the product DNA in introducing the Malaysian brand identity designers will benefit from the usage of product design DNA that will include Malaysian brand identity. This research is an innovation of Malaysia product design in terms of research and development as well as academia in product DNA. We recommend in the form of guidelines, theories, and tools will be generated to establish and improve systematically in the areas of brand identity based on product DNA in design based on Malay culture influences. The establishment advanced theory regarding the styling DNA of Malaysian design will be produced. This theory will benefit local designer and researcher to further study by exploring it to other field of research. Initiative should be taken by Malaysians designers to promote Malaysian product design identity. Researches on brand image and identity, design in relation to DNA investigation and user perceptions of local products should be carried out at the largest setting. This should be supported by the education which is academia and research industry in terms of opportunities and recognition (Anwar et. al., 2015). The future challenging in Malaysian product design identity will be on the reliability, verification and validation. Reliability is the quality or state of being and the extent to which an experiment. Test or measuring the procedure yields the same results on repeated trials. Verification of results is concerned with establishing the truth or accuracy and the predictive and explanatory

power of proposed theories, methods and models. Verification can look into the concepts of logical verification and verification by acceptance. Validation of research results is concerned with established the relevance and meaningfulness of theories, methods and models.

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ROLES OF MENTORING FROM DUAL PERSPECTIVES:
A MUTUALLY BENEFICIAL EXPERIENCE

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ABSTRACT

Mentoring has a longstanding history and is being hailed as an important strategy for teacher professional development. Anderson and Shannon (1988) mentoring model summarised three major components on the roles of mentoring. In this qualitative study, we focused on two mentoring relationship, which are as a 'Care Giver' and a 'Nurturer'. We then explored these components from two different perspectives, the senior mentors and the junior mentors. Both groups were tasked to mentor teacher candidates from the graduate initial teacher education programme known as the Master of Teaching or MTeach, offered at a university in Brunei Darussalam. The three senior mentors were categorised as the more experienced while the four junior mentors were the less experienced and categorised as new graduates from the MTeach programme. Data were collected from an open-ended survey aimed in obtaining their views and experience in their journey as an MTeach mentor. The findings revealed that both groups gained mutual benefits from the mentoring despite the differences in their experiences, such as both were able to have time to reflect on quality of teaching and learning, gained a new enthusiasm for teaching, learnt new ideas and gained new perspectives on teaching and learning.

Keywords: Mentoring Benefits, Perspectives, Graduates

INTRODUCTION

According to Fletcher and Mullen (2012), mentoring in educational contexts has become a rapidly growing field of practice and study around the globe. Mentoring is one of the major aspects of teacher education programmes, often a collaborative effort between university supervisors, teacher educators, school administrators, supervising teachers, and pre-service teachers (He, 2010; Schwille, 2008) to prepare better teachers for the increasingly challenging classroom environment. This is because beginning teachers face numerous challenges during the first few years of teaching, including student motivation, planning and implementation of curriculum, instruction, and various other roles and responsibilities (Roehrig, Pressley & Talotta, 2002). This complexity, according to Roehrig and colleagues (2007) coupled with the increasing pressure can place a significant amount of stress on the new teacher adversely impact his or her effectiveness in the classroom.

DEFINING MENTORING

Halai (2006) stated that there is a lack of consensus on one single or standard definition of mentoring. However, according to a review of a large database on mentoring articles, Dominguez (2012) found that most used either Kram's (1985) definition or that proposed by Levinson et al. (1978) and that of Crisp and Cruz (2009). They all found more than 50 definitions of mentoring when examining in particular, the social science literature.

The literature on mentoring identified a number of key roles about mentors, such as serving as a guide, offering support (Ganser, 1996), and acting as adviser, trainer, or partner (Jones, 2001), as well as being a nurturer to the mentee. Halai (2006) defined mentoring as a nurturing relationship that is based on mutual trust that leads to the development and professional growth of both the mentor and the mentee.

Mentoring in Education

The internship field experience plays a significant role in shaping the beliefs and knowledge of the prospective teacher (Borko et al., 1992; Eisenhart et al., 1993, as cited in Borko & Mayfield, 1995). The field experience is often considered the culminating capstone event for a teacher education programme, together with a critical milestone towards becoming an effective teacher (McIntyre et al., 1996). Furthermore, Ehrich et al. (2004) found that mentoring yields positive outcomes including learning, personal growth, and development in professional abilities. In another meta-analysis of 426 journal articles on mentoring, Dominguez (2012) identified 34 different positive mentor outcomes and 49 mentee benefits.

The roles and functions on what mentors do are central to understanding relationship between mentor and mentee. Analyses of mentoring activities have appeared with increasing frequency in the literature on mentoring (Wildman et al., 1992). Likewise, more attention is being paid to the benefits of mentoring for the beginning teacher, the mentor teacher, and others (Odell & Ferraro, 1992).

Halai (2006) claimed that researchers and scholars in the field of mentoring agree that the primary role of the mentor is to provide guidance and emotional support to the novice teacher who is in need of significant support. While Yost (2002) described that the mentor teacher's role are effective expert, guide, and support system for the novice teacher. Each of these roles ultimately has an impact on student learning. Their primary responsibility is not to evaluate student teachers' teaching performance for grading purposes, but rather they are responsible for assisting, guiding, and providing constructive feedback on teaching practices and most importantly be a colleague of the student teacher and demonstrate collegial behaviour throughout the field experience (Kiraz & Yildirim, 2007).

Anderson and Shannon's (1988) Model of Mentoring

According to Anderson and Shannon (1988), mentoring programmes must be grounded on a clear and strong conceptual foundation. Such a foundation includes a carefully articulated approach to mentoring which would include delineation of a definition of the mentoring relationship, the essential functions of the mentor role, the activities through which selected mentoring functions will be expressed, and the dispositions that mentors must exhibit if they are to carry out requisite mentoring functions and activities. They further explained that basic to mentoring is a relationship in which the mentee views the mentor as a role model and the mentor nurtures and cares for the mentee. Entailed in the mentoring relationship are five mentoring functions and related behaviours that are carried out within various mentoring activities which are teaching, sponsoring, encouraging, counseling, and befriending (Anderson & Shannon, 1988).

In this study we focused on two mentoring relationship, which are as a 'Care Giver' and a 'Nurturer'. Anderson and Shannon (1988) stated that nurturing implies a developmental process in which a nurturer is able to recognise the ability, experience and psychological maturity of the person being nurtured and can provide appropriate growth-producing activities. Furthermore, they explained that mentoring must involve an ongoing, caring relationship. The kind of relationship that advocates in mentoring is similar to that of a good substitute parent to an adult child.

Issues on Mentoring

Russell and Russell (2011) stated that various studies have been conducted in regards to mentoring relationships, such as issues focused on higher education (Campbell & Campbell, 2002; Harris, 2003), people of colour and women (Enomoto et al., 2003; Mertz & Pfleeger, 2002; Wilcox, 2002), parents (Avani, 2002), school-age children (Watts, Erevelles, & King, 2003), and administrators and educators (Martin, 2002; Tauer, 1998; Zellner & Erlandson, 2002). Yet there is still a lack of research that documents the effects of various mentoring programme features for teachers with varying levels of experience. Typically, university teacher education programmes select veteran or more experienced teachers to serve as cooperating teachers and mentors based on factors that may include prior collaboration, credentials, and teacher availability or willingness to work with an intern (Russell & Russell, 2011). However, many researchers claimed that experience based on the time spent in teaching is not the most important factor for expertise (Axelson, 1999; Kani et al., 2014; Sweietzer & King, 2004). In addition, Kiraz and Yildirim, (2007) also emphasised that 'expert' is how the way knowledge is organised and demonstrated, rather than simply categorising experts by the numbers of years accrued in teaching.

Senior Mentor and Junior Mentor

According to Kiraz and Yildirim, (2007), it is a commonly held belief that the length of service in the teaching profession is the basis for determining one's expertise in supervision. However, they also argued that teachers with

many years in teaching undoubtedly have more practical experience than do novices or beginning teachers, but experience is not the most critical factor. The most important according to them is the way professional knowledge is organised and used. Moreover, Kiraz and Yildirim, (2007) investigated how trainee teachers perceived their supervising teachers' supervisory competency. Accordingly they indicated that:

1) Less experienced supervising teachers demonstrated a higher competency in supervision compared to their more experienced colleagues. Especially in the area of 'Instructional Planning and Competency in Reflection (IPCR)', student teachers perceived their supervising teachers as being the least effective. Results showed that even an inexperienced teacher, with 1 to 4 years of experience in teaching, might supervise successfully.

2) Age may be another significant factor in favour of the beginning teachers since the teacher candidates may feel more comfortable in communicating, sharing ideas, discussing, receiving feedback, and reflecting on their teaching with a person whose age is closer to theirs.

3) Beginning teachers' professional knowledge and their college background are still considered fresh and their antecedents may enable them to understand what the teacher candidates need and are attempting to implement.

4) It is also possible that beginning teachers' own experiences (positive or negative) during their student teaching practicum may cause an improvement in their competency in supervising their future colleagues. Thus, younger supervising teachers having teaching experience between 1 to 9 years may perceive the teacher candidate as a colleague rather than as an inexperienced person or apprentice.

5) Respondents concluded that some experienced teachers demonstrated signs of burnout and limit their conversations with the teacher candidates in time as well as in content. Their perception was that a professional can find his/her way when entering the profession and they did not value the practicum as an opportunity for professional development for the novice.

From the above study conducted by Kiraz and Yildirim, (2007), it should be noted that even less experienced teachers (junior) might have an immense potential to supervise and mentor. However to extend the research, it will be interesting to investigate and study how the junior mentor and senior mentor view their roles as mentor, and the impact of becoming a mentor in their professional development.

THE BRUNEIAN TEACHER EDUCATION PROGRAMME

In 2009, Brunei Darussalam's sole provider of English medium teacher education, the Sultan Hassanal Bolkiah Institute of Education (SHBIE) became a Graduate School. All the undergraduate initial teacher education programmes formerly provided by SHBIE were replaced by a graduate provision through a Master of Teaching (MTeach) degree programme. Subsequently, the MTeach became the licensing programme to the teaching profession in Brunei Darussalam. And the MTeach is a professional qualification in initial teacher education, at a Master level. There are five areas of specialisation in the MTeach programme, namely early childhood and care, primary education, secondary education, vocational and technical education, and higher education (Jaidin, Shahrill & Jawawi, 2015; Shahrill, Jaidin, Salleh & Jawawi, 2014; Shahrill, Jaidin, Jawawi et al., 2014).

Among the key features of the MTeach programme are drawing upon and integrating evidence-based best practices into their teaching and practical experience in schools and institutions in the professional practice and seminar (referred to as PPS) modules. In the current PPS arrangement, we have increased the number of days in schools per week (to four consecutive days a week) and the teacher candidates are mentored by school or institution mentors and academic specialists from SHBIE. Given in Figure 1 below are the roles and responsibilities of an MTeach school or institution mentors, taken from the MTeach PPS handbook provided by SHBIE.

The MTeach School/Institution Mentors will work in consultation with the MTeach Subject Specialists and the MTeach Clinical Specialists to devise a programme that meets the needs of the MTeach Teacher Candidate prior to and during the placement block. MTeach School/Institution Mentors will:

- Support, guide and monitor the MTeach Teacher Candidate's transition to the role of professional teacher;

- Engage with MTeach Teacher Candidates' teaching and provide verbal/written feedback with priorities for future action;

- Facilitate conditions for MTeach Teacher Candidates to fulfill SHBIE task requirements;

- Provide formative assessment reports and discuss these with the MTeach Subject Specialist and the MTeach Teacher Candidate to assist in developing further goals for learning to teach;

- Submit the summative report indicating a mark and a grade to the MTeach Subject Specialist at the end of the MTeach Teacher Candidate's teaching placement.

Figure 1. The roles and responsibilities of the MTeach school/institution mentors

METHODOLOGY
In this qualitative study, we explored mentor teachers' roles as a 'Care Giver' and a 'Nurturer' from two different perspectives, the senior mentors and the junior mentors. We also investigated the impact of becoming mentor towards the their professional development. Both groups had been tasked to mentor teacher candidates in the MTeach programme.

Data Collection and Participants
An open-ended online survey was given to obtain the mentors' views and to describe their experience in their journey as an MTeach mentor. In total, seven MTeach mentors responded to the survey. The three senior mentors who were classified as the more experienced individuals, and the four junior mentors, classified as the less experienced who recently graduated from the MTeach programme. Table 1 depicts the details gathered from the seven mentors. All seven mentors hold a master's degree qualification. The three mentors from the secondary education areas are teachers based in the secondary schools whereas the remaining four mentors are from the vocational and technical institutions. And the subject area backgrounds for each respective mentor ranged from teaching mathematics, engineering, business, biology and physical education.

Table 1. Details of the MTeach mentors

Mentors	MTeach Areas	Mentoring Experience
SM1	Sec Ed	Yes – Experienced Teacher
SM2	Sec Ed	Yes – Experienced Teacher
SM3	VTE	Yes – Experienced Teacher
JM1	Sec Ed	No – MTeach graduate
JM2	VTE	No – MTeach graduate
JM3	VTE	No – MTeach graduate
JM4	VTE	No – MTeach graduate

Notes:
SM = Senior Mentor; JM = Junior Mentor; Sec Ed = Secondary Education; VTE = Vocational and Technical Education.

RESULTS AND DISCUSSIONS
The procedures of analyses for the collected surveys involved reading all the mentors' comments from the open-ended online surveys and to search for common themes and overall patterns. During the analyses, we found that the participants mostly elicit their role of mentoring as a 'Nurturer' and as a 'Care Giver', which is parallel and concurring to the definition stated by Anderson and Shannon (1988). Table 2 below captures the responses from the participating MTeach mentors and linking them to the mentoring relationships.

Table 2. Linking the MTeach mentors' responses to the relationships

MTeach Mentors	Care Giver	Nurturer
SM1	▪ The mentees in my school have access to all my lessons. ▪ Sometimes mentees are not sure about the content and why I do things the way I do. This gives me the opportunity to explain what learning means to me. ▪ Hope it has helped them to prepare better for their teaching career. ▪ I feel I have high expectations for them which I think is the right thing to do. ▪ Although I am not there to observe them, I still ask for feedback about the lesson that I miss.	▪ Helping student teachers develop their conceptions of teaching. ▪ Providing a platform where both mentor and student teachers can genuinely collaborate to design, implement and review lessons. ▪ Discussing content and developing lessons with the mentees.
SM2	▪ As we were walking, we also talked about teaching strategies and management of students.	▪ To expose the mentees as much as possible to the daily teaching lives of

		teachers.
	▪ Nowadays, being a teacher is not just teaching but be able to write letters, conduct assemblies, conduct meetings, conduct functions, work in a group, manage students with discipline problem, promote health, etc. ▪ Give advices and make adjustments where necessary.	▪ I tried to bring them wherever I go and include them in whatever I do most of the time.
SM3	▪ To share the teaching and learning experience with them. ▪ To guide them my (best) teaching practice ever.	▪ Made the mentee familiarize with the school and office environment.
JM1	▪ Guiding my mentee in their teaching experience and becoming part of school structure. ▪ It is also my responsibilities to equip my mentee with the skills needed for their future teaching career.	
JM2	▪ Guide/help my mentee to develop professionally as an educator. ▪ Give some opinions/advices, which I think were helpful.	
JM3	▪ I guide her throughout and I tend to tell her what to do most of the time.	
JM4	▪ To provide my mentee to have sufficient materials for teaching and helping him in anyway necessary in terms of his research.	▪ I act as a facilitator who encourages my mentee in any research required.

Their role in mentoring as a 'Nurturer' and as a 'Care Giver' generated several benefits towards their teaching. In this study, the senior mentors as well as the junior mentors experienced the same benefits from mentoring despite their differences in experience. The benefits listed according to common themes are given below.

Ability to Reflect on the Quality of Teaching and Learning
The role of mentor as a 'Nurturer' and as a 'Care Giver' required the mentors to observe their mentees teaching their lessons. Within the MTeach programme offered by the university, both the junior and senior mentors observed their mentee teaching their lessons during the 14-week semester school/institution placement.

One of the benefits for the mentors in observing the MTeach teacher candidates (or the mentees) teaching is to note the mistakes they sometimes made which can provide a reminder about what to avoid when facing the same situation in subsequent teaching observations. As SM3 stated "*The mentoring process in a way helped me to reflect my way of teaching. It enabled me to see my strengths and weaknesses as a teacher*". JM1 explained "*It is part of learning experience to observe my mentees when they are teaching and to see how students responded to the lesson. In fact, it has helped me to reflect what works and what doesn't depending on the type of students and topics to be delivered*". JM2 mentioned regarding class observation and mentor's reflection "*I cannot judge by how much but I do believe that by observing each other's teaching lesson, we did learn some ways of teaching a particular topic or ways of managing time and the class*". Another view that JM3 stated in the survey was that "*when I observe her, it's like observing me, seeing myself from a different perspective, having a closer look at what the students were really doing in the classroom. Reflecting on my own teaching... when she follows almost everything I do (in the classes she observed me), at some point, I felt that I would be criticizing myself when I criticize her*".

Naturally, as a mentor, they will take the lead in the feedback in order to clarify their own ideas about good teaching. Post lesson discussions allow both mentor and mentee to think deeply about the practice of teaching. These discussions allowed them time to think about the processes of teaching, to provide great opportunities for mentors to reflect on the key elements of quality teaching and to start thinking about other alternative pedagogical practices.

Obtainment of New Enthusiasm for Teaching
Many of the participants in this study, both the junior and senior mentors, reported that the presence of an MTeach student in their classroom provided them with a powerful reason to showcase some of their best resources and teaching strategies. For example SM2 stated that "*I tried to bring them wherever I go and include them in whatever I*

do most of the time, but it depends on how much they want to join along and this depends on their attitude... encouraged them to join me where possible and will ask for their help where necessary, mostly 'hands-on', rather than sitting down and explaining what a teacher should do". SM3 explained that "*in the beginning of the lesson, as a mentor I prepared the teaching and learning resources for my mentee's reference so that my mentee aware of the standard of my resources*".

The junior mentors experienced the same feeling too, for example JM1 stated "*I have definitely shared my passion to teach PE among my mentees, also to show the level of commitment I have put into being a teacher and to cope with everyday challenges. This is something that I hope my mentees could learn from and to gain the confidence to teach once they have completed their MTeach course*". While JM2 explained the same feeling when mentoring "*I make sure that I am a good role model to my mentee although I have still got a lot to improve on. If my mentee ask for help/advices, I will give the best possible solutions/suggestions to her*".

Hence both mentors, junior and senior, gained a new enthusiasm for teaching as this may have resulted from their sense of responsibility as a mentor and trying their best to fulfill their role as a 'Nurturer' and as a 'Care Giver'.

Acquirement of New Ideas on Teaching
Interestingly, the broader view of the MTeach programme led all mentors in this study to examine their own teaching strategies and principles. All the senior mentors, instead of, perhaps, being frustrated in working with the beginning teachers, their awareness to learnt new ideas of good teaching from the mentee was heightened in comparison to the junior mentors. "*It is really a two-way learning... I told them as much what I knew and I also learned from them*" (SM2). She further stated, "*I also learned new tips and techniques from them*". Meanwhile, SM3 experienced similar situation where she said "*as a matter of fact, I acquired new teaching practice from my mentee to perhaps further improve my teaching skills*". In addition, SM1 felt that the mentoring component in the MTeach programme had benefit him because he was able to share and learn new ideas, not just from the mentee but from the university's Subject Specialist and Clinical Specialist as well. SM1 further mentioned, "*I like to expand my knowledge. It's important to have a specialist who knows what he is doing and always in-touch with the theory and practice.... with the subject and clinical specialist, my relationship with them is quite special. I look up to him because he is at the forefront of the knowledge in teaching and in the subject area*".

In contrast to the junior mentors, only one out of four mentioned about receiving new ideas "*It does help me to receive new ways or ideas that I never thought of. One example is the way of teaching complex number*" (JM1). One of the main reasons for this situation may be because all the junior mentors were recent graduates from the MTeach programme. Hence they were aware of the latest educational theory during their university studies. They also probably had undergone various discussions and numerous examples regarding the latest issues on teaching and learning.

Developed New Perspectives on Teaching and Learning
Sitting at the back of the classroom and observing lessons rather than actual act of teaching allows the opportunity to think more deeply about the lessons. Additionally, it provides the chance to gain greater insight into how students learn and behave. For example, JM4 stated, "*I got a chance to see the improvements, limitations, pros and cons of this research first hand. This will provide me additional knowledge in my teaching as well*" and JM1 also stated, "*It is part of learning experience to observe my mentees when they are teaching and to see how students responded to the lesson. In fact, it has helped me to reflect what works and what doesn't depending on the type of students and topics to be delivered*". Subsequently, SM1 agreed that mentoring helped him to progress as "*It helps me to make explicit what is hitherto tacit in terms of my professional knowledge*". Hence the mentors benefit from their roles as a mentor by observing their mentees' teaching in their respective classroom. Consequently the mentor starts to see the students from a different perspective, they may develop more time to think about the problems that the students are having, any learning misconceptions encountered by the students, and may also recognise how to help the students to learn more effectively.

CONCLUSIONS
Mentoring is not a one-way relationship. Effective mentoring can also benefit the mentee as well as the mentors. In this study, the findings revealed that the role of mentoring as a 'Nurturer' and as a 'Care Giver' could expand the knowledge and develop the mentor's skills in teaching. Despite the differences in experience, both senior mentors and junior mentors were able to fulfill their roles as a 'Nurturer' and as a 'Care Giver' towards their own mentee. As

a result, both mentors received mutually beneficial experiences such as able to have time to reflect on quality of teaching and learning, gained a new enthusiasm for teaching, learnt new ideas, and also gained new perspectives on teaching and learning. Essentially, the mentors derived satisfaction from supporting their mentees' professional development and expectations in seeing them succeed in their future careers as beginning teachers. In other words, in concurring with Reed et al. (2002), mentoring provides mutually beneficial experience to both the mentor and the mentee, and there is a sense of satisfaction as the mentor watches the mentee grow professionally.

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SATISFACTION OF INDIVIDUALS WITH BLINDNESS FROM USE OF AUDIO-TACTILE MAPS, TACTILE MAPS AND WALKING EXPERIENCE AS MEANS FOR SPATIAL KNOWLEDGE OF A CITY ROUTE

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ABSTRACT

The aim of the present study was to examine the level of satisfaction of individuals with blindness after the use of three different means for knowledge of a space: audio-tactile maps, tactile maps and independent movement. Moreover, this study aims to compare the level of satisfaction resulting from the use of these three means. Fourteen adults with blindness took part in the research. Their age ranged from 20 years to 52 years. The subjects participated in three experiments. During the first experiment the subjects read an audio-tactile map of a city route and then they answered questions regarding the safety, satisfaction, pleasure, comfort, confidence and preparedness/adequacy they felt for using audio-tactile maps as a means of spatial knowledge. In the second experiment the examination consisted of reading the tactile map of a similar city route and answering the same questions and in the third experiment the participants answered the questions after they first walked in a city route. The findings of the present study reflect the preference of individuals with blindness in audio-tactile maps as means for spatial knowledge and support the advantages resulting from their use.

INTRODUCTION

Maps contribute to the handling of daily living problems inducing autonomy, independence and a better quality of life for individuals with visual impairments (Espinosa, Ungar, Ochaita, Blades, & Spencer, 1998; Jacobson, 1998; Papadopoulos & Karanikolas, 2009). Mobility aids such as tactile maps or audio-tactile maps are passive mobility aids, according to the categorization of Lahav and Mioduser (2008), and as such they help individuals with visual impairments explore and code spatial environment before they actually reach real environment.

Previous research demonstrated the usefulness of tactile maps on blind individuals' spatial knowledge (Ungar, Blades, & Spencer, 1993; Espinosa & Ochaita 1998). However, there seems to be a series of limitations accompanying tactile maps. Jacobson (1998) mentioned that fingertip resolution is lower than eye's resolution, cartographers face the problems of simplification, generalisation, classification and symbolization of the information included to a visual map, extended Braille labelling is required, which leads to overload and is prohibitive for those who do not know Braille reading. The abundance of the information and the complex graphics entail greater memory load (Ungar, Blades, & Spencer, 1993), while an increased amount of spatial information clearly influences spatial coding and representation (Papadopoulos, Koustriava, & Kartasidou, 2012). Moreover, separate legends restrict immediacy and interaction with the map.

Verbal assistance can help to overcome many of the obstacles mentioned above by substituting Braille labels and legends, as well as by providing guiding information, such as spatial relations, descriptions of buildings (Habel, Kerzel, & Lohmann, 2010) or significant landmarks, for instance, traffic lights with auditory assistance (Wang, Li, Hedgpeth, & Haven, 2009). Information provided through speech in combination with touch can be quite helpful overcoming the restrictions of touch to serial information gathering (Wang, Li, Hedgpeth, & Haven, 2009). Research results prove that individuals with visual impairments use auditory cues to create cognitive maps (Papadopoulos, Papadimitriou, & Koutsoklenis, 2012). For this reason auditory cues have used in combination with haptic feedback in an audio-haptic map. Multimodal maps form the context for these solutions and specific audio-haptic devices, such as touch pads represent the tools for using audio-tactile maps.

Touchpad offers at the same time access to the benefits of tactile maps and verbal aids. The combination of auditory and tactile information may result in a more complete concept (Landau, Russell, & Erin, 2006). Landau and his colleagues (2006) found that individuals with visual impairments can enjoy control and independence coming from the ability to make choices between tactile and auditory information used through a touch pad.

Moreover, touch pads give the ability to use environmental auditory cues, incorporating, in a way, the soundscape into the tactile map. Including auditory cues in a map may promote an individual's orientation, since individuals with visual impairments are proved to use auditory cues to determine and maintain orientation within an environment (Jansson, 2000; Koutsoklenis & Papadopoulos, 2011) and to associate the soundscape with the structural and spatial configuration of the landscape and create cognitive maps (Papadopoulos, Papadimitriou, & Koutsoklenis, 2012).

Psychological and social factors can influence the performance of any physical, cognitive or perceptual skill (Welsh, 2010). As far as individuals with visual impairments are concerned, the above statement is confirmed particularly on practical life skills carried out in real-world circumstances, as in orientation and mobility (Welsh, 2010). Apart from motor-perceptual and cognitive elements, psychological factors and social aspects of traveling independently must be included in the case of individuals with visual impairment (Welsh, 2010). Traveling without vision depends on someones developed confidence and courage (Welsh, 2010).

The impact of motivation on Orientation and Mobility is reflected in the stated need to travel (Weinläder, 1991). However, a more extended research is needed concerning different types of motivation such as achievement versus affiliation motivation, intrinsic versus extrinsic motivation, motivation by hope for success versus fear of failure versus fear of success (Weinläder, 1991).

Stress has been mentioned as a cognitive factor impeding Orientation and Mobility. Stress can be explained as a kind of mental preoccupation and/or as a result of emotional problems and fears which are linked or not with Orientation & Mobility (Weinläder, 1991). Stress remains an important factor as an individual progress in Orientation and Mobility, because of the expansion of his/ her life space into more unfamiliar and dangerous surroundings (Weinläder, 1991).
Thus, it is important to examine whether and to what extent the different means for spatial knowledge of a city route have a positive impact on the psychology of the users with blindness.

STUDY
The aim of the present study was to examine the level of satisfaction of individuals with blindness after the use of three different means for spatial knowledge of a city route: audio-tactile maps, tactile maps and independent movement. Moreover, this study aims to compare the level of satisfaction resulting from the use of these three means.

Participants
Fourteen adults with blindness took part in the research. The sample consisted of 10 males and 4 females. The age ranged from 20 years to 52 years ($M = 36.6$, $SD = 11.06$). Twelve participants were blind or had severe visual impairments and 2 had the ability to detect very large objects. An essential criterion to include a participant in the study was not to have a hearing impairment or other disabilities, apart from visual impairments. The visual impairment was congenital for 11 participants and acquired for the rest 3 participants.

The participants were asked to indicate the main reading media which they used (i.e., Braille, TtS systems, recorded material). Moreover, the participants stated how many years (overall) they had used TtS systems. Eleven out of 14 participants used TtS systems as the basic reading medium. In addition, 9 participants declared that they have at least a ten-year experience in using TtS systems, 3 participants stated that they have been using TtS systems for 2 to 10 years, while two participants stated that they started using TtS systems two years ago.

The participants were asked to state the way of their daily move in outdoor places, by choosing one of the following: a) with the assistance of a sighted guide, b) sometimes myself and sometimes with the assistance of a sighted guide, and c) myself, without any assistance. Moreover, the participants were asked to indicate the frequency of their independent movement using a 5-point likert scale: always, usually, sometimes, seldom, or never. In addition, these two questions were answered from a orientation & mobility (O&M) specialist, who were familiar with the participants and could assess the latter's ability of independent movement. Table 1 present the answers of the participants and O&M specialists.

Table 1

Ability and frequency of independent movement according to the answers of participants and O&M specialists - the score represent the number of participants in each group

	With or without sighted guide			Frequency of independent movement			
	with	with & without	without	seldom	sometimes	usually	always
Participants	1	4	9	0	1	9	4
Specialists	3	1	10	2	5	6	1

Procedures - Instruments

The main research instruments were audio-tactile maps and tactile maps of city routes. Moreover, a 6-items self-constructed questionnaire concerning the level of satisfaction after the use of different means for spatial knowledge of participants was used. The questionnaire concerning the safety, satisfaction, pleasure, comfort, confidence, and preparedness/ adequacy they felt for using the different means (audio-tactile maps, tactile maps and independent movement) of spatial knowledge.

The subjects participated in three experiments. During the first experiment the subjects read an audio-tactile map of a city route. In the second experiment the procedure consisted of reading the tactile map of a similar city route and in the third experiment the participants walked in a similar city route. After the participants completed the use of every mean provided (audio-tactile maps, tactile maps and independent movement), they were given a questionnaire consisted of 6 items where they were asked to indicate, using a 5-point likert scale (1 = not at all, 2 = slightly, 3 = neutral, 4 = very, 5 = extremely), whether they: felt secure to move independently (Q1), felt satisfied with the mean they just used (Q2), felt pleased (Q3), was the procedure relaxing (Q4), felt confident (Q5), and felt adequate/competent to move independently (Q6).

The sequence of the experiments was not the same for every participant. Moreover, a circular design of experiments' implementation was applied with reference to routes. For instance, the first participant walked down the first route during the first experiment, while he/she used the audio-tactile map of the second route during the second experiment and the tactile map of the third route during the third experiment. In the same way, the second participant walked down the second route during the first experiment. He/she used the audio-tactile map of the third route during the second experiment, and the tactile map of the first route during the third experiment and so on. This design was applied in order to avoid any error resulting either from differences in the areas' degree of difficulty or from previous learning of the area structure.

The choice of the routes was based on the following criteria: a) they had approximately the same length b) they all had the same number of turnings c) they had different shape and d) they were suitable for/accessible to people with visual impairments. In order to achieve the accessibility objective, researchers walked around the areas and examined whether they are accessible to blind people. The main concern was to avoid obstacles which would prevent blind people from passing through.

Researchers visited each route, recorded the spatial information (as far as absolute location and kind of information are concerned) and selected 30 of them to be mapped out. Moreover, sound recording for each route was made at a certain time, during evening hours and for 20 seconds at each point. Sound was recorded at the beginning and the end of each route, at all intersections and at some places with special auditory information, such school, café, car wash etc. For the recording a Telinga Stereo Dat-Microphone was used with the recording system Zoom H4n-Handy Recorder.

Adobe Illustrator CS6 was used for the creation of digital tactile maps. These maps were then printed in microcapsule paper, and consequently 3 tactile maps were developed.

In the first experiment, the participants moved along the route independently using their white cane. Each time the researcher moved with the participant maintaining a short following distance from him/her and guiding him/her using verbal instructions (e.g. "in this point you should turn right"). In case of emergency where a participant could set him-/herself in danger, the researcher asked him/her to stop (uttering "stop").

In the second experiment, the participants read the audio-tactile map through the touchpad device. The procedure was carried out individually in a quiet environment. Initially, participants were informed about the procedure of the experiment. A laptop, a touchpad device and headphones through which participants listened to audio information (street names, spatial information and sounds) were used. Each participant read via touch the audio-tactile map that was placed on the surface of the touchpad device, and by tapping the streets he/she listened to their name, by tapping the dots he/she listened to the information they represent, and finally by tapping the small vertical lines he/she heard the sounds of the particular area. The maximum time that was offered for the map reading was 15 minutes.

The following procedure was used for audio-tactile map construction. On each tactile map dots were placed at the locations of spatial information (e.g. trees, pillars, stores) and short length vertical lines were placed on the locations where sounds was recorded. Moreover, a speech synthesizer was used for the presentation of spatial information and street names. The software application Iveo Creator pro 2.0 together with the device touchpad, were used to develop the audio-tactile maps. Both of them are products of "ViewPlus® Technologies" company. The touchpad device is a pointing device consisting of specialized surface that can translate the position of a user's fingers to a relative position on the computer screen. When used in combination with a tactile image, this device has the potential to offer tactile, kinaesthetic and auditory information at same time (Jansson & Juhasz, 2007).

In the third experiment, the participants read the tactile map. Adobe Illustrator CS6 was used for the creation of digital tactile maps. These maps were then printed in microcapsule paper, and consequently 3 tactile maps were developed. On each tactile map dots were placed at the locations of spatial information and braille labels for the representation of streets names and kind of spatial information. The procedure was carried out individually in a quiet environment. The maximum time that was offered for the map reading was 15 minutes.

RESULTS

Initially, the scores of each question of every single mean of spatial knowledge (audio-tactile maps, tactile maps and independent movement) were calculated. The means and standard deviations (SD) of scores are presented in Table 2.

Table 2
Mean (M), and standard deviation (SD), of answers in each question/ item (1 = not at all, 2 = slightly, 3 = neutral, 4 = very, 5 = extremely)

	Independent move		Tactile map		Audio-tactile map	
	M	SD	M	SD	M	SD
Q1	3.57	1.22	3.21	1.05	3.93	.92
Q2	3.50	1.16	3.14	.77	3.79	.80
Q3	3.79	1.12	3.00	1.11	3.93	.92

Q4	3.86	1.03	2.93	1.38	4.14	.66
Q5	3.86	1.03	3.57	.94	3.93	.92
Q6	3.79	1.05	3.36	1.00	3.86	.66

As shown by the means of answers for each item, the audio-tactile map is the mean of spatial knowledge prevailing in the preferences of the participants in all items without any exception. Participants indicate more satisfied using the audio-tactile map in comparison with the use of tactile maps and independent movement in route.

Furthermore, repeated-measures ANOVAs were conducted to examine the differences regarding the level of satisfaction of individuals with blindness after: a) the independent movement b) the reading of audio-tactile map and c) the reading of tactile map. Repeated-measures ANOVAs were conducted for each of the 6 items presented in Table 2.

The implementation of repeated-measures ANOVAs revealed no significant differences regarding the items Q1, Q2, Q5, and Q6. However, the implementation of the LSD post-hoc test ($p < .05$) indicated significant differences between audio-tactile and tactile maps regarding the items Q1, Q2, and Q6. Participants felt more satisfied, secure and competent to move independently when using the audio-tactile map compared with the use of the tactile map. Moreover, the implementation of repeated-measures ANOVAs revealed significant differences regarding the items Q3 [$F (2, 26) = 4.075$, $p < .05$] and Q4 [$F (2, 26) = 5.231$, $p < .05$]. Concerning Q3 item, the implementation of the LSD post-hoc test ($p < .05$) indicated significant differences. Participants felt more pleased using the audio-tactile map compared with the use of the tactile map. Regarding Q4 item, the implementation of the LSD post-hoc test ($p < .05$) revealed significant differences between audio-tactile and tactile maps as well as between independent movement and tactile map. Participants felt more confident when using the audio-tactile map or with independent movement in compared with the use of the tactile map.

CONCLUSIONS

The findings of the present study reflect the preference of individuals with blindness in audio-tactile maps as means for spatial knowledge and support the advantages resulting from their use. Considering that the satisfaction of users with blindness from an orientation & mobility aid could lift the suspensions for autonomous movement, the above findings could be particularly valuable for the development of such aids in the future. The results of the study have implications for both educators and orientation & mobility specialists, suggesting a more frequent use of audio-tactile maps as orientation and mobility aids as well as aids for spatial knowledge.

The findings raise a disadvantage of tactile maps in the participants' preferences, which should not be connected with a questioning of the usefulness of tactile maps as an important Orientation and Mobility aid for individuals with blindness (Espinosa & Ochaita 1998; Papadopoulos 2004; Papadopoulos & Karanikolas, 2009). Obviously the comparison of tactile maps and audio-tactile maps favors the second mean, as it combines tactile and auditory information. On the other hand, the direct experience of moving in an area provides the participants with a sense of competence since individuals do not face the insecurity into the unknown. Finally, it should be mentioned that almost all participants have not used orientation and mobility aids (tactile maps) in the past which highlights the prejudice regarding this mean.

A limitation of the present study is the small number of participants as well as the participation of individuals with no experience in the use of tactile maps and audio-tactile maps. Future research should be conducted in such way in order to overcome these limitations.

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SCHOOL ADMINISTRATORS' AND TEACHERS' OPINIONS ABOUT DATA COLLECTION TECHNICS

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School Administrators' and Teachers' Opinions about Data Collection Technics

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While the number of qualitative studies increased in addition to data collection by questionnaires in recent years, data in educational studies in Turkey are mainly gathered from questionnaire techniques. It is easier and faster to collect data by questionnaires and to analyze the data via software such as SPSS. On the contrary, obtaining data by using the techniques such as observation takes much time, as well as the analysis process is more complicated. School administrators and teachers complain about that it is boring to complete questionnaires. Moreover, researchers complain about that the rate of questionnaires that are completed is low, and that a considerable amount of questionnaires is not evaluated.

The purpose of this study is to examine school administrators' and teachers' opinions about data collection by questionnaires. For this purpose, a draft questionnaire consisting of two

sections was designed. The first section consisted of 41 items interrogating what school administrators and teachers think when they receive questionnaires, whereas the second section included 19 items examining what should be done to complete carefully the questionnaires. After the evaluation of expert opinions, the questioned was formed as 33 item in the first section and 15 items in the second section. The draft of the questionnaire was administered to 45 school administrators and 170 teachers at 18 schools in Istanbul. The data collected were analyzed via SPSS and LISREL software. After the analysis of the data, the

questionnaire was administered to 110 school administrators and 700 teachers at 40 schools in Istanbul. And data has been analyzing currently.

Depending on the data obtained from the questionnaire, a study on the reliability and validity will be carried out. After designing the final draft of the questionnaire, some recommendations will be presented in accordance with the results reached by the questionnaire.

Keywords: Questionnaire, data collection, educational sciences, validity, reliability, difficulties in data collection.

SCHOOL INTEGRATION OF ADOLESCENTS WITH MENTAL DISEASE: ATTITUDES OF THE GROUP BEFORE AND AFTER INCLUSION

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ABSTRACT

This paper is a report on the findings of a project conducted on high school students and on two adolescents with mental disease included in their class. The project lasted a year and intended to evaluate the effects of the integration work on the students without mental disease.

In particular, the objectives of the project were:
- Evaluating the efficacy of a task aiming at making high school students aware of the issues involved in mental disability to favor inclusion of classmates with disability;
- Planning an intervention protocol which could be extended to other schools.

The evaluation was done through the administration of a questionnaire to the students of the classes where the two adolescents with mental disorders were included. The research followed a quasi-experimental design.

Results were evaluated by using the Q-Sort techniques, the chi squared analysis and the Analysis of Variance.

The analysis of the answers shows different profiles of attitudes toward mental disability. Comparison between the two administrations reveals that during the school year changes occurred in some students' opinions on the personal resources and competencies necessary to interact with individuals with mental disorders and also on the likelihood of their integration.

Keywords: mental disease, integration, Q-Sort

INTRODUCTION

The integration of adolescents with mental disease is one of the most interesting challenges that psychologists and psychiatrists, but also teachers and other education specialists, have to face. The school is one of the main channels through which projects of integration and raised awareness of mental disorders can be promoted from a conscious perspective and with the help of trained personnel.

This type of projects must necessarily take into account and evaluate the receiving group's attitudes to mental disorders and beliefs about them. The class integration process of a student with disability can be evaluated based on the changes that occur both in the class and in the student with disability. This paper examines the effects of inclusion on the class as we think this perspective can provide valuable ideas for the operators of this sector and for future projects of school inclusion.

THE STUDY

Throughout the school year the students taking part in the project had the support of a psychologist in order to encourage in-depth discussion on disability and help the students acquire new instruments to cope in the best possible way with the inclusion of the two new classmates.

An *ad hoc* questionnaire was devised to evaluate changed attitudes toward mental disability. The first section of the questionnaire asked participants to express their agreement with a number of statements on mental disability and on the society and school inclusion of individuals with mental disability. The second section – drafted according to the Q-sort technique – consisted of statements on participants' relationship with individuals with mental disability, paying particular attention to daily life events and to situations experienced by the students in the school year.

The first administration of the instrument for data collection and analysis was done in the initial phase of the project and the second in the final phase.

FINDINGS

Attitudes to relationships with a person with mental disease

The comparison of the answers given in the two administrations shows increased awareness of the difficulties encountered in relationships with persons with mental disease and a more problematic and less idealized conception of disability. In support of this interpretation at the end of the school year some statistically significant variations can be seen in the attitude variables: increased agreement about the lack of awareness persons with disability have of their problems (item 2); lower confidence in the belief that these people can lead the same life as anybody (item 8), and greater agreement about the strong help that they need (item 15). In addition, the significant variations found for items 7 and 17 show more thoughtful reflection on the complexity of the integration processes of these persons. The values of the answers go from 1 (totally in disagreement) to 6 (totally in agreement).

Figure 1 - Analysis of variance between first and second administration (attitudes)
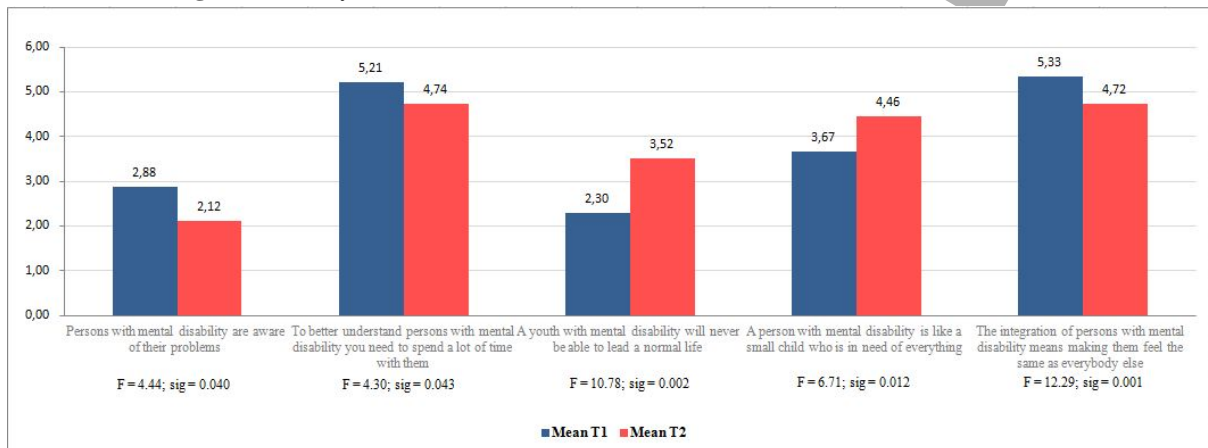
In more detail, "The integration of people with disability means making them feel they are your friends" (item 18) shows that there are fewer students who believe that the way toward integration must necessarily involve a friendly relationship. Though the result is interesting, caution must be used, given the low numerosity of the sample.

Figure 2 - Chi square test between first and second administration (attitudes)
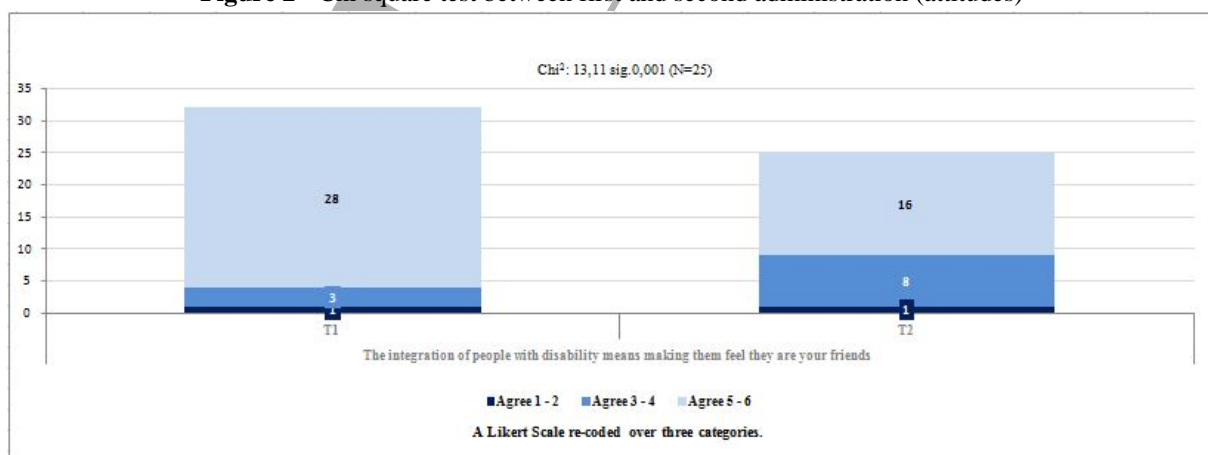
Affinity with statements on mental disease

The second section of the questionnaire focuses on the students' closeness to, or distance from, statements on daily life situations where the interaction with a person with mental disability may create problems or embarrassment.

The items included in the Q-sort have been ordered according to their semantic valence (negative, neutral, positive) toward disability.

Negative-valence items:
1. Sleeping with a person with mental disease would worry me
7. Taking a friend with intellectual disability that the others don't know to a birthday party would make me feel uncomfortable
9. I find it a bit hard to spend time with a person with mental disease
11. When I am with a person with mental disease I don't feel free to behave as I would like to
15. I would get worried if an object that's very dear to me was entrusted to a classmate with mental disease

Neutral-valence items:
2. Becoming the reference point for a person with mental disease would be too difficult for me
3. When I am with a person with mental disease I am afraid I may treat them too abruptly
4. When I am with a person with mental disease I happen not to understand what they really want to tell me

Positive-valence items:
6. Spending time with people with mental disease makes me a more mature person
8. I would lend my clothing to a person with mental disease
12. I would drink from the same glass as a person with mental disease
13. Spending time with people with mental disease helps me understand what life is really like

Although confining ourselves to the description of the variations of the means between the two administrations, independently from statistical significance, interesting points for reflection do emerge. In particular, an increase in the mean disagreement with the majority of negative-valence items (items 1, 7, 9), that is, statements that represent distancing attitudes toward individuals with mental disease. At the same time, an increase can be seen in the agreement with items that point to the integration of these persons. In particular, there is increased agreement with the items that underline the importance of the experience as a time of personal growth (items 6 and 13).

These results notwithstanding, the students think it is quite demanding to have a closer relationship with classmates with mental disease: exchanging dear objects, lending clothing, drinking from the same glass (items 15, 8, 12). This is the result of greater awareness of what mental disease means.

In the same way, we could explain with greater awareness of relational problems the increased agreement with neutral-valence items (items 2, 3, 4) and the decreased agreement with one negative-valence item (item 11).

The Q-sort items triggered discussion in the class.

Figure 3 –Mean differences between first and second administration (Q-sort)
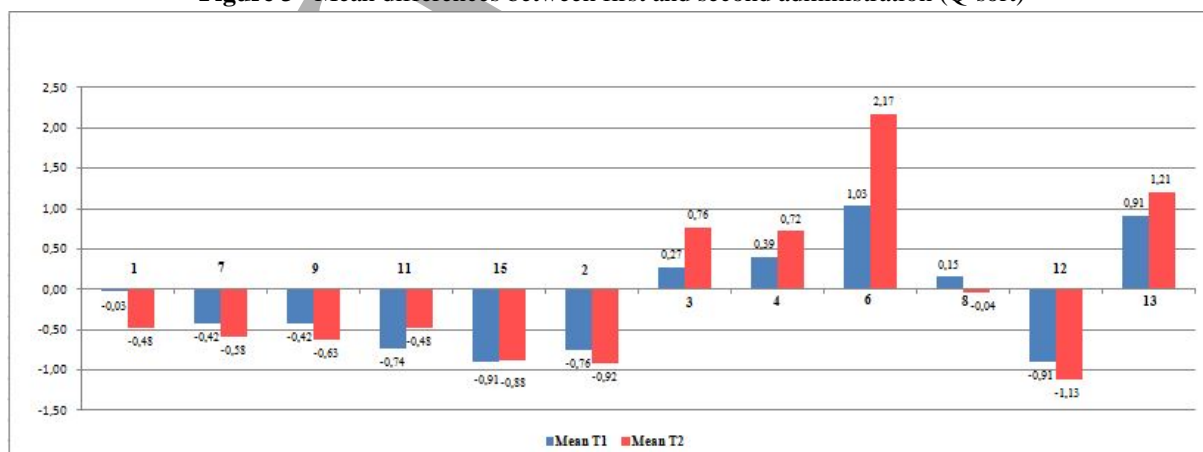
A relationship with a person with mental disease seen as a step toward maturity

Among the items processed with the Q-sort, the one recording a statistically significant difference (F=8,12; sig=0.006; N=30) is: "Spending time with people with mental disease makes me a more mature person" (item 6). This result emphasizes the significance of classroom experience with a classmate with mental disease.

Figure 4 - Analysis of variance between first and second administration (Q-sort)
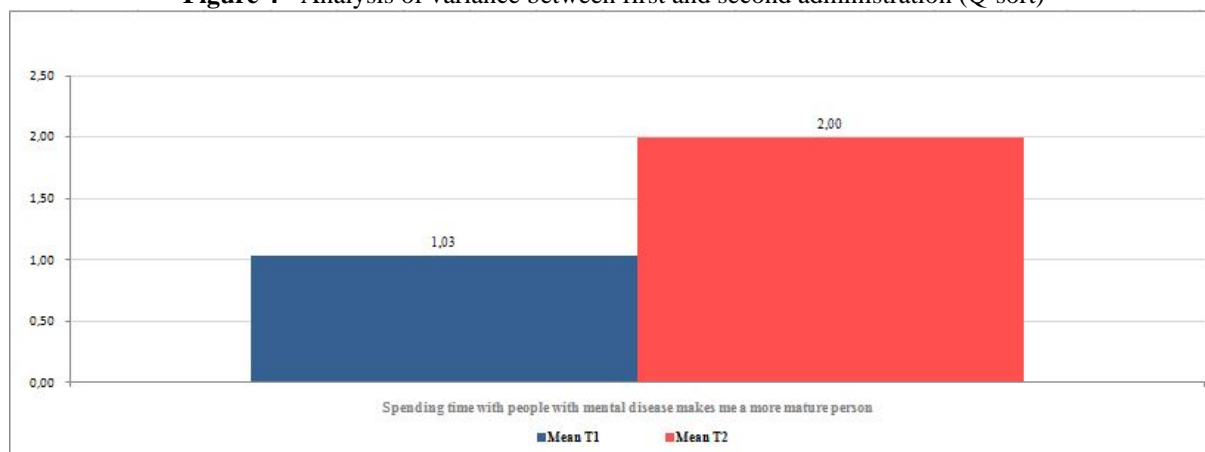
CONCLUSIONS

The analysis of the answers carried out when school broke up, at the end of the project, shows some interesting variations in the conception of intellectual disability. Increased awareness of the criticalities typical of mental disease can be observed. Comparison between the two administrations reveals that during the school year changes occurred in some students' opinions about the personal resources and competencies necessary to interact with individuals with mental disease and also about the likelihood of their integration. In particular, there is increased perception of greater personal maturity and also increased awareness of the serious problems experienced by individuals with mental disease and how difficult it is to interact with them. These results encourage the promotion of projects aiming at increasing sensitization on the issues of disability.

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TO DESCRIBE, TO LEARN, TO CARE:
A HERMENEUTIC APPROACH TO THE TEACHING TOPICS

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INTRODUCTION

The comparison of the school with emergencies of a complex society has brought to the attention of teaching reflection the issue related to skills training. In very general terms, the interpretation that has led research of this fundamental variable of the training involved very often the relationship between schooling and promotion of attitudes, skills, knowledge necessary to support the inclusion of the subject in the world of labor and professional contexts. Based on this premise, the concept of competence has undergone significant transformations that, without dislocating his epistemic system by formalizing of practical and operational functions of subjectivity, anchored it to the practical function as *to perform* and later to an operating function more complex , *to decide* (Pellerey , 2004; Rey , 2003). The anchoring of the concept of competence to the *executive* functions, placed its epistemic profile within substantially replicative processes, and identified it with the *ability to perform action sequences pre-organized and rigidly codified*. According to this usage, be competent means essentially to be able to perform as precisely as possible a series of prescribed behavior, independent of the nature of the task and the peculiarities of contexts.

In more recent times, the mutability of the contexts has contributed to highlight the limitations and rigidities implicit in the concept of competence focused on practical-executive assumptions. The reflection on the topic, without denying the reference to the practical dimensions of action, has, however, produced an enlargement of the epistemic perspective, releasing it from executive conceptions anchoring it, so pregnant, in decision processuality. In this new meaning, being competent means *to handle the ability to develop and execute innovative decisions*, *faced to the emergence of new problems*. Competence is not identified, therefore, with the ability to perform known procedures, but with the ability to use knowledge as tool for intervene on reality and change it according to personal projects. At the center of that skill it is found the decision-making ability, the *ability to ask the personal cultural knowledge* in order to: identify (formalize) the characteristics of the emerging problem; operate the mental processing of intervention strategies; identify variants of action and its possible effects on the situation; identify, among the elaborated strategies, the one that best responds to the peculiarities of the problem; take (decide) the realization of this strategy and manage dynamic routes which manage its implementation in the context; evaluate the ability of the adopted strategy to direct action towards the goals; introduce in the process any changes related to strengthening of effectiveness of action.

The model of competence implicit in the described process identifies its foundations in the practice of *problem solving*, which inscribes its assumptions in the *transit from declarative knowledge to procedural knowledge*, that is, in the passage from knowing as conceptual corpus focused on definitions, to know as cognitive apparatus willing to design and intervention on the real. This educational concept of knowledge appraise the cognitive variables that organize transactions on I-world on pragmatic assumptions. Actually, already in the reflections of J. Dewey (one of the first and, certainly, the most authoritative exponent of the pragmatic vision of knowledge and education) it is possible to see the presence of other epistemic components appropriate to base the educational values of disciplines. He argues, in fact, that "the problem of education is to find the material that engages a person in specific activities that have an aim or a purpose interesting for him and that consider things not as tools of gymnastics but as conditions for achievement of purposes "(Dewey, 1953, p. 78). As can be noted, the american philosopher-educator identifies the conditions of the didactic training not only in the possibility to interpret the discipline as "instruments aimed at achieving goals", but also as a doctrinaire corpus that, save this first condition, puts students in a position to deal with activities aimed at achieving an "aim or a purpose" that meet his interest. In Dewey's words emerges, therefore, a vision of teaching and learning process that identifies the conditions of its full compliance not only in the tension that directs operations towards practical- operational skills, but also in the esteem of subjective instances that allow to the student to establish the significant that the knowledge can take for subjectivity and, particularly, the dimension of the Self. As these components show themselves largely associated to pragmatic value of disciplines, they, however, do not exhaust their meaning in the scope of the practical components of action. The opening of the educational process to constitutive dimensions of subjectivity or, as claimed by J. Bruner (1988), the backdrop of consciousness, look to be the reference of educational action to knowledge of hermeneutics matrix, which, according to the configurations pragmatic matrix, put the student in the condition to develop the profile of the reasons why those specific

learning can become relevant to the Self. In more specific terms, the employment in educational operating area of hermeneutics connotations of knowledge introduce in the plan of educational action the training skills related to an additional goal: to promote among student the capacity to manage not only the practical-operative skills, but also the mental functions of interpretative matrix , which direct knowledge to the *dimensions of meaning*. In light of these circumstances, for example, the teaching of information technology, over to promote among students the knowledge of the structure of the bit and the mastery of the procedures useful programming activity, identifies a further aim in the possibility to strengthen their ability to conceive and to reply to meaning questions as the following: what are the reasons for these the knowledge of the bit can become relevant for me?; what changes this discovery resulted in human history?; what consequences this knowledge reflected on my way of being?; In what way this knowledge change my life and the perception that I have of myself ?; in this sense, what criticalities and what possibilities this knowledge provides to me respect to development and implementation of what I decided to be?; how this knowledge influences my relationships with others?

As we can note, the profile of these questions orients knowledge not so much towards the elaboration of the definition of the content (what is a bit), or towards the formalization of procedures and algorithms that implement this knowledge in tasks of pragmatic-operational matrix related to programming. They, without denying that size, solicit, rather, the development of an additional epistemic step, aims to clarify the connections that content establish with the dimensions of subjectivity related to personal experience, relationship with others, the identity profile.

TO DESCRIBE, TO PLAN, TO CARE

The projection of teaching towards the meaning connotations establish the need to formalize the models of intervention within which insert interventions aimed to its realization. In this respect, it is specific task of educational action identify the suitable criteria to guide the learning processes to production of these mental representations. The configurations of meaning, by virtue of their strong hermeneutic connotation, take consistency in the operating area of knowledge contexts able to connect content to fundamentals that characterize the constitutive profile of the Self. For these reasons , they express their potential in cognitive acts within fundamental epistemic actions, which finds their anchor point in the activities aimed to processing of judgment (Lipman , 2005) . The " judgment" can be defined as a statement on the experience and on the world, in which can be identified two levels of analysis. At first level, that is most summary, they have a *basic configuration* attributable to the linguistic structure of the sentence; at a deeper level, they express instead a *knowledge intention*, which identifies the purpose that they wish to achieve through their own structured according to the procedures of the first level.

Compared to the level connected on the *basic configuration*, the judgment can be defined as a linguistic construct based on association between two concepts: of these, one represent the object placed under observation; the other defines, instead, a quality which is assigned to the first. In very general terms, the term that indicates reality which is spoken takes the name of *subject*, while the term that indicates the quality that is assigned to the latter takes the name of *predicate*; the language construct that establishes the attribution of quality to the object is, instead, the copula. The language model that expresses more fully the structure described above is to affirmative matrix, which becomes recognizable in the formal proposition "A is B" (e.g.: *the cat is an animal*), in which the quality represented by B (in case of the example, the concept of the *animal*) is assigned to the object A (in the case of the example, the concept of *cat*). Compared to the level connected to *knowledge intention*, the judgment is instead like *personal disposition which the knowing subject is oriented toward the known object* .This disposition it is recognizable in epistemic purposes that the person intends to pursue when committed itself in the development of the knowledge act. These provisions can, obviously, materialize them in a plurality of intentions and purposes, however, as they are subject to various configurations, their underlying structure can be recognized in the profile of three fundamental epistemic acts: the act of describing, the act of planning, the act of caring (Lipman, 2005). In this respect, the statement of the previous example can be developed to bring back the object-cat to a description that makes more recognizable its constitutive characteristics (to describe); to appoint to the cat a value that is coded it, creatively, as a symbol of elegance, cleverness, independence, etc. (to design); and, finally, to recognize in a cat an individual that, as bearer of life, deserves respect, attention, protection (to care).

The mental act of *describing* materialize it in a modulation of judgments aimed to identify the constitutive features of an object. It consists in the development of language constructs essentially predicative, aimed to associate to a being a set of attributes that qualify its profile. The general function is specified in further epistemic joints, such as those related to *generalization*, which consists in subsuming a concept within a more general concept; in *deduction*, which consists in deduce a specific concept from a wider concept; in *comparison*, which consists in the comparison between two concepts to find similarities and differences; in *systematization*

that consists to intention objects according to the connection part-whole; in *causality*, that concern to connect to each other the concepts according to the relationship of cause-effect. In terms of dimensions of meaning, the skill in question responds to a request for clarification, the subjectivity need to bring a clear and recognizable profile the object to intention its knowledge acts.

The mental act of *planning*, in terms of knowledge intention consist, instead, in the elaboration of the sense that release the object from real connotations, hinged on the definition of *what it is*, to place it in a new network of relationships, and identify it, consequently, in reference to *what it can become*. Planning elaborations reveal, therefore, an highly creative value and (at the level of basic configuration) finds its anchor point in the context of knowledge acts built on the model of linguistic metaphor (e.g.: A *is like* B, where A and B represent constructs related to semantic fields not only different, but neither correlated by logic or empirical manner).

The mental act of *caring*, identifies, finally, its knowledge intention in the operating area of epistemic processing oriented to thematise *the object as a reality characterized by value and therefore deserving of attention, protection, in fact, care*. The linguistic models suitable to support this instance may, of course, be varied and are not attributable to a prevalent linguistic form. They, however, can identify appropriate ways of expression within the lexical, syntactic and pragmatic codes suitable to express feelings of empathy and/or to mediate a decision aimed to action. Empathy (which, in general terms, can be defined as the ability to reproduce in themselves what the other feels, maintaining awareness of the distance that separates us from him), that is factually recognized in the statements that relate the dynamics implicit in the process of identifying that ratify the value that the person recognizes to the objects of experience. The decision appears, however, in declaratory contexts aimed to codifying behaviors and choices by which an object can be "acted" in respectful terms of its value and its meanings.

MENTAL SKILL AND LEARNING: AN EMPIRICAL INVESTIGATION

Thinking skills described in the previous paragraph have formed the investigation object of an empirical research focused around two questions: a)What are the thinking skills that students activate during the execution of learning tasks? Are such skills requested by the structure of proposed deliveries? The investigation is conducted on a group of 90 students come from the third, fourth and fifth year of high school of the Province of Lecce (Puglia, Italy). The students, divided by classes, have partecipated to a lesson about a philosophycal topic carried out by a university professor (a different teacher for each classes), and then they were urged to perform a written school work on the topics that are objects of the lesson.

Structure of educational intervention

The lesson aimed at children in third classes had for theme the *Sophist* of Plato, particularly its spacing from the Parmenide's philosophy of and the claim for which "being is, non-being is". In this case was adopted the methodology of traditional lesson, hinged on procedures typical of classical argument, aimed at clarifying of the concepts and on the focus of the differences between Plato and Parmenide. Later, the students were asked to play, in written form, the following task: *In Plato's philosophical argumentation, exposed in the Sophist, being is, and non-being is: is distress the principle of non-contradiction of parmenidean matrix. Prepare a critical reflection on the exposed issue, taking into account: a) the philosophy of becoming and relativism; b) the Plato's arguments of solution to ensure the rationality underlying to principle of non-contradiction: A) the duality of knowledge and the duality of being, mimesis and methexis; B) otherness/multiplicity of things and ideas.*

The intervention done by the students of the fourth classes has had for theme a reflection about the laws, on their meaning, their relationship with the foundations of democracy. The students first have heard a song by Bob Dylan, in which is stated that "to live without laws must be honest people" and, later, was directed them the question: "Can we live without laws?". Then they attended to a lesson about philosophies of Hobbes, Spinoza, Montesquieu and Rousseau on the theme. After the intervention, the students were encouraged to play the next track: *"To live without laws must be honest people" (Bob Dylan). How is it possible to live - if it is possible - in a society not governed by laws? Develop a critical reflection, that, framing above-mentioned question within philosophical discussion on the autonomy of the subject, takes into account the contribution of Thomas Hobbes relating to the condition of man in the "state of nature", the social contract and the preference for the monarchy; of Spinoza about on the democratic form which highest and most perfect political form; of Montesquieu and Rousseau: some elements of self-reflection about human societies (from the parable on the autonomy in which it tells the story of the troglodytes to the theme of solidarity and social equality).*

The fifth classes have followed a lesson about Nietzsche and the concept of truth, carried out with the same methodology adopted for the third classes. Later, the students were asked to perform the following task: *taking inspiration from the texts of Nietzsche below, trace the history of the truth from its constitution as pragmatic and*

functional means, and try to identify what were, for Nietzsche, the developments and the consequences of this "construction" in western philosophy and morals; Human too human *(aphorisms 9, 10, 11, 15, 18);* Jolly Science *(aphorisms 110, 111, 112, 354);* Twilight of the Idols *("The Reason of philosophy", "The four big mistakes" , "On Truth and Lies in extra-moral sense" .*

As you can see, *the educational interventions put in place in the different classes* differ both in terms of the presentation of themes and in regard to the assigned tasks to students. More precisely, the presentations oriented to the third and fifth classes follow the classical methodology of frontal lesson based on argumentative criteria. They refer to some works of the authors (Plato for the third and Nietzsche f the for the fifth) and, starting from the latter, aim interventions to definition and clarification of concepts. In this sense, they are essentially hinged on knowledge models of declarative matrix. Their epistemic intention is focused on underling of the constitutive elements of the object of study and is expressed in the formulation of linguistic propositions largely attributable to the descriptive model "A is B" (the comparison between Plato and Parmenide or between Nietzsche and other authors is aimed to give substance to the construct: *For Plato the being is ... ...; For Nietzsche the truth is.......*).

The educational intervention achieved in the fourth classes has, instead, an epistemic structure different from the structures of other classes. The structure of the intervention, in this case, doesn't satisfy criteria of declarative matrix, but assumes, rather, a problematic profiles. The contents of the object lesson, in fact, are not presented as declarative corpus that are justified in themselves, but as conceptual units that make sense according to the problematic focus envisaged by the initial question ("Can we live without laws?"). The purpose of the teaching intervention is not to be found, in this case, in an attempt to encourage the student to develop the declarative knowledge, but in the intention of promoting in him the activation of mental skills that oversee the autonomous development of an *essential knowledge* (build a personal and meaningful representation of what the laws are in the world in which he lives and what value they assume for the definition of his way of being) (Wiggins & McTighe, 2004). The didactic action originates from a stimulus on the theme (the song of Bob Dylan) for presents the content is not as epistemic constructs concluded in itself, but as knowledge apparatus that can stimulate reflection on questions come from the same context which is obtained the initial solicitation (*the meaning of the laws and their relationship with democracy*). In this sense, the purpose of the intervention is not to *clarify what it is the law for Rousseau or for the other presented authors* (declarative knowledge), but to propose a lecture's itinerary that puts the students in the condition to *understand like the "notion" of "law" elaborated by the philosophers, can help to conceive a "representation" of "law" that is relevant and meaning for his way of being* (essential knowledge). The fundamental epistemic intention indicates, therefore, the attempt to activate inferential processes that, builds on the concepts of the authors, put the student in a position to develop a suitable representation of them to establish personal guidelines that oversee the relation with the context. In this respect, the purpose of the lesson is not to make the clarification of the concept of "law" specifically for each author, but to offer to subject the opportunity to explain to himself what it means the concept of "law" for the personal experience and for the context in which he is called to live.

Structure of tasks
Actions taken in the three classes also differ respect to the structure of the tasks assigned to the students after the lessons. In this case, the diversity of structure refers to the peculiarities of mental operations required by these deliveries, the articulation of which appears due to the different configuration of *cognitive styles* (Sternberg & Spear - Swerling , 2008) implied in the formulation of the tracks . In particular, the task assigned to the third classes is structured on the peculiarities of the *executive style*; one is assigned to the fourth classes is structured on the peculiarities of the legislative style ; one is assigned to the fifth classes is structured on the peculiarities of the judgmental style.

The task assigned to the third classes is hinged on assumptions of playing executive style, which is identified in the set of mental operations aimed : 1) to reconstruct as accurately as possible the structure of a known concept; 2) to carry out, as precisely as possible, an operational sequence already coded. The request made to the students of the third classes observed, in its formulation, both of these operations. Indeed, it asks students to define, in an articulated manner, the Platonic conception of Being (to reconstruct a known concept) ; and to operate this reconstruction "taking into account" other concepts in the philosophy of the author (accurate execution of cognitive paths prescribed, whose steps are determined in advance by the structure of the task).

The task assigned to pupils students in fourth classes replies, instead, the fundamentals of the *legislative style*, which finds its assumptions in the mental operations finalized to produce knowledge that assign to objects a emerging profile, very innovative compared to the epistemic structure known or preconceived. The structure of the task follows the model of the essential question, which is the formulation of an open question, which comes free of the specific nature of the content (the philosophies of Hobbes, Spinoza, Montesquieu and Rousseau) and

that, however, it raises questions can be discussed and formalized through a specific reference to that content. In this case, the formulation of the task, doesn't ask to reconstruct the definition that the authors give to the concept of "law." It asks, rather, *the development of an emerging epistemic profile*, which is identified in the *independent formalization* of the contribution of these definitions to clarify a problem affecting not more than the same construct, but the context in which the subject places his experiences (can you live without laws?). In more specific terms, the "legislative" profile of the intervention doesn't focus on the clarification of conceptual profile of authors, but it is founded on trying to discuss a question that assumes the epistemic content of those constructs *to generate from them a plus cognitive* related to the peculiarities of the contexts in which the student carries out his personal and social experience.

The task assigned to the fifth classes realized, finally, the conditions of *style judiciary*, which is manifested in cognitive acts finalized for elaboration of personal considerations and evaluations about existing content. The profile of this style becomes recognizable in the request addressed to the students, to elaborate a review of philosophical texts already consolidated, taken from the main works of Friedrich Nietzsche. In any case, although the delivery prospects an exercise focused on the comment, the formulation of the track introduces in the task some elements that refer to the peculiarities of executive style. Indeed, it doesn't just require the elaboration of judgments and personal assessments on the contents of the texts, but it directs the attention of the students on the concept to put under observation (that of "truth") and also it indicates the interpretations that they shall guide the formulation of such judgments (the consequences of Nietzschean philosophy on Western philosophy and on moral).

RESULTS AND CONCLUSIONS

The themes developed by the students after lessons, were processed through the indexes of textual statistics. The extrapolation of these indices has been operated by the T-LAB software, and it focused on the detection of clusters within the documents produced by the students of each class. The results detected by these procedures were analyzed in reference to the initial questions, namely: a) to identify the thinking skills used by students in the elaboration of the themes; b) to verify if these skills are related to the structure of the delivery. To answer to these questions, it was considered the cluster, that in the productions of each class, saturated the percentage of higher meaning in the corpus. The methodological choice to focus the investigation on the classes was adopted according to different structure of the tasks assigned to each class. In this way, in fact, it was possible to put under observation the existence of correspondences between the structure of the task and the type of the forms of thought used by students in the construction of the theme. In order to bring order to the exposition that follows, it will proceed first to identify the forms of thinking used by students in the construction of the projects and later it will experience the existence of correspondence between these forms and the structure of tasks. The appendix shows statements that are having significance levels higher within the clusters.

Thinking skills used by students

The papers of the third classes condense the core of meaning more relevant around the cluster relative to the headword *Patricide*, which saturates the 33 % of the variance relative to total utterances. Thinking skills highlighted by language productions of the students are placed in all cases in the context of the description. The structure of judgments is in large measure due to the generative model " A is B ", with a prevalence of particular forms enunciation based on the comparison : For Plato (A) being is to be conceived in terms (is) dialectical and dynamic (B) ; Plato (A) commits (is) a patricide in killing, obviously metaphorically, Parmenide (B) ; Dialectics (A) is for Plato (is) the true form of philosophy (B), markedly different from the rhetoric philosophy of the sophists (comparison) .

The works of the fourth classes condense the most important core of meaning around the cluster relative to the headword *law*, which saturates the 28% of the variance relative to the total utterances. The generative structure of such judgments found a marked prevalence of statements related to the ability of Caring. The prevalence of language productions elaborated by students appears largely related to constructs designed to mediate: a) a representation of the personal and social value of laws; b) a decision aimed to define actions based on that statement of value: *who wants to live in a State and to enjoy security, freedom and rights must respect the laws* (laws allow you to define "what is to be done", for "acting" status in its connotations of value - safety, freedom, rights); *Today we live in a democratic country, where the political participation and respect for the law is the cornerstone of modern society* (formalization of the reasons for which the laws allow you to "make explicit the importance of a wide value", that of democracy); *any law, which is proposed, isn't only emanate for those who are disloyal, because even if we lived in a world dominated only by honest people, in the absence of laws, the principles of freedom or equality in any case never would reach* (identification of reasons that make relevant laws not only for the community, but also for personal life). Dates of the cluster put, also in evidence, although in circumscribed form, linguistic processing related to empathy. Traces of these representations can be identified

in two linguistic phenomena in the corpus: a) the constant and continuous use of the declined verb in the first plural person (*We live*); b) the use of exclamatory expressions (*the man can give so much more !; Yes, lawless !; no one can blame him!*) and question / reflective (*But would be able we, men of the third millennium, to live, just a day of our lives, without rules and constraints? Could we to not infringe the freedom of others?*). Both of these phenomena emphasize the tendency of students to place the epistemic content (reflection on laws) against the background of a social reality which the personal subjectivity plays a part and which, therefore, causes emotional resonances and, as a result, identification paths, in personal experience .

The works of the fifth classes condense the most important core of meaning around the cluster relative to the lemma *truth*, which saturates the 26% of the variance relative to the total set. The structure of the judgments contained in that corpus detects marked correspondences with that of the third classes. It denotes a strong focus of statements about the author and his particular way of viewing the content. The structure of these linguistic constructions reproduces, therefore, also in this case, the fundamental model of the *description*, hinged on the declaratory scheme "A is B": *the truth* (A) *are* (is) *illusions of which you have forgotten that such are* (B). A peculiarity that is found in the statements are part of the corpus is their substantial uniformity, both in terms of content (*truth as moving army of metaphors*, which is found in all the statements in the cluster), both from the point of view of linguistic elaborations, which circumscribe to a minimum the variety of formulations.

Correspondence between the structure of delivery and mental skill
The evidences emerging from the analysis of the cluster appear to show that: a) deliveries structured on executive and judgmental styles (the third and fifth classes) have promoted the activation of mental abilities relative to the description ; b) tasks structured on *legislative style* called for the activation of mental abilities relative to Caring

The works produced by the students of the third and the fifth classes highlight a marked tendency to trace the elaborative scheme suggested by the structure of the delivery. In the case of the third classes, the configuration of the descriptions in the corpus reproduces, in fact, slavishly the strongly executive input implied in the track, and it produces a substantial uniformity in the linguistic organization of sentences. The task of carrying out the elaborate according to precise indications (executive style) has urged students to activate internal resources related to the descriptive ability, but also has encouraged the assumption of a language model mainly hinged on predicative and comparative functions. The cognitive instance in exam becomes itself clearly identifiable in the epistemic path implied in the totality of statements that make the cluster: clarify the meaning of the statement "being is, non-being is", through mental paths mainly focused on the comparison between the philosophy of Plato and that of Parmenide, in turn it analyzed with respect to the concept of patricide. The executive task reveals, therefore, a strong tendency to request meaning instances related to the clarification of the content object of knowledge, and to process such requests through the mental model of the description (what the object is), implemented through the prevalent use of epistemic declarative paths. This style doesn't reveal, however, the ability to activate neither mental models of design nature (relative to the projection of knowledge towards the prospect of being able to be), nor the mental models of taking care (related to the projection of knowledge to the prospects of values).

The works produced by the students of the fourth classes point to a marked tendency to characterize knowledge in terms of value. The cognitive instance that emerges from the content of the cluster highlights the epistemic commitment to clarify not the conceptual content (the concept of the law), but the value that content can take for the subjectivity and for the social context. The results produced by the survey put, therefore, in evidence the correspondence between deliveries structured on legislative style and the activation of thinking abilities focused on the taking care. The epistemic intention that emerges from language constructs developed by the students of the fourth classes is identified, in fact, with the specific elaborations of this mental model: a) the formalization of the decision-making apparatus that allow you to "take action" content in its connotations of value (specifically, the definition of the routes that identify "what is to be done" to connote the laws in terms of value, what implies, in terms of action, the fact of recognizing the laws as entities connoted in value terms); b) the development of cognitive paths of empathic matrix that permit to specify the relief that the content takes for the backdrop of knowledge, declined both in personal terms and in social terms. Tasks structured on legislative style leave, also, on the background mental models of descriptive matrix and they have no references to mental model of design matrix. In this respect, the fact that the cluster in question doesn't present marked references to the authors lesson object (between these only Rousseau is named, and only in a sentence) appears particularly significant. This evidence can be considered a further evidence of the marked distance of the legislative style from the skills of descriptive matrix and its prevailing orientation to mental models hinged on the act of taking care. More precisely, the resources of descriptive matrix aren't excluded from the cluster statements, but rather they are used to formulate the base statements, which are used as a basis for care judgments of nature mainly values (taking

care). Equally significant appears, finally, the distance of the legislative style from thinking skills of creative matrix, whose configurations are not found in any statements that are part of the cluster.

The works produced by the students of the fifth classes highlight a marked tendency to characterize knowledge in descriptive terms. In this respect, they reveal a substantial similarity with language productions developed by the students of the third classes, although they distance themselves for some peculiarities. The results produced by the survey bring in relief a decisive correspondence between the deliveries structured on the justice style and mental abilities related to the *description*. The cognitive instance emerges from the language productions created by the students is recognized, in fact, in the attempt to apply a clarification of the content object of reflection (the Nietzschean concept of Truth). Such cognitive intention is materialized through the formulation of language constructs with a strong predicative value, that prevailing modeled the pattern "A is B" (the totality of the statements in the cluster is addicted to the script [*the truth* (A) is (is) *an army of metaphors consolidated during the time* (B)]), but that they haven't the additional variations of skills implicit in that model of thought. Precisely in this figure, moreover, it shows the difference with the language productions of pupils in the third classes, in whose productions, in addition to the general structure of predicative type, there is also the specific function of the comparison. The statements contained in the cluster detect, even in the fifth classes, the absence of mental models related to project and to take care.

The dates collected from the empirical investigation, as subject to further insights, allow some synthesis considerations about the subjects of reflection. The first fact to note is related to the substantial differences between the linguistic productions realized by the third and fifth classes and those developed by the fourth classes. While the first appear spread over *connotations of meaning focused on the structure of the object of learning*, the latter have instead focused on the *connotations of meaning that make very important that subject for the backdrop of subjectivity*. This result occurs due to the differences between the structures of interventions made in each class. In this case, the dimensions of meaning hinged upon in the mental act to describe prove largely associated with deliveries focused on the style of executive and judicial nature. This correspondence appears due to relief that takes in such tasks the reference to the epistemic configuration of the object of study. The prevailing focus on the content of those deliveries actives in the students cognitive instances related to the clarification, the element that allows you to give a reason about the why language productions associated with that epistemic configuration occur mainly aimed to clarify the connotations of meaning related to the structure of the concept. The dimensions of meaning associated with the act of *taking care* appear, instead, largely related to deliveries made on the premises of the legislative style. The structure of the task appears focused, in this case, not on the clarification of a content, but on the *problematization of a concept,* that is, on the questions, on the doubts, that the particular content refers to subjectivity. The epistemic instance urged by the legislative style promises to the person not an instance of clarification of the content, but an instance of clarification of itself. In this sense, it is structured on requests that establish precise correspondences with dynamisms hidden in the mental act of *taking care,* ended to thematise the relief that the object takes for the Self. That element therefore allows to give reason both the prevalence of this mental model developed in the works of the fourth classes, both of the reasons because such elaborates occur mainly located on the connotations of meaning ascribed to the side of subjectivity.

Requirements of clarity impose to indicate that dates revealed from the empirical research and differences identified between the different classes don't appear to be related to variables of evolutionary nature, related to the difference of age between students. This conclusion find appropriate justification in the fact that students of different ages (those of the third and fifth) show linguistic production substantially equivalent, so that the differences between the works of the various classes can't be ascribed to the influence of age, but to the different structure of the interventions and the tasks assigned to students. In conclusion, it is necessary to detect an additional fact: that relating to the absence, in the materials of all classes, of the mental model of the design. The reasons for this absence can be many and they still pose the need for an additional segment of investigation aimed to clarify the reasons suitable to bring to sense the happening of this phenomenon.

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APPENDIX

In this appendix are statements more relevant, related clusters of each class and make that exemplify the data described in the article.

Third classes

SCORE (85,499) In the work 'sophist' for example Plato commits patricide in killing, obviously metaphorically, Parmenides great master venerable and terrible. Plato for being is to conceive dialectical and dynamic terms and not absolutely static. The dialectic looks like real form of philosophy differently from the sophistic rhetoric persuasive.

Fourth classes

SCORE (154.11) "To live without laws must be honest people" ... Yeah, without laws! Could we live without laws? Wherever we go, our life is subject to specific laws and prohibitions. But we, men of the third millennium, are able to live, even just one day of our lives, without rules and constraints? We could not to violate the freedom of others?

Fifth classes

SCORE (71,336) truths are illusions of which it is forgotten that these are; "[On Truth and Lies in extra-moral sense]. Representing the truth as an army of metaphors Nietzsche wants to highlight its derivative, arbitrary and essentially false nature.

SCHOOL OUTPUTS OF ESCUELA NUEVA PRIMARY SCHOOLS IN COLOMBIA: AUTONOMOUS LEARNING OF FRESH GRADUATES

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Escuela Nueva (New School) of Colombia is one of the well-known excellent education programmes for rural schools. While extensive researches have been conducted on "education inputs," "education process," and "education outputs" of Escuela Nueva, its "education outcomes" is rather limited. Therefore, this research investigates how Escuela Nueva benefits the society and individuals throughout the life of the graduates by longitudinal studies of its graduates. In 2014, as the first year of the research, we conducted the baseline survey with 1,047 G6 students at thirty five secondary schools who have just graduated from Escuela Nueva primary schools (Gs 1-5) and now attending at conventional secondary schools in two rural regions. In this presentation, some of the preliminary results will be presented to reveal how EN graduates gain the cognitive skills, particularly autonomous learning throughout their EN primary school experiences.

Keywords: elementary education

SCHOOL SELF-CONCEPT OF ADOLESCENTS AGED 10-15 IN SLOVAKIA AND IN CZECH REPUBLIC. COMPARATIVE STUDY

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ABSTRACT
The contribution is focused on the school self-concept of adolescents. The school self-concept is very important psychological and educational problem because of the relation between the self-concept and school performance and because of the relatively low count of the relevant diagnostics methods. The comparative study is based on the data from Slovak and Czech adolescents aged 10-15 and is the result of the research cooperation between the Department of Psychology (Faculty of Arts, Palacký University Olomouc) and Department of Educational and School Psychology (Faculty of Education, Constantine the Philosopher University in Nitra). We assumed that there exists the difference between the Slovak and Czech population in the school self-concept. Our research sample consists of approximately 5 900 adolescents (4 200 Czech and 1 700 Slovak adolescents). As a research method we used the SPAS (Student's Perception of Ability Scale), concretely version III which was standardized in Slovakia and in Czech Republic by Matějček and Vágnerová in 1992, named as Questionnaire of Children's School Self-Concept. Because of the age of the standardization we modernized the method through the item reformulations and formal design of the method. As a general result we acquired no significant difference in between the Slovak and Czech adolescents in global school self-concept and we can't accept our assumption. Hereby we realized the gender and age comparisons which are a part of our contribution.

Key words: adolescence, school self-concept, SPAS, comparative study

INTRODUCTION

General self-concept

Self-concept represents a psychological concept which is native to Psychology right from its founding. It is already related to James, who perceives the human psychic as a dual entity, consisting of a pure Self and empirical Self (Blatný, 2001). Baumeister (2005) defines the self-concept as a complex of individual believes about one-self which consists of personal attributions about what the self is.

Self-concept is a factor which influences the psychical regulation, orientation and stability of activity (Balcar, 1983) and indirectly influences through ideal Self, self-esteem, self-evaluation or self-efficacy. Its unidirectional influence is given by the traditional structure which has its cognitive, affective and conative character (Greenwald, Pratkanis, 1984).

The cognitive aspect of the self-concept is based on the assumption that there exists the declarative and procedural knowledge about the self. This knowledge represents the content of the self and the processes of the self, which were named by Greenwald (1980) as beneficence and effectance. These two words were joined to the term benefectance. The cognitive aspect of the self is also represented by the various hypothetical form of self, for example ought self (Higgins, 1987), undesired self (Ogilvie, 1987), ideal self (Rogers, 1951), possible selves (Markus, Nurius, 1986) etc.

The emotional aspect of the self is mainly connected with the components named as self-competence and self-liking (Tafarodi, Swann, 1995). Self-competence expresses the personal belief about the ability to produce the desired outcomes. Self-liking expresses the perception of the social relations and their influence on the self-perception. These terms express two sources of the emotional aspect of the self-concept – inner and outer.

The conative aspect of the self-concept can be derived from the Higgins's theory of self-discrepancy (Higgins, 1991), specially the concept of the self-guides, and the concept of the self-mastery (Bandura, 1997). The self-guides are life standards which belong to the content of the ideal and ought self. They motivate the behaviour and give it the emotional charge. Motivated behaviour leads to the comparison between the actual and desired state. The result can be the consistency or the inconsistency. The consistency expresses the desired behaviour

and the inconsistency expresses the undesired behaviour which has to be changed.

We can summarize that the self-concept, a hypothetical mental structure, which (1) has a cognitive, affective and conative element, (2) is derived from social experience represented mainly by the closest relationships, (3) issues from the human activity and need of self-definition, (4) is derived from the ability to perceive the requirements of outer environment and internalize subjectively transformed contents of these expectations, (5) has more forms which function is the regulation and stabilization of behaviour, as well as interpretation of specific experience in a particular context.

We can also define some characteristics of the general self-concept. According to Shavelson et al. (1976), the self-concept is: (1) organized and structured, (2) multifaceted in the concordance with the category system individual interpretation of the group categories, (3) hierarchical, based on the moving to inferences about the self in subareas (academic and non-academic), (4) relatively stable, but dependent on the specific situations and consequences of the behaviour, (5) multifaceted in the relation with the increasing age, (6) descriptive and evaluating, (7) differentiated from the other personality constructs.

Academic Self-Concept

At this moment we come to the thought to what extent perception of ourselves is influenced by the perception of us by other people. Matějček, Vágnerová et al. (2006) write about personal and social basis of self-evaluation. Personality basis is based on comparison of own abilities with one another. Social basis is established on comparison of own abilities with the abilities of others (which are similar to the person in age, gender, etc.). Another specific category of formative social influences represent reactions of reference persons, who are parents and teachers in the child age. Their tendencies to identify the causes of successes/failures at school, satisfaction/dissatisfaction with school results, emotion reactions related to school performance, possible discrepancies and conflicts between parents and teachers significantly influence child's self-constructs and his/her self-confidence.

Self-concept is a variable which is dependent on individually specific concordance of various factors (according to Matějček, Vágnerová et al., 2006), like personal characteristics, stability and integration of personality, frustration tolerance, emotional support of close ones, social positions in peer groups, etc. Undoubtedly, it is dependent also on emotional experience, or emotional resilience (Matějček, Vágnerová et al., 2006) residing in the ability to deal with negative emotions (anxiety, fear, doubt, sadness, shame, guilt) which can occur by performance that is not adequate to child's abilities and it can influence his/her further aspirations, interest for work, attitude towards work, motivation in general and from the point of interpretation of own performance also the attitude towards oneself, mirroring into self-evaluation. Emotions in pre-school and school age strongly influence child's performance and so represent a mediator which catalyses circular character of regulation-interpretation system of perception, own competence.

Basal personality structures, to which self-evaluation also belongs, represent generalized beliefs which were created based on a bigger or lower number of experiences with a specific occurrence. In case of self-evaluation we could speak about the ability to produce the expected performance. It is nevertheless not fixed to any specific situation in a child's age, or environment which would explicitly control the development of abilities. The situation changes after a child enters the school. Based on the confrontation with school environment and its requirements, self-evaluation as a generalized belief is formed into specific element in the form of school self-concept (Matějček, Vágnerová et al., 2006). Formation of school self-concept is dependent on the development of cognitive functions like it is specific for a specific development stages.

Children who have just entered the school are not able to differentiate their own abilities and abilities of other children yet. They are fully dependent on the opinion of teachers and parents. In the school age, expectations and requirements of adults represent a norm of required behaviour which the children transform into normative ideas about themselves (self-concept). They try to identify with this idea and fulfil it (Poledňová, Stránska, Kmětíková, 2009). In the second or third grade of primary school the children already realize that different persons have different abilities and are able to fulfil different tasks than others. However, they are not able to generalize this experience yet. Around their 10th year the children can already evaluate their own abilities in a more complex and integrated way. The child becomes aware of differences from others and his/her self-evaluation is more durable against outer influences. In pubescence comes to decrease of self-evaluation, children are more unstable, less self-confident. The self-confidence wouldn't change in this period in spite of the possible deviations caused by actual events in the life of pubescent person (according to Vágnerová, Klégrová, 2008).

All these processes related to the ontogenetic development are strongly connected to the development of the school, or more precisely to an academic self-concept. It is demanding to design the model of the academic self-concept within some research. At least three important models can be identified in the history of this problem.

The Shavelson model (Shavelson et al., 1976) is based on the influence of the academic self-concept on the main areas of the school subjects – Math self-concept, Science self-concept, History self-concept, English self-concept.

The Marsch model (Marsch et al., 1985), first-order model assumes the multilateral relations between the main

domains of the academic self-concept – Math self-concept, Physical Science self-concept, Foreign Language self-concept, English self-concept.

The Marsch/Shavelson model (Marsch, 1990), higher-order factor model, distinguishes the Mathematics self-concept and the Verbal self-concept which can be considered to be uncorrelated. Marsch (1990) assumed the Mathematics self-concept influences the Math self-concept, Physical Science self-concept, Biological Science self-concept, Economics Business self-concept, Academic self-concept and partially Geography self-concept and History self-concept. Marsch (1990) assumed the Verbal self-concept influences English self-concept, Foreign Language self-concept, History self-concept, Geography self-concept, Academic self-concept and partially Economics Business self-concept and Biological Science self-concept.

All these models are very important for understanding of the academic self-concept. Especially, the third one looks very effective one (according to results of Brunner et al., 2009).

We have to note that in the process of the general self-concept development and academic self-concept development there is very important to regard also on the non-academic self-concept. It consists of the social self-concept, emotional self-concept, physical self-concept and it is determined by the relations with peers, significant others, particular emotional states, physical ability and physical appearance (Shavelson et al., 1976).

THE STUDY

The research sample
The research sample consists of 1 704 Slovak adolescents in the age from 10 to 15 and 4 183 Czech adolescents in the age from 11 to 15. The total amount of the research sample was 5 887.

The Slovak research data were acquired in 5th, 6th, 7th, 8th and 9th grades of primary schools and in 1st, 2nd, 3rd, 4th grades of the eight-years grammar school in all districts of the Slovak Republic, except Bratislava's district, it means 7 districts. The average age of the pupils was 12.45 years old with standard deviation 1.50 year old. The amount of the boys and girls was relatively balanced (837 boys and 867 girls).

The Czech research data were acquired in 6th, 7th, 8th and 9th grades of primary schools and in 1st, 2nd, 3rd, 4th grades of the eight-years grammar school in all districts of the Czech Republic, it means 14 districts. The average age of the pupils was 13.00 years old with standard deviation 1.25 year old. The amount of the boys and girls was relatively balanced (2 004 boys and 2 179 girls).

Both research samples were representative. The total amount of the pupils of the school age were 230 531 in the Slovak Republic and 348 678 in the Czech Republic in 2014.

The research method
We have chosen the Questionnaire of Children's School Self-Concept. It is standardized method published in 1992 (Matějček, Vágnerová 1992). It consists of 48 items which are agreed or disagreed by the respondents. The questionnaire contains of six scales saturated by eight items: General Abilities, Mathematics, Reading, Spelling, Writing, Self-Confidence. It is also possible to calculate the total score of the school self-concept.

The possible range of the point is from 0 to 8 in the subscales. The total score is the range from 0 to 48. The score can be standardised into the stens.

The questionnaire was created as a Czech, respectively Czechoslovak modification of the questionnaire SPAS (Student's Perception of Ability Scale) from F.J. Boersma and J.W. Chapman (1979 in Matějček, Vágnerová, 1992). It was modified into the SPAS III form in 1987. The reliability of the subcale measured by Cronbach α is 0.89 and more. Our measurements in 2014 showed the Cronbach α in the range from 0.70 to 0.86.

The research hypotheses
We hypothesized that:
H1:   there exists the difference between the Slovak and Czech adolescents in the school self-concept.
H2:   there exists the difference in the school self-concept in the relation to the age of the adolescents.
H3:   there exists the difference in the school self-concept in the relation to the gender of the adolescents.

FINDINGS
We applied Statistical Program for Social Science 20.0 while testing hypotheses. As a statistical method, we applied t-test and ANOVA. We consider a standard level of significance $\alpha \leq 0.05$ which points to significant differences among research groups.

Results of analysis are displayed in Tables 1-15. In the table 1, there is the general comparison of the school self-concept in both the Slovak and Czech research samples. In the table 2-8 there are the comparisons of the school self-concept in both the Slovak and Czech research samples according to age. In the table 9-15 there are the comparisons of the school self-concept in the Slovak and Czech research sample according to gender.

Table 1 The comparison of School Self-Concept subscales in the Slovak and Czech research samples

			N	M	SD	t	p
SPAS	General Abilities	CR	4 148	3.66	2.169	0.787	0.431
		SR	1 646	3.71	2.211		
	Mathematics	CR	4 148	4.39	2.328	6.230	0.001
		SR	1 633	4.81	2.241		
	Reading	CR	4 148	5.51	2.480	0.281	0.779
		SR	1 631	5.49	2.332		
	Spelling	CR	4 148	4.22	2.799	1.126	0.365
		SR	1 656	4.13	2.726		
	Writing	CR	4 148	4.64	2.531	0.000	1.000
		SR	1 638	4.64	2.437		
	Self-Confidence	CR	4 148	3.97	2.222	0.620	0.535
		SR	1 630	4.01	2.170		
	Self-Concept	CR	4 133	26.41	9.421	1.697	0.089
		SR	1 454	26.90	9.613		

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 2 The comparison of General abilities subscale in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	General abilities	10 years old	194	3.95	2.144	-	-	-	-	-
		11 years old	272	3.88	2.175	577	3.95	2.170	0.438	0.661
		12 years old	354	3.53	2.154	964	3.74	2.115	1.589	0.112
		13 years old	354	3.79	2.290	1 028	3.57	2.200	1.605	0.108
		14 years old	330	3.71	2.257	1 077	3.59	2.213	0.857	0.391
		15 years old	142	3.32	2.089	507	3.57	2.108	1.251	0.211

F = 2.261   p = 0.046   F = 3.976   p = 0.003

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; F = F-value; p = significance

Table 3 The comparison of Mathematics subscale in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Mathematics	10 years old	199	5.66	2.006	-	-	-	-	-
		11 years old	268	5.46	2.072	582	5.26	2.281	1.221	0.222
		12 years old	349	4.68	2.275	964	4.74	2.277	0.421	0.673
		13 years old	354	4.67	2.223	1 028	4.31	2.314	2.549	0.011
		14 years old	321	4.35	2.177	1 083	3.98	2.277	2.582	0.009
		15 years old	142	4.04	2.301	506	3.81	2.247	1.072	0.284

F = 17.867   p < 0.001   F = 44.266   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; F = F-value; p = significance

Table 4 The comparison of Reading subscale in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Reading	10 years old	196	5.36	2.353	-	-	-	-	-
		11 years old	267	5.33	2.404	581	5.60	2.438	1.504	0.132
		12 years old	349	5.30	2.307	963	5.67	2.428	2.471	0.014
		13 years old	347	5.72	2.293	1 029	5.41	2.506	2.035	0.042
		14 years old	328	5.70	2.298	1 084	5.49	2.467	1.372	0.170
		15 years	144	5.35	2.355	507	5.38	2.530	0.127	0.898

F = 2.138   p = 0.058   F = 2.075   p = 0.081

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; F = F-value; p =

significance

Table 5 The comparison of Spelling subscale in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Spelling	10 years old	196	4.95	2.521	-	-	-	-	-
		11 years old	275	4.44	2.696	581	4.38	2.750	0.300	0.764
		12 years old	356	3.90	2.641	966	4.29	2.758	2.306	0.021
		13 years old	354	3.94	2.753	1 027	4.06	2.831	0.692	0.488
		14 years old	330	3.86	2.836	1 084	4.20	2.810	1.920	0.055
		15 years old	145	4.03	2.749	508	4.33	2.804	1.141	0.254

F = 5.845   p < 0.001   F = 1.693   p 0.149

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; F = F-value; p = significance

Table 6 The comparison of Writing subscale in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Writing	10 years old	196	4.89	2.406	-	-	-	-	-
		11 years old	267	4.80	2.389	581	4.75	2.566	0.269	0.787
		12 years old	355	4.70	2.433	965	4.81	2.515	0.711	0.477
		13 years old	351	4.46	2.415	1 028	4.58	2.510	0.781	0.435
		14 years old	328	4.73	2.366	1 084	4.56	2.498	1.093	0.274
		15 years old	141	4.05	2.479	507	4.59	2.544	2.241	0.025

F = 2.889   p = 0.013   F = 1.842   p = 0.118

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; F = F-value; p = significance

Table 7 The comparison of Self-Confidence subscale in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Self-Confidence	10 years old	191	4.58	1.931	-	-	-	-	-
		11 years old	271	4.37	2.079	578	4.50	2.125	0.836	0.403
		12 years old	351	3.81	2.154	965	4.23	2.177	3.103	0.002
		13 years old	347	4.02	2.177	1 027	3.90	2.226	0.873	0.382
		14 years old	329	3.83	2.253	1 082	3.66	2.225	1.210	0.226
		15 years old	141	3.43	2.262	505	3.71	2.172	1.341	0.180

F = 7.287   p < 0.001   F = 19.195   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; F = F-value; p = significance

Table 8 The comparison of School Self-Concept in the Slovak and Czech research samples according to age

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Self-Concept	10 years old	167	28.96	9.038	-	-	-	-	-
		11 years old	231	28.45	10.244	571	28.40	9.319	0.066	0.946
		12 years old	311	26.29	9.471	961	27.50	9.485	1.956	0.051
		13 years old	318	26.97	9.358	1 022	25.82	9.606	1.875	0.061
		14 years old	296	26.16	9.697	1 073	25.45	9.218	1.159	0.246
		15 years old	131	24.50	9.188	502	25.38	8.919	0.999	0.318

F = 5.042   p < 0.001   F = 15. 039   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; p = significance

Table 9 The comparison of General abilities subscale in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	General abilities	boys	802	3.68	2.202	1 988	3.72	2.189	0.436	0.662
		girls	842	3.74	2.208	2 169	3.62	2.155	1.362	0.173

t = 0.587   p = 0.557   t = 1.558   p = 0.119

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 10 The comparison of Mathematics subscale in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Mathematics	boys	793	4.92	2.234	1 995	4.74	2.311	1.872	0.061
		girls	838	4.69	2.239	2 172	4.08	2.303	6.564	< 0.001

t = 2.085   p = 0.037   t = 9.037   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 11 The comparison of Reading subscale in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Reading	boys	793	5.14	2.350	1 994	5.22	2.456	0.785	0.432
		girls	836	5.82	2.267	2 174	5.78	2.461	0.408	0.683

t = 5.982   p < 0.001   t = 7.154   p = 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 12 The comparison of Spelling subscale in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Spelling	boys	805	3.44	2.610	1 995	3.64	2.727	1.778	0.075
		girls	849	4.78	2.680	2 175	4.77	2.751	0.090	0.927

t = 10.293   p < 0.001   t = 13.449   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 13 The comparison of Writing subscale in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Writing	boys	797	3.87	2.310	1 993	3.61	2.352	2.651	0.008
		girls	839	5.37	2.286	2 176	5.60	2.283	2.478	0.013

t = 13.242   p < 0.001   t = 27.701   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 14 The comparison of Self-Confidence subscale in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Self-Confidence	boys	788	3.94	2.153	1 989	3.95	2.242	0.107	0.914
		girls	840	4.07	2.192	2 172	4.00	2.187	0.788	0.431

t = 1.296   p = 0.195   t = 0.569   p = 0.560

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

Table 15 The comparison of School Self-Concept in the Slovak and Czech research samples according to gender

			SR			CR			t	p
			N	M	SD	N	M	SD		
SPAS	Self-Concept	boys	699	24.92	9.266	1 975	24.85	9.361	0.170	0.864
		girls	753	28.73	9.564	2 158	27.84	9.247	2.253	0.024

t = 7.700   p < 0.001   t = 10.308   p < 0.001

Legend: CR = Czech Republic; SR = Slovak Republic; N = count; M = mean; SD = standard deviation; t = t-value; p = significance

We found out:
- the only one significant difference between the Slovak and the Czech adolescents in the school self-concept. Particularly, it is the difference (t = 6.230; p = 0.001) in the subscale Mathematics (table 1).
- the difference in General abilities subscale in the Slovak sample (F = 2.261; p = 0.046) and in the Czech sample (F = 3.976; p = 0.003) according to age. The differences between the countries are not significant (table 2).
- the difference in Mathematics subscale in the Slovak sample (F = 17.867; p < 0.001) and in the Czech sample (F = 44.266; p < 0.001) according to age. The comparison of the countries showed the difference only in the group of 13 (t = 2.254; p = 0.011) and 14 years old adolescents (t = 2.282; p = 0.009) (table 3).
- no significant difference in Reading subscale in the Slovak sample and in the Czech sample according to age. The comparison of the countries showed the difference only in the group of 12 (t = 2.471; p = 0.014) and 13 years old adolescents (t = 2.035; p = 0.042) (table 4).
- the difference in Spelling subscale in the Slovak sample (F = 5.845; p < 0.001) according to age. The comparison of the countries showed the difference only in the group of 12 years old adolescents (t = 2.306; p = 0.021) (table 5).
- the difference in Writing subscale in the Slovak sample (F = 2.889; p = 0.013) according to age. The comparison of the countries showed the difference only in the group of 15 years old adolescents (t = 2.241; p = 0.025) (table 6).
- the difference in Self-Confidence subscale in the Slovak sample (F = 7.287; p < 0.001) and in the Czech sample (F = 19.195; p < 0.001) according to age. The comparison of the countries showed the difference only in the group of 12 years old adolescents (t = 3.103; p = 0.002) (table 7).
- the difference in the total score of the school self-concept in the Slovak sample (F = 5.042; p < 0.001) and in the Czech sample (F = 15.039; p < 0.001) according to age. The differences between the countries are not significant (table 8).
- no significant difference in Reading subscale in the Slovak sample and in the Czech sample according to gender. The differences between the countries are not significant (table 9).
- the difference in Mathematics subscale in the Slovak sample (t = 2.085; p = 0.037) and in the Czech sample (t = 9.037; p < 0.001) according to gender. The comparison of the countries showed the difference between the Slovak and Czech girls (t = 6.564; p < 0.001) (table 10).
- the difference in Reading subscale in the Slovak sample (t = 5.982; p < 0.001) and in the Czech sample (t = 7.154; p = 0.001) according to gender. The differences between the countries are not significant (table 11).
- the difference in Spelling subscale in the Slovak sample (t = 10.293; p < 0.001) and in the Czech sample (t = 13.449; p < 0.001) according to gender. The differences between the countries are not significant (table 12).
- the difference in Writing subscale in the Slovak sample (t = 13.242; p < 0.001) and in the Czech sample (t = 27.701; p < 0.001) according to gender. The comparison of the countries showed the difference between the Slovak and Czech boys (t = 2.651; p = 0.008) and girls (t = 2.487; p < 0.013) (table 13).
- no significant difference in Self-Confidence subscale in the Slovak sample and in the Czech sample according to gender. The differences between the countries are not significant (table 14).
- the difference in the total score of the school self-concept in the Slovak sample (t = 7.700; p < 0.001) and in the Czech sample (t = 10.308; p < 0.001) according to gender. The comparison of the countries showed the difference between the Slovak and Czech girls (t = 2.253; p = 0.024) (table 15).

CONCLUSIONS
We can't accept our hypotheses because of the results which are not clear. But in our findings there are some partial results which we want to comment.
The school self-concept of the Slovak and Czech adolescents are very similar according to average mean and variability of the data represented by standard deviation. The self-evaluation of the abilities in Mathematics is the only significant difference in the global comparison. The partial differences between the Slovak and Czech adolescents were found in Mathematics in the group of 13 and 14 years old and the in group of girls, Reading in the group of 12 and 13 years old, Spelling in the group of 12 years old, Writing in the group of 15 years old and in the group of the boys and girls, Self-confidence in the group of 12 years old, Self-concept in the group of

girls. These are some partial differences between the countries.

More important are the differences which we acquired within the countries in the relation to age and gender. We found that the believes about general abilities (both countries), about abilities in Mathematics (both countries), about the abilities in Spelling (Slovak Republic), about the abilities in Writing (Slovak Republic), about the Self-confidence are decreasing in the relation to increasing age.

Further we found that the believes about abilities in Reading, about abilities in Spelling, about abilities in Writing, about Self-confidence, and the Self-concept are higher in the group of girls (both countries). The believes about abilities in Mathematics are higher in the group of boys (both countries).

These findings are important in the relation to educational psychology and teaching. The decreasing of the school self-concept can be connected with out-of-intellect factors, especially the motivation of the pupils and the class atmosphere. So the challenge for the teachers and the parents of the pupils is the motivational aspects of the education and the support of the healthy relations in the class and in the school. We know the school achievement in the main subjects is decreasing with the increasing age (Matějček, 2011) and that the attitude to the school is declining with the increasing age. And these findings may be the risk factors which can lead to production of the problem behaviour in the adolescence. The support of the emotional and cognitive motivation, creation of the human and democratic school environment can be in the relation to the self-regulation and autonomy support the way of the prevention of the problem behavior.

The gender difference described in the text above showed the stereotypical reinforcement of the boys' believes about their abilities in Mathematics representing technical thinking despite of the fact the girls achieve better results than boys in Mathematics and the other subjects in general in the Slovak Republic. This is the proclamation of that the girls' effort to learn something is not supported by teachers and that the hidden curriculum can be also the specific factor which can demotivate the pupils, in this case the girls, to try to develop own personality according to personal goals. The formative influences reflecting the decreasing of the school self-concept certainly have the impact on the general self-concept which is also decreasing and can be connected with characteristics as helplessness, amotivation, alexithymia, depression, anxiety, loss of the life meaning, hostility, incompetency, deregulation of the behaviour etc.

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SCIENCE IN A CHANGING WORLD: A GENERALIZATION OF SCIENCE AND POLITICS AND THEIR IMPACTS ON KNOWLEDGE SOCIETIES

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ABSTRACT

In recent years, a profound structural change has taken place in science and research. Science is a field of study that tries to reveal dark secrets. The mass media reports extensively about scientific subjects. Besides helping design the environment, science also aims to develop reliable explanations of phenomena with the assistance of diverse experiments, trials or observations. The objective of science is to produce and systemize knowledge so that societies can benefit. In this context, science is the basic element of modern societies called "knowledge societies." Scientific knowledge is transmitted through people (e.g., professors, teachers and scientists) or literature which should be objective, verifiable and pursuable. But who determines which questions are asked and which answers are accepted as valid? And how are scientists affected by this? In theory, science and research are free of all governmental influences but it is interesting to see how scientists are able to influence politicians with predictions and, conversely, how politicians influence them with their power. From this point of view, the main purpose of this paper is to analyze the relationship between science and politics and to present the current situation of science in a changing world.

Keywords: science, knowledge societies, politics, changing world

INTRODUCTION

In times of globalization, it is impressive to observe how the world has been changed because these changes are not foreseeable; at the same time, scientists work across disciplines on research projects. But it is clear that the relationship between science and society has become profoundly distorted. The gap between science and the people has increased significantly, and in recent history, people's judgment on research topics such as climate change, genetic engineering or stem cell research has deteriorated. Science sometimes accuses the public of being under-informed on scientific-political issues (Bojanowski, 2014). The globalization of the economy and the radical change in modern natural sciences in the 1990s led to an uncertainty among the general public. It is not surprising that nowadays the remarkable effort and progress of science are regarded with suspicion by the public while up until the sixties, science relied on a public which trusted science (Beck, 1986, p. 278).

What is science? What does politics mean? Strictly speaking, science and politics are two different systems operating within their own rules and norms. The work of scientists is based on the idea of "objectivity" and "impartiality". In contrast, politicians pursue the goal of enforcing their own interests by means of strategic action. In addition, one of the primary tasks with which science is entrusted is to produce and transmit knowledge. However, the main task of politics is to make binding decisions for society (Hickmann, 2012, p. 9).

In this context, science is the basic element of modern societies called "knowledge societies". Scientific knowledge is transmitted through individuals (e.g., professors, teachers and scientists) or literature which should be objective, verifiable and pursuable (Dahinden et al., 2006, pp. 25–27). But who will determine which questions are asked and which answers are accepted as valid? And how are scientists affected in this way? In theory, science and research are free of all governmental influences, but it is interesting to see how scientists are able to influence politicians with predictions and, conversely, how politicians can influence scientists with their power. From this point of view, the main purpose of this paper is to analyze the relationship between science and politics and to highlight the current situation of science in a changing world.

RESPONSIBILITY OF SCIENTISTS

The best way to understand the increased complexity of societal phenomena and processes and thus, to portray how scientists today have become more oblivious in a material way to powerful groups is to accept the fact that scientists are a part of a social system. Their material position, social class, political attitude, dependency on the state or to principals also bind them as members of the society. In that sense, their material conditions influence their interests and aims, which in turn have a decisive influence on their scientific work. Moreover, each scientist is surrounded by various support groups which may have an enormous impact on their work. Their colleagues, friends, family, the public and political groups are relevant for them. The assumption is that the objectives of a scientist will be influenced by the level of dependency and importance of such groups. Basically, these groups usually have different expectations of scientists and alter the objectives of a scientist accordingly (Friedrichs, 1990, p. 16).

The question of whether a scientist should do everything that science allows is something that has been considered since the invention of the atomic bomb. If we talk about the responsibility of science, it should be noted that each and every scientist is meant in this context. Each scientific researcher bears much of the responsibility and cannot simple escape the consequences and risks. And so society holds scientists to a higher than acceptable ethical standard (Berka, 2005, p. 70). Scientists are expected to work with diligence and not to manipulate results. Furthermore, the scientist has no permission to falsify the outcomes in favor of political, ideological or personal interests. The fact is that the virtue of truthfulness is the highest premise of science, and for this reason, science remains an incomplete process in the search for the truth (veritas) (Honecker, 1995, p. 564).

For a long time, research has been pleading for more international competitiveness and has been promoting economic growth. This position does not reflect the responsibility for the consequences of scientific action, but, rather, a set of outside expectations that is brought to science (Berka, 2005, p. 70).
The assumption is that scientists should freely decide which priorities they need to set, which subjects they will emphasize more, or which unethical methods they will avoid. Scientists are expected to perform scientific work and they owe it to society to define the truth (ibid., p. 71).
The fact remains that good science or research that is conducted by scientists needs time and space to be creative and to deal with issues. The history of science shows how scientific research can be planned within limitations and even pursue wrong tracks which can lead to scientific innovation.

THE CORRELATION BETWEEN SCIENCE AND POLITICS

As Max Weber (1995) pointed out in his essay "Science as a Vocation", science is without preconditions and creates clarity for different systems. Furthermore, he made a strict distinction between science and politics by defining a scientist as a great teacher and not as a great leader (Weber, 1995, pp. 32–37). Weber also highlighted in his work that science uses words as a means of scientific analysis, while politics uses words as weapons (Pohle, 2009, 24).

Another famous example of the distinction between a scientist and politician comes from Henry Kissinger (2008). According to him, scientists or researchers analyze international systems, but political leaders are dealt with establishing these systems. He saw fundamental differences between the viewpoints of scientists and political leaders. One important difference the author highlighted is that the scientist will search the possible issue to make a profound analysis, whilst a political leader is rather confronted with issues. A scientist has the opportunity to spend as long as he needs on the analysis to solve the problem and to come to a final outcome. Nevertheless, political leaders do not have enough time, they must act rapidly. In other words, a scientist never tries to take risks. If an outcome is wrong, the scientist is able to conduct another investigation. In contrast, a political leader can only make a prediction and he cannot escape wrongdoings. In short, scientists hold and keep all information and will be judged on their intellectual power. A political leader only makes decisions which have not already been verified (Kissinger, 2008, pp. 19–20).

But with the expansion of government activities and development of new policy fields, it would be wrong to divide these two phenomena. They are in mutual relationship and are dependent upon each other (Schmoll, 2011). Scientists are more dependent on government funding whilst politicians are more reliant upon scientific recognition and expertise and new solution approaches in complex policy areas such as environmental policy and health policy, etc. In recent years, these two functional systems have grown much closer. Today, scientists are not purely objective, indifferent experts; when giving policy advice, they commonly leave the area of scientific knowledge. Politicians often involve scientific recognition to legitimate their political decisions.

One of the key features is that the link between science and politics seems to be very complex, as it is characterized as two different systems of behavior (Skodin & Underdal, 2000, p. 22). In recent years, scientists have been playing an active role in policy making (Jasanoff, 1990, p. 4). Policy advice is not a new phenomenon. But an increased consulting need and demand for advice is apparent. Today, political advisers have an informal communication function beside the "classical" analysis and advisory function. There are indeed varied reasons for rapid consulting needs, as the pressure on politics grows to optimize governmental controllability and to demonstrate the capacity to act (Glaab & Metz, 2006, p. 161).

In scientific debates, Habermas (1964) underlined the complex relation between politics and science and showed the link between politics, policy advice and public opinion in mass democracies by offering three models of the "scientization of politics": With the decisionist model, Habermas suspects that political practice can serve technical or bureaucratic expertise, but only the public sphere has the function to make valuable-based and

power-oriented decisions. In the model of technocracy, politics appears as an executive agency for constraints. Thus, rationalization of political power is in the center which can depoliticize the public sphere. The model of pragmatism abolishes the separation between the functions of expertise and politicians. Here, a reciprocal relationship of counseling and commissioning does exist (ibid, p. 163).

SCIENTIFIC POLICY ADVICE: A CHALLENGE IN THE CHANGING WORLD

In recent theoretical approaches concerning scientific advice give to politics, doubts and criticism about the quality of science and this policy advice still exist, and debates about the failure of scientific experts continue in the public and are also emphasized in the media. Nonetheless, the main characteristic of science is that it is able to promote politics and in this context, the importance of scientific policy advice is growing, particularly in policy issues (Lentsch & Weingart, 2011, p. 3). This is why scientific policy advice seems to be a precarious undertaking. In the same way, science of knowledge is a vital factor both for designing the public life and politics. However, such knowledge undergoes more in a political dispute, although science and notably advice depends on searching for the truth based on the reliability and transparency (Reich, 2012, p. 29).

Questions about the importance of scientific political advice are nothing new. Concerning the institutional part of scientific policy advice, mention must be made of the fact that more political institutions such as Think Tanks employ scientific advisors who prepare expert opinions for politicians. But it should be emphasized that their impacts could differ. Politics strives for generalist solutions, while science becomes more incomprehensible due to varied perceptions and suggested solutions. Nevertheless, there is a certain consensus among scientists and politicians, starting with the need for science during the evaluation process. In view of the impact of science on scientific policy advice, it can be said the impact of science is very high during the process of preparing decisions. On the contrary, in the planning stage of program design - when starting to look for solutions to crucial issues - the impact of science becomes weak. Traditionally, the offered scientific knowledge of political advisors is rarely used for political decision-making as it is expected from advisors (Essousso, 2008, pp. 21–22).

As pointed out, the nature of policy advice to politics or the correlation between scientific experts and policymakers have been discussed intensely for many years in various academic disciplines. Since the 1960s, the range of critical approaches to scientific policy advice has expanded considerably (Maasen & Weingart, 2005, p. 1). Policy advice is the provision of information and recommendations by scientists and experts from economics and society for actions (scientific policy advice) which policymakers and decision makers might take. Internal policy advice means that political decision makers are being advised by different administrative bureaus and experts (Wollmann, 2007, p. 413).

In some respects, politics needs competent advice which can be obtained from science given a specific problem or also through the establishment of advisory bodies. Ironically, the growing focus on the need for scientific advice in politics brings about serious concerns from a democratic-theoretical perspective (Möllers, 2012, p. 20). It could be precarious if scientific policy advice does not deal with predetermined issues but includes new settings on the course for a prospective social action. Certainly, different opinions will exist concerning science, if the future development in different fields, for instance, in biology or in the medical field should be simultaneously predicted and judged in social impacts. In this light, new scientific academies are founded in every country to reach an objective judgment (Reich, 2012, p. 29).

When dealing with the relation of politics as a science or a political practice, as Weber did, it is clear that we may be confronted with two main reference: First, the important role that scientists occupy and second, the other part, the so-called "professionals" (e.g. ministers, bureaucrats, government secretaries, decision makers in associations and international boards) play a significant role. Beyond the scientific advice to politics, some may agree that in practice no political decisions are reached on national and international levels that do not require information and advice from experts on particular issues. Finally, policy advice is challenging because current difficulties need to be managed and applicable strategic answers need to be found. In other words, policy advice seems to be an extraordinary and helpful means of correcting many investigations which emerge from the ivory tower.

On the contrary, the advantage of applied politics is, in its broadest sense, to describe a given problem with the assistance of scientific policy advice with a look at solutions. Without a doubt, however, there is an unavoidable risk of a language barrier between advisors and those who take advice. In addition, involved scientists are being exposed to the threat of goodwill arguments. At this point, a seduction of "power" should not be underestimated (Mols, 2009, pp. 30–32).

CONCLUSION

From the 1990s onwards, the question of the relationship between science and politics dominated scientific research. Some philosophers shared the opinion that science and politics should be strictly divided. Science should not get involved in politics and should be free. It can only serve as an information resource and contribute to decision-making. Robert Merton (1973), a sociologist of science offered a distinctive critique of the relationship between science and politics. He brought politics closer to science with the assumption that decisions pertaining to the subjects that should be analyzed are influenced to a greater extent by politics. Also, scientific institutions are affected differently by politics where scientific subjects, problems and questions get more political (Sørensen, 2012, p. 195–197).

What is the current situation of science? We should bear in mind that we are experiencing a time of technological change, and it cannot be denied that society has long since grown accustomed to technological improvements. Besides, at the same time, the awareness of environmental impacts such as nuclear powers or genetic engineering has developed. The desire to "return to nature" already dominated the 1980s. A renunciation of technology was intended, but in contrast, many people shared the view that technology would offer advantages and modern conveniences as well. The globalization of the economy and, of course, the transformation in the natural sciences in the 1990s, followed by risks, led to an uncertainty among people which has been widely discussed in the public and media. One of the most influential models in genetic engineering was the birth of "Dolly" the cloned sheep in 1996 which caused fear amongst many people in Europe. It is remarkable how important progress has been made in medical research due to information and communication technology. Furthermore, researchers and scientists are able to share their knowledge and last but not least, cooperation with many competent research groups is reinforced. This could lead to an overall high quality of life and also to a long life in western countries (Regenass-Klotz, 2005, p. 157).

In this sense, science should be unbiased and various disciplines are questioning what it is, and not what it is supposed to be. What is ethically permissible for scientific research is alone the responsibility of the scientists (Kromrey, 2009, p. 7). How science is applied and research is conducted depends, as Weber formulated, on its sense, value and profession. Thus, the progress of science will continue endlessly.

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HAPPY CITY: CITY DISCUSSIONS

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ABSTRACT

City, to where the citizen belongs to as being the citizen, thus having an identity with the city, to live in the city, with or without the rights of the citizenship..

Well, on which point will the citizen be right- while living inside the city/ while trying to live on the city-?

If being happy/ living happy is the will of each and every of us, who is going to create this happiness to us? we? or the others? who else? the country? the government? or the authorities? or the capitalism that we live for? or it's new face , the neo-liberalist economies? Well, where is the citizen undercover on the city? till where is the citizen right inside the city?

Every city user has a dream, an illusion, an imagination not only related with the city, but also about living on that city; and if the citizen has a utopia, then whose dystopia would it be. In other words whose utopia can be who else's dystopia? Or whose utopia is a dream as having a mythical origin in the city where he lives? Searching, discussing, rejecting the "happy city " are just some words of the lullabies of our childhood days? Or can those concepts be the basic points of our daily life?

Each and every citizen has a dream in the city, being happy on the city by living the dreams or rejecting the city after seeing a nightmare.

Being a refugee in a city, converge of a place in the city, being a part of myth of feeling himself as a citizen and soon rejecting the city life, and the dreams of being the other, living outside of the city, so on so forth. Which feeling must be the right to choose, to have to live a better life?

Thus, the paper will be about the *Happy City Workshop,* which was held on Trabzon in 2014, during the architectural workshop series of Karadeniz Technical Universty and the short movie of the workshop that was shot in there by 15 students. The paper also will not only have all of those discussion about the relationship among the city, the capitalism, the neo-liberal economies and the architecture, but also it will discuss the utopias and dystopias related with the happy city and all who are searching of, living on, discuss and examine the city, who has an utopia of the city, or who see that all of the utopias of the city can be dystopias as well of others, and those who reject them all, while put a light to the written texts chronologically about the city from the first city focused written text of St.Augustin's The City of God to Renzo Piano's city discussions and Charles Mongomery's book of Happy City.

Keywords:history, past, historicity, historicism, architecture

1.INTRODUCTION

As the citizens of the city where we live in we can all dream different city life standards and for sure different stories to have part in. Some of these dreams can be utopic, too. The fact that sometimes these utopic dreams of some citizens of the city can be dis-utopic to some other citizens. Therefore, it seems that almost each and every of the citizen can have different city dreams from the other citizens of the city according to their own point of views.

2. CITY DISCUSSIONS

"Accordingly, two cities have been formed by two loves:
the earthly by the love of self, even to the contempt of God;
the heavenly by the love of God, even to the contempt of self.
The former, in a word, glories in itself, the latter in the Lord.
For the one seeks glory from men;
but the greatest glory of the other is God".
　　　De Civitate Dei, Book 14, chapter 28

The first text in the world history, which was about the city, was written by St.Augustine in the 5th century known as The *City of God*. He wrote the book as arguing for the truth of Christianity over competing religions

and philosophies and that Christianity is not only not responsible for the Sack of Rome, but also was responsible for the success of Rome.

It is interesting that the text is mainly based on the religion reasons and it is the best known and most read of his works, except the *Confessions*. It embodies the results of thirteen years of intellectual labour and study (from A.D. 413–426). It is a vindication of Christianity against the attacks of the heathen in view of the sacking of the city of Rome by the barbarians, at a time when the old Greco-Roman civilization was approaching its downfall, and a new Christian civilization was beginning to rise on its ruins. It is the first attempt at philosophy of history, under the aspect of two rival cities or communities,—the eternal city of God and the perishing city of the world.
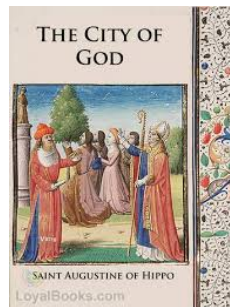
Fig.1. De Civitate Dei (The city of God), St Augustin

During the human history it is known that St. Augustin named the first text written about the city as *the City of God*, which is the masterpiece of the greatest genius among the Latin Fathers. This was the only philosophy of history known throughout Europe during the middle ages; it was adopted and reproduced in its essential features by Bossuet, Ozanam, Frederick Schlegel, and other Catholic writers, and has recently been officially endorsed, as it were, by the scholarly Pope Leo XIII. in his encyclical letter on the Christian Constitution of States (*Immortale Dei*, Nov. 1, 1885). From this point till the contemporary city discussions in the architecture praxis of today, there are many texts written about the utopias of living in a *Happy City*. Rem Koolhaas and Renzo Piano are maybe the most known architects who like to discuss the relationship among the citizen, the city and the architecture. For sure, Le Corbusier left many "perfectly shaped" *Corbi city plans* to his architect pupils on "his fan club" after him.

3. UTOPIA

Utopia (*Libellus vere aureus, nec minus salutaris quam festivus, de optimo rei publicae statu deque nova insula Utopia*) is a work of fiction and a political philosophy by Thomas More published in 1516 in Latin language. The book is a frame narrative primarily depicting a fictional island society and its religious, social and political customs.

Fig.2. The Utopia Insvlae Figvra

"Utopia" is derived from the Greek words *ou* (οὐ), "not", and *topos* (τόπος), "place", with the suffix *-iā* (*-ία*) that is typical of toponyms; hence *Outopía* (Οὐτοπία; Latinized as *Utopia*, with stress on the second syllable), meaning, "no-place-land". In early modern English, *Utopia* was spelled "Utopie", which is today rendered **Utopy** in some editions.

In English, *Utopia* is pronounced exactly as *Eutopia* (the latter word, in Greek Εὐτοπία [*Eutopiā*], meaning "good place," contains the prefix εὐ- [*eu-*], "good", with which the οὐ of *Utopia* has come to be confused in the French and English pronunciation).–This is something that More himself addresses in an addendum to his book *Wherfore not Utopie, but rather rightely my name is Eutopie, a place of felicitie*. Most scholars see it as some kind of comment or criticism of contemporary European society, for the evils of More's day are laid out in Book I and in many ways apparently solved in Book II. Indeed, Utopia has many of the characteristics of satire, and there are many jokes and satirical asides such as how honest people are in Europe, but these are usually contrasted with the simple, uncomplicated society of the Utopians.

Yet, the puzzle is that some of the practices and institutions of the Utopians, such as the ease of divorce,

euthanasia and both married priests and female priests, seem to be polar opposites of More's beliefs and the teachings of the Catholic Church of which he was a devout member. Another often cited apparent contradiction is that of the religious toleration of Utopia contrasted with his persecution of Protestants as Lord Chancellor. Similarly, the criticism of lawyers comes from a writer who, as Lord Chancellor, was arguably the most influential lawyer in England. However, it can be answered that as a pagan society Utopians had the best ethics that could be reached through reason alone, or that more changed from his early life to his later when he was Lord Chancellor.

Ferrara is a well-known city of the Emilia-Romagna Region, in Northern Italy, providing one of the best examples of the quantity of information that can be inferred from archaeo-botanical analyses from Medieval/Renaissance contexts. The city developed around a ford on the Po river in about the 7th cent. A.D., and is one of the few Italian cities whose original layout was not based on the Roman tradition. The Este family ruled Ferrara from the second half of the 13th cent. A.D., and under its control the city rose to a significant position within the Italian states. Today, Ferrara is famous for its historical center, which is extraordinarily well preserved, featuring small orchards and gardens, and it was declared a World Heritage Site by UNESCO in 1995.

Fig.3. The Utopic city Ferraria, Italy, Renaissance period.

The archaeo-botanical records considered here originate from deposits dating from between the end of the 13th to the 15th cent. A.D. and located within the urban environment. Other European cities with records of medieval seed/fruit remains from useful plants include Prague, Gdańsk, Elbląg and Kołobrzeg in Poland, and other Northern European cities.

4. CITY UTOPIAS/ DIS-UTOPIAS

The relationship between the image and the space always been one of the basic discussion of the architecture. In fact this discussion goes back deep into the point that the image is more effective than the speech. The image production is also important as the space production as well. Therefore, the representation and presentation are the basic elements of the architeture. And the "travel" of the space from the abstract plane to a concrete material plane, the production, consumption and marketed of the imagination as a commodity has been ready to use as a part of the contemporary architecture.

The relationship between the image and the space always has been one of the main discussion of the architecture and moreover than this even the image went up more effective than speeches on the praxis of the field. The image is making up the production of the needed space, it seems. The relationship ,n between te space production and the image is important because they are the basic tools for architectural representation and presentation. Space can be defined as a material from produced from the abstract plane form of an image which is thought by the user. The image is to be produced as a commodity, on the contemporary world and it is to be consumed and marketed to the users, and even marketing on the shelves, it looses its' own identity and becomes something else, a simulacra and a simulation as Jean Baudrillard indicated on his theorem.

All of this virtuality, with a postmodernist push up on consolidation, is an incontestable fact. Paul Virilo stated that "Extremists science" is not completely calculated one as the disappearance of all kinds of science as a majör one and it takes risks. It is a tragic case of a sudden cybernetic knowledge turned into a techno-science. It is also a massive techno-culture. Well with this point of view, the subject of dizziness caused by the acceleration of truth. Moreover, on this situation final objectivity also works against any kind of authenticity. "

Today, we observe that the capitalist economy produces a dystopian image of the city each and every day more than before, the fact that it is now an advance form known as neo-liberal economies nowadays. The phantasmagoric relation between reality and fiction imagery is going back and forth day by day and thus, relentlessly the cities are growing. High towers, billboards change the reality of a city day by day, the city is now surrounded by billboards more than before. Most of the time our minds are mixed up by the images that we see all during the day by the subliminary advertisements. Space is one of the biggest part of this imaginary World, to acess to a high society level luxury it is a "gate". According to Henri Lefebvre's indication on his book, "The Production of Space", it is understood that the space is not just urban plots, it is an urban image, and even the image of the city and all the practices imposed by daily life on the city build up a commodity. The location of the image is as important as the production of an utopia undeniable. As Krishan Kumar states that, something that had only been imagined utopia sober, would not be attractive interestingly. Fiction utopias have often promising

feature, which are images of the world. On the other hand, Lewis Mumford indicates that the first utopia has gone so far away as claiming the city itself.

Economic and political conditions in the city today, the brutality of neo-liberalist capitalism is transforming the production and is also a growing nightmare, which constitutes one of the most appropriate scale for utopia. Literately, because cities are all below the *built environment*, different scale of social and political relations network "reality" organizations can be also known as the part of cities. Therefore, as Kumar said, Utopia is a self and actual imagine of being a literary exercise for citizens own social and political speculation tool.

5. TRABZON ON THE MOVIE

The *Happy City Workshop,* was held on Trabzon in 2014 by sharing the city discussions, during the architectural workshop series of summer academic period of the year on Karadeniz Technical Universty (KTU) and the short movie of the workshop that was shot in there by 15 students.

The Happy City Workshop, which was held in Trabzon in 2014, had a process of discussions related with the city, being the citizen of contemporary cities, dreams and wills of the citizens as utopias and/ or dystopias of them. In the movie, it was felt that, the citizens can have different dreams and wills related with having a happy city.

In the end of the workshop, by the light of the movie that was shot by the attended students it is understood that: Modern life standards are created by the pushing touch of the neo-liberalist economies. They are, for sure, more than what is needed to live; they are including luxury consumption. Each and everyday as we want to have more touch of luxury consumption on our life, we do not feel it, but, we make our lives standing far away from the nature. Since, we start to push our lives more to city side far from the nature, we start to live on a simulacr and simulation platform as Jean Baudrillard noticed on his theorem. We start to live a life, which is surrounded with brand, far away from green nature on where we have more money, but less health, more "high statue levels", but less friendship on the society. Thus, it is seen that somebody's utopias can be somebody else's dystopias, and a totally happy city cannot be created for everyone, in the same time, under the same solutions.

It is also understood that if the citizen of the city, here in Trabzon, is old, the city image on his mind has a direct link with the nature, which has also pastoral background. Whereas, if the citizen is young, the city image is something related with being a part of the luxury contemporary life, surrounded with brands, far away from the green nature on where he has more money, a better social statue and having possibilities to be a popular identity inside the society, which gives him a possibility to be known by the others on the daily life. Thus, on one-hand stands the nature related pure life, whereas on the other hand social popularity related materialistic life.

6. CONCLUSION

As we live in residences far away from the green nature, we start to be a part of luxury simulacr and simulation. As we live in residences, as we are going to gym classes, having diet foods, buying and using brand fashion products just we see on the media, we think that we are part of the high-society. Thus, the happiness on the city life is becoming the part of the great luxury image, which is created as a simulacr and the simulation by neo-liberalist economies, whereas it should be going back to the green pure nature, where is the beginning point of our life. The more we become old, the more we can understand this reality, and thus the city utopias on our minds are starting to change. However, as the new citizens of the cities, young-hood has different dreams and wills that the old attendances of the society, and thus contemporary cities are created according to their "utopic" high level materialistic luxury standards focused city image.

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SELECTED RESULTS OF AN ANALYSIS OF OPINIONS OF CZECH AND SLOVENIAN PARENTS OF ELEMENTARY SCHOOL PUPILS IN THE CONTEXT OF INCLUSIVE EDUCATION

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ABSTRACT

In our conditions, the inclusive form of education is a highly topical and discussed issue. In spite of the fact that the right of all persons to education is generally accepted, the inclusive form of education frequently raises various doubts in both the lay and professional community. Various concerns stem from inaccurate ideas of and insufficient information about successful delivery of inclusion.

The first research into this area is connected with monitoring the negative influence of segregation of children with special educational needs. Researchers in 1970s were particularly interested in the effectiveness of educational approaches to pupils with impairment. Later research projects focused on the area of attitudes to the inclusive form of education and the effectiveness of the inclusive form of education (Hájková, Strnadová; 2010).

Contemporary research studies of opinions about and attitudes to inclusive education of impaired persons focus on various participants of the educational process, i.e. teachers, pupils, parents, headteachers, counsellors, etc.

RESEARCH SURVEY

Objective, applied methods, characteristics of the research sample

In connection with the currently discussed issue of inclusive education we carried out a comparative study aimed at a comparison of the opinions of Czech and Slovenian parents of elementary school pupils. The background for our study was general psychological experience with the primary significance of parental attitudes in the formation of a child's personality; therefore we have a reason to believe that introducing the inclusive form of education will be significantly influenced by opinions of the pupils' parents.

In order to find out about the opinions of the mentioned actors involved in children's education, we performed a questionnaire survey in two groups of parents with an aim to identify the current situation concerning parents' approaches to and opinions about including impaired children in mainstream elementary schools.

The first monitored group included parents of elementary school pupils from the Olomouc Region with a total of 900 respondents, of which 711 were women. The second group included parents of Slovenian children; this group had 185 respondents, of which 140 were women. The Czech sample of parents was dominated by secondary school graduates (50.8%), the second most frequented group were university graduates (36.8%). The Slovenian sample had a similar proportion of secondary school graduates (58.4%), there were slightly fewer parents with a university degree in the Slovenian sample compared with the Czech sample (19%), a numerous group were parents who had graduated from higher professional school (13.5%). In both samples we investigated whether the family of the respondent ever had an impaired individual. This piece of data was considered significant regarding the focus of the research survey. Most Czech (85%) and Slovenian parents (79.3%) stated that there was no impaired person in their family. Similarly, most Czech parents (73%) stated they had no personal or child-mediated experience with inclusive education. Absence of this experience was reported by 52.1% of Slovenian parents.

The questionnaire method that we designed in compliance with the objective of the research consisted of 10 items aimed at relevant data about the respondents and particularly at their opinions about including impaired children in mainstream schools. The data collected were analysed and some of them were subjected to statistical

processing. Summarizing these opinions about the inclusive form of education given by parents in both countries, we might conclude the following facts.

Overview of results

The parents in the Czech and Slovenian samples differed in their opinions about **including an impaired child in a mainstream school.** Statistically significant values were observed in the assessment category of "definitely yes" and the medium category of "sometimes yes, sometimes not". Slovenian parents are significantly more supportive of the inclusive form of education, whereas Czech parents mostly chose the medium (neutral) assessment, negative answers are comparable in terms of frequency and the differences in negative responses are not statistically significant. These facts are shown in Table 1 and Graph 1.

Table 1 Opinions about including an impaired child in a mainstream school (Czech and Slovenian parents)

		r6inclusion					Total
		1	2	3	4	5	
country	Czech Republic						
	Count	123	289	425	35	22	894
	% within country	13.8%	32.3%	47.5%	3.9%	2.5%	100.0%
	% within r6inclusion	75.9%	82.8%	86.7%	81.4%	73.3%	83.2%
	Adjusted Residual	-2.7	-.3	2.8	-.3	-1.5	
	Slovenia						
	Count	39	60	65	8	8	180
	% within country	21.7%	33.3%	36.1%	4.4%	4.4%	100.0%
	% within r6inclusion	24.1%	17.2%	13.3%	18.6%	26.7%	16.8%
	Adjusted Residual	2.7	.3	-2.8	.3	1.5	
Total	Count	162	349	490	43	30	1074
	% within country	15.1%	32.5%	45.6%	4.0%	2.8%	100.0%
	% within r6inclusion	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**12.764[a]**	**4**	**.012**
Likelihood Ratio	12.184	4	.016
Linear-by-Linear Association	2.849	1	.091
N of Valid cASE	1,074		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.03.

Graph 1 Opinions about including an impaired child in a mainstream school (Czech and Slovenian parents)
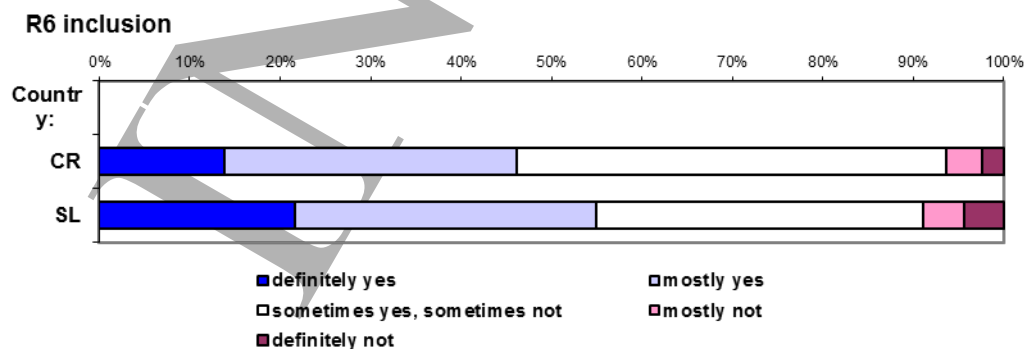
In the context of the **type of impairment** the parents were asked which impairment they consider most trouble-free with respect to accepting an impaired pupil by class-mates. The parents from both countries differed in the assessment of the type of impairment in the following way:

- In the opinion about **visual impairment** the difference was statistically significant only in the medium value, visual impairment assessed by Slovenian parents was more often in the medium 3rd place (see Table 2 + Graph 2).

Table 2 Opinions of Czech and Slovenian parents about accepting a visually impaired child by class-mates

			r8visual_impairment				Total
			1	2	3	4	
country	Czech Republic	Count	209	109	97	150	565
		% within country	37.0%	19.3%	17.2%	26.5%	100.0%
		% within r8visual_impairment	83.3%	87.9%	72.9%	84.3%	82.4%
		Adjusted Residual	.5	1.8	-3.2	.8	
	Slovenia	Count	42	15	36	28	121
		% within country	34.7%	12.4%	29.8%	23.1%	100.0%
		% within r8visual_impairment	16.7%	12.1%	27.1%	15.7%	17.6%
		Adjusted Residual	-.5	-1.8	3.2	-.8	
Total		Count	251	124	133	178	686
		% within country	36.6%	18.1%	19.4%	25.9%	100.0%
		% within r8visual_impairment	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**11.349^a**	**3**	**.010**
Likelihood Ratio	10.731	3	.013
Linear-by-Linear Association	.436	1	.509
N of Valid CASE	686		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 21.87.

Graph 2 Parents' opinions about accepting a child by class-mates by type of impairment

R8 (by type of impairment)
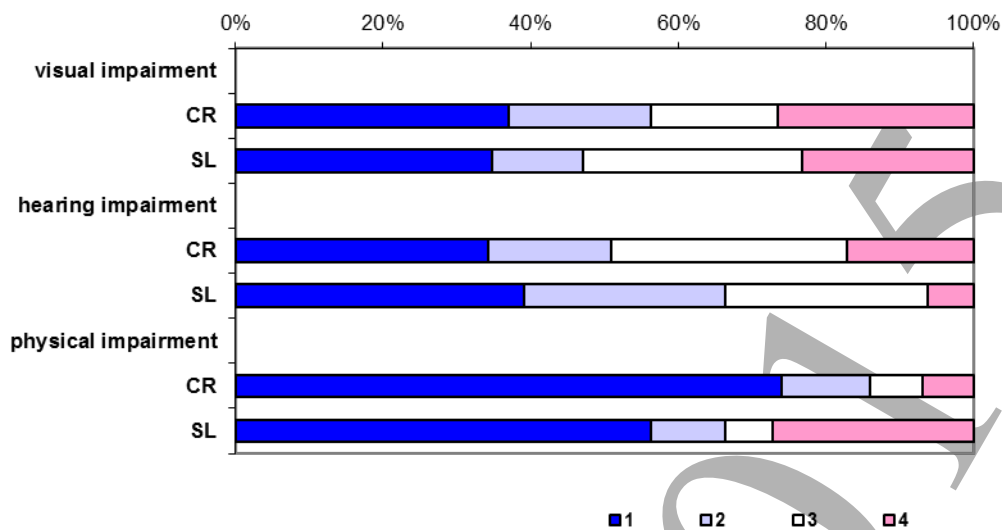
- In the opinions about **hearing impairment** the parents from both countries differed in the assessment of 2nd place of "trouble-free" inclusion, which was hearing impairment according to Slovenian parents; the Czech group assessed hearing impairment in the last 4th place (see Table 3 + Graph 2).

Table 3 Opinions of Czech and Slovenian parents about accepting a hearing impaired child by class-mates

			r8hearing_impairment				Total
			1	2	3	4	
country	Czech Republic	Count	189	92	176	94	551
		% within country	34.3%	16.7%	31.9%	17.1%	100.0%
		% within r8hearing_impairment	79.1%	72.4%	83.4%	92.2%	81.1%
		Adjusted Residual	-1.0	-2.8	1.0	3.1	
	Slovenia	Count	50	35	35	8	128
		% within country	39.1%	27.3%	27.3%	6.2%	100.0%
		% within r8hearing_impairment	20.9%	27.6%	16.6%	7.8%	18.9%
		Adjusted Residual	1.0	2.8	-1.0	-3.1	
Total		Count	239	127	211	102	679
		% within country	35.2%	18.7%	31.1%	15.0%	100.0%
		% within r8hearing_impairment	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.751[a]	3	.001
Likelihood Ratio	16.962	3	.001
Linear-by-Linear Association	8.320	1	.004
N of Valid Cases	679		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.23.

- In case of **physical impairment** Czech and Slovenian parents differed in the assessment of the 1st place in terms of trouble-free inclusion, which was more frequently reported by Czech parents. Slovenian parents were significantly more critical to this type of impairment, which was assessed in the last 4th place in the context of accepting by class-mates (shown in Table 4 + Graph 2).

Table 4 Opinions of Czech and Slovenian parents about accepting a physically impaired child by class-mates

		r8physical_impairment				Total
		1	2	3	4	
country	Czech Republic	Count 555	89	53	52	749
		% within country 74.1%	11.9%	7.1%	6.9%	100.0%
		% within r8physical_impairment 86.2%	84.8%	84.1%	54.7%	82.6%
		Adjusted Residual 4.5	.6	.3	-7.6	
	Slovenia	Count 89	16	10	43	158
		% within country 56.3%	10.1%	6.3%	27.2%	100.0%
		% within r8physical_impairment 13.8%	15.2%	15.9%	45.3%	17.4%
		Adjusted Residual -4.5	-.6	-.3	7.6	
Total		Count 644	105	63	95	907
		% within country 71.0%	11.6%	6.9%	10.5%	100.0%
		% within r8physical_impairment 100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**57.451**[a]	**3**	**.000**
Likelihood Ratio	45.975	3	.000
Linear-by-Linear Association	42.655	1	.000
N of Valid Cases	907		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.97.

- The opinions about including a child with **speech impairment** did not significantly differ between the groups of our research sample.

The mentioned facts were derived from the answers of those respondents who gave precise positions on the "trouble-free" scale in terms of specific types of impairment. However, a considerable part of parents left this item without a specific answer, as shown in Graph 3.

Graph 3 Opinions of Czech and Slovenian parents about accepting an impaired child by class-mates

R8 (by type of impairment)
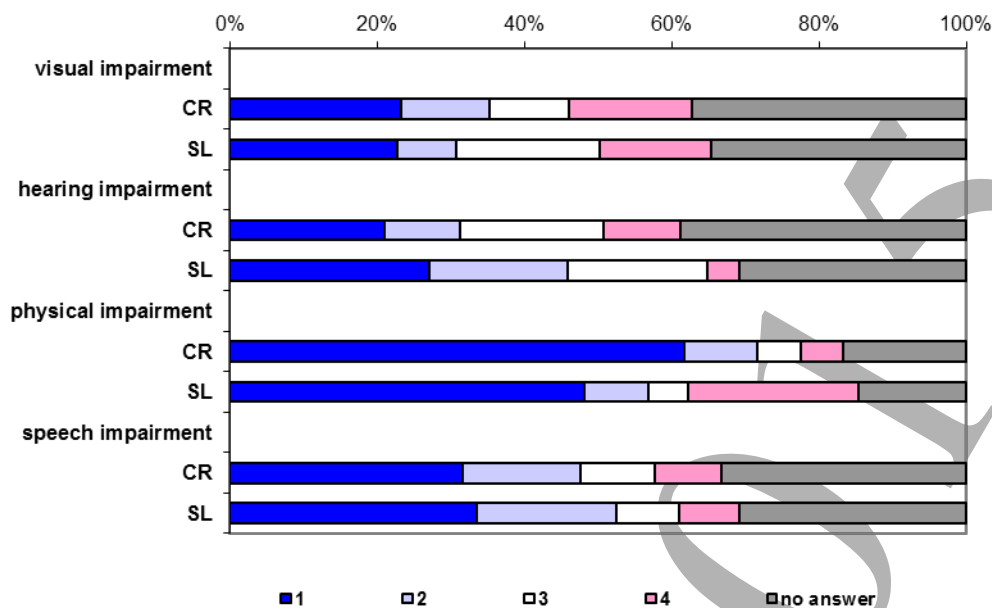
An analysis of the opinions of Czech and Slovenian parents about **including an impaired child in the class of their healthy child** did not indicate any statistically significant differences, parents from both countries reported a significantly positive opinion, i.e. they think this situation is trouble-free, they would not mind an impaired individual in the class of their child.

Further data imply that parents from both countries statistically significantly differ in the **degree of experience with inclusion** where Slovenian parents have more experience, as indicated by Table 5 and Graph 4.

At the same time, parents from both countries do not significantly differ in the frequency of **presence of an impaired child in the family**, or in the opinion as to whether they would **use inclusive education**, if their child was impaired.

Table 5 Experience of Czech and Slovenian parents with inclusion

			r5experience		Total
			YES	NO	
country	Czech Republic	Count	243	657	900
		% within country	27.0%	73.0%	100.0%
		% within r5experience	78.4%	84.9%	83.0%
		Adjusted Residual	-2.6	2.6	
	Slovenia	Count	67	117	184
		% within country	36.4%	63.6%	100.0%
		% within r5experience	21.6%	15.1%	17.0%
		Adjusted Residual	2.6	-2.6	
Total		Count	310	774	1,084
		% within country	28.6%	71.4%	100.0%
		% within r5experience	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	**6.629[a]**	**1**	**.010**		
Continuity Correction[b]	6.176	1	.013		
Likelihood Ratio	6.387	1	.011		
Fisher's Exact Test				.012	.007
Linear-by-Linear Association	6.623	1	.010		
N of Valid CASE	1,084				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 52.62.

Graph 4 Parents' experience with inclusion
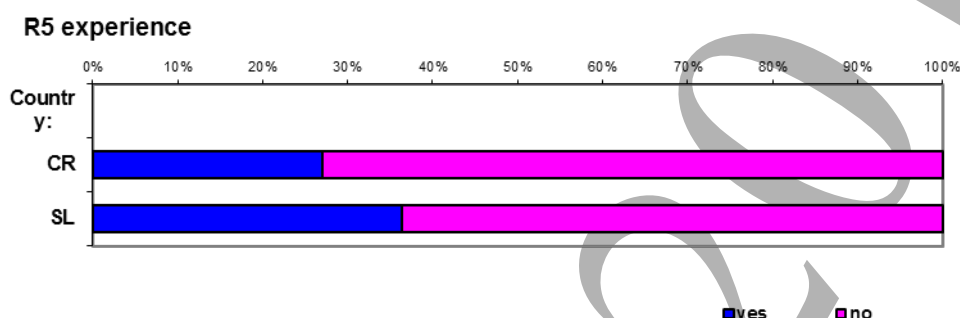
The following data in Tables 6 and 7 document the correlations of selected variables separately for both countries. The following variables were used: *parents' age (r2 age), opinion about including an impaired child in a mainstream school (r6 inclusion), opinion about accepting a hearing impaired class-mate (r8hearing impairment), opinion about a physically impaired class-mate (r8physical impairment), opinion about including a speech impaired child in a mainstream school (r8speech impairment), opinion about including an impaired child in the respondent's healthy child's class (r10pupil in class), opinion about accepting a visually impaired child by class-mates (r8visual impairment).*

Significant correlations in **Czech parents** were identified for the following variables:

- Parents' age has a significant negative correlation with the opinion about the degree of trouble-free nature of hearing impairment, i.e. with increasing age parents' opinions about this type of impairment in the context of acceptance by class-mates is more optimistic.
- With increasing age of Czech parents their distrust of including an impaired pupil in their child's class increases.
- Parents' opinions about including an impaired child in a mainstream school are positively correlated with the opinions about including such pupil in the class of their child.
- A negative correlation was observed between the assessment of the degree of trouble-free nature of including a child with hearing impairment and physical impairment, in other words if parents give positive assessment of hearing impairment in terms of accepting by class-mates, their positive assessment of the same in a physically impaired child decreases and vice versa.
- On the contrary, a positive correlation was observed between the assessment of trouble-free nature in a hearing and visually impaired child (it appears that parents' opinion about sensory impairment goes hand in hand, i.e. is perceived in a similar way).
- Positive correlations are significant also in relation between hearing and speech impairment, and also between the degree of trouble-free nature of hearing and visual impairment on the one hand and the opinion about including an impaired child in the class of the respondent's child on the other hand.

Table 6 Overview of correlations of selected variables in Czech parents

Variable	**Spearman's correlations**						
	The marked correlations are significant at a level of p <.05000						
	Country = Czech Republic						
	r2age	r6inclusion	R8hearing_impairment	r8physical_impairment	r8speech_impairment	r10pupil_in_class	r8visual_impairment
r2age	1.000	-0.021	-0.109	-0.030	0.038	0.072	0.016
r6inclusion	-0.021	1.000	0.051	-0.036	0.027	0.349	0.027
r8hearing_impairment	-0.109	0.051	1.000	-0.106	0.214	0.089	0.415
r8physical_impairment	-0.030	-0.036	-0.106	1.000	0.053	0.012	0.038
r8speech_impairment	0.038	0.027	0.214	0.053	1.000	0.005	0.021
r10pupil_in_class	0.072	0.349	0.089	0.012	0.005	1.000	0.098
r8visual_impairment	0.016	0.027	0.415	0.038	0.021	0.098	1.000

Table 7 shows significant correlations in the Slovenian sample of parents:

- Positive correlations were observed between the general opinion about including an impaired child in a mainstream school and the opinion about including such child in the class of the respondent's child, and between the general opinion about including an impaired child and the assessment of the degree of trouble-free nature of visual impairment in terms of accepting by class-mates.
- Similar to the Czech relationship, a positive correlation was observed between the assessment of visual and hearing impairment in terms of accepting by class-mates.

Table 7 Overview of correlations of selected variables in Slovenian parents

Variable	**Spearman's correlations**						
	The marked correlations are significant at a level of p <.05000						
	Country=Slovenia						
	r2age	r6inclusion	r8hearing_impairment	r8physical_impairment	r8speech_impairment	r10pupil_in_class	r8visual_impairment
r2age	1.000	0.010	-0.055	-0.115	-0.002	0.008	-0.056
r6inclusion	0.010	1.000	0.132	-0.083	-0.045	0.376	0.206
r8hearing_impairment	-0.055	0.132	1.000	-0.048	0.072	-0.090	0.453
r8physical_impairment	-0.115	-0.083	-0.048	1.000	0.050	-0.061	-0.078
r8speech_impai	-	-0.045	0.072	0.050	1.000	0.046	0.044

rment	0.002						
r10pupil_in_class	0.008	0.376	-0.090	-0.061	0.046	1.000	-0.017
r8visual_impairment	-0.056	0.206	0.453	-0.078	0.044	-0.017	1.000

Some partial findings that were of interest include the fact that although Slovenian parents have a general positive opinion about inclusion, the arguments for this form of education were detailed by only 14.6% of parents, the rest of respondents did not give any arguments. The Czech sample provided more arguments; still about a third of respondents did not give any reasons. The two most given arguments were comparable in terms of frequency. These included the contribution of this form of education to both sides – i.e. impaired children and healthy children, the other argument was based on separate contribution to impaired children.

A detailed analysis of opinions about specific types of impairment revealed that parents from both countries were hesitant about their opinions about mental impairment, which was evident from minimum reactions to questions about this type of impairment in the context of inclusion. An interesting finding is the fact that Slovenian parents think the least troublesome impairment to be included in a mainstream school is hearing impairment, while the most troublesome is physical impairment. On the contrary, the Czech sample of parents perceives physical impairment as the least troublesome.

Both groups of parents positively assess the possibility of the inclusive form of education and would use it in case they had an impaired child (both groups over 80%). An even more positive parents' attitude in both countries to this form of education was observed in questions asking about including an impaired pupil in the calls of their child, in both groups over 90% of respondents indicated a positive answer.

CONCLUSION

The monitored variables such as respondents' gender, education, presence of an impaired individual in the family or experience with the inclusive form of education did not have a statistically significant role in the Slovenian sample. The latter variable – experience with the inclusive form of education was more frequented in the Slovenian sample compared with Czech parents, however it appears that this variable does not significantly influence the general attitude of Slovenian parents to inclusion. One of the possible explanations is the different size of both monitored samples of parents; in the bigger Czech sample some significant differences in the effect of this variable were observed. In the Czech sample of parents the strongest effect was attributed to the variable of personal experience or an own child's experience with inclusion, where the impact of this variable was positive. Also, a certain role was played by parents' education (in favour of parents with a university degree), we also observed a positive effect of the variable of presence of an impaired individual in the family. Gender and age had only partial impacts.

The positive attitude of parents towards inclusive education is an important factor that enters into the process of education and that cannot be ignored.

In this context, an important aspect is the necessity of responsible preparation of all conditions required for successful inclusion in school, including professional and psychological preparation of all actors in the educational process. To accomplish this task however, the highest possible amount of information is required. This was the reason for our research study, in which we aimed to identify and analyse the current opinion spectrum of parents of elementary school children in the context of the inclusive form of education.

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SELF-REGULATION OF BEHAVIOUR IN CHILDREN COMING FROM INSTITUTION TO FOSTER FAMILIES FROM THE PERSPECTIVE OF FOSTERS

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The article aims to contribute to the reflection on the ongoing process of transformation and deinstitutionalisation of the system of care for vulnerable children in the Czech Republic. This nationwide system change has had its defenders and as well as detractors. The presented study focuses on one of the parties involved – the experienced foster mothers. The study includes qualitative research results. The survey was conducted in 2014 using a group interview technique with 12 foster mothers. The aim is to identify, describe and explain the mechanisms of self-regulation of behaviour in children who came to foster families from institutions before the age of 10. Within coding, we designed a paradigmatic model and proceeded to integrate the acquired categories in the grounded theory. The results revealed that children apply external behaviour regulation whilethe system of self-regulation of their own behaviour fails.

Keywords: Self-regulation, behaviour, institution, foster families, group interview, grounded theory.

SELF-REGULATION OF EMOTIONS IN UNIVERSITY STUDENTS

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ABSTRACT
The paper deals with self-regulation of emotions in university students from the perspective of the situation theory. It shows results from the qualitative research that collected data from the 16 focus groups with university students (N = 112). Data were analyzed via method of situation analysis, and were interrelated with theoretical knowledge from the perspective of the psychology and sociology of emotions. In this regard the paper focuses on the role of self-regulation of emotions in mechanisms of self-regulated learning. It shows how different sources and types of emotions affects emotion management strategies. The text argues that the key strategies of dealing with negative emotions are: support groups, inner speech, knowledge of learning cycle, and relaxation exercises.

INTRODUCTION

Jonathan Turner (2007, p. 1), recently wrote that Homo Sapiens is more emotional than any other animal on Earth. The assertion certainly applies to university students who must during their studies manage many emotions that vary from positive ones, such as optimism and cheerfulness, to negative ones, such as nervousness, anxiety, outrage or annoyance. Fear of exams and joy from their successful passing, then, are for many individuals some of the most powerful emotional experiences to remember for a long time after finishing their university studies.

The subject of this study are emotions in university students and the students' ability to manage and regulate their emotional experience in relation with their studying and learning. Self-regulation of emotions is commonly considered as one of the key prerequisites for self-regulation of behaviour (Carver, Scheier, 1998; Zimmerman, 1995, 2000) and self-regulation of learning (Boekaerts 1993; Boekaerts & Corno, 2005; Pekrun et al., 2002; Schutz & Davis, 2000). The more the actors are able to manage their emotional experience, the better conditions for studying they usually have. The emotions experienced by students affect not only their self-regulation, but also their motivation, learning strategies and cognitive resources (Pekrun, 1992, 2000).

We understand emotions in the same way as Margaret Archer (2004), i.e. as "a basic commentary on human concerns in the world," which gives the individual an information about their practical activities (e.g. reading and evaluation of experiments), relationships with others and their social and cultural norms. We are thus leaning towards a sociological conceptualization of emotions, which accentuates their social dimensions (see e.g. Kemper, 1978; Shott, 1979; Thoit, 1990; Turner, 2007). Emotions in this approach arise from interaction between actors or between actors and objects and always carry cultural significance. Managing emotions or their regulation, then, is a distinctive type of channelling of emotions that Arlie Hochschild (1979, 1983) refers to as the emotional labour or emotional management.

As demonstrated by Pekrun and his colleagues (Pekrun & Frese, 1992; Pekrun et al., 2002), psychology of learning was in the case of emotions interested for a long time mainly in the issue of anxiety, whereas the other forms of emotions were rather neglected. Only recently the qualitatively oriented research of the same author came to the realization that students experience in relation to educational processes and institutions not only negative emotions, but equally often also positive emotions (Pekrun & Frese, 1992; Pekrun at al., 2002). Table 1 shows some of the positive and negative emotions that are, according to Pekrun et al. (2002), most often present in the academic environment and that are therefore described as academic emotions. Emotions are in this case divided into four dimensions, according to their relation to what is being experienced. Whether they are related to the current ongoing educational process or whether they are oriented towards the future, to its anticipated results, or to the past. Last but not least, it is necessary to distinguish the social domain that refers to emotional relationships with the institution, classmates and teachers.

Table 1: Academic emotions and their domains

	Positive	Negative
Task-related and self-related Process	Enjoyment	Boredom
Prospective	Anticipatory joy	Hopelessness
	Hope	Anxiety
Retrospective	Joy about success	Sadness
	Satisfaction	Disappointment
	Pride	Shame and guilt
	Relief	
Social	Gratitude	Anger
	Empathy	Jealousy and envy
	Admiration	Contempt
	Sympathy and love	Antipathy and hate

Modified according to Pekrun et al. (2002, p. 92).

Following these findings, the objective of this study is to analyse the issue of self-regulation of emotions in university students. For this ultimate objective, we formulate three consecutive research questions, which also represent partial objectives of our study: (1) What emotions are present in university students in relation to their educational process? (2) How students regulate these emotions? (3) How channelling emotions affect the ability to manage their learning and the learning process as a whole?

It is necessary to say that for the implementation of this kind of research objective, we rather choose a qualitative research strategy, allowing us to describe to a greater extent the diversity of emotional states and the situations in which the emotions are experienced, than if we used some of the psycho-diagnostic methods, such as questionnaire. Those are usually focused on only one or two types of emotions. Therefore, they cannot describe the diversity. In this context, our intention is not to test certain theoretical assumptions about the role of emotions in the self-regulation of behaviour, as can be found in e.g. the concepts of Carver and Scheier (1998) or Zimmerman (1995). On the contrary, we want in the gathered data to identify key mechanisms that actors situated in a particular situation use to self-regulate their emotions, and subsequently, we want to describe how this self-regulation affects their educational process and learning. We build on the assumption of methodological localism ((Little, 2006, 2009), which emphasizes the fact that all theoretical models must be based on data. Furthermore, this assumption has led us to use the so-called situational analysis (Clarke, 2003, 2005) as a suitable research tool.

The contribution of thus conceived study lies primarily in that it allows us to determine how students themselves in their everyday language describe and conceptualize their emotional experience, what significance do they ascribe to it and what do they consider to be the source of different types of emotions. Following this, we are able to describe also the strategies that students use to manage different forms of negative emotions. Finally, we believe that we are able to explore also the key relationship between regulation of emotions – the so-called emotional work, as written about by Hochschild (1979, 1983) – and the self-regulation of learning. The focus on self-regulation of emotions is also important for one more reason – because the vast majority of research on this phenomenon in the Czech Republic only devotes marginal attention to it (see Hladík & Vávrová, 2011; Gavora, Jakešová & Kalenda, 2015; Jakešová 2014; Jakešová & Hrbáčková, 2014; Vávrová, Hladík & Hrbáčková, 2012).

THE STUDY
The aim of our research was to examine the situation of study and learning of students of one of the public universities in the Czech Republic. In the research, we have focused on the ability of students to manage their learning and their study process, while taking into account the emotional dimension that for students both activities have. For this purpose, we have used half-structured interviews in the target groups that focused on understanding from the students' side.

The research was conducted during the autumn of 2014 and the spring of 2015. The researched group were students of one Czech public university. In the research, we have included students of the third year of bachelor's degree programs from three different faculties – economically, humanities and sciences-oriented.

Within each faculty, we have chosen a group of students with whom we subsequently implemented the focus groups according to the basic principles described by Morgan (2010, 2012). The purposeful choice was in that we have picked a study subject that was attended by as many students from different branches of study as

possible. As a result, we have got a very diverse group of students. An exception to this was the humanities-oriented faculty, which did not have such a subject, and so we have conducted the research with students of two branches of study, so that we could achieve diversity even in this faculty's sample.

Questions in the interview focused on seven areas related to self-regulation of learning and management of university studies; one of them directly accentuated the issue of occurrence and management of emotions. The questions were rather open and concerned with the general topic of the discussion, they did not contain assumptions about the given group of phenomena. Before, during and after the interview, field notes about dynamics of the interview in each group, emotional attunement and openness of statements were recorded. Based on this information, we can say that majority of the focus groups were held in a calm and friendly atmosphere, the participants responded most openly, without any signs of concern or fear of sanctions for their statements. The atmosphere in many of the focus groups was cheerful, many of the participants' statements caused an outburst of laughter.

Altogether, 16 focus groups were created; the attendance was 112 people (43 men and 69 women) aged from 21 to 25. Each of the focus groups consisted of 6-10 participants and the main research part lasted from 60 to 80 minutes. Each of the focus groups was coordinated by a moderator who collaborated with an assistant who was in charge of recording and note-taking. Each of the focus groups was recorded by a voice recorder and a video camera. The participants agreed with the recording and with presentation of the results. For ethical reasons, all the results were strictly anonymous and informants in the data sheets were labelled by acronyms and numbers.
The collected data were then converted into text form and underwent the so-called situational analysis. It is a method developed mainly by the American author Adele E. Clarke (2003, 2005) who built up on a long tradition of grounded theory (Strauss & Corbin, 1999; Corbin & Strauss, 2008). That is why it is sometimes referred to as the second generation of grounded theory. The situational theory is based on a specific form of open coding that attempts to capture all human and non-human, discoursive and non-discoursive, symbolic and material, intrapsychic and social elements present in a particular situation and creates the resulting structure and meaning. After these elements have been identified in the collected data – the statements of the actors – it is possible to create a basic map of a particular situation from them and start conducting the relational analysis among them. The relational analysis is done by data-based theorizing about relationships between individual elements and their meanings.

In the case of analysis of emotions, we focused primarily on what variations in the collected data they form, through which it is possible to answer our first research question (What emotions are present in university students in relation to their educational process?). Following thus defined and internally structured element, we started to perform a relational analysis – i.e. to determine what relationships it has with other elements in the situation of education and teaching of university students. The relational analysis allowed us to answer the next two research questions (How students regulate their emotions? How channelling emotions affect the ability to manage their learning and the learning process as a whole?). Thanks to the relational analysis we could outline and theorize the relationships between different emotions and motivations, the constructs of teachers and study programs, exams and other elements present in the given situation.

FINDINGS

In terms of types, we can distinguish in our data a wide range of emotions varying from positive ones – happiness, joy, relief or elation, to negative ones – expressions of fear, anger and sadness. In total, we have through coding identified 28 different emotions. The findings of Pekrun and his colleagues (Pekrun & Frese, 1992; Pekrun et al., 2002) about the diversity of emotions experienced by university students correspond with Czech educational reality. However, it should be noted that most of the emotions in our informants were those of a negative character. To systemize the codes associated with emotions, we present Tables 2 and 3, which show both primary and secondary emotions present in our informants. Thanks to this, we are able to create a map of emotions in a university students' learning situation.

Table 2: Expressions of basic emotions in university students

Type of emotion	Low intensity	Moderate intensity	High intensity
Satisfaction/happiness	Satisfaction Peace Pleasure		Happiness/joy Bliss Elation
Aversion/fear	Concern	Worry Anxiety Fright Nervousness Panic	
Enforcement/anger	Resentfulness Agitation	Discontent	
Disappointment/sadness	Dejection Peevishness	Vexation	Disappointment

To systemize basic emotions (Table 2) we use the distinction of intensity of emotions as presented in the work of Jonathan Turner (1999, 2002, p. 71, 2007, p. 7, 2014, p. 18), which allows us to understand better what intensity the emotional experience of students can reach. In general, if students reflect on their emotions and speak about them, they usually have low intensity. An exception to this are feelings of satisfaction/happiness and disappointment/sadness, which often reach high intensity. Highly intensive emotions are most often bound to results of exams, whereas less intensive emotions are bound to reflections of everyday study or attitudes towards teachers. There is a general tendency to associate aversion/fear with the process of learning and this emotion is mostly of moderate intensity. As we will discuss in more detail below, learning for students means in its first phase especially feelings of fear, fright, nervousness and sometimes even panic. They need to overcome these emotions to be able to successfully manage their studies. Therefore they, themselves, assume that self-regulation of these emotions is the key component in managing their learning.

The next table (Table 3) displays secondary emotions identified in statements of the informants. There are three groups of secondary emotions that we again systemized according to Jonathan Turner's typology (1999, 2002, 2007). They are formed as a combination of two types of negative basic emotions – aversion/fear and disappointment/sadness.

Table 3: Expressions of secondary emotions in university students

Aversion – fear		
Aversion/fear + Satisfaction/happiness	creates	Esteem, respect
Enforcement – anger		
Enforcement/anger + Disappointment/sadness	creates	Bitterness, disillusionment
Disappointment – sadness		
Disappointment/sadness + Aversion/fear	creates	Regret
Disappointment/sadness + Enforcement/anger	creates	Discontent, unfulfilled expectations, boredom

The first group of secondary emotions are esteem and respect that students feel towards those teachers that they consider inspirational, quality, communicative and dedicated to their job. This assertion is illustrated by the statement of one of the informants: "I really appreciate her (the teacher's) enthusiasm towards her subject. (...) It passes on to me. We can see that she wants us to really understand the subject and we can also see that she understands the subject" (R8/8). On the other hand, towards those who do not meet these criteria students experience feelings of discontent, dejection, peevishness and resentfulness of their inadequate work. One of the participants states: "It's awful to see that they are either busy or not giving a damn altogether. It makes me sad to know that they actually don't care about me. We're the last thing" (R9/12).

The other group of emotions is bitterness, disillusionment and regret that represent various combinations of enforcement/anger and aversion/fear. The cause of these secondary emotions in students is confrontation with the academic environment and poor prospects towards employability. Students ponder on the fact that their

education might not be enough to secure a job in the future and that they will have to make do with a much worse position than graduates ten years ago. One of the participants in this regard states: "The fact that one studies something that he eventually will not like is bugging me. On the other hand, I know very well how much have I and my parents already invested in the education. There's no other way but to graduate. It's better than to pack things up and have no school at all. I'd have lost two, three years. Talk about loss of illusions..." (R6/8). Other members of this group follow up on this statement: "We're losing these illusions. Completely" (R6/8). These people view the academic environment as impersonal, aloof and mass: "This is certainly far from my high school experience, where we all knew each other and were friends with each other. (...) I don't even know some of my current classmates. Even the teachers treat us that way" (R3/14).

The third group of emotions is discontent, unfulfilled expectations and boredom. It is through these three emotions that students most often define their feelings about their current three-year study programme. The unfulfilled expectations in this case spring from their belief that school cannot practically enough prepare them for professional life. The boredom manifests itself in that during the semester there are no significant demands placed on the students and the students then consider the university studies easier than studying at high school. "For me, high school was much harder" (5/7). The overall discontent is illustratively documented by the following statements of members of one of the focus groups: "It's kind of discouraging, the study as such (...) Right now it's kind of sad" (R4/9).

If we paste the emotions identified by us into the same diagram (see Table 4) as provided by Pekrun et al. (2002), we can see that the structure of emotions of students of the university researched by us varies greatly. Prospects for the future, as well as reflections of the past are in the case of our informants accompanied by predominantly negative emotions that refer to a difficult structural situation on the border of professional training and entry to the labour market.

Table 4: Academic emotions and their domains at a Czech university

	Positive	Negative
Task-related and self-related Process	Satisfaction, peace, pleasure, happiness, elation	Discontent, boredom, worry, anxiety, fright, panic, nervousness, concern
Prospective		Bitterness, disillusionment
Retrospective		Unfulfilled expectations, regret,
Social	Esteem, respect	Discontent, dejection, resentfulness, peevishness, vexation, disappointment

Our research shows that self-regulation of emotions means for our informants above all management of negative emotions. Regulation of positive emotions, as can be seen in e.g. services or media (see Hochschild, 1979, 1983) is not present in our currently investigated environment. If we are to further write about self-regulation of emotions, we shall therefore mean mostly self-regulation of negative emotions, because only those form connections from relational analysis between them and practices of management of emotions.

Based on this analysis we can state that the issue of self-regulation of emotions manifests itself in three main dimensions. The first one is an ideational construct of a successful and unsuccessful student. Our informants consider a student to be successful when he or she is able to manage their emotions, whereas the signs of an unsuccessful student include succumbing to nervousness and panic from learning and the inability to overcome the feeling of disillusionment and boredom, despite the necessity to graduate. A successful student in the informants' perception is able to overcome fears of the difficulties of preparation for exams and to start learning and is also able to motivate and persuade himself/herself about the importance of graduation and completion of exams, despite not always having experienced joyful and satisfactory moments during their studies: "I guess it really is important to bite the bullet and sit down to study even when I don't like it, which is almost all the time. Just suck it up and finish it somehow. People who cannot do it usually drop off or go study something else" (R12/5).

The second dimension of self-regulation of emotions are situations in which emotions are being channelled and which create the need to manage the emotions. In this respect, they are: (1) Exams, where the emotional experience is, according to students, the strongest. Here a high level of regulation of anxiety and nervousness

before the exam is necessary and subsequently, in case of failure, coping with post-exam negative emotions – disappointment, vexation, dejection and peevishness. (2) The process of learning for the exams and tests, where the level of emotional experience is somewhat lower than in the case of exams, but even there it is necessary to regulate and overcome negative emotions and start the process of learning. With regard to this point, the participants report that moderate concerns have an energizing effect on them and lead them to greater efforts: "When I feel at least a little nervous, I start working harder on myself. When I don't, I usually just slack about" (R6/7). (3) Normal everyday studies (attendance at seminars, lectures and tutorials), which are connected with the lowest intensity emotions. In this case the informants emphasize the need to overcome the dejection and peevishness or boredom from the taught subjects and to try to complete them at least with the minimum required attendance: "I must fight myself all the time to attend this subject, even though it is compulsory. I honestly have no idea what use will it be" (R9/4).

The last dimension are strategies of management of emotions, where four main types can be identified: (1) Support group. This means using close friends to share negative emotions with in order to get support in case of a failed exam (to cope with the disappointment) or nervousness and fear before an exam. (2) Inner speech, which is mostly bound to coping with negative feelings that are associated with studying as such. In it, the actors try to rationalize their decision to study a university and graduate from it despite some negative emotions. One informant literally quoted her inner speech on this topic: "The idea of studying five years or so and then saying to my parents: Sorry, mom, I know it costed you hundreds of thousands, but I failed. (...) to graduate somehow could be taken as a good investment" (R5/12). (3) Experience with a successful learning cycle. This means that the actors emphasize their knowing that at the beginning of their learning, there is always some worry, nervousness, anxiety, but when they overcome them, those negative emotions disappear and positive emotions appear as a response to a successfully finished task. This kind of strategy is most often used in relation to the process of learning itself, whether it is for exams, preparation for seminar papers or other tasks. As described by one of the informants: "It's one small step for a seminar paper, but a giant leap for the entire study" (R1/10). This informant's statement reflects the belief of students that self-regulation of learning and emotions are intertwined on this level, where students who are better able to distribute their work into many smaller and easier steps more easily overcome their worries about learning and better achieve their goals. (4) Strategies for unwinding and relaxation including a wide range of activities from yoga and relaxation exercise to sports. These strategies are most often used in the exam period, when students are confronted with the greatest demands and when they need to cope with worries and anxiety before exams.

Table 5: Relationship between strategies of management of emotions and sources of emotions

Source of emotions	Intensity of emotions	Strategy of management of emotions
Exams	Moderate to high	Support group, strategies for unwinding and relaxation
Process of learning	Moderate	Knowledge of learning cycle
Study	Low	Inner speech

We summarize the issue of self-regulation of emotions in Tab. 5, where the relationship between situations creating main negative emotions and between strategies to cope with them are shown.

CONCLUSIONS

To manage succesfully their studies and learning and direct it towards the intended goals, means for students a necessity to deal with negative emotions: disappointment from failed exams, boredom during the course of studies, nervousness and concerns at the beginning of the study process. The more students manage to cope with these negative emotions, the better presuppositions for the study process and learning they have. Our findings about the relationship between self-regulation of learning and self-regulation of emotions correspond with the findings of previous research (Pekrun, 1992, 2000), which emphasize the direct correlation between self-regulation of emotions and learning.

However, emotions do not affect self-regulation of learning only through the ability to manage negative emotions. Positive emotions affect self-regulation of learning in their own way. It is the positive emotions, most often caused by a success in exams or by completing a difficult task that, according to informants, affect motivation by strengthening it. Motivated individuals then have better presuppositions to manage the process of learning and studying. Their effect is, according to the participants, mediated through motivation and represents

a relatively autonomous mechanism. This mechanism partially meets the self-regulation of emotions in case of experience with a succesful cycle of learning, where positive emotions play their role.

Deborah L. Butler (2002) in her programmatic article about qualitative approach to research on self-regulation of learning wrote that this epistemological perspective enables us, among other things, to examine the phenomenon of self-regulation from the perspective of actors and to define it in the context of their everyday world. This is precisely the result that we attempted to reach in our own analysis. The concept of self-regulation of emotions presented by us shows that it is impossible to think about a general concept of management of emotions, but that individual strategies for coping with emotions (regulatory mechanisms) are always dependent on the type and strength of emotions, which the specific actors in the given situation are dealing with, and also on the source of emotions. Be it the exams, the process of learning or the study as a whole. Furthermore, we need to mention that there is close correlation between the process of self-regulation of learning and emotions. In our results, self-regulation of emotions is one of the prerequisites of effective self-regulation of learning. However, this does not mean that emotions would act on this phenomenon only through self-regulation. Emotions experienced in the course of studies and learning have an important effect on motivation, through which they, again, indirectly affect self-regulation of learning.

We do not claim that this study would represent a definitive answer on how university students channel their emotions or how this phenomenon relates to self-regulation of learning. But it does offer an important empiric insight into the issue, thanks to which we can see the diversity and specificity of local relationships and emotional mechanisms. And through further comparative research of these mechanisms, we can discover new knowledge in this field of research.

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SIMULATED ENGINEERING EDUCATION METHODS FOR WOMEN STUDENTS TO INCREASE THE RETENTION RATE IN SOUTH KOREA

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Science, technology, engineering and mathematics STEM are the subjects that women students are not interested in. So, in order to increase the retention rate of women engineering students in college of engineering in South Korea, we introduced the computer simulated teaching and learning methods on the STEM subjects and were analyzed the effectiveness of these simulated subjects by experts in the field of education, instructional technology and engineering fields. The analysis result of 400 students included 200 woman engineering students who were studied from 2006 to 2011 for 5 years in P university shows significant differences with man and woman in respect of the factors of (a) understanding, (b) satisfaction, (c) motivation, (d) learning ability, (e) parents' expectation, (f) pleasure in the study and (g) expectation grade. And the retention rate of women engineering students in college of engineering at P University decreased from 4.4% to less than 1 %. This simulated learning and teaching method is suggesting the recommendations of woman engineering education in the view points of cognition, emotion, motivation, environment and instructional strategy. This may lay the foundation for curriculum for women included the engineering education that is emphasized on the gender cognitive approach and the circumstances.

Keywords: Simulation, Engineering education, Gender

SINAV KAYGISI ENVANTERİNİN AŞAMALI MADDE TEPKİ MODELİ İLE İNCELENMESİ

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Klasik Test Kuramı test geliştirmede en çok ele alınan kuram olmasına karşın, madde ve birey parametrelerinin ele alınan gruba bağımlı olması, tek bir hata kestirimi yapması gibi sınırlılıkları bulunmaktadır. Madde Tepki Kuramı bu sınırlıkları ortadan kaldırmakta, madde ve test geliştirmede birçok avantaj sağlamaktadır. Bu araştırmanın amacı, sınav ve sınanmayla ilgili olumsuz duygu ve düşünceleri ölçmek amacıyla geliştirilmiş olan Sınav Kaygısı Envanter'inden elde edilen madde puanlarının, çok kategorili sıralı puanlanan maddeler için geliştirilmiş olan aşamalı tepki modeli ile incelenmektir. Araştırmaya, 578 ilkokul öğrencisi katılmıştır. Veri analizinin ilk aşamasında verilerin Madde Tepki Kuramı varsayımlarını sağlayıp sağlamadığı incelenmiş ve model veri uyumunun sağlandığı görülmüştür. Daha sonra, aşamalı tepki modeli ile madde kalibrasyonu yapılmıştır. Araştırmadan elde edilen bulgular; sınav kaygısını ölçmede öğrencileri en iyi ayırt eden ve en çok bilgi veren maddenin 14. madde, en az bilgiyi veren maddenin ise, 1.madde olduğunu ortaya çıkartmıştır. Envanterin marjinal güvenirlik katsayısı 0.89 olarak hesaplanmıştır. Bunun yanında 1.maddenin dışında tüm maddelerin verdikleri bilgi düzeyinin yüksek olduğu ve envanterin düşük ve yüksek kaygı düzeyine sahip öğrencileri ayırmada kullanılabileceği görülmüştür.

Keywords: Sınav Kaygısı, Aşamalı Tepki Modeli, Madde Tepki Kuramı, Test Geliştirme

SKILLS PROFICIENCY AND WAGES IN GERMANY AND UK

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ABSTRACT

This paper aims to analyze the influence of skills proficiency on wages in two European countries with mature economies and labour markets: Germany and UK. Our results highlight the need to study the importance of skills for assessing private returns of human capital development. The analysis is based on data provided by the Survey of Adult Skills (PIAAC, 2012). By looking at the link between labour market outcomes and human capital, this study offers valuable insights for public policies in the field of education and vocational training.

INTRODUCTION

Lives of individuals and companies are shaped and transformed by significant technological evolutions. As a result, the demand of skills is changing. One of the most important trends is the growing importance of the soft skills, with focus on information-processing and interpersonal skills. Higher level of skills is expected to determine higher level of productivity and competitiveness. However, there is still little knowledge on the stock and distribution of skills at country level.

As higher skills determine higher productivity, it is expected that individuals with higher skills proficiency to receive higher wages. Our study aims to analyze how skills are linked with wages in two different national contexts: UK and Germany. Both countries have mature economies and labour markets. So, our study intends to find out if the connection between skills and earnings is similar for both countries and how different skills produce economic returns for individuals in these two national contexts.

Most studies that analyze the impact of skills on earnings use as proxy indicators students' performances in assessment tests or grades of the students. However, such studies tend to underestimate the impact of the level of skills as they assess it mostly among youth (Hanushek, Schwerdt, Wiederhold and Woessman , 2014). Survey of Adult Skills (PIAAC, 2012) represents one of the most important sources of data measuring skills proficiency among adults which includes also data on earnings. Studies linking skills proficiency with earnings using PIAAC data are new in the field and brings new evidence which are very valuable for both the policy and academic areas. Hanushek, Schwerdt, Wiederhold and Woessman (2014), van Damme (2014) and Paccagnella (2015) undertook most relevant analysis in this sense and showed that higher level of skills is associated with higher average earnings in most of the countries that are covered by PIAAC Survey. However, their analysis were focused only on literacy and numeracy skills.

THE STUDY

The investigation undertaken in this study aimed to reduce the dimensionality of the data and to visualize it in a two dimensional space. Therefore we used multiple correspondence analysis (MCA) in order to emphasize the influence of skills proficiency on earnings.

We included in the analysis 9 categorical variables. First measures earnings and the other eight variables represent skill use information. These are scales scores (standardized and categorized weighted likelihood estimation) for skill use items in PIAAC background questionnaire (OECD, 2013).

Earnings (EARN) variable was built upon a continuous variable included in PIAAC data, capturing hourly earnings including bonuses for wage and salary earners, PPP corrected \$US. For the analysis developed on UK data, the five categories of EARN variable are defined using the quantiles of the numeric variable:

- In the category EARN 1 are included workers earning less than 11.20 PPP corrected \$US;
- In the category EARN 2 are included the respondents whose earnings lie between [11.20, 15.09);
- In the EARN 3 category are included those workers with earnings within the range [15.09, 19.55);
- In the EARN 4 category are included respondents whose earnings lie between [19.55, 26.53);
- In the EARN 5 category are included respondents earning more than 26.53 PPP corrected \$US.

For the Germany dataset, information regarding individual earnings is not available. Thus we build the

earnings categories on the deciles of hourly earnings excluding bonuses for wage and salary earners which are provided by PIAAC.

The skill use indices were derived on respondent's answers to the questions regarding cognitive and non-cognitive skills used at work.

The categorical variable Learning at work (LEARN) is based on the Index of Learning at work variable from PIAAC. The variables used to derive this index measure the following aspects: learning from co-workers, learning by doing and keeping up to date. Each of the questions used to capture the Learning at work dimensions have five possible responses: (1) Never, (2) Less than once a month, (3) Less than once a week but at least once a month, (4) At least once a week but not every day, (5) Every day.

The variable denoted ICT is based on the Index of use of ICT skills at work. The variables used to derive this index measures how often respondents are using the internet or the computer for mail, work related information, to conduct transactions or real time discussions.

The variable denoted INFL comes from the Index of use of influencing skills at work. This measure is derived from the questions asking how often respondents are teaching people, advising people, influencing people, negotiating with people.

The variable denoted NUM is based on the Index of use of numeracy skills at work (basic and advanced). This measure is derived from the questions asking how often respondents are calculating costs or budgets, use or calculate fractions or percentages, use a calculator, prepare charts or tables, use simple algebra, use advanced math or statistics.

The variable denoted PLAN is based on the Index of use of planning skills at work. This measures how often workers are planning own activities, planning others activities, organizing own time.

The variable denoted READ is based on the Index of use of reading skills at work (prose and document texts). This variable captures how often workers read directions or instructions, letters, mails, newspaper, books, reference materials, diagrams, maps.

The variable denoted WRIT is based on the Index of use of writing skills at work. This index measures how often workers write letter, memos, mails, articles, reports or fill in forms.

The variable denoted TASK is based on the index of use of task discretion at work. This index measures work flexibility with respect to: work flexibility, sequence of tasks, speed of work, working hours. The scale for the answers to these questions is: not at all, very little, to some extent, to a high extent, to a very high extent.

The categories of these eight variables are as follows:
- Level 1 – lowest to 20%
- Level 2 - more than 20% to 40 %
- Level 3- more than 40% to 60%
- Level 4- more than 60% to 80%
- Level 5- more than 80%.

The findings presented in the next section are obtained by using adjusted Burt approach of MCA (Nenadic, Greenacre, 2007).

FINDINGS

We analyze firstly the data and the MCA map for Germany, and then the data for UK. Then we will make some comparative remarks but in terms of which labour market rewards more the skill proficiency, and which are the skills leading to higher incomes.

The Burt table for Germany produces the eigenvalues of 0.0837 and 0.0057. The eigenvalues reveal that two dimensions are enough to explain the data. On the first dimension (X axis) we captured mainly substantive variation due to incomes and skills proficiency, while the second dimension is reflecting the horseshoe effect, as one could expect when using ordinal data. The eigenvalues as well as the high importance of the first dimension in explaining variation, as well as the same direction from 1 to 5 for all skills included and represented in the MCA map, proves the high quality of data collected and included in the analyze.

The horizontal dimension in the map from MCA estimation for Germany dataset separates income quintiles on the basis of different skills proficiency. On the right side of the map we can find lower levels of incomes which are associated with lower levels of skills, while on the left side of the map we can find higher levels of incomes associated with higher levels of skills. Level 1 for all skills is associated with 1st income quintile, while level 5 of skills is associated with highest income quintile. The pattern of association for the ICT and planning skills is a little bit different with lower levels of skills being associated with higher levels of income. So, the labour market in Germany seems to put a premium on these two skills. Level 2 of different skills could be associated both with 2nd of 3rd quintile, while the 3rd level of skills is rather associated with the 4th income quintile. So, we could whiteness a labour market highly valuing and assuring higher rates of returns for the higher levels of skills, starting even with the 4th level.

dim	value	%	cum%	scree plot
1	0.083775	79.3	79.3	********************
2	0.005700	5.4	84.7	**
3	0.001223	1.2	85.9	
4	0.000847	0.8	86.7	
5	0.000574	0.5	87.2	
6	0.000343	0.3	87.5	
7	0.000291	0.3	87.8	
8	0.000185	0.2	88.0	
9	0.000146	0.1	88.1	
10	0.000126	0.1	88.2	
11	7.2e-050	0.1	88.3	
12	5.8e-050	0.1	88.4	
13	1.7e-050	0.0	88.4	
14	1.1e-050	0.0	88.4	
15	00000000	0.0	88.4	

```
-------- -----
Total: 0.105642
```

Table 1: Principal inertias - Germany dataset
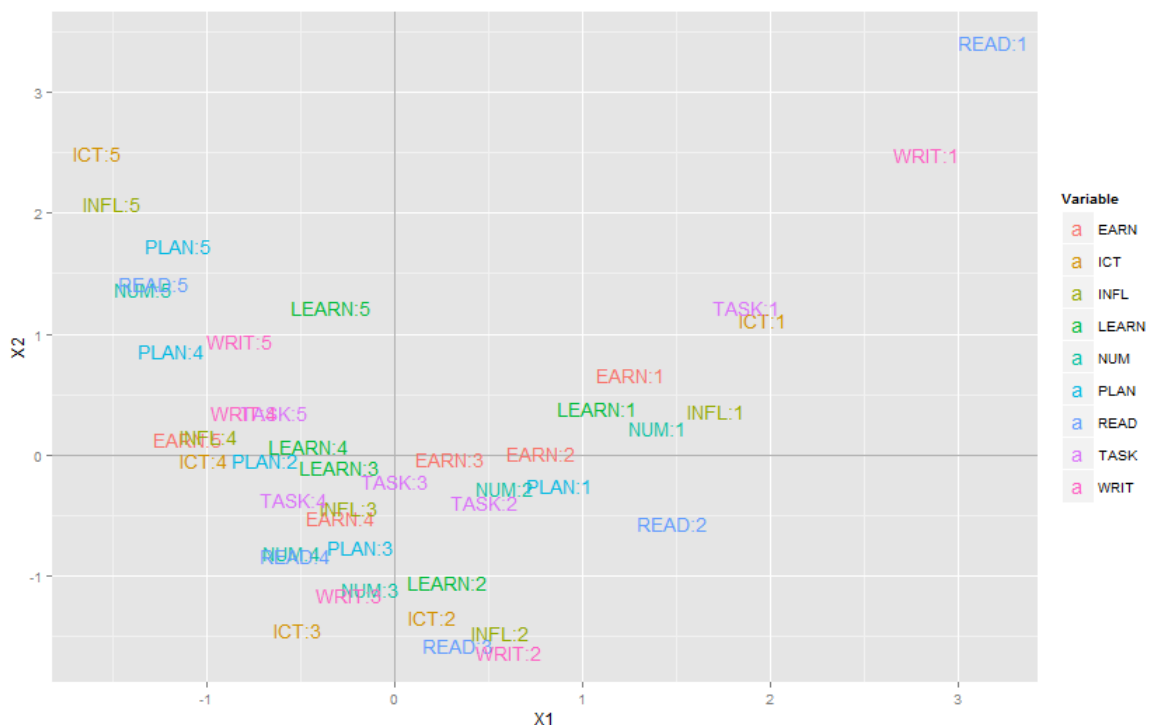
Figure 1: Map from MCA estimation - Germany dataset

The analyses run for the UK dataset leads to quite different results. The Burt table for UK produces eigenvalues of 0.1153 and 0.0099. The eigenvalues reveal again that two dimensions are enough to explain the variation within data. On the first dimension (X axis) we captured again the mainly substantive variation due to incomes and skills proficiency, while the second dimension is reflecting the horseshoe effect. The first dimension is substantive and captures 80% of the variation.

```
dim    value     %     cum%   scree plot
1     0.115390  80.0   80.0   ********************
2     0.009934   6.9   86.9   **
3     0.003452   2.4   89.3   *
4     0.001098   0.8   90.0
5     0.000276   0.2   90.2
6     0.000197   0.1   90.4
7     0.000176   0.1   90.5
8     8.8e-050   0.1   90.6
9     5.4e-050   0.0   90.6
10    3.5e-050   0.0   90.6
11    2.4e-050   0.0   90.6
12    1.5e-050   0.0   90.6
13    9e-06000   0.0   90.7
14    00000000   0.0   90.7
      -------- -----
Total:  0.144233
```

Table 2: Principal inertias - UK dataset

The MCA estimation represented in the map from figure 2 evidences a high degree of association in between different levels of skills and different levels of income: 1st level of skills is associated with the 1st income quintile, 2nd level of skills with 2nd income quintile and so on.
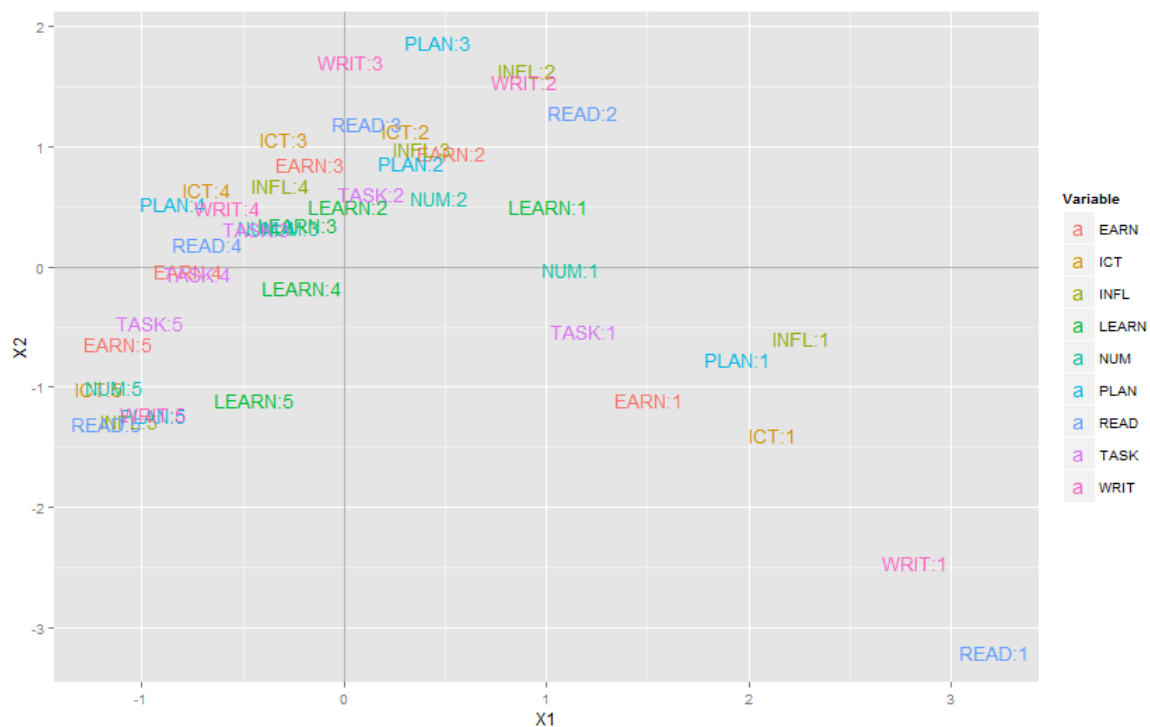
Figure 2: MAP from MCA estimation - UK dataset

If we want to compare the findings for the two mature economies, we can say on the one hand that each of the country values the higher levels of skills, but if in UK one must have the highest level of skills in order to reach the 5th income quintile, in Germany this is possible also with the 4th level of skills.

CONCLUSIONS

Our study represents one of the first analysis on the links between skills proficiency and earnings using PIAAC data. Moreover, by using MCA approach, we obtained visual outputs capturing the way higher levels of skills are associated with higher personal returns on the labour market. Such results advocates for the investments in human capital development, with a special focus on transversal skills such as: writing and reading skills, numeracy, ICT skills, planning skills, task discretion skills and influencing skills. Our main conclusion is that, in both German and UK labour markets, higher levels of skills are rewarded by the labour market.

Moreover, analyzing results for both countries, ICT skills seem to represents the class of competences that brings the highest level of return in both the national contexts. The use of ICT at the workplace becomes more and more important in rich technological economies. Therefore, such skills bring higher returns to individuals.

So far, the use of MCA approach allowed us to explore the way data on skills and earnings from PIAAC data set are linked. Future studies can assess the link between skills proficiency and earnings while taking into other supplementary variables such as education, gender, age, sector or occupation.

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SOCIAL-INCLUSIVE COMPETENCIES AMONG SLOVAK TEACHERS AND FUTURE TEACHERS

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ABSTRACT

The paper focuses on presenting the findings mapping the social-inclusive competencies among Slovak teachers and future teachers. The study presents an analysis of semi-structured interviews undertaken with teachers and future teachers (N = 8). The dialogues were the basis for the scale measuring the socio-inclusive competencies of teachers. This was a part of the questionnaire method created to measure the social-psychological competencies of teachers (Sokolová, 2015). The findings pointed to four key areas associated with the view of inclusiveness in the school environment: *school atmosphere, personality of teacher, personality of student, lifelong learning.* The present study is a part of the project VEGA 1/0562/13 Social-psychological competencies in undergraduate preparation program and early teachers career.

INTRODUCTION

Knowledge is a key factor supporting equality of opportunities as well as the social inclusion. The social-inclusion is understood as a process in which an individual fully participates on life of society without any restriction of either his/her own civil and political rights and also by bad health condition, lack of knowledge, or absence of employment and income (Robinson, 2000). A person with disability has restricted or absent skills required for doing activities which are, by majority of society, considered a standard. For social inclusion is needed not only an acceptable and supporting environment, but it also needs to be an advanced one. In this process, it is important for teachers to be prepared for the social-inclusive education at schools according to the UN convention, which was accepted on the 13th of December 2006 in New York as "Convention on the Rights of Persons with Disabilities" (Feuser, 2009). It says about the setting of social protection, education and health care in order to prevent the social inclusion. The successful inclusive process positively reflects into the overall involvement of persons with disabilities into social and economic social life. Inclusion, thus, includes physical (there are students with and without physical disability), social (students of various social groups) and instructive (education according to the needs of students) level. The inclusive process can be summarized into 4 main principles according to the Centre for the inclusive education (Booth, Ainscow, 2002):

1. Inclusion is a process of finding ways of life with variety and how to draw on that. It is an effort to find individual answers on constantly changing diversity in society and schools.
2. Inclusion is connected with identification and elimination of barriers.
3. Inclusion means presence, participation, success and happiness of all children.
4. Inclusion includes especial attention on those target groups which are exposed to the threat of marginalisation, exclusion and to be below-average in education.

The named principles are found in self-evaluating tool, which can be used by every school to find strong and weak points of the inclusive process.

Acceptation of diversity assumes to work on elimination of negative attitudes (stereotypes, prejudices, discrimination) (Šramová, 2013). According to Lechta (2010), it is not just about a tolerant attitude, as in integration, but it is the whole acceptance process which comes from the internal convince of a person. In other words, it is an unconditional acceptance of special needs of all children. That is why the attitude towards the inclusion of all units of education – headmaster, teachers, students, parents and school stuff is so important. They create the social school climate and therefore form values and attitudes of the students. School is a place where should be created and offered conditions, inputs for development of all children, no matter how old they are. Thus, it is important to know attitudes and views of the teachers who significantly influence the inclusive process at schools.

For education, the inclusive approach means that children are not divided into the ones with the special needs and the ones without them. It is one heterogenic group of students with individual needs (Lechta, 2010; Cabanová, 2014). In this approach, it is needed to eliminate all obstacles in connection with practice. It is important for teachers to have special-pedagogical as well as psychological practice to enable them to work with the classes in which there are socially disadvantaged students. It is also important for schools to be equipped with special tools. Unfortunately, authors (Boyer & Mainzer, 2003; Hodgson, Lazarus & Thurlow, 2011) say that majority of pedagogues are afraid of working with students with disability because of lacking of practice. One option is to focus on the inclusive process in the teachers' practice. It is needed the theoretical knowledge of various disabilities as well as social-pedagogical training which raises social-communicative competencies of teachers. Adventure education becomes more and more attractive and effective. A teacher working in the inclusive education needs to cooperate with more specialists to coordinate his/her activity on students. We can find in literature a suggestion

for a teacher to cooperate with the special pedagogue who would positively influence results of students with disability as well as their self-evaluation and self-confidence (Garderen, Stormont & Goel, 2012; Vernarcová, 2012).

Our research aim was to map and analyse teachers' attitudes in practice and students of Faculty of Education to the inclusion. The aim was to find out what forms their attitudes towards the inclusive education.

Research questions:
1. What is the main information source that teachers use to get informed with the inclusive education?
2. What is the future teachers' idea of inclusive education and what is their experience with the inclusive education during their practice in connection with teachers, students and school management?
3. What are the strong and weak points of teacher's personality when working with students in the inclusive education?
4. What are the main positives of the inclusive education?
5. What are the dangers/negatives of the inclusive education?

2. METHODS

2.1 Participants

The participants of the research were teachers and future teachers (students of the Faculty of Education UMB Banská Bystrica) (N=8). Teachers had 2 years practice (N=4; 3 women and 1 man) and the students (N=4; 2 women, 2 men) (Table 1)

Table 1. Characteristic of the research sample.

	Gender	Age	Approbation	Practice (years)
Interview 1	Man	24	Psychology-Ethics	Student/future teacher
Interview 2	Woman	23	Psychology-Music education	Student/future teacher
Interview 3	Woman	23	Psychology-Pedagogy	Student/future teacher
Interview 4	Man	23	Psychology-Pedagogy	Student/future teacher
Interview 5	Woman	29	Psychology-Pedagogy	2
Interview 6	Woman	29	Informatics-Pedagogy	2
Interview 7	Woman	26	Geography-Maths	2
Interview 8	Man	26	Music education	2

2.2 Measures

We used semi-structured interview with every participant as the research method (Miovský 2006; Hendl, 2005). Interviews were individual, with prepared questionnaire. The questions focused on the following topics: interpersonal and intrapersonal competencies of teacher, class management and the inclusive education. Attitudes towards the inclusive education are analysed in the report. In this part, we focused on five areas corresponding with our research aims: Main information source which teachers use to get information about the inclusive education; Future teachers' idea of the inclusive education and what is their experience with the inclusive education during their practice; Strong and weak points of the inclusive education. Interviews were recorded in order to make a transcription important for future analyses and interpretation. The length was approximately 60 minutes. Respondents were informed about the research aims. To determine the target areas we chose an exploratory research with the emphasis on capturing the range of relevant topics concerning the researched issue in view.

3. RESULTS

Results of the research were processed by thematic content analyses (Krippendorff, 2004). During the analyses, we followed the adjusted method of the grounded theory (Stauss, Corbin, 2008). Final results, focused on attitudes of teachers/future teachers towards the inclusive education, pointed out 4 key factors: atmosphere in school, personality of teacher, personality of student, lifelong learning.

3.1 School atmosphere

The participants agreed that **several factors influence a successful realisation of the inclusive education – personality of teacher, personality of student, personality of parents and school stuff.** Cooperation and coincidence of the factors was pointed out. *"Schoolmate who knew more than a teacher left the school which bothered other teachers and they made the teacher left the school, too."* P4, a future teacher). Stress was put also

on the importance of mutual support from school management as well as emphatic approach of their colleagues. *"If I need help, I turn to the school management. Support from my colleagues helps, too."* (P5, a teacher). *"If I need help, I will turn to elder colleagues."* (P1, a future teacher). *"I think that it is the easiest to make a good relationship with colleagues."* (P3, a future teacher). **The teachers criticised integration which does not lead to positive atmosphere in class, it rather leads to interferes relationship between integrated and non-integrated children.** *"If they had some paper about the integration, they would not have to do some things, which leads to bad atmosphere in the class."* (P5, a teacher). *"At high school we had a visually challenged classmate with her assistant. Teachers gave her various relieve which rather slowed her than helped."* (P3, a future teacher). It is another aspect which must be taken into consideration by teachers, e.g. to inform and explain to students disabilities, to raise toleration by pointing out the importance of the social inclusion.

3.2. Personality of teacher

Personality of teacher is another key category. The participants agreed that key areas are:
1. **Personal abilities and qualities** (mainly empathy, assertiveness, frankness, creativity)
2. **Motivation** (interest in profession, in students)
3. **Social-psychological competencies** (communication, stress handling).

According to the participants *"a teacher must be the one who wants to do it. Interest and wanting are essential."* (P8, a teacher). Also, a stress is put on self-management, which *"must be good to not make teacher show that a student with ADHD upset him."* (P8, a teacher). The future teachers consider empathy, humaneness and understanding as important factors for handling inclusion in schools. *"Empathy, humaneness, understanding of requirements and claims of students are the most important for teachers as well as professionalism."* (P1, a future teacher). *"Empathy, self-reflexion, self-evaluation are important for teachers to handle the social inclusion."* (P8, a teacher). *"A teacher should have well-developed empathy and should know how to work with children."* (P3, a future teacher).

3.3 Personality of student

The next category which the participants mentioned is **personality of student. Here, their openness, readability, individual abilities are pointed out.** The future teachers are afraid of the ability to handle conflict situations in classroom as well as administrative stress connected to learning process. *"to catch students' attention is the hardest."* (P1, a future teacher), *"school administration is the hardest"* (P1, a future teacher), *"the time spent for administration could teacher used for preparing for the lesson"* (P2, a future teacher). Communication with students based on the empathic approach was pointed out by the teachers as well as the future teachers. *"I had a good contact with students. I can communicate with students despite I am an introvert."* (P1, a future teacher).

3.4 Lifelong learning

The category of lifelong learning has developed from the teachers who have **a high need for developing their personal and professional abilities**. Information is gained mainly from books, the internet as well as from experience and advice from colleagues. *"They teach me nothing at school. Theories only. Training and education are important."* (P5, a teacher). **The teachers and the future teachers agreed that it is important to use adventure education and to attend trainings for development social-psychological abilities of teachers**, which prepare them for handling conflict situations and to develop their creativity. *"Empathy and assertiveness are needed to be developed by trainings, adventure activities are important for practise."* (P8, a teacher).

4. CONCLUSION

Inclusive education is one of declared priorities of the educational system. Thus, it is logical that we are interested in preparedness for the process, experience and fears of teachers and future teachers. By the analyses of the interviews we got these conclusions:

1. The main information sources, which are used by teachers to get informed about the inclusive education is literature, the internet, personal experience, experience of their colleagues.
2. Ideas of the future teachers about the inclusive education are not very different from the ones of the teachers. Both stress its importance as well as concern connected with not understanding students, parents, colleagues and school management.
3. According to the participants, strong points of teachers in the inclusive education are: empathy, creative approach, patience. Weak points are administration and obstacles from parents.
4. They see the main positive of the inclusive education in elimination of the social exclusion of persons with disability and in the raise of tolerance.
5. The negative of the inclusive education is bad handling of the process which can come up from the stereotypes and prejudices of society.

It shows that teachers and future teachers welcome the process of the inclusion, but they do not feel ready to handle it. They put stress on making a good atmosphere in school (Brunclíková, 2011), on competence of teacher (personal and professional) on personality of student (bio-psycho-social area), as well as continual learning of teachers by social-psychological trainings (Hamranová, 2003) and exchanging experience between colleagues.

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SOFT SKILLS RECOGNITION, VALIDATION AND CERTIFICATION IN A LIFELONG LEARNING PERSPECTIVE. PRESENTATION OF THE PROJECT UNIMC FOR SOFT SKILLS

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ABSTRACT

The issue of recognition, validation and certification of skills, especially those developed in non-formal and informal fields, is becoming a current topic for all educative institutions, including University. The main aim is to promote lifelong learning, a strategic factor for individual fulfilment in work and for social aspects. Soft skills is a psycho-sociological term relating to a cluster of personality traits, social abilities, communication, language, personal attitudes that characterize relationships with other people. Soft skills complement hard skills which are the occupational requirements of a job and many other activities. In Italy the legal framework on skills is leaded by the Legislative Decree n. 13/13. According to the Decree, University should assure the effective implementation of lifelong learning through guidance and counselling services. The University of Macerata (UNIMC) has been involved from a long time in the field of soft skills with activities to develop informal and non-formal learning and recently, a system to recognize and validate them has been experienced. A Pilot Project structured in three phases - recognition, validation and certification of the soft skills - was introduced within Alternating School and Work Project, which involved 12 students of a local High School in an internship at Unimc.

Keywords: soft skills; lifelong learning; informal learning; non-formal learning; guidance; counselling; skills certification system; internship.

INTRODUCTION

The issue of *recognition, validation and certification of skills,* especially those developed in non-formal and informal fields, is becoming a current topic for all educative institutions, including University. The main aim is to promote *lifelong learning,* which is defined as «all learning activity, whether formal, non-formal or informal, undertaken throughout life, with the aim of improving knowledge, skills and competences in a perspective of personal, civic, social and employment growth» (Bertagna, Casano, & Tiraboschi, 2012).

Lifelong learning is considered by the European Union as a strategic factor for individual fulfilment

in work and social aspects (Field, 2005*)*. In addition, it is considered an essential contribution to the implementation of the *Europe 2020 Strategy* for a smart, sustainable and inclusive growth (European Commission, 2009). At the same time, the European Council Recommendation of the 20th December 2012, on the validation of *non-formal* and *informal learning*, proposes the development of knowledge, skills and competencies aiming at an economic growth and employment (European Commission, 2012).

In particular we are interested in *soft skills*, considered as a psycho-sociological cluster of personality traits, social proprieties, communication, language, personal habits, and friendliness, that characterizes relationships with other people (Le Boterf, 1994). Soft skills are personal attributes that enhance individual's interactions, job performance and career prospects. Under this perspective soft skills complement hard skills, which are the main technical and theoretical requirements for a job. Unlike hard skills, which are specifically related to a specific task or activity, soft skills are related to the personal abilities to interact effectively with coworkers and customers and are broadly applicable to different kind of performances, both in and outside the workplace (Rey, 2003). Over the long term, to manage soft skills may be even more important than to posses hard skills The legal profession is an example, where the ability to deal with people effectively and politely can determine the professional success of a lawyer. Due to their added value, it is important to identify them and certify that they are available to be used.

According to the Italian legislation, the University of Macerata has been involved from a long time in the field of soft skills training. In the last period a Pilot Project aimed to the *recognition*, *validation* and *certification* of soft skills was made up. We will discuss the contents, the phases, the results and the issues of this experience.

THE LEGAL FRAMEWORK AND THE ROLE OF THE UNIVERSITY

The Italian legal framework on *recognition, validation and certification of skills* is leaded by the Legislative Decree n. 13/13 (pursuant to paragraphs 58 and 68, Article 4, of Law No. 92/2012) which defines *the general rules and the basic performance for the identification and validation of non-formal and informal learning as well as the minimum service standards of the National System of Certification of Skills*. This measure introduces a recognition of acquired skills throughout lifetime, even to develop a European skills Framework usable by the citizens. The Law is based on main statements such as the definitions of *competence*, *skill, non-formal learning, informal learning, formal learning* and *lifelong learning*. The identification of the *Public Authorities*, including University, and *Private Authorities* which are accredited to certificate skills acquired by students and workers is quoted in the same Law as well.

According to the Legislative Decree n. 13/13 *non-formal learning* is defined as a learning characterized by a deliberate choice of the person, which is conducted out of education and training system with but ending with the release of an educational qualification. On the other end, the *non-formal learning* takes place in every organism pursuing educational and training purposes, such as volunteering, National Civil Service and internship (Isfol, 2012*)*.

THE PILOT PROJECT "UNIMC FOR SOFT SKILLS" FOR THE *RECOGNITION*, *VALIDATION* AND *CERTIFICATION* OF THE SOFT SKILLS

The University of Macerata (UNIMC), committed from a long time in the field of soft skills development (Nicolini & Pojaghi, 2006), provides to the students many activities aimed to acquire relational and methodological skills, such as: effective communication, teamwork, conflict management, negotiation, problem solving, etc. Among various experiences offered from the 1975, we can mention the Workshop for Observing Children at School (Nicolini & Lapucci, 2009) as well as the Training to Communication Laboratory (Nicolini & Lapucci, 2011) as for formal learning experience. In addition participation in editorial staff of important cultural events in the territory, collaborations with the University Radio and the workshop to design the University Advertising Campaign, as for informal learning activities.

Specifically, along several years UNIMC has been participating to the Project *Alternating School*

and Work which is sponsored by the local Chamber of Commerce and the Regional Education Office. The Project involves High School students in an internship at Public Administrations, Local Authorities and Professional Studies to promote the integration between school and work (article 4 of Law No. 53/2003).

In view of the future commitment of the University in the field of skills certification in *non-formal learning*, a research team from UNIMC Orientation Office introduced within *Alternating School and Work* a Pilot Project called *Unimc for Soft Skills*, which involved 12 students of a local High School in the period between January and February 2014. Following the indications of Italian and European legislation, the Project was structured in five phases to *recognise*, *validate* and *certify* the *soft skills* likely acquired or consolidated during the internship.

First phase of Pilot Project
The first phase of the Pilot Project was dedicated to the identification of the targeted soft skills mainly required during the internship at UNIMC by the students (Winterton, Delamare-Le Deist, & Stringfellow, 2005). For the aim of the *Alternating School and Work* project we outlined four soft skills:

- *Observation*
- *Listening*
- *Communication in group*
- *Problem solving*

As theoretical reference, the definition of the four soft skills employed in an experienced and knowledgeable way was used. A definition of an expert approach for each soft skill is provided below:

Observation
An expert approach in *observation* consists in to able to distinguish between data that can be directly observed in the description of a phenomenon - such as actions, words and non-verbal behaviors - and items that can only be deduced because belonging to the inner world of the subject observed - such as thoughts, feelings and intentions. Furthermore, the competent observer fits the times and places where the observation takes place, taking care to discuss own comments and being aware of own point of view.
Listening
A good expertise in *listening* is characterized by the ability to select among an amount of information the most significant ones in relation to the objective of communication.
Communication in small group
An expert approach to *communication in small group* is distinguished by the ability to clearly express opinions and emotions, avoiding to minimize, to trivialize or to make fan of other's ideas and frame of mind, also offering recognition to other's ideas. Also, it allows to change own attitudes based on the discussion in group.
Problem solving
To have a good expertise in *problem solving* means to be able to process the different information available to identify answers to the problems encountered, sometimes also in an original way. Also, it permits to transfer learned strategies, adapting them to new contexts. Finally, an expert approach is characterized by the ability to use an overview able to take on the problem from an outside perspective.

Second phase of Pilot Project
Using the definitions described above, the second phase of the project consisted in the operationalizing of the four soft skills, declined them in three levels of expertise, through the

identification of specific indicators for each skill (Nicolini, Moroni, & Lapucci, 2009): *basic*, *intermediate* and *advanced*.

As an example, we will illustrate the operationalization of the *Communication in small group* competence. In the Table 1 the indicators which identify the *communication in small group* of *basic* and *advanced levels* are illustrated (Pojaghi & Nicolini, 2011).

Table 1. Communication in small group indicators

In small group basic communication	In small group advanced communication
To remain mainly silent during the discussion	To take an active part in the discussion
To carry on own opinion only at once considering the opinions of the other participants	To propose and stimulating speeches, listening and taking into consideration the opinions of the other participants
To intervene with speeches not actually relevant to the group objective	To return the discussion towards the group objective to be achieved
To use a personal language or technical terms, without checking whether they are comprehensible to the other participants	To use a shared linguistic repertoire
To minimize ideas or frame of mind expressed by the other participants	To offer recognition to the thoughts and frame of mind of the other participants
To maintain the same style of communication during the group interaction, without measuring it in relation to others	To change the way of relating based on the feedback received by the other participants
To keep the speech for a long time	To intervene synthetically and clearly
To interrupt others in their speeches	To encourage others to participate and to support them expressing their point of view

Following the operationalization just showed in the Table 1, the three competence levels of the *Communication in small group* skills are described as in the following list:

- *Basic*: the student mainly uses the elements of a basic approach within the communication in small group.
- *Intermediate*: the student uses the characteristics of both approaches, in a mixed way, within the communication in small group.
- *Advanced*: the student uses all or most of the indicators of an expert approach within the communication in small group.

Third phase of Pilot Project

In this phase, several tasks related to every skill were identified and then tested by the research team. This step involved the group of experts in a deep analysis of the different tasks, to arrive at a shared and convinced choice of the activities to be proposed. After different pilot experiences, two tasks for each of the four soft skills were selected to be used in two different moments, as an in entrance and in exit assignments (Trinchero, 2013). The selection of the tasks able to ascertain the level of soft skills possessed by the students at the beginning and at the end of the experience was the crucial passage of the project. In fact, the two tasks selected for each of the soft skills need to be homologous but not completely identical, to ward off a sort of "training activity" effect, instead of an actual recognition of the soft skills acquisition (Le Boterf, 1994).

As an example, we briefly illustrate the in entrance task for the *Communication in small group* skill. It consists in a discussion in small group to reach a common solution to an assignment, during twenty minutes. After informing the group about the activity to carry on, the development of the discussion within the group was recorded through a video camera. Simultaneously, two members of the research team took notes through a check list of the conversation and the exchanges within the participants (Bresciani, 2012).

Fourth phase of Pilot Project

In the fourth phase the results of the proposed activities were analysed by each expert involved in the soft skills survey, using the indicators identified for each soft skill. Subsequently, the whole group of experts shared the results and discussed all doubtful cases, to arrive to a consensual assessment. In the Table 2 the students' in entrance and in exit levels of expertize for each soft skill are illustrated.

Table 2. In entrance and in exit students' s*oft skills levels*

Stud.	Observation		Listening		Communication in small group		Problem solving	
	entrance level	exit level	entrance level	exit level	entrance level	exit level	entrance level	exit level
1	basic	intermediate	basic	intermediate	basic	advanced	basic	intermediate
2	basic	intermediate	intermediate	Basic	intermediate	basic	intermediate	intermediate
3	intermediate	advanced	intermediate	advanced	advanced	advanced	intermediate	intermediate
4	basic	intermediate	intermediate	Basic	basic	basic	advanced	advanced
5	basic	intermediate	basic	Basic	basic	basic	intermediate	intermediate
6	intermediate	intermediate	basic	Basic	basic	intermediate	intermediate	intermediate
7	intermediate	advanced	intermediate	intermediate	intermediate	intermediate	intermediate	intermediate
8	basic	intermediate	basic	intermediate	intermediate	intermediate	advanced	advanced
9	basic	advanced	intermediate	advanced	advanced	advanced	intermediate	intermediate
10	intermediate	basic	basic	advanced	intermediate	intermediate	advanced	advanced
11	basic	intermediate	advanced	advanced	advanced	advanced	basic	intermediate
12	basic	basic	basic	advanced	intermediate	advanced	intermediate	basic

As the Table 2 shows, almost all the students improved their skills. In particular, eight students out of twelve showed a significant evolution in the owned skills, moving from basic or intermediate to intermediate or advanced level.

Analysing the four cases where the students seem to be regressed, it is possible that the motivation factor induced the same subject to produce different performance, as in other cases or fields. However, if a subject is able to carry out a performance at an intermediate level, it is quite sure that he/she owns and he/she has consolidated a basic level of the same skill.

Taking into consideration that all the participants were students, it is not surprising that they showed above all *problem solving skills* already in the entrance task, and also that an actual development is not considerable under this perspective. In fact, *problem solving* is one of the most requested skill in learning process at school. On the other hand, observation and communication in group seem to be not so much developed at the beginning of the experience, while the participants obtained good performances at the end. In fact, these kind of skills were the most requested to take actively part to

the activities at UNIMC offices.

Fifth phase of Pilot Project

Once the internship was over, a document was sent by email to each student with the acquired soft skills degree declaration, using the three identified level (basic, intermediate and advanced). The document illustrates student's development, highlighting the owned skills in the entrance and exit tasks, with particular attention to the improvements. In addition, a file contained general explanations on the topic of soft skills and a focus on *Unimc for Soft Skills Project* was included.

CONCLUSION

Applying the project, we reached some important results to be outlined. First of all we reached the goal to identify and operationalize a series of soft skills, declining indicators to recognize different levels of expertize. We also selected a collection of tested tasks useful to assess the different soft skill levels.

As a secondary outcome, during the internship at UNIMC a development of soft skills possessed by students was observed. This shows the validity of the Alternating School and Work experience, especially in the development of non-formal learning.

Although the Unimc for Soft Skills was a Pilot Project, it achieved good results also in terms of students participation, taking into consideration that twelve out of thirteen students completed the path, even if the evaluation of their soft skills levels was not compulsory.

Providing for the first time the issuance of a certificate with the soft skills acquisition declaration, the project reinforced the UNIMC commitment to promote the development of non-formal and informal learning. Next year the University of Macerata intends to intensify its role in lifelong learning. Specifically, *The Good Work* module will be activated, in which conveying all the initiatives proposed or hosted by the University to develop soft skills. Students who will participate in one or more of the activities set out by *The Good Work* module, can be seen certified the soft skills acquired. The certificate obtained can be used in the presentation of CV. The aim is to structure a stable system of *recognition, validation and certification of soft skills* acquired in each informal and non-formal experiences offered by University, launching an accredited University agency.

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SOME DETERMİNATİON ABOUT BEYŞEHİR COUSIN FROM PAST TO PRESENT

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Although there are a lot of archive material the historians use as sources, the old people left quite little sources about the habits of food and beverage and cuisine culture of themselves. Although cuisine culture is so important for human life, there is so few sources about Turkish cuisine that could reach us. Cookbooks and risales (booklet) are so few although cuisine culture is so important in human life8. Foods and recipes which vary by region are not clarified also due to lack of resources. Because of this the studies about the history of a region's cuisine culture is incomplate in many ways. Even so, by using the archive materials we could some knowledge about cook utensils and food suplies at least. The first of these sources Şer'iye Sicili and Tereke Defteri (register book). İn register books that dead people and goods of them were registered, there are some knowledge about the variety and quantity of goods which were used by the people in dailiy life who lived in Beyşehir and villages around of Beyşehir. It will be evaluated about basic materials of Beyşehir cuisne based on archive sources hereinbelow.

Keywords: Beyşehir, Ottoman, Cousın, XIX. Century, Konya

SOME PROBLEMS ENCOUNTERED IN THE HADITH EDUCATION AT THE FACULTIES OF DIVINITY IN TURKEY AND SOLUTION PROPOSALS

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SUMMARY

The point where the tradition education in the Faculties of Divinity in Turkey is quite pleasing. These days training continues at about 100 Faculty of Divinity in Turkey. Therefore, academic hadith education continues in these Faculties. History of academic hadith education in Turkey passed half a century and academic hadith education has become an important point. But however, academic hadith education in Faculties of Divinity in Turkey has some problems. In this paper, firstly these problems will be identified and will then be presented some solutions to these problems.

Key Words: Faculty of Divinity, Hadith Education in Turkey, problems of hadith education, new proposals solution.

1. INTRODUCTION

Firstly, in this paper I briefly describe the conceps of hadith and sunnah, then I will mention a summary of the start of the academic theological education in Turkey. After that, I am going to mention some problems in the hadith education and I am going to offer new solutions to this problems.

1.1. The Concepts of Hadith and Sunnah

1.1.1. Hadith:

Hadith are the collections of the reports of the teachings, deeds and sayings of the Islamic prophet Muhammad (pbuh). The term comes from the Arabic: حديث , plural: أحاديث, meaning "report" "account" or "narrative" (Koçyiğit, 1985).

In Islamic terminology, the term *hadith* refers to reports of statements or actions of The Holy Prophet Muhammad, or of his tacit approval or criticism of something said or done in his presence. Classical hadith specialist Ibn Hajar al-Asqalani says that the intended meaning of *hadith* in religious tradition is something attributed to Prophet Muhammad but that is not found in the Quran (al-Asqalani, Ahmad ibn 'Ali, *Fath al-Bari*). Other associated words possess similar meanings including: *khabar* (news, information) often refers to reports about Prophet Muhammad, but sometimes refers to traditions about his companions and their successors from the following generation; conversely, *athar* (trace, vestige) usually refers to traditions about the companions and successors, though sometimes connotes traditions about Prophet Muhammad. The word *sunnah* (custom) is also used in reference to a normative custom of Prophet Muhammad or the early Muslim community.

1.1.2. Sunnah:

Sunnah is the way of life prescribed as normative for Muslims on the basis of the teachings and practices of the Islamic prophet Muhammad and interpretations of the Islamic holy book, the Quran. The Word *sunnah* (سنة, Arabic: [ˈsunna], plural سنن *sunan* [ˈsunan]) is derived from the root (سن [sa-n-na]), meaning smooth and easy flow or direct flow path. The word literally means a clear and well trodden path. In the discussion of the sources of religion, *sunnah* denotes the practices of Prophet Muhammad that he taught and practically instituted as a teacher of the sharia and the best exemplar. According to Muslim belief, this practice is to be adhered to in fulfilling the divine injunctions, carrying out religious rites, and moulding life in accord with the will of God. Instituting these practices was, as the Quran states, a part of Muhammad's responsibility as a messenger of God.R

2. BEGINNING OF ACADEMIC RELIGIOUS EDUCATION IN TURKEY

Here, we will talk about the establishment of the Faculty of Divinities in Turkey after the declaration of Republic and the start of the academic education of religion.

2.1. The Establishment Of The Faculty Of Divinities In Turkey

The beginning of the education in the first Faculty of Divinity at Turkey, goes back to the founding years of the Republic. According to the fourth article of the Unification of Education Law, the task of opening the Imam and Preacher Schools and Faculty of Theologies were assigned to the Ministry of Education. In accordance with the related article, in 1923-1924 years in twenty nine places was opened Imam and Preacher Schools which training period of four years. However, some re-closed within one to two years and in 1925 and 1926, except in İstanbul and Kütahya completely closed. According to the same Law again, were opened a Faculty of Divinity in Daru'l-Funûn which means Istanbul University. This Faculty which teaching time was defined as there years was closed in 1933.

We know that Hadith and History of Hadith lessons were taught in this first Faculty of Divinity which established in Turkey. Faculty of Theology, founded in 1924 has continued its training activities for nine until 1933. Istanbul University which was founded after abolishment of Daru'l-Funun in 1933, has not included the Faculty of Divinitiy.

16 (sexteen) years after the closure of Istanbul Daru'l-Fünûn Faculty of Theology, was opened this time Faculty of Divinity University of Ankara November 21 in 1949. In 1959, so that İmam Hatip High School graduates can continue their education was founded High Islamic Institutes. These institutes were transformed into the Faculty of Divinity in 1982.

The Faculty of Divinity at Ankara University was the first divinity school to be founded in Turkey after the Dârülfünûn İlâhiyat Fakültesi was closed down in 1933. Since its establishment in 1949, the Faculty has had a distinguished place in the history of Islamic and religious thought in Turkey. The intellectual sources of the Faculty are rooted in the rich legacy of the classical Islamic sciences advanced throughout a long-lasting and multi-cultured Islamic and Turkish history. The Faculty has played an important role in the academic teaching of Islamic and religious scholarly disciplines by integrating the traditional spirit of Islamic disciplines with modern developments in religious studies. A focus on traditional Islamic values paired with the advantages of critical thinking in religious matters has been and remains a definitive characteristic of education at the Faculty of Divinity.

Actually it would not be wrong to say that academic Hadith training in Turkey began with the establishment of the Ankara University Faculty of Divinity. In various environments it is expressed that from the opening of this Faculty in Turkey until tuday, academic hadith training is face to face with various problems. In this our paper, we want to offer some new proposals solution by addressing at least some of these problems.

3. SOME PROBLEMS IN HADITH EDUCATION IN TURKEY AND SOME SOLUTIONS

The Turkish Republic is witnessing tremendous progress in the fields of education, especially religious education; due to this progress and development, religious colleges and institutes have been doubled in Turkey. The country has witnessed intensive efforts to improve the system of religious education by holding conferences, seminars, and conducting studies and researches locally and internationally. There are many attempts are being made, and many insights are being posed which are meant, by those who made it, to raise the religious education system and spread it throughout the world.

The Turkish Government has encouraged, and still encouraging, upgrading and activating the educational process in all fields and disciplines, especially religious education.

Among the developed fields, come the religious education and no one can deny it. In fact, the current situation and the number of graduates in the Arab and Islamic Sciences is the biggest evidence of that, and it increases every year. In addition to that is the increasing numbers of Turkish students who want to enroll in the faculties of Theology has been witnessed in all across the Turkish Republic. These colleges have different religious sections such as Hadith (Prophet sayings), Feqih (Jurisprudence), Tafseer (Interpretation) and Speech in addition to the Arabic language. Each of the above mentioned sections has its own different sections; for example, Hadith teachings has its own sections such as science of Hadith's terms, science of Al Jarih and Ta'adeel, science of Sanad, and science of knowledge of men. The study of Hadith science in the Faculty of Theology became a

specialized study; and specialized scientists in the section became well known and well referenced, and their diversified scientific researches have been spread locally and internationally. In summary, the Hadith studies, which are many in the Theology Faculty, are very advanced to a large extent and with a unique level. However, there are some imperfections and something of dereliction which should be solved which are as follows:

3.1. The Problem of Language

The problem lies in that the Hadith science in the Faculty of Theology is taught in Arabic, and it is obligatory to do so. The problem is that the students of the difficulty find it hard to learn the Arabic language. Complains are still continuing to be raised by students due to their weak level of language and lack of understanding and speaking in Arabic language in a good manner, which makes it hard for them and extremely difficult to do.

3.2. Many and Diversified School Materials

This problem is not less difficult than the previous one, where there is no agreement between Hadith materials determined by the Hadith teachers in Theology Faculties founded across Turkey now. We can find that every professor of Hadith decide a specific book for his students which totally differs than what is decided by another professor in another university. Therefore, teaching materials are diversified in all Theology Faculties in Turkey. The problem lies in the large number and the difficulty of these materials to the students, and it has different level of hardness and easiness from one place to another. Then one exam is given to all of the students which make it hard for the students to answer all the tests as the tests are written from books that are not recognized by the students or did not even study it. This problem is one of the most important issues experienced by students in the Hadith section.

3.3. The Approach Used in Teaching Hadith Science.

The used approach is difficult approach to apply, and this problem comes from the earlier mentioned problem, where we find that the student who graduated from the Hadith department did not recognize a lot of sources and references of Hadith books such as Bukhari, Muslim and others. This is due to the issue of limiting the applied taught materials to specific books which are different from university to another as mentioned earlier. Here lies the problem, where graduated student does not know anything about the heritage books in Hadith science, which he/she should have studied at the university level as it is the heart of his/her specialization.

This is in brief the main problems faced by Hadith science's students at the Faculty of Theology in the Republic of Turkey. After listing these problems, now we are exploring proposed solutions to solve those issues. The solutions are as follows:

4. FIND APPROPRIATE SOLUTIONS TO THE PROBLEM OF LANGUAGE AND THESE SOLUTIONS CAN BE:

The problem of education in Arabic language and find a solution for it:

I can state that one of the biggest problems facing Hadith science's students in Theology Faculties in Turkey is that they are studying Hadith in Arabic language, and it is compulsory to do so. Students find it hard to do so due to their poor linguistic level. The repeated complaints from students on a frequent basis that they did not understanding the lesson in a well manner creates a burden on us as teachers have to prepare for the lesson. Then we find out that the students got much less than we expected. Therefore, the main obstacle is the problem of the language and I suggest the following:

- We limit the teaching of the Metin (the text) of Hadith in Arabic, and we ask students to read it well and memorize. But in explaining the text, I suggest that to be in Turkish language and this is what is demanded by the students. Hadith science can be taught in Arabic during higher stages of Hadith sciences when students have better language skills.

Secondly: The taught Hadith science's curriculum for students all over Turkey should be united. Communication between professors of Theology Faculties all over Turkey should be encouraged in order to come up with one united curriculum for students to study. And the exam should be taken from this new curriculum so students study the curriculum in a good manner; and all students have the same opportunity to answer the test, which will be held at the end of each year, so we don't disturb students' minds.

Thirdly: I suggest a meeting for all the Hadith Professors in all over Turkey to choose the main books of Hadith which students should study them. It is not allowed at all that for a student to study a book in Hadith science written by a professor without he/she recognizes the Hadith authentic sources; this is a big methodological defect. Original books and original resources of Hadith science should be available to all students so the study of Hadith science can be taken from its original resources.

Fourthly: Each and every Theology Faculty should, or must, have an independent library or private hall full of all Hadith books of all sources and all references in which students themselves can read them. This can make it easier for students to understand their teachers, and using those books for further researches. Sadly, most of the students who graduate in the Hadith department do not know and do not touch anything of this science sources during their studies and after graduation. Their knowledge are not enough, and far away from the origin of this science. Therefore, the availability of sources should be available for students as they are the main core of their specialization.

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SORU CEVAPLAMAYI OYUNLAŞTIRAN UYGULAMA: KAHOOT!

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Birçok öğrenci için pazartesi sabahı dikkatlerini derse toplamak oldukça zordur. Yakın zamanda geliştirilen ve bulut tabanlı Sınıf Cevap Sistemi (SCS) olarak tanımlanabilen Kahoot ile öğrenme süreçlerini geniş ölçekte değiştirme ve öğrencilerin derse olan ilgisini artırma fırsatı yakalanmıştır. Öğrencilerin sınıf içi ve sınıf dışında teknoloji kullanımları artarken, öğreticilerin e-değerlendirme sistemlerini kullanımı da aynı paralelde artış göstermektedir. Bu kavram yani otantik değerlendirmenin sanal ortamlarda oyunlaştırılarak gerçekleştirilmesi henüz yeni olsa da gelişime açık ve araştırmacıların odağında bulunduğu gerçeği göz ardı edilmemelidir.

E-öğrenme ortamlarının oyunlaştırma tasarımına daha uygun yapıda olmasına karşın geleneksel öğrenme ortamları da oyunlaştırma yaklaşımı için uyarlanabilir durumdadır. Gelişen teknoloji ile birlikte bulut tabanlı web araçlarının öğrenme ortamlarında kullanımı, yüzyüze öğretim sürecine de etki ederek Kahoot gibi SCS'lerin ders sürecinde uygulanmasına zemin hazırlamıştır.

Kahoot; önceden hazırladığınız soruları sınıf ortamında ekrana yansıtarak, öğrencilerinizin internete bağlanabildikleri herhangi bir cihaz üzerinden (masaüstü bilgisayar, notebook, tablet, akıllı telefon, vs.) doğru cevabı bulmaya çalıştıkları ve cevapları karşılığında puan topladıkları bir web uygulamasıdır. Uygulama sayesinde derse başlamadan önce öğrencilerinizin hazırbulunuşluğunu ölçüp, motivasyonlarını artırabilir ya da ders sonunda genel bir tarama gerçekleştirebilirsiniz.

Bu çalışma ile öğrenenlerin Kahoot uygulamasına yönelik görüşleri incelenmiş, bu doğrultuda elde edilen çıkarımlar ile alanyazına katkı sağlanması hedeflenmiştir. Araştırma Hacettepe Üniversitesi'nde 2013-2014 öğretim yılında gerçekleştirilmiştir. Çalışmanın verileri BÖTE 1. sınıf öğrencilerinden toplanmıştır. Araştırma grubunu oluşturan öğrencilere, derslerinde düzenli olarak kullandıkları Kahoot uygulaması ile ilgili 12 adet soru yöneltilerek hem nitel hem de nicel veriler elde edilmiştir. Öğrenci görüşleri kavramlara göre kodlanarak içerik analizi yapılmıştır. Veri çözümlemesi sonucunda öğrencilerin Kahoot uygulamasına yönelik olumlu ve olumsuz görüşleri tablolaştırılarak sunulmuştur.

Keywords: Sınıf cevap sistemi, e-değerlendirme, oyunlaştırma

SOSYAL BİLGİLER EĞİTİMİNDE KULLANILAN KARİKATÜR YÖNTEMİNE İLİŞKİN ÖĞRETMEN GÖRÜŞLERİ

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ÖZET

Bu çalışmanın amacı sosyal bilgiler branş öğretmenlerinin sosyal bilgiler öğretiminde karikatür kullanımına ilişkin görüşlerini belirlemektir. Öğretmenlerin görüşlerini belirlemede nitel araştırmalardan durum çalışması metodu kullanılmıştır. Araştırmada Denizli il merkezinde görev yapan 53 sosyal bilgiler öğretmeni örnekleme dahil edilmiştir. Öğretmenlerin görüşlerini belirlemede yarı yapılandırılmış görüşme formu kullanılmıştır. Toplanan verilerin analizinde açık kodlama yöntemine başvurulmuştur. Açık uçlu soru formunun uygulanmasıyla elde edilen nitel veri seti araştırmacı tarafından bilgisayar ortamına aktarılıp, bilgisayar ortamındaki verilere içerik analizi uygulanmıştır. Araştırmanın bulgularına göre sosyal bilgiler öğretmenlerinin, öğretim süreçlerinde karikatür kullanımının öğrencilerin akademik başarılarını artırdığı, öğrenilenlerin kalıcı olmasını sağladığı, karikatür kullanımının dersin etkililiğini ve öğrencinin ilgisini artırdığı, soyut kavramları somutlaştırdığı gibi olumlu yönlerine vurdu yaptıkları; karikatür tekniğinin tek başına kullanıldığında ve seviyenin üstünde karikatürler seçildiğinde ise başarıyı azaltacağına yönelik görüş belirttikleri bulgulanmıştır.

Anahtar Kelimeler: Karikatür, sosyal bilgiler eğitimi, nitel araştırma.

TEACHER OPİNİONS REGARDS TO CARİCATURE METHOD THAT USED İN SOCİAL STUDİES EDUCATİON

ABSTRACT

This research aim is to determine social science teacher's views on caricature method that used in social science teaching. İn this research qualitative method was used since it was aimed to determine teacher's opinions. The population for the study is the social science teachers in teaching state schools (Ministry of Education) in central district of Denizli. A total of 53 social science teachers were accessed and they were given question forms. In the question form, open ended questions developed by the researchers were used. The question form consisting of 6 questions was rearranged and the number of questions was reduced to 4 after consulting an expert academic member and 3 teachers. The reliability co-efficiency of the codes in the question form was calculated and co-efficiency for the 1st question was found as .95, for the second as.85, .97 for the third and finally.100 for the last question. For the analysis of the data content analysis was made. The data gathered was read carefully and coded by the researchers. The codes were used to form the themes in the analysis of the data, the reliability was increased by giving quotations.

Keywords: Caricature, Social studies education, qualitative research.

GİRİŞ

Sosyal bilgiler dersinin amacı öğrencileri etkin, aktif ve sorumlu birer vatandaş olarak yetiştirmektir. Bu amaçla sosyal bilimler disiplinlerinden seçilmiş bilgilere dayalı olarak, öğrencilerin toplumsal varoluşunu gerçekleştirebilmeleri için edinmeleri gereken temel bilgi, beceri, tutum ve değerlerin kazandırmaya çalışmaktadır (MEB, 2005). Öğrencilerin bu bilgi, beceri tutum ve değerleri kazanmalarına yardımcı olacak araç, gereç ve kaynaklara ise öğretim materyali denilmektedir. Sosyal bilgiler dersi genellikle sözel ağırlıklı olduğu için bu dersi somutlaştıracak materyaller kullanılmalıdır. Görsel materyaller öğrenmeyi daha kalıcı ve anlamlı hale getirmektedir (Avşar, 2007; Sidekli, Er, Yavaşer ve Aydın, 2014). Sosyal bilgiler dersinde kullanılabilecek görsel materyallerden birisi de karikatürlerdir. Türk Dil Kurumu'nun (TDK, 2005) tanımına göre karikatür, insan ve toplumla ilgili bir durumun abartılarak düşündürücü ve güldürücü biçimde çizilmesidir. Oruç (2006) karikatürü "Bir kimsenin, bir nesnenin bazı özelliklerini güldürücü biçimde belirten eğlenceli resim" (s. 28) olarak tanımlarken, Akkaya (2011, s. 49) "Karikatür, düşüncenin mizahla yoğrulup çizgiyle uyumlu bir şekilde betimlenmesi" olarak tanımlamıştır. (Warburtor ve Saunders, 1996; Kauffman, 1997). Mizahi

unsurlar; kelime oyunu, benzeşim, bilmece ve bulmacalarla öğrencilerin soyutlama becerisini geliştirir. Üst düzey mizah becerisi, bireyin günlük yaşamında karşılaştığı problemleri çözmesine yardımcı olur (Klavir ve Gorodetsky, 2001; Torak, McMorris ve Wen-Chi, 2004).

Karikatür her yaş grubuna hitap edebilir, eğlenirken öğretir ve okumaya göre mesajını daha hızlı iletir. Karikatürler, yazılı olarak yoğun bilgi vermenin yerine görsel uyarıcıların ve ipuçlarının yardımıyla öğrencilerin problem çözme, yaratıcı ve eleştirel düşünme becerilerini geliştirir (Fisher, 1995; Özden, 1997; Özalp, 2006; Uslu, 2007; Rule ve Schneider, 2009; Yaman, 2010). Karikatürlerdeki görsel ve sözel iletiler, öğrencinin bilişsel yapısında kavramlara dönüşerek anlamlandırılır (Refaie, 2003). Karikatürlerle öğrenciler, verilen duruma ilişkin düşüncelerini farklı biçimlerde ifade etmeyi öğrenir ve zihinlerindeki anlamı yeniden oluşturabilirler (Keogh, Naylor, de Boo ve Feasey, 1999). Ayrıca öğrenciler, karikatürlere ilişkin yaptıkları yorum ve tartışmalarla akran grubu içerisinde kendilerini değerlendirme fırsatı bulurlar ve bir yandan da karikatürler, öğrencilerdeki kavram yanılgılarını ortaya çıkarma bakımından öğretmenler için biçimlendirici bir değerlendirme aracı olabilir (Palacios ve González, 2005; Song, Heo, Kmumenaker ve Tippins, 2008).

Milli Eğitim Bakanlığı, sosyal bilgiler dersinin öğrencilere kazandırmayı amaçladığı bilgi, beceri, tutum ve değerler bakımından derslerde görsel imgeler (görsel imgelerden biri de karikatürlerdir) kullanmayı önermektedir (Milli Eğitim Bakanlığı Talim ve Terbiye Kurulu Başkanlığı, 2005). Öğretmen kılavuz kitaplarında ve ders kitaplarında örnek çalışmalara verilmiştir. Bu çalışma, sosyal bilgiler öğretim programında kullanılması önerilen karikatür yönteminin öğretmenler tarafından kullanım durumunu ve bu konudaki öğretmen görüşlerinin belirlemeyi amaçlamıştır.

YÖNTEM
Araştırma modeli
Araştırmada öğretmenlerin görüşlerini belirlemede nitel araştırma yöntemi kullanılmıştır. "Nitel araştırmalar sıralı değerleri gösteren verileri içermeyen" (Nkwi, Nyamongo ve Ryan, 2001, s. 1) ve doğal ortamda meydana gelen olgu, olay ya da davranışlar üzerinde yoğunlaşarak sürdürülen araştırmalardır (Büyüköztürk vd, 2014). Creswell (2007, s. 37) nitel araştırmayı "varsayımlar, dünya görüşü, teorik bir bakış açısının olası kullanımı ve bireylerin ya da grupların sosyal ya da bireysel problemlere yüklediği anlamları irdeleyen araştırma problemleriyle başlayan araştırma yaklaşımıdır" Çalışmada öğretmenlerin sosyal bilgiler öğretiminde karikatür kullanımına ilişkin görüşlerini belirlemede nitel araştırmalardan tarama modeli kullanılmıştır. Tarama modeli geçmişte ya da halen varolan bir durumu varolduğu şekliyle betimlemeyi amaçlayan araştırma yaklaşımlarıdır" (Karasar, 2011, s. 77).

Örneklem
Bu araştırmada örnekleme modellerinden "kolay ulaşılabilir durum örneklemi" kullanılmıştır. Kolay ulaşılabilir durum örneklemesi, araştırmacıya hız ve kolaylık sağlar. Araştırmacı, yakın olan ve erişilmesi kolay olan bir durumu seçer (Yıldırım ve Şimşek, 2000, p. 74-75). Araştırmada Denizli il merkezinde görev yapan 53 sosyal bilgiler öğretmeni örnekleme dahil edilmiştir. Öğretmenlerin 28'i bayan, 25'i ise erkektir.

Veri toplama araçları
Öğretmenlerin görüşlerini belirlemede yarı yapılandırılmış görüşme formu kullanılmıştır. Yarı yapılandırılmış görüşme tekniğinin en önemli kolaylığı görüşmenin önceden hazırlanmış görüşme sürecine bağlı olarak sürdürülmesi nedeniyle daha sistematik ve karşılaştırılabilir bilgi sunmasıdır (Yıldırım ve Şimşek,2004). Ayrıca araştırmacı görüşmenin akışına bağlı olarak değişik sorularla görüşmenin akışını etkileyebilir ve kişinin yanıtlarını açmasını ve derinleştirmesini sağlayabilir (Türnüklü, 2000). Form hazırlanırken literatür taraması yapılmış ve hazırlanan form için alanında uzman 2 öğretim üyesi ile 6 öğretmenden görüş alınarak kapsam geçerliliği sağlanmaya çalışılmıştır. Uzman görüşleri sonrası son hali verilen form kişisel bilgiler ve 4 açık uçlu sorudan oluşmaktadır. Hazırlanan soru formunun güvenirliğini belirlemede güvenirlik katsayısı kullanılmıştır. Her bir soru için ayrı ayrı güvenirlik katsayısı hesaplamada "Güvenirlik=Görüş Birliği/Görüş Ayrılığı + Görüş Birliği x 100" formülü kullanılmıştır. Bu formül ile her bir soru için görüş birliği yüzdesi elde edilmiştir. Araştırma sonucuna göre ilk için güvenirlik katsayısı .91, ikinci soru için .88, üçüncü soru için .98 ve dördüncü soru için .96 bulunmuştur. Araştırma kapsamında her bir katılımcıya (3, E), (27, K) gibi kodlar verilmiştir. Kodlarda rakamlar (3,27 gibi) katılımcıların numaralarını; rakamlar (E=erkek, K=kadın) ise katılımcıların cinsiyetlerini göstermektedir.

Veri toplama ve analiz süreci
Toplanan verilerin analizinde açık kodlama yöntemine başvurulmuştur. Açık uçlu soru formunun uygulanmasıyla elde edilen nitel veri seti araştırmacılar tarafından bilgisayar ortamına aktarılıp, bilgisayar ortamındaki verilere içerik analizi uygulanmıştır. Veriler araştırmacılar tarafından satır satır okunup araştırmanın

kodları ortaya çıkarılmıştır. Birbiriyle ilişkili olan kodlar bir araya getirilip, temalar oluşturulup, temalardan da yola çıkılarak yorumlar yapılmıştır.

BULGULAR

Araştırmanın birinci alt problemine yanıt vermek için öğretmenlere "ortaokul düzeyinde karikatür kullanımının öğrencilerin akademik başarısına etkisine ilişkin neler düşünüyorsunuz?" sorusu sorulmuştur. Bu bağlamda gelen yanıtlar incelenerek "karikatür kullanımının akademik başarıya etkisi" teması oluşturulmuştur. Temanın oluşturulmasında ortaya çıkan kodlar şunlardır 1. Başarıyı artırır 2. Başarıyı artırmaz

Araştırma bulgularına göre, "karikatür kullanımının akademik başarıya etkisi" temasının "Başarıyı artırır" koduna ilişkin alıntılar şunlardır. 48 (%90.5)öğretmen sosyal bilgiler öğretiminde karikatür kullanımının öğrencilerin akademik başarısını artıracağı yönünde görüş bildirmiştir. Öğretmenlerin görüşleri Tablo 1'de verilmiştir.

Tablo 1. "karikatür kullanımının akademik başarıya etkisi" temasının "başarıyı artırır" koduna ilişkin öğretmen görüşleri

Öğretmen görüşleri	f	Öğretmenlerin Kişisel Özellikleri
Öğretimde karikatürlerin kullanılması öğrenim düzeylerini artırır.	19	(1, E) (8,K) (9,E) (11,E) (12,E) (15,E) (18,E) (19,E) (20,E) (22,E) (23,K) (24,E) (28,E) (38,E) (40,E) (43,E) (47,K) (48,E) (49,K)
Öğretimde karikatür kullanımı dersi hem zevkli hem de ilgi çekici kılar.	11	(4,K) (30,E) (31,E) (34,E) (35,K) (39,K) (42,K) (45,E) (46,E) (50,E) (51,E)
Karikatürler dersin kalıcılığını artırmaktadır.	8	(2,K), (5,K) (13,K) (14,E) (17,K) (25,E) (26,K) (29,K)
Öğretimde karikatür kullanımı öğrenmeleri kolaylaştırır.	4	(6,K) (7,E) (16,E) (32,K)
Sosyal bilgiler öğretimi sözel bir ders olduğu için karikatür gibi görsellerle desteklenmesi başarıyı artırır.	2	(21,K) (52,K)
Öğretimde karikatür kullanımı soyut kavramları somutlaştırır ve öğrenmenin artmasını sağlar.	2	(36,K) (41,E)
Öğrenciler görerek, okuma ve yazmaya göre daha iyi anlarlar.	1	(3,K)
Karikatür kullanımı hem konular arasında bağlantı kurulmasını hem de analiz etme becerisini artırmaktadır.	1	(53,K)
TOPLAM	**48 (%90.5)**	

Araştırma bulgularına göre, "materyal kullanımının akademik başarıya etkisi" temasının "başarıyı artırmaz" koduna ilişkin alıntılar şunlardır. 5 (%9.5) öğretmen sosyal bilgiler öğretiminde karikatür kullanımının öğrencilerin akademik başarısını artırmayacağı yönünde görüş bildirmiştir. Öğretmenlerin görüşleri Tablo 2'de verilmiştir.

Tablo 2. "karikatür kullanımının akademik başarıya etkisi" temasının "başarıyı artırmaz" koduna ilişkin öğretmen görüşleri

Öğretmen görüşleri	f	Öğretmenlerin Kişisel Özellikleri
Karikatür tekniğinin tek başına kullanılması öğretimde başarı sağlamaz.	2	(33,E) (44,E)
Öğretimde kullanılan karikatürler öğretmenin önüne geçerek işlevsellikten çıkıyor. Başarıyı düşürüyor.	1	(10, K)

Öğretim sürecinde gerekli olmadığı halde kullanılan karikatürler başarıyı düşürür.	**1**	*(27,K)*
Öğrenci seviyesine uygun olmayan karikatürlerin kullanımı öğrencilerin başarılarını düşürür.	**1**	*(37,E)*
TOPLAM	**5 (%9.5)**	

Araştırmanın ikinci alt problemine yanıt vermek için öğretmenlere "sosyal bilgiler dersinde karikatür tekniğini kullanıyor musunuz, neden?" sorusu sorulmuştur. Bu bağlamda gelen yanıtlar incelenerek "karikatür kullanımı" teması oluşturulmuştur. Temanın oluşturulmasında ortaya çıkan kodlar şunlardır 1. Kullanıyorum 2. Kullanmıyorum

Araştırma bulgularına göre, "karikatür kullanımı" temasının "kullanıyorum" koduna ilişkin alıntılar şunlardır. 22 (%41.5) öğretmen sosyal bilgiler öğretiminde karikatür tekniğini kullandıklarına yönelik görüş bildirmiştir. Öğretmenlerin görüşleri Tablo 3'de verilmiştir.

Tablo 3. " karikatür kullanımı " temasının " kullanıyorum " koduna ilişkin öğretmen görüşleri

Öğretmen görüşleri	f	Öğretmenlerin Kişisel Özellikleri
Çok nadir kullanıyorum.	**8**	*(7,E) (15,E)(18,E) (19,E) (20,E) (21,K) (28,E) (38,E)*
Dersleri görselleştirmem gerektiğinde kullanıyorum.	**5**	*(25,E) (31,E)(35,K) (49,K) (51,E)*
Kazanımlara uygun oldukça kullanıyorum.	**4**	*(8,K)(10, K)(11,E) (32,K)*
Öğrencilerin ilgilerini çekip, aktif olmalarını sağladığı için kullanıyorum.	**3**	*(13,K)(46,E) (50,E)*
Her derste kullanıyorum	**2**	*(2,K),(34,E)*
TOPLAM	**22 (%41.5)**	

Araştırma bulgularına göre, "karikatür kullanımı" temasının "kullanmıyorum" koduna ilişkin alıntılar şunlardır. 31 (%41.5) öğretmen sosyal bilgiler öğretiminde karikatür tekniğini kullanmadıklarına yönelik görüş bildirmiştir. Öğretmenlerin görüşleri Tablo 4'de verilmiştir.

Tablo 4. " karikatür kullanımı " temasının " kullanmıyorum " koduna ilişkin öğretmen görüşleri

Öğretmen görüşleri	f	Öğretmenlerin Kişisel Özellikleri
Kullanmıyorum, çünkü kullanımı hakkında bilgim ve becerim yok.	**14**	*(6,K) (9,E)(17,K) (22,E) (24,E) (26,K) (29,K) (30,E) (43,E) (44,E) (45,E) (47,K) (48,K) (52,K)*
TEOG odaklı çalıştığımızdan karikatür kullanmıyorum.	**7**	*(14,E) (16,E)(23,K)(33,E)(36,K) (37,E)(41,E)*
Kullanmıyorum, akıllı tahta ve projeksiyon gerekiyor.	**4**	*(3,K)(12,E)(39,K) (42,K)*
Kullanmıyorum, ancak kullanılması gerekir.	**3**	*(1,E)(4,K)(53,K)*
Kullanmıyorum	**2**	*(5,K)(40,E)*
Kullanmıyorum, karikatür benim için zaman kaybı.	**1**	*(27,K)*
TOPLAM	**31 (%58.5)**	

Araştırmanın üçüncü alt problemine yanıt vermek için öğretmenlere "sosyal bilgiler dersinde hangi öğrenme alanlarında/ünitelerde karikatür tekniğini kullanıyorsunuz?" sorusu sorulmuştur. Öğretmenlerin sosyal bilgiler dersinde hangi alanlarda/ünitelerde karikatür tekniğini kullandıklarına ilişkin görüşleri Tablo 5'de gösterilmiştir. 20 (%37) öğretmen hiçbir ünite veya temada karikatür tekniğini kullanmadığını belirtmiştir.

Tablo 5. Öğretmenlerin sosyal bilgiler dersinde hangi alanlarda/ünitelerde karikatür tekniğini kullandıklarına ilişkin görüşleri

Öğretmen görüşleri	f	Öğretmenlerin Kişisel Özellikleri
Hiçbir ünite veya temada karikatür tekniğini kullanmıyorum.	20	(2,K),(5,K) (11,E) (14,E) (16,E) (23,K) (24,E) (26,K) (29,K) (32,K) (38,E)(39,K) (42,K) (45,E) (46,E) (47,K) (48,K) (51,E) (52,K) (53,K)
Özellikle tarihi olayları anlatırken	11	(3,K) (9,E) (12,E) (20,E)(21,K),(22,E) (28,E) (33,E) (36,K) (44,E) (49,K)
Coğrafya konularını anlatırken	7	(1, E) (8,K)(10, K) (17,K) (34,E) (37,E) (41,E)
Her ünitede elimden geldiğince farklı karikatürler kullanmaya çalışıyorum.	5	(4,K) (6,K) (31,E) (35,K) (40,E)
Özellikle iletişim ve insan ilişkileri temalarında	5	(7,E) (15,E)(25,E) (27,K)(30,E)
Vatandaşlık ve güncel konuları anlatırken	5	(13,K)(18,E)(19,E)(43,E) (50,E)
TOPLAM	53 (%100)	

SONUÇ

Ortaokul çağındaki öğrenciler için görsel ve mizahi öğelerin dikkat çekiciliği kullanılabilir. Karikatür bu bağlamda eğlendiren ve eğlendirirken verilmek istenen mesajın öğrenci tarafından algılanışını kolaylaştıran bir yöntemdir (Özer, 2005; Yaman, 2010). Karikatürlerin öğrencinin dikkatini çekme ve öğrenciyle iletişimi sağlamanın yanında bir diğer önemli özelliği de düşünmeye sevk etmesi ve sorgulama yapmaya imkan sağlamasıdır. Öğrenciler karikatürü anlamlandırmaya ve yorumlamaya çalışırlar. Bu süreçte bir çok beceriyi (eleştirel düşünme, analiz gibi) kullanmış olurlar (Sidekli ve d., 2014).

Yapılan bu araştırmada Sosyal Bilgiler dersinde karikatür kullanımına ilişkin öğretmen görüşlerine başvurulmuştur. Bu sayede öğretmenlerin karikatür kullanımı hakkındaki olumlu ve olumsuz görüşlerini tespit etmek amaçlanmıştır. Öğretmenlere bu doğrultuda, karikatür kullanmanın öğrencilerin akademik başarısına etkisi sorulduğunda öğretmenlerin büyük çoğunluğu (%90.5) sosyal bilgiler dersinde karikatür kullanmanın öğrencinin akademik başarısı üzerine olumlu yönde etki edeceği görüşünü bildirmiştir. Çalışmanın bu bulgusu pek çok araştırmacı (Durualp, 2006; Kılınç, 2006; Özalp, 2006; Avşar, 2007; Akengin ve İbrahimoğlu, 2010; Ayyıldız 2010; Palaz, 2010) tarafından yapılan çalışmaların sonucuyla örtüşmektedir. Ayrıca öğretmenlerin de cevaplarında belirttiği gibi görsel bir materyal olarak karikatür kullanmanın öğrenci başarısı üzerine olumlu yönde etki ettiği yapılan araştırmalarla (Yaşar, 2004; Kan, 2006) ortaya konulmuştur.

Araştırmanın ikinci alt problemine bakıldığında öğretmenlerin büyük bir kısmının (%58.5) derslerinde karikatür tekniğini kullanmadığı bulgulanmıştır. Öğretmenlerin en çok (14 kişi) "*Kullanmıyorum, çünkü kullanımı hakkında bilgim ve becerim yok*" yanıtını verdikleri belirlenmiştir. Ayrıca sınav odaklı eğitim, öğretmenler ve öğrenciler üzerindeki sınav baskısı karikatür kullanmama sebebi olarak belirtilmiştir. Bunun dışında materyal eksikliği "*Kullanmıyorum, akıllı tahta ve projeksiyon gerekiyor*" öğretmenler tarafından sosyal bilgiler dersinde karikatür kullanmaya engel olarak gösterilmiştir. Öğretmenler tarafından gösterilen gerekçelere bakıldığında, karikatür kullanımı hakkında yeterli bilgiye sahip olmadıkları yorumu yapılabilir. Projeksiyon cihazı ve akıllı tahta karikatür kullanımı için engel olmamalıdır. Her okulda mutlaka bilgisayarlarda çalışma yaprakları hazırlanabilir ve fotokopi ile kolaylıkla çoğaltılıp öğrenciye ulaştırılabilir.

Araştırmanın üçüncü alt probleminde öğretmenlere "sosyal bilgiler dersinde hangi öğrenme alanlarında/ünitelerde karikatür tekniğini kullanıyorsunuz?" sorusu sorulmuştur. Bu soruda öğretmenlerden ikinci alt problemin bulgularını destekler nitelikte en çok (20 kişi) *"Hiçbir ünite veya temada karikatür tekniğini kullanmıyorum."* cevabı alınmıştır. Karikatür kullandığını belirten öğretmenlerin en çok tarih konularında karikatürden faydalandıkları görüşünü dile getirmişlerdir. Kılınç (2006) çalışmasında tarih dersinde gazete, kitap ve dergilerden derlenmiş karikatürlerin analiz edilmesinin öğrencilerin başarılarını artırdığını ortaya koymuştur. Öğretmenlerin bu görüşü araştırmanın birinci alt problemine verdikleri yanıtlarla da uyuşmaktadır. Öğretmenler tarafından *"Sosyal bilgiler öğretimi sözel bir ders olduğu için karikatür gibi görsellerle desteklenmesi başarıyı artırır."* yorumu 2 kez, *"Öğretimde karikatür kullanımı soyut kavramları somutlaştırır ve öğrenmenin artmasını sağlar."* yorumu da yine 2 kez belirtilmiştir.

Araştırmada ulaşılan sonuçlardan hareketle şu önerilerde bulunulabilir;

- ✓ Sosyal bilgiler dersinde uygun konu ve kazanımlarda karikatür tekniği kullanımı yaygınlaştırılabilir.
- ✓ Özellikle soyut kavramlar ve konularda kalıcılığı artırmak için karikatür kullanılabilir.
- ✓ Milli eğitim müfredatında yer alan becerilerin kazandırılmasında karikatür tekniği kullanılabilir.
- ✓ Öğretmenlere karikatür kullanımı hakkında hizmet içi eğitim verilebilir.
- ✓ Okullardaki teknik imkanlar karikatür tekniği kullanımını kolaylaştıracak şekilde iyileştirilebilir.

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SOSYAL BİLGİLER ÖĞRETMENLERİNİN VE ÖĞRETMEN ADAYLARININ BENLİK SAYGILARI VE OKUL HAYATINDA VAR OLMASINI DÜŞÜNDÜKLERİ SOSYAL DEĞERLERİN İNCELENMESİ

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Değerler bireyi ve toplumu ayakta tutan, düzenli bir toplum oluşturup bu düzenin gelecek nesillere aktarılmasını sağlayan olgulardır. Sosyal bilgiler dersi toplum içerikli bir ders olması dolayısıyla değerlerin aktarılması noktasında büyük öneme sahiptir. Bu yüzden bu dersi verecek olan öğretmenlerin ve öğretmen adaylarının okul ortamında var olmasına inandıkları değerleri belirlemek ve bu değerleri aktarma noktasındaki benlik saygılarını tespit etmek önemli görülmektedir. Bu araştırmada sosyal bilgiler öğretmenlerinin ve öğretmen adaylarının benlik saygıları ve okul hayatında var olmasını düşündükleri sosyal değerlerin incelenmesi amaçlanmaktadır. Araştırmanın örneklemini ilköğretim okullarında görevli 30 sosyal bilgiler öğretmeni ve bir devlet üniversitesinde sosyal bilgiler öğretmenliği bölümünde öğrenim gören 220 öğretmen adayı oluşturmaktadır. Araştırma verileri Arıcak (1999) tarafından geliştirilen "Benlik Saygısı Ölçeği" ve Turan ve Aktan (2008) tarafından geliştirilen "Sosyal Değerler Ölçeği" ve araştırmacılar tarafından oluşturulan kişisel bilgi formuyla toplanmıştır. Verilerin değerlendirilmesinde betimsel istatistikler, iki grup ortalaması arasındaki farkı betimlemede t-testi, üç ve daha fazla grup arasındaki farkı belirlemede ANOVA ve gruplar arasındaki ilişkiyi betimlemede Korelasyon analizlerden yararlanılmıştır. Araştırma devam ettiğinden bulgular ve sonuç daha sonra eklenecektir.

Keywords: Sosyal Bilgiler, Benlik Saygısı, Sosyal Değerler.

SOSYALBILIMSEL İŞLEVSELCILIK VE EĞITIM

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In Niklas Luhmann's major analysis focussing on systems theory, societies as a whole occupy an important place. When distinguishing between societies and social systems, education develops the ability of an individual and undoubtedly, it also fosters social contacts. Furthermore, it is assumed, that societies are set up on the basis of communication and not on people; so social systems are based on communication and psychological systems are based on concsiousness while education in functional systems of societies has a profound impact on individuals, social systems and societies. Looking at the impact of education on systems and societies, it is noted that in order that a system or society can continue and regenerate, education plays a crucial role in the social progress. The aim of this paper is to analyze in the framework of social science functionalism, the main thoughts of Niklas Luhmann's society's educational system.

Özet

Niklas Luhmann'ın sistem kuramı temelinde analizleri toplumu bir bütün olarak anlamada önemli bir yere sahiptir. Toplum ve sosyal sistemler arasındaki ayrımında, sosyla sistem olarak eğitim insanların becerilerini geliştirir ve sosyal bağlantılarını kurmayı teşvik eder. Toplumun insanlardan değil, iletişim temelinde kurulduğu varsayıldığında; iletişim temelinde kurulan sosyal sistemlerin ve bilinç temelinde kurulan psikolojik sistemlerin, toplumun işlev sistemi olarak eğitimin birey, sosyal sistem ve toplum üzerindeki etkileri hem sistemin devamı, hem de toplumun evrimi açısından kendini yenilemesi üzerinde etkileri büyüktür. Bu çalışmada sosyalbilimsel işlevselcilik temelinde Niklas Luhmann'ın toplumun eğitim sistemi üzerine düşünceleri analiz edilecektir.

Keywords: Niklas Luhmann, Functionalism, Educational System, Society, Niklas Luhmann, İşlevselcilik, Eğitim Sistemi, Toplum

SOURCES OF COMPETITIVE ADVANTAGE IN ONLINE EDUCATION: AN EMPIRICAL EXAMINATION

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There has been considerable growth in the number and variety of online course and degree offerings in recent years. As this trend continues to grow and transform the field of education, universities across the globe face the challenge of successfully integrating online instruction into their traditional educational systems. While there is a growing body of literature that examines the success factors in online instruction, the evidence with respect to factors contributing to student satisfaction in online education is limited. Adopting an information system approach, this paper proposes a framework that shows how the system, the content and the quality of service are related to student satisfaction and competitive advantage in online education. Moreover, we investigate how student characteristics moderates the effects we espouse in our framework. We test this framework on a large sample of students have been enrolled in an online graduate degree for at least one semester. Our results indicate that the quality of supporting services, ease of student interaction with instructor as well as other students, and course content and delivery are strongly related to student satisfaction and competitive advantage in online education.

Keywords: Competitive advantage, online education, student satisfaction

SPECIFICS OF INNOVATIVE TEACHING

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ABSTRACT

The study deals with the problem of modernization through the application of innovative teaching methods applied in schools. In connection with this issue, we have defined the most common factors of effective ineffective teaching. In the present contribution we analyse the attitudes of students in the context of the application of innovative methods in their learning process.

INTRODUCTION

The secondary schools adapt the methods and its forms to grow knowledge in a current school environment. Constant penetration of science and technology became increasingly demanding on students. Teachers are continually learning how to influence students and activate them to work. Therefore, the innovative teaching methods are getting at the forefront. They are largely based on the activity of students. The schools are increasingly faced with working in pairs; group and frontal teaching is not only the one. The students become actors and not just teacher´s audience.

Although amount of modern teaching methods are used effectively in the educational process, it is impossible to apply the only classical methods. There is much more suitable to use the classic method in certain specific interpretations of complex or abstract subject. On the other hand, the modern methods are heavily focused on the development of creativity of students, evoke curiosity and independence. It is necessary to realize the possible problems during applying the modern activating methods in teaching. Teacher can be a reluctance to adapt to modern times; another problem is lack of experience, but also the unavailability of literature on modern teaching methods or the resistance to the new methods for students. The problems can also be on material hand or time-consuming (Krajčová, 2013).

THE STUDY

Use of teaching methods is strongly influenced by the professionalism of teachers. The teacher is in fact the one who chooses the method according to the difficulty of a particular subject. The creative climate is essential for innovative teaching methods. The teacher should lead students to make them more responsive to impulses from the environment or encourage them to experiment with objects and ideas. The teacher should also teach pupils every new idea to systematically evaluate and get the maximum from the most it; to guide students in creative problem solving; to dispel fears of students if they think that their work is not perfect; to allow students´ to have enough space for self-fulfilment, but also to have a space for peaceful creative thinking. Teacher´s attitude greatly affect the creative climate in the classroom, therefore, the teacher should be especially friendly to students and try to guide their activity (Veteška, 2008).

Teacher in choosing the method does not consider just how mediates pupil curriculum, but it is especially interested how the students will engage actively in this process. Correctly chosen teaching method for teaching students causes a reaction which positive mobilizes a teacher. The methods should be chosen so that their use for teacher and pupils try to achieve the goal of teaching process. Content of learning process should be in accordance with the chosen methods. On the other hand, the schools should be to strive to provide the teacher manifold means to do their work and to enable it adequately convey the new curriculum for students. Undoubtedly the most percentage use of teaching methods in practice affects both a teacher and pupils (Balogová, 2007).

Students most often prefer to brainstorming as one of the innovative teaching methods. Brainstorming was as first implemented in the USA in 1938 and its founder is Alex F. Osborne. Brainstorming assumes that people have many ideas but they are not saying them loud. They think that their ideas are bad, impractical, foolish, especially, they feel fear the negative reaction of their environment. Osborn claimed that it is necessary to remove all barriers that prevent the creation of new and unconventional ideas. This method has not been in the early days of its occurrence associated with education of all. The first application was applied in the trade, advertising and later it was applied in the classroom.

Innovative methods are focused on various forms of activation of students (Dupkalová, 2013). In conjunction with this problem we conducted a survey where we focused on detecting forms of cooperation work of students, the possibility of efficient learning and the didactic technique, which are combined with an appropriate

innovative method what can greatly facilitate students learning. The aim of the survey was implemented thus point to innovative methods and their application in the teaching process. Survey sample consisted of 220 students of vocational schools in the east of Slovakia. The survey was conducted through a questionnaire that we created for this purpose. The most used method in the survey is quantitative method questionnaire, especially because of the larger sample. In the present survey, we have also used this method.

FINDINGS

The new innovative methods are focused largely on the activity of pupils. If the students during class are active and they solve the problems of the new curriculum, then they can also seek the additional information alone at their home.
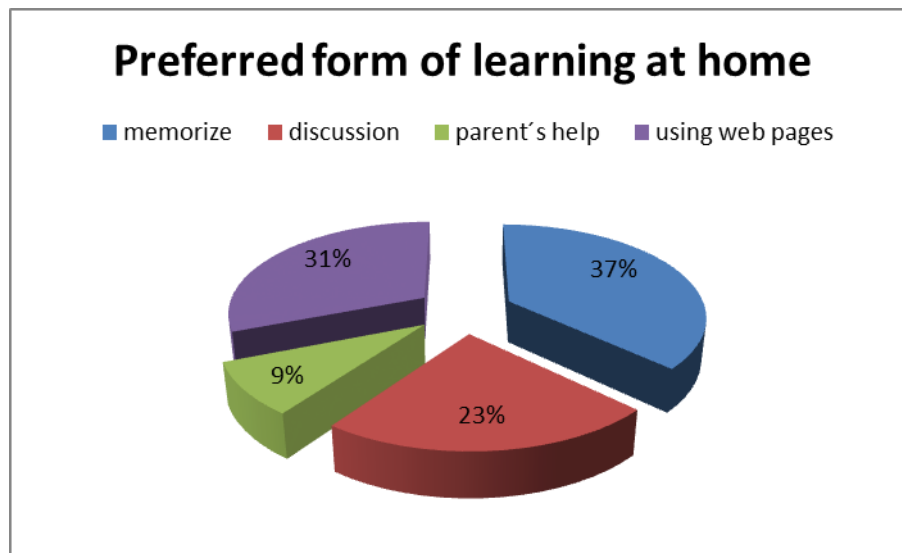
Figure1: Preffered form of learning at home

According to the survey findings, 37% of students prefer to learn the curriculum by memorizing, 23% of pupils prefer a discussion on the topic with a friend, 9% ask for the help of parents and 31% of the new issue are searching and finding on the web. These results show that most students still prefer the traditional learning by memorizing.

Pupils are usually mediated with traditional methods of curriculum in the frontal form. Through the survey, we focused on ascertaining the preferences of forms of teaching pupils.
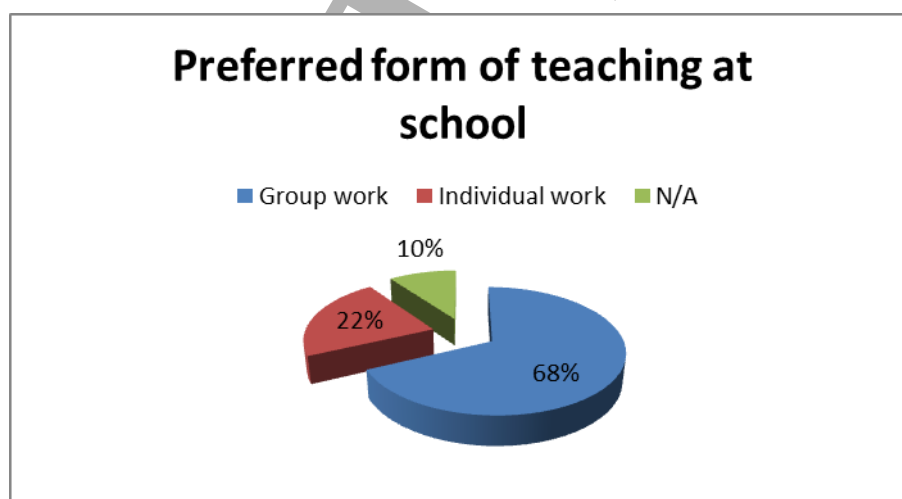
Figure 2: Preferred form of teaching at school

According to their responses, we can conclude that up to 68% of pupils prefer work in a group; independent work is suitable for 22% of respondents. According to their answers, if pupils work in groups, they feel very

good – 76%; 89% of them like working in groups; 69% of respondents said that it is extremely useful if teaching techniques are used during the teaching process. Clarity as a teaching method is justified very high and also it is effective during the educational process. Teaching methods are used in two ways in the education process, both as a form or mean. From the achieving the object of the lesson perspective, it is a mean for the purpose of fulfilment for a teacher. The teacher must respect the rules of the learning process itself, during the choosing methods, but at the same time, it is essential to inspire students for independent creative work and activity through them (Kominarec, Kominarecová, 2005). The key task of teaching methods is to regulate pupils' learning so that they acquire knowledge, but also to know use them in practice. It's also a kind of tool with the help for the pupils so they will be able to acquire their own curriculum (Maňák, Svec, 2003).

The curriculum is probably the most associated with the oversized word. Students learn at school the facts what are not probably necessary for their professional implementation. In connection with the teaching methods of the curriculum we should consider adequate in terms of layout and selection methods. Students should be in school to learn, how to learn and then they should be able to apply for the actual preparation of the lesson at home environment (Darák, 2007). The fundamental difference between traditional and modern teaching methods is in their understanding of the method as a tool in teaching. Traditional teaching methods emphasize the function of the teacher as organizer and coordinator of the whole learning. The methods only help teacher to fulfil the goals in all three areas. On the other hand, the modern teaching methods are aimed to activate the student.

CONCLUSION

The context of theoretical and empirical analysis, concludes, that the application of innovative methods in teaching is to secure a constant active involvement not only for students, but all without distinction. It is suitable prefer effortless selection of the pupils themselves to groups, so they can decide themselves in which group they want to cooperate. Teachers should apply more teaching methods in one lesson, and it is also important to avoid stereotypes; it is important adapted methods to individual needs. It is also important to adapt teaching methods into topics covering individual options in a class as whole, then in a preparation for the lesson, and the technical background of a class. In this context, it is necessary to create an environment that would be very motivating and activity-enhancing for pupils all together with help of the school management. The school management should pay attention to class amenities with modern technical facilities which will be in accordance with the teaching methods and enable a more effective education.

The success of students largely depends on how teachers manage and effectively use a variety of teaching methods in their work. The structured and planned activities are currently proved to be more effective than routine and conventional methods. Teaching methods are an essential part of the learning process. It is very important to adapt teaching methods into selected covered topics for teachers. It is necessary to cooperate within the relationship between teacher and pupils for innovative teaching methods. The teacher should encourage his pupils to experiment with ideas. Pupils should learn systematically evaluate new ideas. It is also necessary to ensure pupils with enough space for self-fulfilment, and with a space for peaceful creative thinking. Teachers using innovative teaching methods should be especially friendly to students and try to guide their activity. Teaching methods should be the pillar that supports education and communication.

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SPIRITUAL EDUCATION MODULE FOR OUT-OF-WEDLOCK PREGNANT ADOLESCENTS

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ABSTRACT
Out-of-wedlock pregnancy among adolescents has become a social issue in today's global society. In Malaysia, statistics (Department of National Statistics of Malaysia) show that in the years 2000-2008, there were 257,000 births registered without father. In the context of the Muslim community in Malaysia, pregnancy outside of legal marriage is something contrary to the norms, moral values, culture and religion of society. Such pregnant adolescents would be placed in a shelter and rehabilitation centre run by the government or an NGO. The aim is to give protection, moral and spiritual support, so that the adolescents may be psychologically restored and they would not repeat the same mistake after the intervention. The purpose of this study is to examine the syllabus of the spiritual education module that has been implemented by a shelter home, the Harapan Secondary School Rehabilitation Centre. An Islamic Practice Instrument (IPIfariza) Questionnaire was administered to 38 pregnant adolescents at the rehabilitation centre which conducted this spiritual education module. Data was analyzed to assess the spiritual level of adolescents after undergoing the intervention process through learning and training in this module. The results of this study show that the level of spirituality among adolescents improved in three categories namely faith, worship and morality.The study also finds that adolescents' knowledge relating to religious and moral values also increased. Overall, the study finds that the spiritual education module has a positive impact on the adolescents' psychology and spirituality.
Keywords: *Pregnant out of wedlock, adolescents, spiritual education, religious, moral values*

INTRODUCTION

In the context of a Muslim nation such as Malaysia, out-of-wedlock pregnancy is something against the norms, values, culture and religion. This issue becomes more critical when youth is involved. They are at risk legally and healthwise (Salasiah, al-Adib & et al, 2012). According to statistics (National Statistics Department of Malaysia), in the years 2000-2008, there were about 257,000 births registered without father. This matter is very worrying for a Muslim society which adheres to the Islamic religion, as illicit sexual relations including pre-marital sex are legally forbidden. According to previous studies, there are some factors which cause adolescents to be sexually involved leading to out-of-wedlock pregnancy (Moni Sheela,A 2013). Among the causes are personal factors, peer pressure, mass media and family (Salasiah, al-Adib & et al, 2012). In addition, there are factors such as free sex, uncontrolled socializing, family problems, environment, peers and media (Mohd Syamil and Adriana Balqis 2010; Ali Mohamed and Sardar Baig 2010; Moore 2001; Brandt et al. 1978; Dev Raj et al. 2010; Weisz and Earls 1995). In Malaysia, there are several local studies which examine the issue of out-of-wedlock pregnancy, such as research by Sarnon et

al. (2012), Khadijah et al. (2012), Rusilawati & Khadijah (1995),Salamatussaadah & Nor Bahyah (2009), Salasiah(2012) and Nazirah(2015). Most of them focus on causative factors and rehabilitation through the process of conventional counseling. Only a few touch on the Islamic spiritual approach in the context of prevention and psychological rehabilitation of unwed pregnant adolescents, whereas the Islamic spiritual approach is essential to restore adolescent psyche with repentance and peace of mind so as not to repeat the mistake (Salasiah, 2012 and Nazirah,2015).Therefore, this research focuses on the implementation of the Islamic Spiritual Education Module already put into practice in the shelter home for unwed pregnant adolescents, namely, Harapan (hope) Secondary School Rehabilitation Centre in Malacca. This objective of this module is to strengthen spirituality and enhance religious knowledge of the adolescents.

ISLAMIC SPIRITUAL EDUCATION

The Islamic Religious Department of Malacca (JAIM) established the Harapan (which means Hope) Secondary School for unwed pregnant adolescents to give them protection until they give birth. In this school they are given spiritual guidance and knowledge of religious teachings. In addition, they are also given academic education to enable them to take government examinations. Besides that, they are also given training in sewing and culinary skills for future prospects. The objective of the Islamic Education Module is to build spiritual strength in adolescents who really need it. Based on research, it is found that they need systematic input to build spiritual and intellectual strength. Islamic spiritual education is important to restore their psychological strength which they need after leaving the shelter home so that they will not repeat their mistake. Balance between intellectual and spiritual strength is needed so that they can make sound decisions for their future and enhance their self-esteem. Spiritual and intellectual strength in adolescents based on faith and adherence to religious teachings may be constitute as a protection for adolescents to resist getting involved in social problems (Fariza , 2005). This view is globally affirmed in studies such as Ivtzan, Chan, Gardner and Prashar(2013) which find that spirituality and religion correlate positively with life well-being. Thus, the purpose of this research is to understand the psychology of pregnant adolescents and how the Islamic spiritual approach implemented may enhance their intellectual and spiritual strength.

In the Islamic perspective, spirituality is the inner or psychic aspect of man which cannot be seen, felt or heard by the senses. Spirituality is the inner dimension which is part of religion. The relation between religion and the inner element of man is clear according to the view of al-Qaradawi (2001: 13) who explains that religion is something naturally felt by humans as an inner need or urge to affirm that they and their environment have an Almighty God. This feeling is present in the soul. The soul is full of hope, fear, submissiveness and pleading for divine help. Thus, humans surrender their souls to Allah SWT for peace of mind and tranquility.

The characteristic of good spirituality in man's life is equilibrium between physical and spiritual (body and soul). In psychological terms, the creation of man covers both physical and spiritual elements which require to be balanced. Thus, religious consciousness functions to shape man's spirituality in everyday life (H. M. Arifin, 1977: 61). The balance between the two external and internal dimensions results in good behaviour. Due to life based on true religious consciousness, the soul or psyche will gain peace or tranquility. According to al-Ghazali(2000), spirituality is a combination of the components *al-qalb*, *al-ruh*, *al-nafs* and *al-aql*. These four components need to be in equilibrium so that man can achieve peace of mind. Even though spirituality and religion are recognized as a source of psychological strength to overcome psychological disturbances, avoid unhealthy behavior and encourage resilience, they are neglected in psychological training and practice. A qualitative study involving 15 registered psychologists and data analysis using Tesch model, finds that religion and spirituality, though difficult to measure, are assessed and recognized as a mechanism in facing life challenges. (Elkonin 2014: 124).

There are some studies which find that Islamic spiritual education may be used as an approach in psychologically restoring adolescents with problems (Azzyati & Fariza, 2013). According to al-Muhasibi, spiritual education is based on *taqwa* (awe) to Allah and the method of training the psyche, *tazkiyah al-nafs* (Gavin Picken,20111).*Tazkiyah al-nafs* through *riyadah* al-nafs and *mujahadah* to Allah, cultivates positive aspects in man's self such as *khauf* (fear) and *raja'* (hope), reminds of death and distinguishes between good and evil as well as establishes accountability to Allah SWT through *muraqabah* (self-monitoring). Further according to al-Muhasibi (Gavin Picken, 2011), a good man is one whose soul develops in compliance with Allah's Will. The al-Muhasibi concept of spiritual education offers an alternative method of handling adolescents with psychological issues.

In addition, spiritual education is important for academic achievement. A study by Salasiah Hanin Hamjah et.al (2012) has explained the relation between spiritual practice and student academic achievement. Spiritual practice

such as *salatul-hajah* (prayer of need), *qiyamulail* (night vigil), recitation of al-Quran and also congregational prayers are some forms of spiritual practice frequently performed by students which led them to perform very well academically. Hence, this research is for the purpose of studying spiritual education which focuses on practices such as *salah* (prayers), *zikr* (remembrance), *qiyamulail* (night vigil), *tawbah* (repentance) and also teaching of religious knowledge as applied in the Harapan Secondary School Rehabilitation Centre in Malacca, as well as examining the effect of such education on the level of Islamic knowledge for unwed pregnant adolescents.

RESEARCH METHODOLOGY

This is a quantitative research with a survey study design. Questionnaires are used as data collection tool. Research respondents are 38 unwed pregnant adolescents at the shelter home, Harapan Secondary School. Selection of respondents is by convenience sampling. A pilot study was done to assess reliability through the method of internal consistency by using Cronbach alpha coefficient and mean score.

Questionnaires distributed used the Islamic Practice Instrument (IPIFariza) developed by Fariza (2012). On the whole, the value of Cronbach alpha obtained for each construct is at 0.986 and mean score in the range of 3.48-3.80. The reliability value for this item is good and acceptable such as discussed by Gliem A. & Gliem R. (2003) and Petterson et al. (2004). As the Cronbach alpha value for all variables exceeds 0.8, and the mean score range exceeds 3.00, this research instrument has acceptable internal consistency and reliability. Analysed data from the questionnaires are analysed and presented in the form of percentage, frequency and mean.

RESEARCH RESULTS AND DISCUSSION

In terms of respondent background, the minimum age is 15 years (23.7 %, 9 persons) and the maximum age is 21 years (13.2% ,5 persons). Most of them at the shelter are aged 17 years (23.7%, 9 persons). This shows that the unwed adolescent became pregnant as early as 15 years old and most of them became pregnant at age 17 years (Table 1).

Table 1: Age of Respondents

Age	Frequency	Percentage
15	3	7.9
16	3	7.9
17	9	23.7
18	6	15.8
19	7	18.4
20	5	13.2
21	5	13.2
Total	**38**	**100.0**

Source: Questionnaire 2014

Most of the respondents at the shelter are at secondary school level of education (76.3 %, 29 persons). This shows they were still in secondary school when they were involved in illicit sexual relations leading to out-of-wedlock pregnancy (Table 2).

Table 2: Respondents' Level of Education

Highest level of education	Frequency	Percentage %
Secondary school	29	76.3
Technical/Vocational secondary school	2	5.3
Religious secondary school	1	2.6
Institute of higher learning	6	15.8
Total		100.0

Source: Questionnaire 2014

As the purpose of this research is to study the effectiveness of spiritual education implemented at the shelter home, therefore the level of Islamic practice is examined. Mean analysis finds that the highest value of mean score is the practice of *Zikr* (remembrance) and learning religious knowledge (both with mean =4.50), daily saying the *Shahadah* (declaration of faith) (mean=4.42), 5-times daily obligatory prayers (mean=4.20), followed by performance of *Salatul-hajah* (prayer in time of need) (mean=4.10), being trustworthy and accountable when discharging responsibility (mean=4.10), reciting *Bismillah* before doing something (mean=4.00), fasting in month of Ramadhan (mean=3.9) and reciting al-Quran(mean=3.7).

This finding shows respondents agree that spiritual practices such as frequent saying of *Shahadah*, praying 5 times daily, reciting al-Quran, *salatul tawbah,hajah and tahajjud*, making *dua'a*, *zikr* and reading religious books lead to repentance so as not to repeat past mistakes and also help them to be better practicing Muslims. This shows that the spiritual practices emphasized in the shelter home, Harapan Secondary School in Malacca are suitable and should be continued to return adolescents to the true Islamic path and gain peace of mind to carry on life in the society.

This research finds that the studies by Salasiah (2012) and Nazirah(2015) which find that the spiritual practice approach may help adolescents to feel remorse and repent and not repeat the same mistake. Other studies prove that a spiritual approach may help in dealing with adolescent social problems, such as studies by Siti Labibah 2008, Fariza, 2005 and Azzyaty 2013). Ahmad Hisham (2009) in his study also finds that spiritual education, specifically prayers, are effective in overcoming the problem of anxiety among students. The same finding is obtained by Fatimah Ibrahim et al. (2008) in their study which finds that the *ibadah* (act of worship), i.e., *salah* (prayers) result in calmness in the human brain. This calmness reached its maximum just before a person moves to prostrate position in prayer. A study by Nor Azah (2011) on 50 tahfiz (al-Quran memorization) students also show reduced blood pressure after performing obligatory prayers compared to before prayers. The blood pressure is at normal level and represents a peaceful stress-free state after performing obligatory prayers. Likewise, in a study by Asmah Bee(2001) which finds that the practices of *dua'a* and *zikr* help to reduce the level of depression in school adolescents. All the related previous studies clearly show that spiritual education helps in management of adolescent emotional stress such as anxiety, disappointment, stress, depression and sadness.

Research results prove that Islamic spiritual practice bears the same concept as applying Islamic teachings in life. The only difference is that spiritual practice is more focused on individual practice and is specifically related to building peace of mind. It is also related to the process of developing confidence for interrelations in life. In summary, religion is a tradition of certain teachings, whereas spirituality is the result of experience which arises from self-exploration of inner values in the quest for truth and peace. This is also proven in a study by Linda K.& et.all (2000 : 105) which shows that scientific research on religion and spirituality uncovered both cultural similarity and differences in meaning. Both spirituality and religion focus on sacred beliefs, sacred treasury, effect of belief on behavior, and practice used to achieve or enhance virtuosity in life. The difference is that religion is associated with formal religious institution, whereas spirituality does not depend on the collective context or institution. Most issues of spirituality in the West also discuss religious practice as synonymous with spiritual practice (Galanter, M 2011). Therefore, this clearly shows that spiritual education for adolescents becomes increasingly important and relevant in the present time to build psychological strength in facing challenges of adolescence.

Table 3: Islamic Spiritual Practice of Unwed Pregnant Adolescents

ITEM	FREQUENCY AND PERCENTAGE					MEAN
	1 STB	2 TB	3 TP	4 B	5 SB	
I say *Shahadah* (declaration of faith) daily in my life.	1 2.6	0 0	4 10.5	10 26.3	23 60.5	4.42
I study religious knowledge to practise in my life.	2 5.3	0 0	0 0	11 28.9	25 65.8	4.50
I do *Zikr* (remembrance in meditation) for peace of mind.	2 5.3	0 0	1 2.6	9 23.7	26 68.4	4.50
I do 5 times daily prayers wherever I may be.	4 10.5	3 7.9	6 15.8	14 36.8	11 28.9	3.6
Every day I get up for *Subh* prayers.	2 5.3	2 5.3	4 10.5	9 23.7	21 55.3	4.1
Every day I perform *Zuhr* prayers.	2 5.3	2 5.3	3 7.9	9 23.7	22 57.9	4.2
Every day I perform *Asr* prayers.	2 5.3	2 5.3	5 13.2	8 21.1	21 55.3	4.1
Every day I perform *Maghrib* prayers.	2 5.3	2 5.3	2 5.3	10 26.3	22 57.9	4.2
Every day I perform *Isyak* prayers.	2 5.3	4 10.5	3 7.9	9 23.7	20 52.6	4.0
I frequently pray in congregation.	4 10.5	0 0	7 18.4	8 21.1	19 50.0	4.0
I frequently perform *Tahajjud* when I feel not so good.	3 7.9	4 10.5	11 28.9	17 44.7	3 7.9	3.3
I perform *Sujood ul sahw* (prostration for forgetfulness) for the missed *Rakaat* (units of prayer).	4 10.5	5 13.2	7 18.4	10 26.3	12 31.6	3.5
I recite Al-Quran daily for peace of mind.	2 5.3	2 5.3	12 31.6	9 23.7	13 34.2	3.7
I fast in *Ramadan* even though exhausted.	3 7.9	0 0	8 21.1	12 31.6	15 39.5	3.9
I fast *Sunnah* (recommended) on Mondays and Thursdays.	4 10.5	3 7.9	12 31.6	13 34.2	6 15.8	3.3
I perform *Salatul-hajah* (prayer in time of need) to request from Allah.	3 7.9	0 0	7 18.4	8 21.1	20 52.6	4.1
I have performed *Umrah* (recommended lesser pilgrimage) in Mecca.	1 23.7	13 34.2	11 28.9	2 5.3	3 7.9	2.1
I obey Allah's commandments in any situation.	4 10.5	1 2.6	15 39.5	9 23.7	9 23.7	3.4
I say *Bismillah* (in the name of Allah..) before doing something.	2 5.3	0 0	6 15.8	17 44.7	13 34.2	4.0
I fear committing matters that religion forbids.	1 2.6	2 5.3	9 23.7	16 42.1	10 26.3	3.84
I practice religious teachings to avoid social ills.	2 5.3	2 5.3	6 15.8	15 39.5	13 34.2	3.92

I do everything conscientiously (with full trustworthiness and accountability) because each act is an *Ibadah* (worship) to Allah S.W.T	2 5.3	2 5.3	4 10.5	12 31.6	18 47.4	4.1
I make *Wudu'* (partial ablution) as a habit in my daily routine.	1 2.6	3 7.9	10 26.3	9 23.7	15 39.5	3.89
I answer *Adhan* (call to prayer) while it is being recited.	2 5.3	4 10.3	9 23.7	9 23.7	14 36.8	3.76
I perform *Eid* (Muslim festivals) prayers every year.	6 15.8	9 23.7	14 36.8	4 10.5	5 13.2	2.81
I recite *Dua'a* (supplicatory prayers) each time I go out of the house.	5 13.2	9 23.7	14 36.8	6 15.8	4 10.5	2.86
I recite *surah Yasin* regularly.	1 2.6	4 10.5	8 21.1	12 31.6	13 34.2	3.84
I implement *Jamak wa Qasar* (combining and shortening) prayers when I travel.	4 10.5	9 23.7	14 36.8	7 18.4	4 10.5	2.94
I participate in slaughter and *qurban* (means of approaching Allah through sacrifice of animal) activities.	8 21.1	7 18.4	12 31.6	7 18.4	4 10.5	2.78
I help in funeral services when a death occurs.	7 18.4	10 26.3	15 39.5	5 13.2	1 2.6	2.55

Source: Questionnaire 2014

CONCLUSION

This research finds that the spiritual education practised by unwed pregnant adolescents at the shelter home, Harapan Secondary School Rehabilitation Centre in Malacca are 5-times daily prayers, frequent saying of *shahadah*, reciting of al-Quran, *salatul tawbah, salatul hajah, salatul tahajjud, dua'a, zikr*, reading religious books, fasting in the month Ramadhan and cultivating *akhlaq* (good moral character) traits such as *amanah* (trustworthiness). Spiritual education is admitted by respondents as making them repentant, and providing peace and emotional stability. Research results also show that practice of spiritual education has positive effects on respondents in vigilantly keeping up spiritual practices such as obligatory and *sunnah* prayers, *zikr*, fasting and reciting al-Quran. In addition, respondents feel encouraged to strive in keeping up good behaviour. Thus, research results show that the spiritual education module implemented at Harapan Secondary School Rehabilitation Centre has positive effects on unwed pregnant adolescents.

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SPORT RISK MANAGEMENT COMPETENCE COACHES INSTITUTE OF TEACHER EDUCATION

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ABSTRACT

It is important to risk management in the sports industry to provide and ensure a safe environment for every sports programme. Sports risk management seeks to control, prevent and minimise the risk of accidents and injuries. Developed countries such as Australia and the United Kingdom have adopted a standard risk management model. The model shows an organisation that offers programmes or sports activities, requires a coach or instructor who has basic knowledge of the theory of competence and a clear philosophy, is skilled and has a proper attitude to handle the programme. This study was conducted to identify risk management competencies among sports coaches at the Institute of Teacher Education. Respondents (N=159) completed a questionnaire and data analysis of this pilot study were completed using the Rasch measurement model by implementing four diagnosis for the purpose of examining the functionality of the item. Findings of the pilot analysis show that Cronbach's alpha reliability and trustworthiness of individuals was 0.99 (very good) and reliability of the items was 0.75, indicating a good level of reliability. Responses were also analysed using the Rasch model. The results of this model show competent coaches of Risk Management Practices and Dominant agreed that sports are composed of knowledge, skills, and attitudes.

Keywords: sport; risk management; competence;

INTRODUCTION

In Malaysia there are thousands of students in schools and institutions of higher education involved in sports as well as exposed to risk. Nohr (2009) notes that every sport and recreational activity is risky. Athletes, coaches, officials, spectators and innocent bystanders may be injured by hazards such as balls, slippery floors, and In addition, risk management is a decision-making process and involves implementation in order to reduce injury and loss and its impact on the organisation of sports (Nohr, 2009). Therefore, students need competent sport coaches to mitigate the risk management venture.

The literature review revealed that the implementation of sports programmes is very effective when the instructor or programme manager has a basic knowledge of the theory of competence and a clear philosophy, is skilled and has the characteristics of an appropriate attitude to run the programme (McKenzie, 2000; Neill, 2004). Even in some countries, especially in the United States, Australia and the United Kingdom, qualifications and accreditation for the sports programme leader is very important. So much so that almost all major organisations that have sports and recreation programmes require all coaches or facilitators of sports programme to be accredited before being hired (Priest and Gass, 1997). Moreover, leaders who have competent knowledge and understanding of basic theory and possess a clear philosophy, positive attitude for various skills and an enthusiasm for the sport are essential to ensure that an exercise programme can be successfully managed. This is what secures the sports programme at the Institute of Teacher Education.

Sports risk management is important for providing a safe environment for sports programmes and sports organisations can reduce legal liability and improve the organisation's reputation by appropriately managing their sport programmemes. Sports risk management is used to prevent and

minimise accidents in sports (Rejda, 2011; Hsiu-Chin and Chao-Chein, 2010; dan Ang, 2007). Developed countries have adopted a standard risk management model. For example, beginning in 1999, Australia created a model of risk management standard *Guidelines for the Safe Conduct of Sport and Physical Activity in Schools* (Sobski, 1999). The United Kingdom also has a special standard of risk management including *Safety in Sport: Guidance for UK National Governing Bodies*, which was adopted in 1999 (Fuller, 1999). In April 2005, The Management of Safety in Physical Education and Outdoor activities was adopted by WHO; the Risk Management Guide for Community Sport Organisation adopted from 2010 (Laroche and Corbett, 2010). It shows an organisation that offers programmes or sports activities, values a sports risk management model and shows that there should be a standard model (Mustaffa, 2013). However, in educational institutions in Malaysia, there is no standard sports risk management competency model that can be used by teachers, lecturers and administrators to create zero-risk in sports and increase community involvement in sports. This study was conducted to identify risk management competencies of sport coaches at the Institute of Teacher Education. Sports risk management competence involves knowledge, skills and attitudes.

PROBLEM STATEMENT

In preparing competent coaches for sports risk management, a reference to the criteria of aspects or characteristics of risk management competencies appropriate for sports is required. In risk management, the risk of negligence and concerns may often be the main issue for parents and guardians filing a suit against the teacher and the school. In the case of being sued, teachers will usually serve as the main defendant in a case brought by the plaintiff's parents, principals serve as the second defendant and the Malaysian government as third defendant (Tie, 2004). This requires that all parties at the school, especially school administrators and lecturers, are involved in practice risk management (Zimmerman, 2007) and are sensitive to the regulations, acts and circulars from the Ministry of Education for the purpose of protection.

According to Comer (1998), among the methods to prevent and protect the risk management problem, the design model of risk management practice can be used as a guideline. The planning model is geared toward the aspects of prevention, protection and security for the school to be free of negative elements (Abdul Razak, Ismail and Panting, 2009; Che Lah, 2009) such as injuries during sports programmes.

Practicing safety risk management is an approach that focuses on employee behaviour as a cause of work-related injuries and illnesses. According to Shaw (2005), 80-96% of workplace injuries are caused by behaviour or unsafe practices. In Australia, the employees behaving in an "unsafe" manner are identified, and persuaded, advised and asked to behave "safe" at work or face dismissal (Thatcher, 2006; Sekendiz, 2011).

According to Ehsani and Version (2012) risk management practices is a new problem that requires a competent coach who possesses aspects of knowledge, skills and attitudes to achieve good performance in risk management for the organisation. Sports leaders and coaches must be educated in the field of sports and have the training and experience to competently manage the risks, and implement sport risk management practices (SRMP) in terms of identification, evaluation, election operations, and implementation.

THE PURPOSE OF THE STUDY

This study was conducted to identify risk management competencies among sport coaches at the Institute of Teacher Education. "Sports Risk Management" competence involves knowledge, skills and attitudes.

THE OBJECTIVE OF THE STUDY

This research aims to achieve the following objectives:
Identify the level of risk management competency among sport coaches.
Identify the dominant competence for risk management of sports coaches

THE RESEARCH METHODOLOGY

This study is a review done by identifying research problems and determining the objectives and scope of the study. The research instrument was a questionnaire and data analysis for this pilot study were conducted using the Rasch measurement model implementing four diagnosis for the purpose of examining the functionality of the item. The findings of the pilot analysis show that Cronbach's alpha reliability and trustworthiness of individuals was 0.99 (very good) and the reliability of the items was 0.75, indicating a good level of reliability. In addition, the dominant factors for risk management competencies was analysed using the Rasch model approach.

THE FINDINGS OF THE STUDY

Table 6.1 Overall Analysis, Coaches Level Agreement Concerning SRMP Construct

Construct	Mean Measurement	Mean Score	Level	Mean Factor Sequence
Attitude	-0.16	4.29	High	
Knowledge	-0.15	4.28	High	
Skill	0.16	4.17	High	

Based on an analysis of the level of competence of *knowledge* for SRMP coaches, Table 6.1 shows the overall size of the mean measure of -0.15 logit and the mean score was 4.28. This finding suggests that having a working knowledge based on Maslow's hierarchy of needs (KP1), the ability to explain the role to be performed by each member of the group (KP2), having knowledge of conflict resolution (KP3), an understanding of the procedure or action during the activity (KP4), being knowledgeable about the appropriateness of activities undertaken within their means (KP5), having a trainer who explains the methods to reduce the risk (KP6), and the activity skills taught in proper progression (KP7) were affirmed by respondents with high SRMP.

Label	Competence Knowledge	Mean measure (logit)	Mean score	Level
KP1	Have a working knowledge based on Maslow's hierarchy of needs	0.02	4.226	High
KP2	Be able to explain the role to be performed by each member of the group	-0.22	4.314	High
KP3	Have conflict resolution knowledge	-0.03	4.245	High
KP4	Understand the procedure or action during activity	-0.33	3.956	High
KP5	Be knowledgeable about the appropriateness of activities undertaken within their	-0.18	4.302	High
KP6	Trainer explains the methods to reduce the risk	-0.06	4.258	High
KP7	Activity/skills taught in proper progression	-0.24	4.321	High

Analysis of the level of competence of SRMP is displayed in Table 6.2. Respondents with the highest level of contribution to practice had a mean measure of 0.02 logit and minimum score of

4.226, agreed that it was important to have working knowledge competency and knowledge based on Maslow's hierarchy of needs. Furthermore, having competent knowledge and capable of explaining the role to be performed by each member of the group had a mean measure of 0.22 logit and a mean score of 4.314. Having knowledge of conflict resolution (mean measure equal to 0.03 logit, mean score of 4.245), understanding the activities carried out during the procedure or action (mean measure of 0.33 logit, mean score of 3.956), being knowledgeable about the appropriateness of the activities undertaken based on ability (mean measure of 0.18 logit, mean score of 4.302), having the trainer explain the methods to reduce the risk (mean measure of 0.06 logit, mean score of 4.258) and having activity/skills taught in proper progression (mean measure of 0.24 logit, mean score of 4.321) also had high levels of agreement.

Table 6.2: Level of Competence Knowledge coaches Against the SRMP.

Based on an analysis of the level of competence skills for SRMP coaches, Table 6.1 shows the overall size of the mean measure 0.16 logit and a mean score of 4.17. This finding (Table 6.3) indicates that there is a maturity of judgment in managing risks appropriately. This finding also indicates that respondents with a high level of SRMP agreed that having a maturity of judgment in managing risks appropriately (KK1), demonstrating specific skills related to activities conducted (KK2), being skilled in the techniques of regulation of body temperature (KK3), having the skills to obtain feedback (KK4), being skilled at designing forms of activity with different intensity (KK5), the ability to plan activities according to the abilities of each participant (KK6), having the skills to consider the resources available in schools and communities (KK7) and modifying abilities of regulatory activities by skill level for joint activities (KK8) are important for risk management in sports.

Table 6.3: Level of Competence Skills Coaches Against the SRMP.

Label	Competence Skills	Mean measure (logit)	Mean score	Level
KK1	Having the maturity of judgment in managing risks appropriately	0.25	4.138	High
KK2	Demonstrating specific skills related to activities conducted	0.04	4.220	High
KK3	Skilled in the techniques of regulation of body temperature	0.40	4.075	High
KK4	Having the skills to obtain feedback	0.14	4.182	High
KK5	Skilled in designing forms of activity with different intensities	0.14	4.182	High
KK6	The ability to plan activities according to the abilities of each participant	0.07	4.208	High
KK7	Skilled in considering the resources available in schools and communities	0.26	4.139	High
KK8	Modifying abilities of regulatory activities Coachesby skill level for joint activities	-0.01	4.239	High

The results of the analysis of the level of competence of SRMP skills is displayed in Table 6.3. For competence, having mature judgment in managing risks appropriately, was affirmed by respondents at the highest level of practice (mean measure of 0.25 logit, mean score of 4.138). Next, respondents agreed that competence skills can show specific skills related to activities undertaken (0.04 minimum measure and mean score of 4.220), skilled technical competence in regulation of body temperature (mean measure of 0.40 logit, mean score of 4.075), having the skills to obtain feedback

(mean measure of 0.14 logit, mean score of 4.182), the ability to plan activities according to the abilities of each participant (mean measure of 0.07 logit, mean score of 4.208), being skilled considering the resources available in the school and community (mean measure of 0.26 logit, mean score of 4.139), and modifying abilities of regulatory activities by skill level for joint activities (mean measure of 0.01 logit, mean score of 4.239) were important for risk management in sports. Based on the analysis of the competence of the coach's *attitude* toward SRMP, Table 6.1 shows an overall mean measure value of -0.16 logit and a mean score of 4.29. A detailed analysis of the level of competence regarding attitudes towards SRMP is displayed in Table 6.4. The finding (Table 6.4) indicates that respondents agreed that being physically fit to manage risk (KS1), the ability to provide meaning to risk management (KS2), being capable of motivating the control programme (KS3), always being rewarded for performance (KS4), the opportunity to improve performance in carrying out one's duties (KS5) and always being positive with workload (KK6) can have an impact on SRMP.

Table 6.4: Level of Competence Attitude Toward coaches SRMP.

Label	Competence Attitude	Mean measure (logit)	Mean score	Level
KS1	Be physically fit to manage risks	0.06	4.214	High
KS2	The ability to provide meaningful risk management	-0.06	4.258	High
KS3	Be capable of motivating the control programme	0.01	4.233	High
KS4	Always being rewarded for performance	-0.33	4.352	High
KS5	Opportunity to improve performance in carrying out one's duties	-0.13	4.302	High
KS6	Always being positive with workload	-0.42	4.384	High

Competence analysis regarding attitude toward SRMP is displayed in detail in Table 6.4. Respondents agreed that most important for an attitude of competence was being physically fit to manage risk (mean measure of 0.06 logit and mean score of 4.214). Next, competence and attitude are capable of giving meaning to risk management (mean measure of -0.06 logit, mean score of 4.258), capable of motivating the control programme (mean measure of 0.01 logit, mean score of 4.233), always rewarded for performance (mean measure of -0.33 logit, mean score of 4.352), the opportunity to improve performance in carrying out one's duties (mean measure of -0.13 logit, mean score of 4.302), and always being positive with the workload (mean measure of -0.42 logit, mean score of 4.384) as well as a high degree of consensus.

7.0 Discussion

Risk management practices adopted by the Institute of Teacher Education coaches can have implications for their competence in risk management. The implication is that this study provides a good impression of the problem, namely knowledge, skills and a positive attitude. Based on the analysis carried out, the role of SRMP in providing implication tasks for coaches involves several steps.

7.1 Knowledge competencies coach to SRMP.

The analysis was carried out to shed light on how respondents felt about the implications of risk management in their practice. Results show that knowledge affects SRMP; this statement parallels Berlonghi (1990), Clement (1998) and Kaiser (1986) who recognise the importance of knowledge as a key contributor to SRMP. Stephen and James (2012) emphasise the importance of coaches that have personal knowledge through training, professional qualifications and work experience of at least 6 months in the field of sports and safety. Aaron (2004), Vaughan (1997) and Gray and Crowell (1993) describe that personal knowledge of the sport and risk management will help with

SRMP implementation. According to Bezdicek (2009) and Vaughan (1997), previous studies have shown that lack of knowledge to performance risk management exercises in a particular programme, activity or sport can lead to negligence lawsuits. Zimmerman (2007) explains the inconsistent SRMP will not protect the personnel exercise of a lawsuit from applicable risks. Therefore, these knowledge competencies can be great contributions for the coach in the SRMP.

Silinmiş: ,

7.2 Competence skills coaches to SRMP.

Trainer skills in implementing risk management can be improved in parallel with sports competence to practice their skills through practical observation and imitation of the behaviour of others. These statements are based on the results of the analysis carried out. Respondents agreed that competence skills can improve RMP in doing practical work. This statement is in line with Attarian (2012) and Dimitriadi and Dimitriad (2007) states only personal qualifications and skills required to manage sports equipment technically and different activities to ensure a safe exercise programme.

According Attarian (2012) and Nohr (2009), through competency skills, implications for practice said to be very big task in developing human resources that are skilled and skilled workers. Therefore SRMP adopted and implemented by the coach can have a big impact on the competence of their skills in mastering risk management practices.

7.3 Competence attitude coaches to SRMP

Respondents in this study agree with giving their perceptions of a more positive attitude change at a high level of SRMP practiced. SRMP, through constructs such as identification, evaluation, selection, operation, and implementation can contribute to change coach's attitudes. According to Bezdicek (2009), stated attitudes towards risk management practices are positively increased towards more knowledge and experience in the field of risk management tasks. Miller and Rushing (2002) also describe that one's attitude towards risk management is more positive when the individual has knowledge of the legal action that may be taken against those who are careless in developing and implementing risk management in sports programmes and activities in their organisations.

The findings of the study conducted by Hann (2006) found that attitudes toward the safety of individuals will be positive if the organisation creates a continuous and systematic process of risk management to improve the attitudes of employees in risk management practices. According to Dewey (1993), positive thinking should be outward, through the act of facilitating the teaching and learning process. Therefore, attitude can have a significant impact on SRMP.

8.0 Conclusion.

In this study, the construct of coach's competence is more prominent for risk management exercise as identified through an attitude of competence, knowledge and skills. Sports organisations require competent coaches who possess knowledge, skills and attitudes to achieve good performance in risk management. Coaches who are able to appropriately manage sports risk can ensure a safe environment and sports programmes can improve athletic performance.

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STATUS OF SUCCESS OF FOREIGN LANGUAGE EDUCATION IN TURKEY WITH REGARD TO EDUCATION PROGRAMS AT SCHOOLS OF FOREIGN LANGUAGES

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Status of success of Foreign Language Education in Turkey with regard to Education Programs at Schools of Foreign Languages

In the globalizing world, general use of English in foreign language education and instruction forms one of basic education policies of all governments. Especially in European countries of which Turkey is a part, despite foreign language education programs reached quite upper levels, there are giant gaps between Turkey and other European countries regarding success in foreign language education. From past to present, on discussions in which many educators take part, a clear answer providing solution to the question "We know, but why can't we speak English?" is not obtained. It is a stubborn fact that, despite students receive English language education starting from 4th grade of elementary school until last year of high school and even at the university, they can't communicate in English even at beginner level. These discussions were unable to go beyond developing superficial approaches to solution of the problem like showing existing system, Ministry of National Education, instructor of the lesson, and books, material of the lesson as an excuse.

The main purpose of this study is presenting general opinions and recommendations about what can be done about the problem stated above by approaching with regard to education program and its functionality. At Foreign Language Schools, students receive about 800 hours of English language education throughout a season. But at the end of the program, 70% of students remain at the beginner level. For example, at results of (level determination) placement tests held for students enrolling to Foreign Language Schools within the scope of optional or obligatory preparatory program, it is seen that students enrolled at the level of beginner reach 95% and the learning level of the student is seen to be too low or none at all at the final exams held at the year-ends.

In education programs shaped from past to present, among the other language teaching methods, communicative method is emphasized to be the most important method taking the lead in seeing and teaching foreign language as a means of communication. Course instructors should know the purpose and processes of this program very well, they should arrange their instruction and their assessments and evaluations according to this method, and it must be realized that none of the currently followed programs prepare the students for real life and furthermore the fact that current condition is degraded to a level where only goal for the students is passing the courses regarding language teaching must be noticed.

Within the scope of this study, a general analysis of education programs at Foreign Language Schools will be made by means of face-to-face interview method and outputs will be observed with data analysis.

Keywords: language schools education programs methods

STATUS OF THE PEOPLE'S HOUSES IN THE CONTEX OF EDUCATIONAL POLICIES DURING ONE PARTY REGIME IN TURKEY

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The proclamation of the Republic in Turkey has brought an institutional transformation which referred to the reconstruction of communal living at the same time. It was thought that the continuity of this newly reconstructed regime depended on the establishment of a strong bond between the ideological basis of the republic and the public.

Education has become one of the main powers to constitute an ideological partnership between the public and the cadre who established the republic. Within this context, the institutional communities which reinforced the government and its ideology were reconstructed for the mass legitimacy of the new established institutional structure and regime of the government. During this period, People's Houses which was accordant with the government and its reforms and the tenets of the republic, has become prominent as an educational association for the public.

In this study, the role of the People's Houses for the massification of the republic ideology through the educational activities conducted during the republic period and the function of the educational policy of the government were problematized. Accordingly, first of all the aim of the republican government about the social transformation was considered; secondly, the structure of the People's Houses and its common ideological bond with the government were examined through primary sources. In this study, it was supported through these evaluations that the People's Houses as an educational institution had a determiner and effective role to provide the social transformation of the public and this role has arisen through the educational policy of the government.

Keywords: Education Policies, People's Houses, Kemalism, Official Ideology

STRESS AND BURNOUT IN SPECIAL EDUCATION TEACHERS

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ABSTRACT

Background: Duties that teachers are required to perform in the current social context require personal skills which cannot be limited to knowledge accumulation. Teachers related to special education are subject to such pressure, demands and psychological overload that it can result in serious cases of stress and burnout. **Objectives:** assessing stress and burnout in special education teachers and find out to what extent socio-demographic and psychosocial variables have a significant effect on those levels. **Method:** Study of quantitative, cross-cutting and descriptive-correlational nature. It is a non-probability sampling based on convenience, composed of 90 teachers, linked to special education in Portugal. The research protocol includes questions of socio-demographic, professional and health characterization, as well as two scales: one which assesses stress and burnout levels (CPB-R) and another which assesses self-efficacy (SES). Data collection took place between January and June 2014, and statistical treatment of data was based on SPSS software 19.0. **Outcomes**: The sample is mainly composed of females, married, holding a bachelor's degree and with a mean age of 46 years old. Stress affects 80% of teachers, who feel lack of recognition for their work (64.4%) and professional fulfilment (55.6%). Although overall burnout (35.6%) and emotional exhaustion (48.9%) were identified, they strike a lower number of teachers. Stress and burnout levels are higher in older and divorced teachers who teach students in lower secondary education, with a weekly working time of 22/25 hours and perception of low efficacy.

Evidence showed that teacher's stress and burnout is variable and multidimensional. Nonetheless, it affects a significant number of special education teachers, which invites us to implement intervention programs on this professional group.

Keywords: Teachers, Special Education, Stress, Burnout, self-efficacy.

INTRODUCTION

Education in Portugal has been under constant debate, and there is presently broad consensus on the need of improvement of its quality. Nowadays new paths are opening up, new strategies are required, as well as new educational approaches, substantially different from those which guided the intervention of the teacher in times past. Teaching staff is composed of highly heterogeneous elements, with varied education, which are faced with quick changes in a context that does not meet

their demands, cultural background and conceptions. School population is also increasingly heterogeneous, including students from all kinds of social, cultural and economic backgrounds, resulting in a variety of interests, motivations, abilities and skills. Teachers are the major support who structure the educational path and are aware of complex issues and difficulties they must handle. The new duties of teachers in the current social and professional context require many personal skills which cannot be limited to knowledge accumulation. When performing their role, teachers are subject to the pressure of several psychosocial factors, which cause stress and burnout.

Stress induced by professional activities is known as occupational stress, being the result of the intense pace of work and high level of focus required for the performance of daily tasks. Therefore, we can state that occupational stress reflects the existing mismatch between individuals and the environment. In the case of teachers, especially those related to special education, the occupational environment and skill requirements arising from work are mediated by the perception that these requirements represent a threat to their self-esteem and well-being, causing negative responses and feelings, usually accompanied by physiological and even biochemical or pathogenic changes.

Burnout consists in the mixture of emotional exhaustion, depersonalization and reduced personal accomplishment. Emotional exhaustion involves assuming that burnout is mainly developed in workers whose duties require high levels of interpersonal involvement. As for the sense of depersonalization, it corresponds to a reaction to stress, expressed in a variety of attitudes marked by weak or non-existent involvement in the problems they have to address, handling them as objects instead of as human beings (Kuçuksuleymanoglu, 2011). Reduced personal accomplishment is the sense of performing poorly at work, despite efforts made to reverse this situation, which manifests itself in stress, depression and sense of contempt.

Studies conducted by Pyalto, Pietarinen, and Salmela-Acro (2011) show that, although most teachers find their work a professionally gratifying activity, they also acknowledge that they form a group with high risk of burnout, when compared with other professionals from the academic sphere. Due to continual changes, teachers have increasingly less time to perform teaching tasks, thus reducing opportunities to carry out creative activities. Therefore, as Sampaio (2009) mentions, there is a widening gap between the execution (activities performed by teachers) and planning of guidelines which direct their work, alongside a high level of complexity which marks the outcomes of those tasks. Taking into account the varied duties, assignments and realities, we draw attention to: the type of institution (public or private), employment status (full-time or shift work), types of training (pedagogical or technical), training level (graduate, postgraduate), student's environment (age group, social class, education level, economic power, etc.)

Although extensive research was carried out on teacher's burnout, aimed at gaining a deeper understanding of the levels, dimensions and factors which contribute to this syndrome, we still know very little about the way in which burnout develops itself. Understanding the work-related strain of this group is paramount, since burnout in teachers (particularly those related to special education) has a significant impact not only on motivation, health, work and satisfaction but also on the behaviour and learning of students themselves. Associated to dissatisfaction with work, burnout also has negative affective and work-related implications (such as depression and poor occupational performance), not only for teachers but also for their families, students and schools.

There is widespread consensus that teachers working with students with special educational needs are under higher levels of conflict and tension. A study conducted by Cecil, Martin, Christopher, and William, (2010) cited by Nauege, (2011), showed that most Special Education teachers abandon this field, accepting positions in other educational domains or retiring. Reasons indicated for this abandonment relate to the fact that teachers feel unappreciated, overwhelmed by student's needs, excess of responsibilities and overall sense of reduced power. A mixture of unpleasant working

1. Problem Statement
The few studies carried out on stress and burnout in special education teachers show that these constructs may result from the influence of several factors. Therefore, it is essential to assess the levels of stress and burnout in these teachers and find out to what extent those levels are influenced by socio-demographic and psychosocial factors.

2. Research Questions
Research questions on which this survey was based are: What levels of stress and burnout do special education teachers have?; What kind of factors interfere with these levels?.

3. Purpose of the Study:
The study is aimed at assessing stress and burnout in special education teachers and find out to what extent socio-demographic and psychosocial variables have a significant effect on those levels.

RESEARCH METHODS
This is a non-experimental, descriptive and correlational study which used quantitative methods. The (non-probability and convenience) sample is composed of 90 special education teachers located in the centre of Portugal. Data were collected between January and June 2014. The data collection tool used includes a questionnaire with questions for socio-demographic, professional and health characterization, a scale of assessment of levels of stress and burnout in teachers of CPB-R (Moreno-Jiménez, B., Hernández, E. G. & Gutiérrez, J. L. G, 2000, translated by Patrão & Santos Rita, 2010) and the scale of assessment of self-efficacy SES translated for Portuguese population by Pais-Ribeiro (1995).
All ethical principles inherent to scientific studies were followed and obeyed to.

FINDINGS
Participants in the study are 90, in which 66 are females and 24 are males. The mean age of the total sample is 46.44 years, a standard deviation of 7.86 and a coefficient of variation of 16.92%, indicating the existence of a moderate dispersion around the mean. The mean age of females (44.73) is slightly lower than that of males (51.17) see table 1.

Table 1 – Descriptive statistics on teacher's age and gender

	N	Min	Max	M	Sd	Sk/Error	K/Error	CV (%)
Male	24	38	60	51.17	7.16	-0.83	-1.22	13.99
Female	66	30	59	44.73	7.43	-0.36	-1.34	16.61
Total	*90*	*30*	*60*	*46.44*	*7.86*	*-0.50*	*-1.60*	*16.92*

We also observed that most (66.7%) teachers are married, hold a bachelor's degree (82.2%) and master's degree (11.1%), and only 24.4% have specialized training in special education. The mean time of teaching service corresponds to 22 years for 65.9% of teachers and most (97.8%) carry out their professional activity in public schools. A mean number of teachers have 1 to 4 students with special educational needs and teach an average of 22 hours per week.

As for health, 11.1% of participants *took sick leave* in the previous year and 6.7% (all females) suffer from a chronic disease.

The outcomes obtained by means of the implementation of the CPB-R, which assesses stress and burnout levels, in this group of participants, show mainly the following: 80% of teachers are affected by *role stress*, i.e. stress arising from the duties related to their job; 60% do not feel

professionally fulfilled, which reflects feelings of incompetence and reduced productivity at work, as well as dissatisfaction on a personal domain; 55.6% reveal *professional concerns* which manifest themselves during work, particularly lack of safety and continuity in their own job, among other concerns; 64.4% express a sense of *lack of recognition* in terms of performance. Findings also show that 35.6% of respondents suffer from burnout; 48.9% are under *emotional exhaustion* and 2.2% feel *depersonalization*; 43.8% complain about *supervision,* assessing in a less positive manner the type of direction and 46.7% mention the lack of *organizational conditions*, mainly in terms of available materials and resources.

As for self-efficacy, we observed that 33.3% of teachers have a high self-efficacy, 28.9% a moderate one and 37.8% a low self-efficacy, where women have the highest values (i.e. more positive self-efficacy).

The outcomes of the inferential analysis show that, regarding gender, males are the ones that have higher levels of role stress (49.58), greater emotional exhaustion (47.25) and higher depersonalization (47.0), whereas females have higher rates of overall burnout (46.8) and lack of professional fulfilment (46.68). Nonetheless, the statistical differences are insignificant (p>0.05). The comparison between teacher's age and burnout shows that the highest average stress levels (1.93) correspond to individuals over 51 years old and that statistical differences are very significant (p=0.002). As for burnout, there is an extremely significant statistical difference (p=0.000), where teachers aged between 41 and 50 have the higher mean values. Taking into account marital status, we observed that divorced individuals are those with the highest levels of overall burnout (64.21), when compared with married and single ones, with relevant differences (p=0.010) Regarding role stress, there are no significant differences among groups (p>0.05). The analysis of the correlation between the period of service of teachers and stress and burnout reveals that those with service times between 18 and 26 years have higher means (1.92; 1.53) in both domains, and that statistical differences are significant (p=0.000), when compared with those with 7-17 years and more than 27 years of service. We also observed that teachers who give lessons to students in the lower secondary education have a higher role stress (57.00) and burnout (59.90) (p<0.05). Similarly, teachers who experienced negative events in the last six months are more stressed (59.50) and burned out (63.88) than those who did not express them with significant differences (p=0.018; p=0.002). Self-efficacy is significantly associated to stress (p=0.001) and burnout (p=0.000), and participants with a sense of poor efficacy are those who are more stressed (54.50) and burned out (55.97). Likewise, teachers with a weekly schedule of 25 hours are more stressed (58.30) than those who work less hours. Nonetheless, in terms of overall burnout, teachers who work 22 hours/week are those with higher levels (57.40) with significant differences (p<0.05).

Conversely, it was found that gender, academic qualifications, specialization courses, professional bond and number of students with special educational needs did not have an impact on stress and burnout of these teachers.

CONCLUSIONS

The study of stress and burnout of these teachers must be regarded as an individual, specific and variable experience in working contexts. Although the multiple notions of burnout found, there are, as we have seen, several common elements in all of them: the predominance of symptoms related to emotional exhaustion, fatigue, excess of work and/or depression; focus on behavioural and mental symptoms, beyond physical symptoms; the connection of these symptoms with work and the conditions under which this work is performed; varied symptomatic manifestations, with some implications on health and absenteeism; feeling of reduced efficacy and performance at work, due to work overload, the course of service time, and negative attitudes and behaviours. Stress is indeed considered as one of the indicators of malaise among teachers, because it was observed in Portugal that one out of three teachers feel that their job is stressful and one out of six feel emotionally exhausted. These data are strengthened by the outcome of our research. In spite of significant

progress observed, we believe that studies and scientific research on stress and burnout in teachers related to special education inland lack a benchmark enabling overall assessment of theoretical grounds of philosophical, sociological, biological and psychological nature – to sum up, life in all its domains.

Therefore, based on the goals initially set in this research process, and considering them as the guiding principles behind this research, we drew the following conclusions: the socio-economic profile of our study's sample is mainly composed of females with a mean age of 46.44 years, married and with an average of two children; the professional profile is marked by a predominance of bachelor degree holders, without specialization, with a service time ranging between 7 and 26 years, most of them teaching in public schools. These teachers teach students in primary education and lower secondary education, support an average of 3 to 4 students with SEM and work for 22/25 hours per week; the health profile shows a healthy standard. Nonetheless, 11.1% of participants took sick leave in the previous year and 6.7% suffer from a chronic disease.

Professional overload found is marked by a high number of teachers under role stress, feeling lack of recognition and fulfilment, as well as with many work-related concerns. Furthermore, assessment of supervision, organizational conditions, emotional exhaustion, overall burnout and depersonalization, although mentioned, are areas with slightly lower levels. Self-perception of teachers on their overall efficacy varies between low and moderate in the vast majority of cases, with positive focus on efficacy in the face of obstacles. Correlations established among variables confirm that stress and burnout of participants in the study is more marked: in older individuals, divorced, who have worked during 18 to 26 years, teaching to students in the lower secondary education, with a weekly schedule of 22/25 hours, who experienced negative events recently and with a perception of poor efficacy. Conversely, it was found that gender, academic qualifications, specialization courses, professional status (bond) and number of students with special educational needs did not influence stress and burnout of these teachers.

ACKNOWLEDGEMENTS

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STUDENT DIVERSITY, PEER INSTRUCTION AND CLASSROOM RESPONSE SYSTEMS – SOME LESSONS

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ABSTRACT

The diversity of undergraduate students within a given lecture is on the increase – both in terms of their personal traits and their performance. The latter development presents a challenge to lecturers, who may have difficulty adapting their teaching methodology because the students' actual performance often materialises only at the end of the term.

Based on practical experience, this paper shows how classroom response systems, using so-called 'clickers', can be employed to address this challenge in several ways. A brief test of the material already taught in the first few lectures can provide the lecturer with a rough impression of the performance level in the class right at the start of the term. Yet, more interesting information is to be obtained from a simultaneous survey of potentially performance-related characteristics of the students. Simple statistical analysis will then reveal whether and, if so, which characteristics actually drive student performance. In the best case, the insights thus gained can be used to adapt teaching styles. The paper further argues that the continuous use of clickers in conjunction with the method of peer instruction can appreciably improve learning results without consuming too much lecture time.

Keywords: student diversity, peer instruction

INTRODUCTION

Classroom response devices, so-called clickers (see, e.g., Kundisch et al. 2013), are experiencing ever wider use and have been associated with a number of benefits in teaching (Kay/LeSage 2009, Caldwell 2007, Simpson/Oliver 2007). For example, clickers enable a lecturer to conduct single or multiple choice tests, whose questions and corresponding answer choices are shown to all students. The students use the clickers to select and to transmit their choices. All responses are recorded and – later on – analysed. Based on the example of a practical application, this paper shows how such analysis can shed light on student diversity, performance, and the relationship between these two phenomena. In doing so, the paper will thus demonstrate a further benefit of the use of clickers, which has so far received little attention.

This agenda is to be seen against the background that the diversity of student bodies is increasing – certainly in Germany (Willich et al. 2011, DSW 2014), but presumably also in many other countries. From this development springs the concern that in large classes it may become increasingly difficult to pursue a teaching style that does justice to most if not all students (Krüger-Basener et al. 2013, Wielepp 2013). This is because we may assume that certain characteristics of the students correlate with their performance and thus, increasing diversity in terms of those characteristics may be expected to entail an increasing divergence of performance.

Lecturers who encounter a new class would well like to have some reliable data on the composition of the student body so as to be able to adapt their teaching styles. Relevant information might for example include the level of performance, prior education (e.g. A-levels or equivalent), or language proficiency. Such information will typically not be available, or at best in unsatisfactory quality, such as might be gained from simply eyeballing the group of students. Information on student performance is altogether lacking, and any attempt to predict performance based on visible student characteristics is prone to error and prejudice. The desired information will usually only materialise during the term (from oral participation) or even at the end of it (from exams) – by which time it is too late to make any use of it.

For these reasons, the authors wish to propose the following procedure: Right at the start of a term in which the lecturer takes on a new class and as soon as sufficient material has been taught for a short test, such a test is

conducted using clickers. The test of the actual teaching contents is preceded by a set of questions designed to retrieve information on student characteristics which the lecturer suspects may correlate with performance. Within hours of the test, the lecturer will thus be able to generate the following insights about the class:

1) **DESCRIPTION OF THE STUDENT BODY.** How diverse is the class with respect to the chosen sociodemographic traits? Simple descriptive statistics can already be quite informative, e.g. if the lecturer learns that only 10% of students in a quantitative methods course specialised in mathematics in their prior education.
2) **APPAISING THE LEVEL OF PERFORMANCE.** Primary interest is on the number of lecture-related questions correctly answered – both in terms of the average and the level of dispersion. A high average and low dispersion (the best case) will suggest a different teaching style than a low average and high dispersion (worst case). A certain level of teaching experience in the lecture course in question is required, though, to correctly assess the results.
3) **RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC FACTORS AND PERFORMANCE.** It might be of interest, for example, to learn (from '1' above) that for two-thirds of the class, the language of instruction is not their native language. This could be interpreted as a problem. Statistical analysis may show, however, that performance is actually independent of language skills.

A lecturer who possesses valuable information in these three fields already at the start of the term will be able to adapt her teaching accordingly and, thus, to achieve better learning outcomes. Using the example of trials conducted in the class *Einführung Personal* (Introduction to Human Resource Management) at the University of Hamburg during the winter term 2013/2014, we shall demonstrate how clickers can be employed to collect such information.

Besides providing some exemplary answers in the three areas of interest, this article will argue that the collection of the underlying information is practical and suitable for widespread application in the sense that it requires only a small amount of lecture time: A few minutes of a single lecture suffice to retrieve meaningful data. Finally, the trials also prove useful as a test of the method of peer instruction (Mazur 2013). We argue that clickers can easily and profitably be used to conduct a brief review test of the previously taught material at the beginning of each lecture.

DIVERSITY

Four sociodemographic characteristics were selected for the present study at the University of Hamburg. In practical terms, prior to answering the set of questions that relate to the lecture content, the students were presented with four questions concerning their personal traits, and they were asked to transmit the answers (in terms of categories, e.g. age bracket) via the clickers. In other contexts, depending on the lecturer's aims, other characteristics than the ones described here – and different numbers of them – will be appropriate. In the following, we will elaborate on the backgrounds of these characteristics and present some simple descriptive statistics of their manifestation within the group of students examined.

The first characteristic concerns the students' gender, which, however, is only of subordinate interest to the present investigation as in this specific context there is in fact little reason to suspect gender to correlate with the students' performance. The case may, by contrast, be quite different in other contexts. Consider, for example, a study course that is strongly dominated by students of one sex (e.g. naval engineering versus midwifery). One might expect that the members of the minority have a particular motivation to pursue the course and that their performance therefore exceeds that of the majority. It might be worthwhile for the lecturer to anticipate such a potential effect.

While the students' sex is probably the characteristic that is most easily determined visually, its later association with performance is only possible if the data is recorded electronically, i.e. via clickers. In the class examined, 102 out of 121 students responded to all four sociodemographic questions. The group comprised 46 females and 56 males.

Next, the student's age was recorded, resulting in the frequency distribution displayed in Figure 1. Information on this characteristic, too, would be obtainable from a mere visual inspection of the classroom. Analogously, the added value of data collection via clickers also lies in the subsequent statistical association between age and performance. Once again, the course examined provides no reason to suspect any age effect. Yet imagine, for example, teaching the English language at an Eastern European university, where the language was rarely taught in high schools before the early 1990s. In such a situation, mature students may have significantly lower prior language skills and may thus be disadvantaged in their studies.
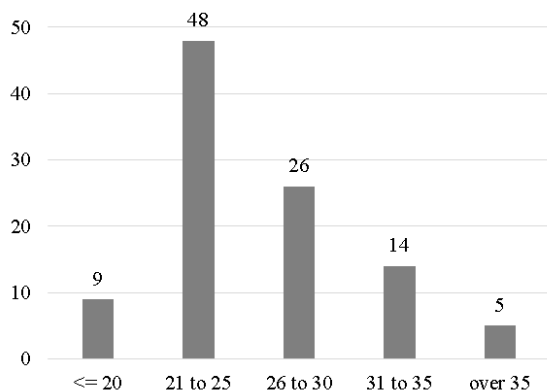
Figure 1. Age

The third characteristic concerns the manner in which the students qualified for entrance to the university. At least in Germany, universities and courses of studies are increasingly opening up to applicants who have not passed the *Abitur* (high school leaving exam equivalent to A-levels) (KMK 2014). It is not far-fetched to suspect an association between the students' prior education and their performance in class (Erdel 2010, Jirjahn 2007). A lecturer may wish to know whether the class she faces for the first time comprises 90% or only 50% students with A-levels. The descriptive statistics for the class examined are shown in Figure 2. In this case, three entrance options besides *Abitur* were distinguished: "*Fachabitur*" (a specialised form of *Abitur* that can be obtained with one year less of education) in conjunction with an oral entrance exam; written and oral "entrance exam"; and "other" (e.g. master craftsmen).
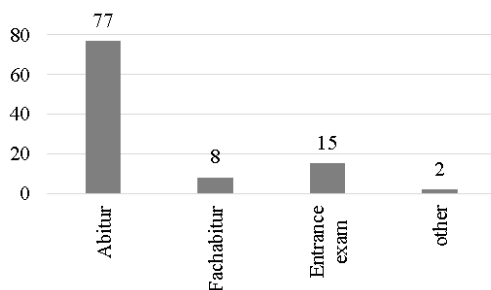
Figure 2. University entrance qualification

Finally, the students were asked about their migratory background. Plausibly, students who were not, or whose parents were not or only partially socialised in the country where the instruction takes place may have greater difficulty getting their bearings in the specific organisational, social and educational environment they find themselves in. A lecturer who ascertains a relatively large share of non-native students in the class and who, in the course of the analysis described in the next section, also learns that such a background can impede the students' academic success, might pay special attention to such students' needs, for example by providing them with additional information to help them navigate their studies. Figure 3 shows the frequency distribution as pertaining to the student body examined, distinguishing between students without any migratory background ("no MB"), students with German citizenship and "1st / 2nd generation migratory background", respectively, and students with a "foreign citizenship".
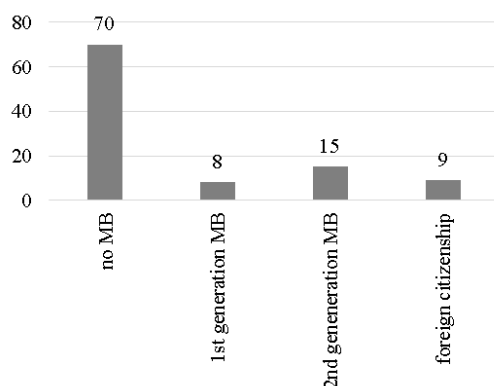
Figure 3. Migratory background (MB)

In other contexts, the lecturer's information needs will suggest the retrieval of different characteristics, including for example:

- prior education, e.g. certain areas of specialisation in high school
- prior professional experience, e.g. having worked as a nurse before studying medicine
- A query of the students' language skills (be it by way of self-assessment of through a short language test using clickers) can help the lecturer decide whether to incorporate foreign-language literature in the course.

PERFORMANCE

In our application at the University of Hamburg, the four sociodemographic questions were followed by a set of eight questions on contents already taught in the introductory HRM course. Each question was accompanied by four to five answer choices, of which the students were to select one using their clickers. The questions and answers are available on request. The ensuing frequency distribution of the number of correct responses is depicted in Figure 4. We do not differentiate between wrong answers and cases in which the students failed to provide any response. The average value is 4.14; the curve is reminiscent of a normal distribution. Measures of dispersion are not informative in this case since we lack a point of comparison.
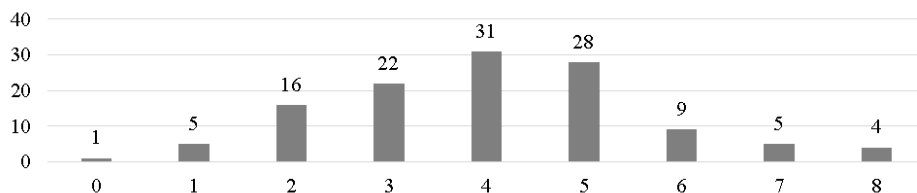
Figure 4. Number of correct responses

In a next step, we relate the students' sociodemographic characteristics to their performance. For this purpose, the number of correct responses becomes the dependent variable in a regression of performance on the four sociodemographic factors. The regression covers the 102 students who responded to all four sociodemographic questions. The answers to each of these four questions forms a categorical variable (age classes, male/female, etc.), which cannot directly be included in a regression. Instead – with the exception of a base (or omitted) category for each variable -, each category is assigned a newly-created dummy variable which can only assume the values of 1 (category applies) and 0 (does not apply). Thus, splitting the four categorical variables into the necessary number of

dummy variables, we obtain a total of 11. Table 1 shows the assignment of the different categories of each of the four characteristics to new dummy variables, where "---" denotes the omitted categories.

Personal traits	Categories	Dummies Model I	Dummies Model II
Gender	male	---	---
	female	female	female
Age	up to 20 years	---	young
	21 to 25 years	25	
	26 to 30 years	30	---
	31 to 35 years	35	
	over 35 years	35+	
University entrance qualification	Abitur	---	Abitur
	Fachabitur	FA	---
	Entrance exam	EE	
	other	other	
Migratory background (MB)	no MB	---	no MB
	MB 1st generation	MB1	---
	MB 2nd generation	MB2	
	foreign citizenship	other	

Table 1.
Transforming the sociodemographic characteristics into dummy variables

In 'Model I' the categories were transformed to dummies one-for-one. To estimate the model, we purposely relied on the simplest OLS procedure, which can be executed in Microsoft Excel, so as not to create any artificial obstacles to imitation by lecturers with only a limited knowledge of statistics. The results are not reproduced here – for the sole reason that no statistically significant effect on performance was found for any of the characteristics or its categories.

In 'Model II', the dummy variables were assigned in such a way that each characteristic now only consists of two categories, e.g. age up to 25 years ("young" = 1) or above ("young" = 0). This assignment was done in light of the regression coefficients obtained in model 1 in such a fashion that the probability of finding significant results was maximised. The estimation results of model II, too, are quickly summarised: The only statistically significant outcome suggest that students without any migratory background marginally outperform those with foreign roots ($z = 2.259$).

At this point, readers may raise the objection that our failure to find performance effects (with one exception) is not due to the actual lack of such effects but rather to the unsophisticated methodology employed, be it with respect to the quality of the sample, the measurement of performance or the estimation strategy. While such an objection could not be altogether rejected, it would, however, miss the point of the present exercise. The point is to provide lecturers with a means to quickly and easily discover any potential strong relationships between the students' characteristics and their performance so that, in the best case, lecturers may be able to respond to such relationships by adopting their teaching styles. Performance effects that are so weak that they can only be detected with sophisticated methods – as may be the case in the setting described here – are therefore hardly of interest.

Furthermore, it must be noted that this (in a statistical sense) negative result of insignificant performance effects is indeed rather good news for the lecturer, as well as for the university: The observable, pronounced (and arguably increasing) diversity of students does not appear to systematically entail a divergence of performance levels.

According to our data at least, the concern that increasing diversity may pose a challenge to teaching is therefore unwarranted.

PEER INSTRUCTION

After the students had answered all four sociodemographic questions, and each time after they had individually answered one of the eight lecture-related questions, they were asked to discuss the same question once again with their neighbour in the lecture theatre. The teams of two were given 90 seconds to exchange arguments regarding the correct response before transmitting their answers via the clickers again.

This additional aspect of our investigation is based on, and at the same time provides an opportunity to appraise, the method of peer instruction. This method promises to activate large numbers of students and to enable interactive learning by encouraging the students to learn autonomously and to correct each other's mistakes (Mazur 2013). A number of variations of peer instruction have been developed, e.g. with respect to the manner in which the teaching contents are conveyed (for self-study versus lectures, see Schmucker 2015). In the present case, the material was imparted by means of traditional lectures.

This set-up reveals that for all eight questions, the relative frequency of the correct response after the team discussion exceeded that of the prior individual responses (see Figure 5).
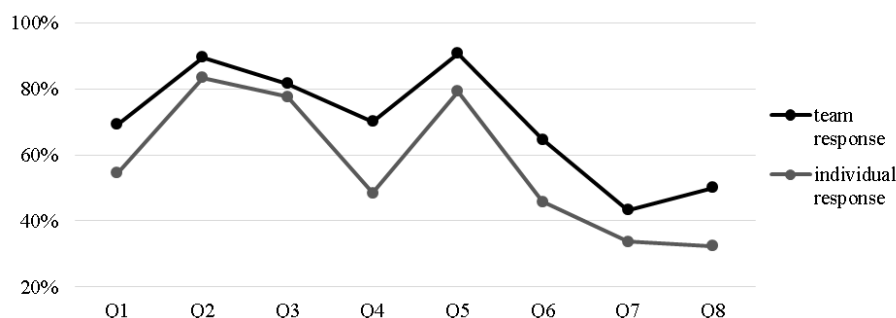
Figure 5. Relative frequencies of the correct response

In aggregate across all eight questions, the individual responses have a 'success rate' of selecting the correct answer of 57%, while the rate is 68% for the team responses. The difference is statistically significant (t = 3.33).

It thus appears that in the course of the discussion, better opinions tend to prevail, implying that successful learning must have taken place relative to the individual response round. After all, many students 'recognise' their individual mistakes and henceforth 'know' the correct response. Yet we cannot quite exclude the possibility that the higher success rate is merely due to the additional available time: a total of 150 seconds compared to only 60 seconds for the individual responses. The results presented in the next section, however, do not suggest that prolonging the available time will yield significantly better responses. A full answer to this potential objection would require additional research of the kind outlined in the conclusion.

However, the set-up does not permit any statement as to whether the improved team performance indeed owes to the exchange of arguments in the discussion phase or whether perhaps the two team members have other means of quickly reaching a team opinion without even addressing the questions and answer choices supplied. Regarding the latter possibility, imagine for example that the team members knew each other's performance (i.e. the probability of knowing the correct response) before they even met so that, upon meeting, they simply embrace the opinion of the supposedly superior team member. Or: Rather than exchanging arguments, the team members merely communicate the degree to which they are certain about the correct response, and they simply adopt the opinion of whoever feels more certain as the team response.

Considering the improved learning outcomes – whatever may cause them – and the small amount of time consumed by the procedure (discussed in more detail in the next section), we would like to suggest that a short, clicker-based test of the material taught previously should be conducted at the start of each lecture. The set-up may be limited to the team phase described above. In conjunction with such a use of clickers and as a supplement to lectures, the method of self-study, which forms part of the original concept of peer instruction, could also be applied more widely.

RESPONSE TIMES

The use of clickers has repeatedly been criticised for its consumption of lecture time (Kay/LeSage 2009, Freeman et al. 2007, Caldwell 2007). This investigation suggests, however, that the provision of relatively brief response times is quite sufficient to achieve meaningful results.

Figure 6 shows the distribution of a total of 856 responses to the eight questions over intervals of ten seconds. Most responses were transmitted after 10 to 20 seconds. The increased frequency in the final interval may be explained as follows: Those students who do not know the correct response but who also hesitate to simply guess will tend to use up all the available time (the students were shown the countdown of time) to search their memories for any clues that might permit an informed response after all. The number of responses that were given in the first ten seconds is quite remarkable. Indeed, 76 responses were even transmitted within the first five seconds. Such extremely short response times are attributable to the fact that when introducing some of the questions, the lecturer permitted a few second to elapse between showing the question with its answer choices and starting the countdown.
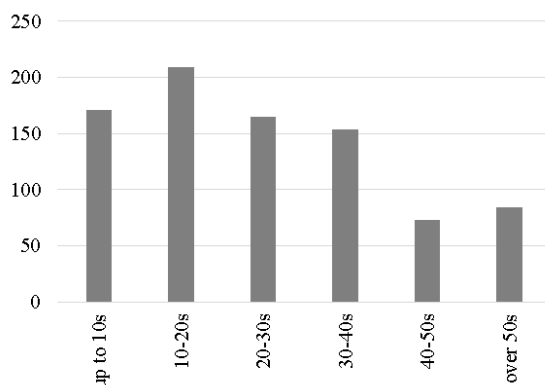
Figure 6. Histogram of response times

Of greater interest though for the purpose of this study is the relationship between the actual response times and the quality of the responses. Comparing the average response time of all correct answers (22.7 seconds) with that of all incorrect answers (28.7 seconds), we find the difference to be highly significant (t = 5.56).

This impression is confirmed by Figure 7, which shows the percentage of correct answers in each time interval. The probability of a correct response falls persistently as students take longer to transmit their answers. Once again, the final interval is an exception – and the reason for this could be the same as above: Towards the end of the available time, the students who respond are primarily those who do not know the correct answer but who have at least used the 60 seconds to exclude some choices with the help of what little knowledge they have.
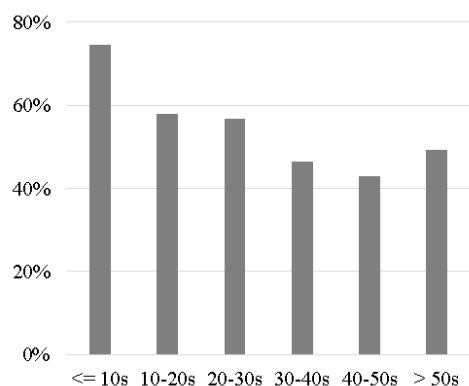
Figure 7. Percentages of correct answers

To support the visual impression of Figure 7 with a statistical test, we ran a probit regression in which a transformation of the (binary) quality of all submitted responses forms the dependent variable. The independent variables consist of the actual response times, their squared values, and seven dummy variables for the lecture-related questions. The detailed results are available upon request and are thus not reproduced here, yet the upshot is quickly summarised: Obtaining highly significant regression coefficients, we find that the likelihood of a correct response falls as response time increases. However, this effect weakens over time and is in fact even reversed for response times in excess of 40 seconds, at which point the probability of a correct response begins to increase again with every additional second that the students take to respond. The regression results thus almost exactly mirror our visual impression.

Yet what does this mean for lecturers who wish to quickly and easily appraise their class? The results suggest that even fairly short periods of available response time suffice for an accurate evaluation of the students' performance. Depending on the length and difficulty of the questions and their associated response options, those who know the correct answer will take no longer than 10 to 20 seconds to read and solve the task. Beyond this time horizon, we likely see an increasing amount of guesswork, which however carries little information value for the lecturer. It ought to be quite possible to conduct a test comprising eight challenging single-choice questions within no more than 15 minutes – including, if desired, a preceding set of sociodemographic questions and the subsequent feedback of the correct responses to the students. Preparing such a test should consume no more than half an hour. With a minimum level of experience, the statistical analysis should take less than two hours. Note that such analysis is called for only once, at the beginning of each term.

CONCLUSION
This article has aimed to provide lecturers with a simple tool to help them appraise a new group of students already at the start of the term and, ideally, to adapt their teaching accordingly. We have shown how clickers, in conjunction with a set of lecture-related questions and a survey of the students' potentially performance-related characteristics, can serve to generate a wealth of valuable information, whose many possible modes of analysis we have only touched upon.

It is not least with respect to our findings regarding the success of peer instruction that the need for further research becomes obvious. While we found that teams outperform individual respondents, it remains unclear whether the improved performance is due to the exchange of arguments or merely to team dynamics, for example in the sense that the opinion of the supposedly more knowledgeable member is unquestioningly adopted for the team response. The authors wish to further pursue this issue in future research by comparing the performance of self-selected and randomly assembled teams.

The influence of response time on performance likewise warrants further analysis. The present study has merely investigated the association between the quality of the answers and the response time actually needed – while the *available* response time remained constant. It would be interesting to see whether – as we have only been able to presume so far – meaningful results could still be obtained if the available time were reduced to, say, 30 seconds. It is also plausible that any team effects will gain importance as the available response time is reduced.

The issues touched upon here thus provide ample scope for future research – the aim always being to achieve, using as little lecture time as possible, the best possible learning outcomes for the students or, depending on the occasion, the best possible insights for the lecturer.

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STUDENT'S PERCEPTION ABOUT ONLINE INTERACTION, ACCESS AND PUBLISHING CONTENT FOR ACADEMIC USE

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ABSTRACT
In this document we show preliminary results of the Students's perception about their level of ICT competencies in public secondary schools in Veracruz, Mexico. It was a quantitative study using a survey applied to 979 students from two schools. Survey was composed of 72 items. Preliminary results indicate a low level of ICT use in the students of secondary schools in the city of Veracruz related with online interactions, access and publishing content for academic use.

Keywords: ICT, secondary schools, teaching-learning, online interaction, ICT skills, digital divide, digital natives.

INTRODUCTION

In recent years, ICT has taken an important role in our society and are used in a multitude of activities. ICT are already part of most sectors: education, robotics, public administration, employment, business, health.

The use of Information Technology and Communication (ICT), leading to our current information society, represents one of the most refreshing proposals for current education systems, through which key project elements around the transformation of various processes in traditional formal education (Galindo, 2011).

The technological advance developed in the last two decades in terms of communication / information, makes clear that social life is changing significantly the degree of also get involved in educational institutions despite the strength of its integrated systems on them (Galindo, 2011).

In this article, we particularly deal with gaps in competencies or skills using ICT, analyzing the factors that explain the skills and characteristics that may determine different levels of ICT competencies.

THEORETICAL FRAMEWORK
ICT and secondary education.

The case of ICT also raises an issue of particular relevance: the so-called digital divide. This term is used when considering the differences between different groups of people, in their knowledge and mastery of new technologies. These differences may be influenced by socioeconomic factors (for example, there is strong contrast between the developed countries and third world), or other issues such as age and gender. Regarding the latter, it may be of interest exposed by Prensky 2001, who speak of the natives and digital immigrants. So, we can say that Information and Communications Technology (ICT) is an educational tool unprecedented (Pantoja, & Huertas, 2010). Never before, the students had received such a volume of information. However, information is not equal to knowledge, so ICT only can help to improve education for students if teachers know how to take advantage. The problem is that ICT are an underutilized resource in teaching and their integration could open the door to a new era of education. ICT has only just come to the classroom, but it point the way to a profound

transformation of the educational model that will involve both students and teachers (Pantoja, & Huertas, 2010). Therefore, an increasing number of countries have accepted the need to introduce compulsory education in a formative dimension that provides young people with the necessary keys to understand the technology.

Factors explaining the gaps in ICT skills.
Digital Divide concept is not only related to ICT access, but also with the ability to use these technologies; ie, skills or abilities that the population need to acquire for the use of ICT and their effective use in different areas such as: entertainment, communication, education, etc. (Matamala, 2015). The gap is not only limited to physical access, but also to how people use ICT. Such gaps, is what has been called gaps second order (Matamala, 2015), so this refers to the proper use of ICT in all areas. Generational changes have shown that not all human beings are able to incorporate the order of the material discourse that build ICT: they are not just teachers, to name a collective considered central to our society who refuse to arrival at use and application of ICT in the classroom or your life. It has been already shown that generational changes do not always get along with technologies, especially if they affect significantly on the processes of socialization and training of human beings (León & Caudillo, 2014). Today in Mexico, the digital divide is made up of about 70% of the total population with large asymmetries depending of ICT penetration in urban and rural areas; whereas in 630 major urban areas 30% of its population has Internet access in rural areas only 6% of its population (5.9 million households) have a computer and 3% are connected to Internet. According to the National Statistical Institute of Mexico (INEGI), these data are due primarily to the lack of financial resources (INEGI, 2013). We can establish that there are gaps in ICT competencies of secondary school students as socioeconomic level, years of computer use, frequency of computer use and level of confidence in the use of computers, coinciding with the factors that have been identified in previous studies about gaps in the use of ICT (Matamala, 2015). Some key elements to promote ICT competencies and also reduce Digital Divide could consider including computers in the early years of teaching and promote students' confidence in using computers (Matamala, 2015).

Digital natives.
The popular concept of "digital natives" came in 2001 when a new media analyst wrote an article titled "Digital Natives, Digital Immigrants". The purpose of this study was to analyze the changes among college students due to influence of technology. Prensky, the author, proposed a distinction between citizens who were born after the digital revolution and those who had done before (Crovi, 2010). His proposal evolved and eventually led to the digital natives identify with those who were born and raised in times of internet (Crovi, 2010). The young generation has been born immersed in the development of new technologies, produced during the last decades of the twentieth century, is the generation of digital natives. Those people is clearly identified by the use of social networks, computer games, Internet, cell phone or instant messaging as an integral part of their lives (León & Caudillo, 2014). In addition, the uses of ICT is altering people in many ways, the mindset of this generation has changed and is different from their elders. By contrast, people who are not born immersed in this environment of new technologies, but they are forced to use them, are called technological immigrants. This is a generation that, we could say they naturally not speak the language of the new technologies (León & Caudillo, 2014). If for these technologies are digital native mother tongue, for the digital immigrant is a foreign language, and hence multiple times prove a certain accent. These differences between the native and digital immigrant pose a challenge from an educational point of view and protector, because often parents and teachers are overwhelmed by smaller in handling new media (Crovi, 2010). So, it means there are huge differences between the current generations, because the teachers who are teaching to the students do not born with these technologies. And the new generation of teachers should learn how to use ICT to teach. In this sense, also the digital native should learn how to study using this technology. Therefore, it is very important to study the situation that we are experiencing in the schools about the process of incorporating ICT in the teaching-learning method. Also is relevant to take in consideration new studies dedicated to understanding the forms and processes to operate in environments characterized by teachers who were forced to adapt to the use of technology with students who were born with it. In this sense, the analysis of ICT competencies in students and teachers was established as a mechanism to help understand and define strategies for improving the quality of education strategies and thereby reduce the digital divide.

METHODOLOGY
The origin of this report came from a research project between two Mexican universities: Technological Institute of Sonora (ITSON) and Veracruzana University (UV) in order to make comparative analysis between the perceptions of students at the secondary level. For this reason was considered secondary schools in Sonora and Veracruz. In Table 1 shows detail information about the sample of 979 students. The quantitative instrument was composed by 178 items. However, in this document we will show the preliminary results of just 72 items of the secondary schools in Veracruz City. In this document we present the results of two dimensions: On line interaction and Access and Publication of Contents. The results were obtained using the statistical program SPSS

21. The analytic strategy used was to show the descriptive statistics of the overall results with respect to the frequencies in selected dimensions

Table 1. Statistic by gender

Name of institution	Gender		Total
	Male	*Female*	
Industrial Technical School # 1 (ITS #1)	264	323	587
Secondary General Miguel Alemán #5	188	204	392
Total	452	527	979

RESULTS
Online interaction

In Figure 1 and Table 2, we show the results about online interaction (OL) dimension. By type of activities used by students regarding the dimension of online interaction in the first item related to use of e-mail and virtual forum to exchange academic views with peers and teachers, the perception of the students about the competencies level, showed 43.1% consider themselves as no competent, meanwhile 56.9% of the students consider themselves as competent students. Referring to the item of use social networks to exchange academic information considered 42.8% students consider themselves as no competent and 57.2% of students consider themselves as competent students. The item using discussion forums to ask questions and research problems, was selected by 49.3% students consider themselves as no competent and 50.7% of students are auto considered as competent students. On the other hand, operating working groups to develop research online, in terms of the range of percentages as in the previous case the results are very similar and that this time the results were more balanced, with 49.1% students consider themselves as no competent and 50.9% of students consider themselves as competent students. Referring to use software for sharing information on the network with peers and teachers, the result obtained was by 43.3% students consider themselves as no competent and 56.7% of students consider themselves as competent students. Regarding using the Chat and online discussion forums to discuss academic papers, the results show 47.3% students consider themselves as no competent and 52.7% of students are auto considered as competent students. In item, use telecommunications for interaction, publishing and collaborating with other students, an incidence of 46.3% students consider themselves as no competent and 53.7% of students consider themselves as competent students. As to online Work collaboratively with other students, the frequency of percentages presents results of 46.6% students consider themselves as no competent and 53.4% of students consider themselves as competent students. In the case of communicate information through digital media as Chat, online forums, among others, the range of percentages exhibits behavior of 40.2% students consider themselves as no competent and 59.8% of students consider themselves as competent students. To connect with students from other parts of the country itself and other countries, showing a full turn to all results, with 64.7% students consider themselves as no competent and 35.3% of students consider themselves as competent students. For the Item about manage platforms for interaction with peers and teachers, 62.2% students consider themselves as no competent and 37.8% of students consider themselves as competent students. In the other hand, about the item using technology platforms where doubts with teachers and classmates are clarified, I got the same incidence of the above two cases showing some degree of non-competition this time represented with 61.5% students consider themselves as no competent and 38.5% of students consider themselves as competent students. About the item of using digital formats to communicate information to various audiences, 56.1% students consider themselves as no competent and 43.9% of students consider themselves as competent students. Use free software to work with teachers and students in learning, was selected by 54.2% students consider themselves as no competent and 45.8% of students consider themselves as competent students. Finally, the item use using social networks to collaborate with students and teachers in sharing videos, comments, Chat, among others, returning results to the frequency on the above results favoring competition among students, with 42.3% students consider themselves as no competent and 57.7% of students consider themselves as competent students.
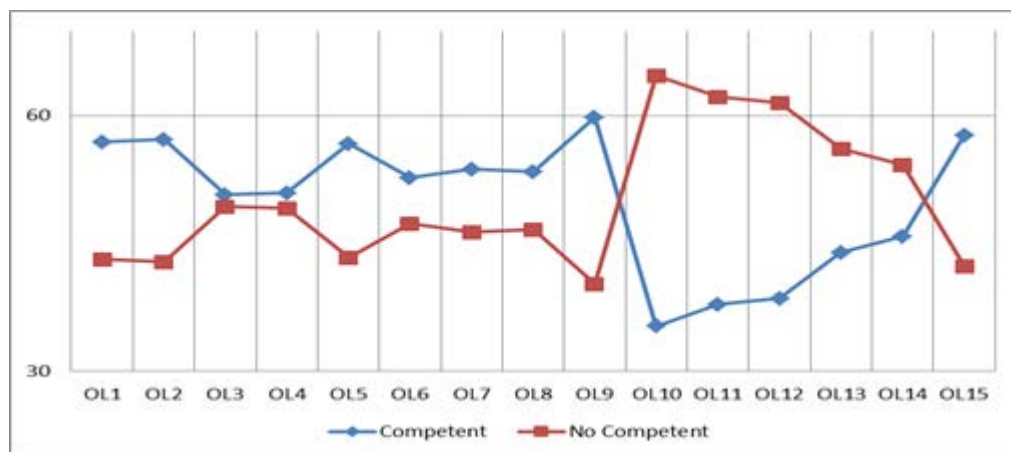
Figure 1. Competencies Online Interaction.

Table 2. Competencies On-Line Interaction.

	No Competent	Competent
OL1 Use of e-mail and virtual forum to exchange academic views with peers and teachers.	43.1%	56.9%
OL2 Use social networks to exchange academic information.	42.8%	57.2%
OL3 Using discussion forums to ask questions and research problems.	49.35	50.7%
OL4 Operating working groups to develop research online.	49.1%	50.9%
OL5 Use software for sharing information on the network with peers and teachers.	43.3%	56.7%
OL6 Using the Chat and online discussion forums to discuss academic papers.	47.3%	52.7%
OL7 Use telecommunications for interaction, publishing and collaborating with other students.	46.3%	53.7%
OL8 Online Work collaboratively with other students.	46.6%	53.4%
OL9 Communicate information through digital media as Chat, online forums, among others.	40.2%	59.8%
OL10 Connect with students from other parts of the country itself and other countries.	64.7%	35.3%
OL11 Manage platforms for interaction with peers and teachers.	62.2%	37.8%
OL12 Using technology platforms where doubts with teachers and classmates.	61.5%	38.5%
OL13 Using digital formats to communicate information to various audiences.	56.1%	43.9%
OL14 Use free software to work with teachers and students in learning.	54.2%	45.8%
OL15 Using social networks to collaborate with students and teachers in sharing videos, comments, Chat, among others.	42.3%	57.7%

4.2 Access and publishing content

In Figure 2 and Table 3, we show the results about access and publishing content (AP) dimension. For the dimension access and publishing content, in the item related to evaluate academic content and electronic bibliography from Internet in the distribution percentages detail the results with 48% students consider themselves as no competent and 52% of students consider themselves as competent students. While using technology platforms for accessing content, presents a similar balance with 47.6% students consider themselves as no competent and 52.4% of students consider themselves as competent students. Continuing with the analysis of results in the item of publish academic content in educational blogs, is represented by a corresponding result to 57.5% students consider themselves as no competent and 42.5% of students consider themselves as competent students. Referring to organize, process and discriminate the information gathered from the Internet to communicate results indicates that there are similarities with respect to the degree of competitiveness and incompetence with only 49.8% students consider themselves as no competent and 50.2% of students consider themselves as competent students. On the other hand the same way as above in item publish academic work through some means: website, slideshare, etc. showing slight similarity 49% students consider themselves as no competent and 51% of students consider themselves as competent students. Use educational platforms to send jobs mark the same features as the previous results only marking contrary no difference favoring competition, shows a result of 50.6% students consider themselves as no competent and 49.4% of students consider themselves as competent students. As for handle virtual communication channels (messaging, forums, Weblogs, Wikis, etc.) to share content denotes a different distribution of results obtained with 45.9% students consider themselves as no competent and 54.1% of students consider themselves as competent students. Finally the next representative for the item web pages operated to upload academic papers value was different from the previous case due to the difference that most percentage was not competent for the option with 53.2% students consider themselves as no competent and 46.8% of students consider themselves as competent students.
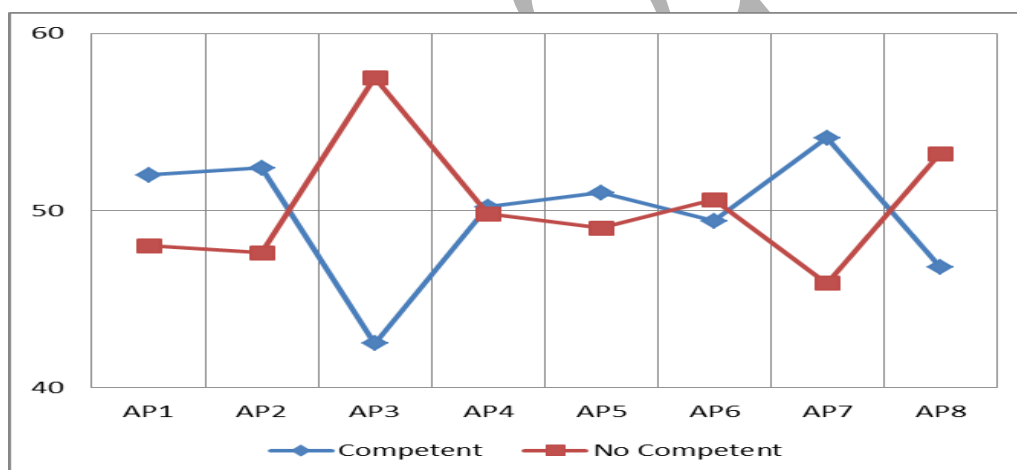
Figure 2. Competencies Access and Publishing Content

Table 3. Competencies Access and Publishing Content

	No Competent	Competent
AP1 Evaluate academic content and electronic bibliography from Internet.	48	52
AP2 Using technology platforms for accessing content.	47.6	52.4
AP3 Publish academic content in educational blogs.	57.5	42.5
AP4 Organize, process and discriminate the information gathered from the Internet to communicate.	49.8	50.2
AP5 Publish academic work through some means: website, slideshare, etc.	49	51
AP6 Use educational platforms to send jobs.	50.6	49.4
AP7 Handle virtual communication channels (messaging, forums, Weblogs, Wikis, etc.) to share content.	45.9	54.1
AP8 Web pages operated to upload academic papers value.	53.2	46.8

CONCLUSIONS

Today ICT is fundamental to improving the quality of teaching tools, but only if students know how to take advantage, have the proper training and have the necessary resources.

Children and adolescents who currently entering educational institutions were born in the digital age; in it the development of ICT has led to the emergence of novel communication styles and cognitive skills, facilitating the creation of new dimensions in the categories of author and reader that have enabled the construction of a new subject of knowledge (Navés, 2015).

There is a low level of ICT competencies in the students of secondary schools in the city of Veracruz. Apparently the students are in the process of developing of these skills. However, they require increase the frequency and forms of ICT use for academic purposes, greater interaction between peers and teachers in the exchange of views and dissolving of doubts, as well as increasing the use of educational platforms, blogs, web pages, etc., for the publication and exchange of educational content.

In this sense, we find that, students still do not have a high level in the use of ICT for education purposes, which implies a deficiency in the cost-benefit ratio for society. Technological change globally has become a paradigm that appears to regulate the growth of countries; the level of ICT use in education represents a great opportunity for individuals to the path of knowledge and its inclusion in the Current society characterized by a self-learning management supported by the application of digital skills.

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STUDENTS' PERCEPTIONS OF THEIR COMPETENCIES IN ICT: THE CASE OF ÓBUDA UNIVERSITY AND J. SELYE UNIVERSITY

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ABSTRACT

The purpose of this study is to identify the levels of ICT Competencies of university students from two universities, one in Hungary and the other in Slovakia. The research type is quantitative and exploratory. The instrument consists of 14 items related to three types of competencies: Basic, Application and Ethical. The sample was of 418 students from the Óbuda University in Budapest, Hungary and 149 students from J. Selye University in Komarno, Slovakia.

The quantitative data analysis was performed with SPSS software using descriptive statistics and Mann-Whitney independent sample U test. The situation of education in Hungary and Slovakia is not so very different although each country has taken different paths in the field. The results referring to Hungarian and Slovakian students' perceptions of their competencies in ICT indicate that they perceive themselves as having high levels of competencies in ICT. These results suggest the need to develop strategies that promote the effective use of technology resources by both students and teachers.

Keywords: Competencies; ICT; Perception; Hungary; Slovakia; University

INTRODUCTION

The purpose of this study is to identify the level of ICT Competencies of university students from Slovakia and Hungary.

The research type is quantitative. The methodological strategy used was the replication of the instruments used by one of the authors in another international research project where perceptions of teachers and students from two Mexican universities (Veracruzana University and Chihuahua University) and one Spanish university (Salamanca University) were compared (García-Valcárcel & Arras, 2011). However, in this paper the results of an exploratory study comprising just one dimension of the instruments that were applied are shown: Students' levels of ICT competencies.

The instrument for measuring students' ICT competency is composed of 14 items. The reliability of the questionnaire obtained by the Cronbach technique was 0.81. The design of the instrument included the Likert scale with four categories: "Not at all, A little, Quite a lot and A lot". For the purposes of this study it is assumed that students having a certain level of competency fit into the categories "Quite a lot" and "A lot" while, the absence or deficiency in competencies is represented by "Not at all" and "A little".

Table 1 contains the types of competencies and their associated items following the analytical proposal of García-Valcárcel and Arras regarding the division into three types:

(1) Basic Competencies;

(2) Application Competencies; and

(3) Ethical Competencies (García-Valcárcel & Arras, 2011).

The sample consisted of 567 students. Of these, 418 students belonged to the Bachelor's at the Óbuda University located in Budapest, Hungary, and 149 students were from the Bachelor's at J. Selye University in Komarno, Slovakia. Inclusion criteria for the sample were: (1) Public universities; (2) Students of careers related to systems; (3) Students close to graduation.

Table 1: Types of competencies

Basic competencies	You use the main informatics and network resources.
	You use the applications in a productive way.
	You apply the digital tools to obtain information from varied sources.
	You make use of models and simulations to explore complex topics.
	You interact and collaborate with your partners, using a variety of digital recourses.
Application Competencies	You communicate in an effective way the information and ideas, using a variety of media and formats.
	You participate in groups that develop project for the production of original works or solve problems.
	You solve problems, and make decisions using the appropriate tools and digital resources.
	You plan and organize the required activities to solve a problem or make a project.
	You create original works as a medium of personal expression.
Ethical Competencies	You select, analyze, and make ethically correct use of the information obtained.
	You make rational, legal and responsible use of information using ICT
	You value ICT as an instrument of permanent learning.
	You value ICT as a medium of collaboration and social communication

ICT COMPETENCIES

The training process of college students focuses on developing a set of competencies in order to acquire their college degrees. In this sense, we can point to at least two large blocks which are common at the international level: generic and specific competencies (Aypay, 2010).

Within the preferred generic competencies that apply in most of the university educational programs on the international level, we find ICT competencies identified by various international education programs (UNESCO, ODM, EPT, DNUA, DEDS).

In this sense, according to Fuentes (2007), we could say that competency is: A set of knowledge, skills, attitudes, and values that is needed to effectively perform an occupation or a productive role. Ina similar way Yañez-Galecio (2005) affirms that competency could be seen as an attribute of a person: specifically competency can be related to his/her success in the performance of a task. In this way failure is seen as the absence or low level of development of one or several competencies associated with a specific activity.

Meanwhile, Tobón (2013) defines competency as the integrated actions performed by a person in order to carry out activities and solve problems, based on certain eligibility criteria, continuous improvement and ethics. So, it can be said that ICT competencies are a group of skills, knowledge and attitudes that are applied to the use of information and communication systems, as well as the devices that the activity involves and, according to NETS for Students (NETS, 2007a, NETS, 2007b), also the knowledge that people should have and be able to learn and transfer, effectively, in order to live productively in a digital world.

Thus, these ICT competencies are being taken into consideration in the educational standards that various countries have developed in the form of profiles, such as NETS (NETS, 2007a, NETS, 2007b) in the United States, the Official certificate in Computing and Internet (B2i) in France, the incorporation of ICTs indicators in the National Curriculum in England, as well the transversal integration of the ICTs in schools, in Belgium (Aypay, 2010).

Also in Hungary and Slovakia national policies have even been working on increasing the development of these ICT competencies in their teachers and students. But the results are quite different as we will discuss later. We could say that Hungary has developed its own standards for developing ICT competency, but Slovakia followed a little bit other way to give more free hand for the teachers.

Hence many international authorities describe key points of the educational development of ICT-literate students. For instance, NETS (NETS, 2007a, NETS, 2007b) includes: the ability to make Web designs, presentations, databases, and the ability to use graphics software, spreadsheets, databases, online applications, e-mail, chat applications and word processors, among others. Moreover, UNESCO (2008) has presented the ICT competency standards for teachers, which combines the requirements for teachers and students in today's world and emphasizes the current importance of ICT for all countries, including the members of the OECD (2013).

Finally it is relevant to say that according to UNESCO, Competencies in ICT can be classified as: (a) digital literacy competencies, (b) application competencies and (c) ethical competencies. So, the core competencies of

digital literacy (a) are related to the use of ICT in classroom presentations and activities, and involve the use of digital tools to obtain information, and the use and development of materials obtained from various online sources. Meanwhile, application competencies (b) are related to the use of skills and knowledge to create and manage complex projects, solve problems in real-world situations, collaborate with others, and make use of information and networks of experts. Finally ethical competencies (c) are related to the ethical, legal and responsible use of ICT (UNESCO, 1997).

INFORMATION TECHNOLOGY EDUCATION IN HUNGARY

IT education is based on a national curriculum in Hungary (Ministry, E. H, 2003). According to the National Basic Curriculum (NBC) of Hungary the use of IT is to be demonstrated in the first four school grades since 2003 (e.g. search on the Internet, painting with computers etc.) and is taught in 1 class weekly. According to the Information Technology curriculum the following subjects are taught from the 5th grade to the 12th grade at the schools of Hungary in 2 classes weekly:

· Word processing
· Spreadsheet calculation
· Presentation
· Algorithm and programming
· Database management

Generally the Microsoft Office packet is taught and it can be seen that teaching Word processing takes 4 years in Hungary (Table 2). Basic algorithms or rather programming appears in Information Technology sooner, but recursion, list and tree data structures are only selectable part of the curriculum. Database management begins in the 9th grade. In grades 11-12 CS is just selectable. At basic level it is taught 2 hours weekly, on a higher level 3 hours weekly and a final exam can be taken.

Table 2: The subject of IT by grades in Hungary.

Subject	Grade							
	5.	6.	7.	8.	9.	10.	11.	12.
Word processing		✔	✔	✔	✔			
Spreadsheet calculation				✔	✔			
Presentation						✔		
Algorithm and programming			✔	✔	✔			
Database management					✔			

INFORMATION TECHNOLOGY EDUCATION IN SLOVAKIA

The education of Informatics from the 2nd grade has been compulsory since the school year of 2008/2009, since the introduction of the school reform but it also appears in the 1st grade as well as in the nursery school curriculum though not as a compulsory subject. It is compulsory to have 1 Informatics lesson a week in the junior section and 0.5 lessons a week in the senior section that can be raised by the schools' own programme. Some schools took the opportunity and increased it to 1 lesson a week. The National Educational Programme does not assign precisely what teachers have to teach in the various grades but announces the school leaving standards to reach at the end of the senior section. So it does not matter if programming is taught in the 6th grade in one school and in the 8th grade in another school; the aim is to reach the school leaving standards. It is part of the educational programme of the school how its students should reach these standards, how many lessons they have a week and at what pace they learn the material; this programme is accepted by the management of the school and its teachers together .

The National Educational Programme divides Informatics into 5 topics (it does not specify the number of lessons):

· Information around us
· Communication with the help of the means of the ICT
· Problem solving, thinking with the help of algorithms
· Basic principles of the operation of the ICT tools
· IS society

These 5 topics are then to be divided into the school leaving standards (Kiss, 2012).

RESULTS OF THE ICT COMPETENCIES LEVELS

The competencies that students have for using technological tools productively and ethically in the search and organization of information, in problem solving and collaborative work, as well as in improving their communication processes, are vital for efficiently responding to the demands that arise in teaching contexts that significantly integrate ICT.

The 14 items that integrate ICT competencies were divided into three main dimensions: Basic Competencies, Application Competencies and Ethical Competencies. Fig. 1, 2 and 3 show that most of the items are in the categories "Quite a lot" (3) and "A lot" (4), which indicates that the majority of the students considered themselves competent in the use of ICT. The levels of ICT competencies in which the students recognize the need for further training (with equal and higher mean values of 3.00, on a scale of 1-4 points) and which could be considered as strengths are: (a) You apply digital tools to obtain information from varied sources, and (b) You value ICT as a permanent instrument of learning.

Meanwhile, the questions on ICT competencies rated the lowest (with mean values below 2.5) and which could be recognized as weaknesses, are: (c) You make use of models and simulations to explore complex topics, and (d) You create original work as a medium of personal expression.

The remaining 10 questions have values of between 2.5 and 3.0, which can be considered satisfactory since the mean value of the competency level is around 2.75. It is relevant to note that these data were obtained with respect to student's self perceived competency level.
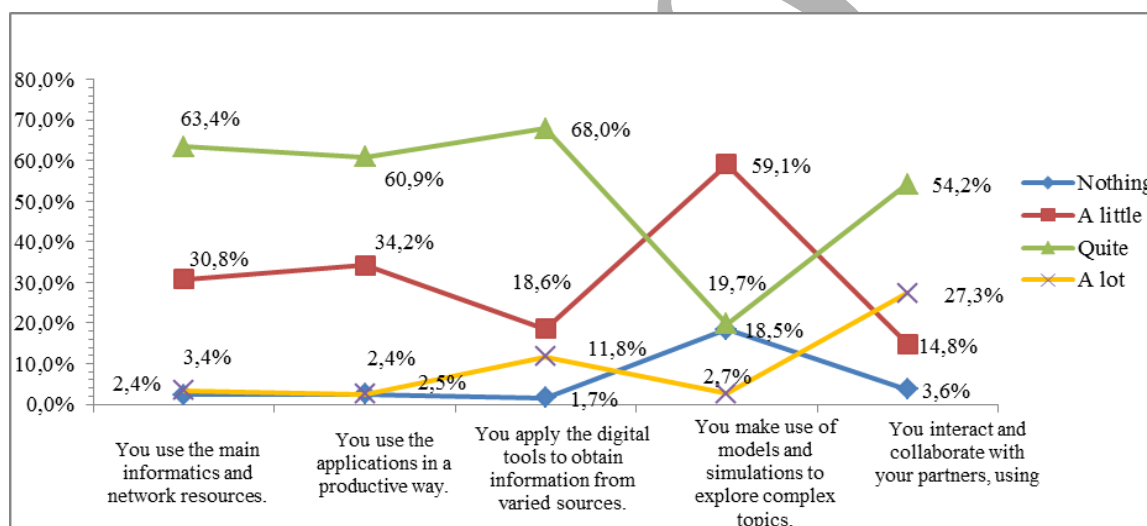
Fig. 1. Percentages for Basic Competencies Dimension by Item
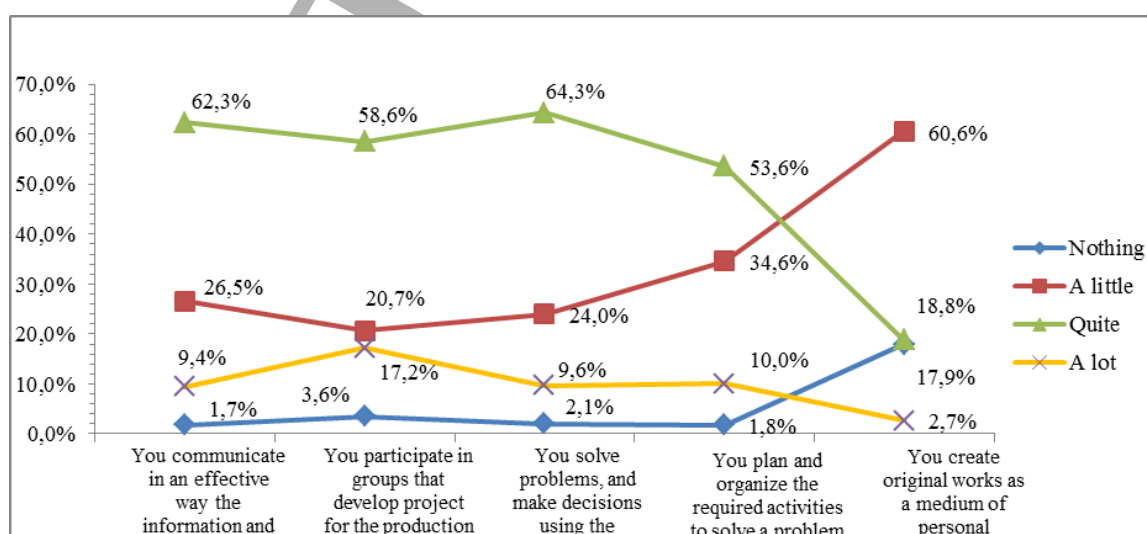
Fig. 2. Percentages by Item for Application Competencies Dimension
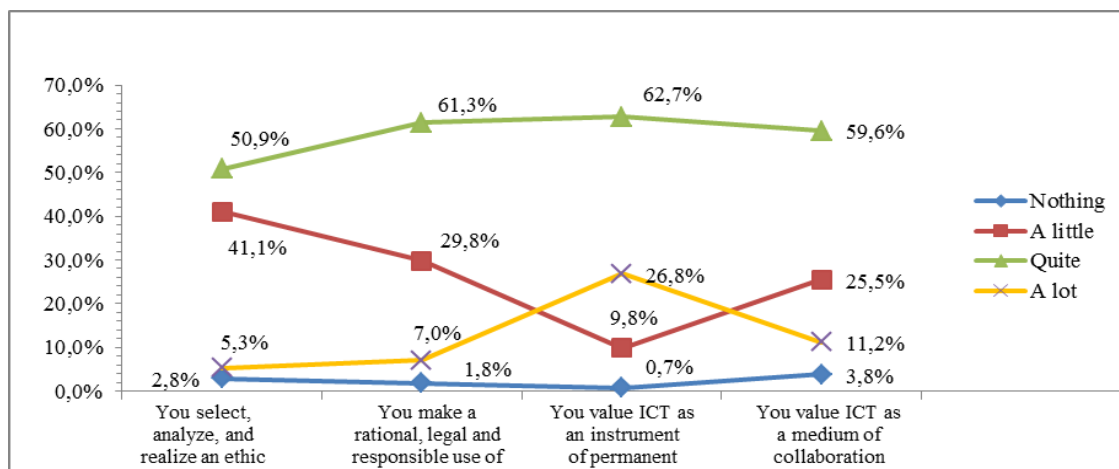
Fig. 3. Percentages by Item for Ethical Competencies Dimension

DIFFERENCES IN COMPETENCIES BY UNIVERSITY

The students filled out a self-reported questionnaire with 14 items. We have used Likert-type rating scales to measure the ICT competency level of students (Likert, 1932). Likert scales are commonly used by self-reported questionnaire, providing a range of responses to a given question or statement (Jamieson, 2004).

The Likert scale is ordinary scale, and as such we can calculate mean, min, max, median, modus, std. dev. etc. We can use the non parametic tests where we need ordinary variables. We have two independent samples so we could use the Mann-Whitney-Wilcoxon test for 2 samples (Boonyasit W., 2011). The Mann-Whitney-Wilcoxon test seems better choice versus t test by Likert-type data (De Winter J. C. F. and Dodou D., 2010), because it is testing the medians of the samples.

We used the Mann-Whitney independent sample U test of SPSS to compare the means of scores taken by the students. Monitoring was held on p=5% significancy level in the whole analyzing process.

Table 3. Levels of Competencies Questions by university and results of the Mann-Whitney-Wilcoxon test

Item	Media Global	J. Selye University	Óbuda University	Sig.
You use the main informatics and network resources.	2,64	2,74	2,61	**0,019**
You use the applications in a productive way.	2,63	2,64	2,63	0,937
You apply the digital tools to obtain information from varied sources.	2,93	2,85	2,95	**0,013**
You select, analyze, y realize an ethic use of the obtained information.	2,61	2,54	2,63	0,104
You communicate in an effective way the information and ideas, using a variety of media and formats.	2,8	2,79	2,8	0,841
You make use of models and simulations to explore complex topics.	2,07	2,07	2,07	0,999
You interact and collaborate with your partners, using a variety of digital recourses.	3,08	3	3,11	0,072
You participate in groups that develop project for the production of original works or solve problems.	2,86	2,95	2,83	**0,04**
You solve problems, and make decisions using the appropriate tools and digital resources.	2,85	2,76	2,87	**0,038**

You plan and organize the required activities to solve a problem or make a project.	2,74	2,68	2,75	0,366
You create original works as a medium of personal expression.	2,09	2,02	2,11	0,158
You make a rational, legal and responsible use of the information through the ICT	2,76	2,7	2,77	0,132
You value the ICT as an instrument of permanent learning.	3,19	3,09	3,23	**0,004**
You value the ICT as a medium of collaboration and social communication.	2,84	2,68	2,89	**0,001**

According to the Mann-Whitney-Wilcoxon test significant differences were found in at least 6 different items. Same examples show the frequency of the scores by different items (Fig. 4., Fig.5, Fig.6.).
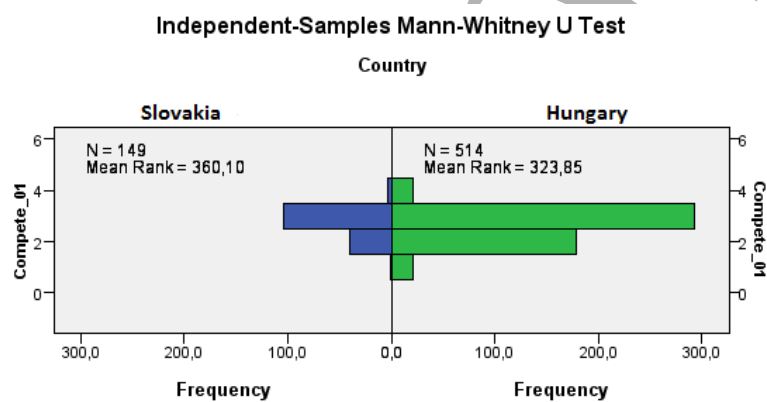
Fig. 4. You use the main informatics and network resources
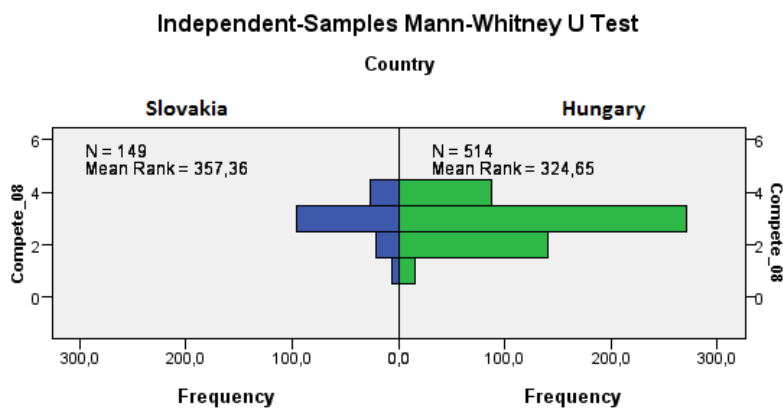
Fig. 5. You participate in groups that develop project for the production of original works or solve problems.
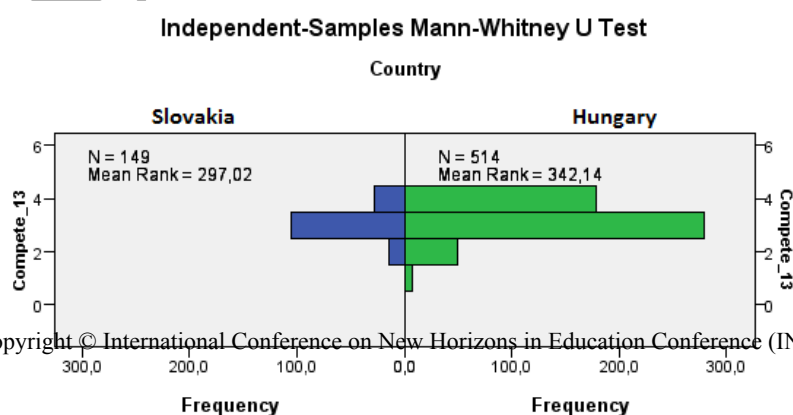
Fig. 6. You value the ICT as an instrument of permanent learning.

Figure 7 shows an overview of the profile that exists in the various dimensions of ICT competencies levels. It is clear that similar levels exist between students from the two countries. However the dimension of Application Competencies presents a major difference in favor of Slovakian students. Basic and Ethical Competencies show very similar values, being slightly higher for the Slovakian students.
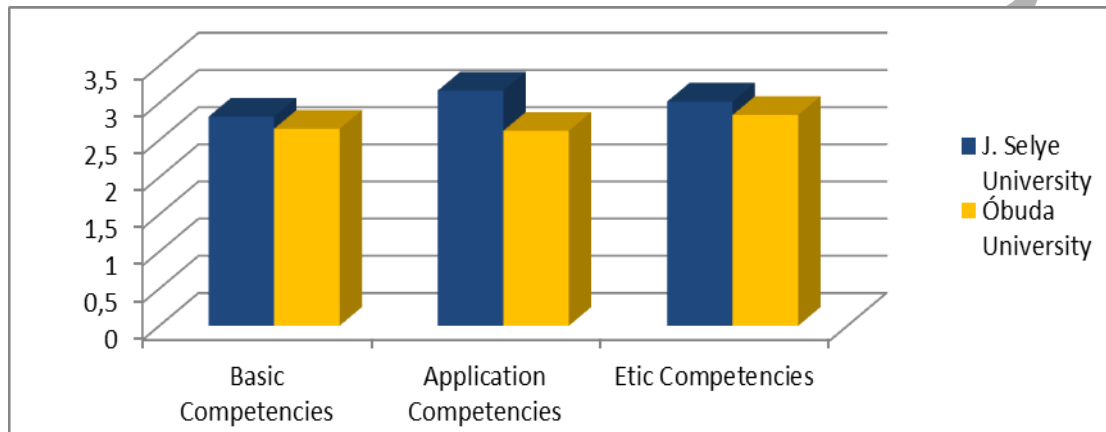
Fig. 7. Means of competencies dimensions: Differences by country

CREATION PERCENTAGES BY DIMENSION

To provide further details on the manner in which students from both countries recognize themselves as competent in various activities relating to the use of ICT, the percentages obtained for each item comprising the three different dimensions are presented. The activities in which students claim to be highly proficient (at or above 75% values) are also pointed out.

Basic Competencies can be considered basic for proper scholarly performance. This type of dimension is related to activities such as interaction with others through the digital media, the use of models to explore complex topics, the application of tools used to find information from various sources, the productive use of applications and the use of the main informatics resources (Fig. 8.).
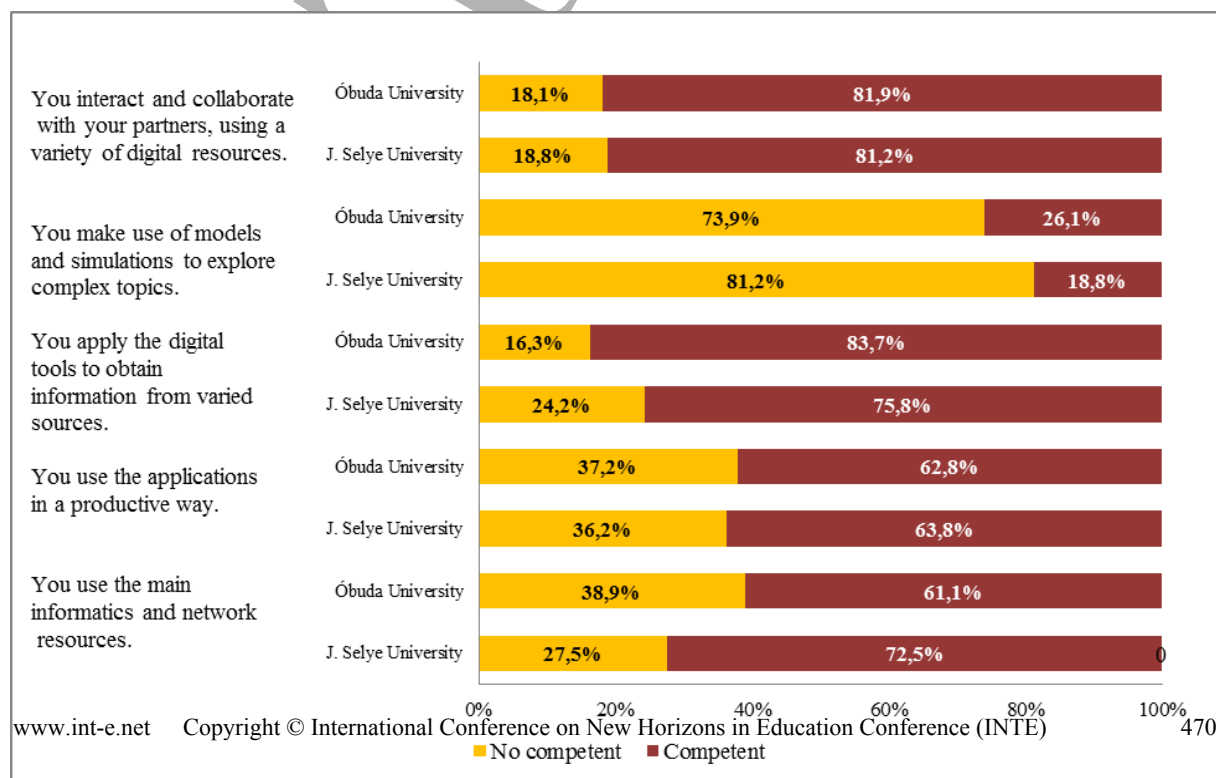
Fig. 8. Means of competencies dimensions: Differences by country

The percentages obtained in this dimension, indicate the presence of an acceptable level of competency for the students of Slovakia and Hungary in many areas. However, in the item referring to the use of models to explore complex topics, a lower level of competence was obtained. The percentage was higher for the Hungarian students (73.9%) in comparison to Mexican students (81.2%).

Meanwhile in interaction through the use of digital resources, there is a higher level of competency for the Hungarians (81,9.2%) compared to the Slovakians (81.2%). In the use and application of digital tools to obtain information from a variety of resources, anew there is a higher level of competency in the Hungarian students (83.8%) than the Slovakian students (75.8%).

Finally, in reference to the productive use of the applications, and the use of the main informatics resources, we find that there is a major degree of competencies in the students from Slovakia (63.8% and 72.5%) compared to the students from Hungary (62.8% and 61.1%).

The items rated highest by the Mexican students are those related to the use of the main informatics and network resources and the application of digital tools to obtain information.

Meanwhile, their worst ratings are in the use of models to explore complex topics. For the Hungarians their highest levels of competency are in interaction and collaboration using digital resources and the application of digital tools to obtain information. The area where they receive the lowest evaluation is the one related to the use of models to explore complex topics.

According to this data we can say that Slovakian students have higher levels of competencies in basic activities such as the use of applications and the use of the main informatics resources.

APPLICATION COMPETENCIES

In the Application Competencies are the questions related to the use that is given to ICT in various fields. Activities such as the creation of work as a medium of expression, the planning, as well as the resolution of problems through digital resources, the participation in groups that use these tools and effective communication using a variety of informatics resources (Fig. 9.).
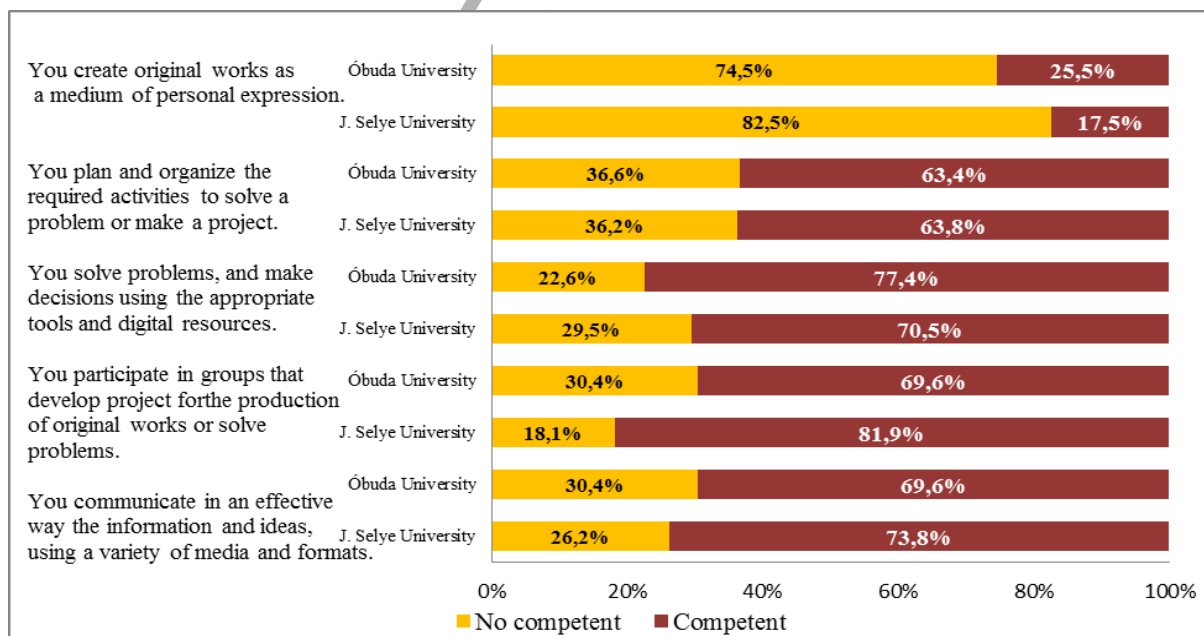
Fig. 9. Application Competencies: Level of Competency (%)

Within this dimension we find an acceptable level of competency for the students of both countries. An exception occurs regarding the creation of work as a medium of personal expression, where the Hungarian students (25.5%) show certain levels of non-competency, while the Slovakian students consider themselves competent (17.5%), so the Slovakian students say that their major level of non-competency (82.5%) is in the

participation in groups that develop projects for the production of original work. In this same item, the Hungarians show an admissible level of non-competency (74.5%).

For the area concerning the planning and organization of activities for problem solving or carrying out projects the Hungarian students (63.4%) show same level of competency than the Slovakians (63.8%).

In relation to problem solving and decision making through digital resources, the Hungarians (77.7%) are once more competent in comparison to their Slovakian counterparts (70.5%).

For effective communication through media and formats, the Hungarians (69.7%) are more non-competent in comparison to their Slovakian counterparts (73.8%).

In relation to participate in groups that develop project forthe production of original works or solve problems, the Hungarians (81.9%) are once more competent in comparison to their Hungarian counterparts (69.6%).

The Slovakian students evaluate as their own highest level of competency the area of participation in groups that develop project forthe production of original works or solve problems while the area they rate as their lowest is the creation of work as a medium of personal expression.

Meanwhile, for the Hungarians, we find that their highest level of competency is problem solving using digital resources. Their lowest level of competency is same with the Slovakians the creation of original work as a medium of communication.

ETHICAL COMPETENCIES

Finally, for the dimension of Ethical competencies, we find the areas where we ask the students about their level of competency in ethical activities. These questions analyze the impression of the students about ICT as a medium of collaboration and as an instrument of learning, as well as the use that is given to the information obtained from ICT (Fig. 10.).

The results indicate the existence of a high level of ICT competency in the students of both countries. Referring to the question of ICT as a medium of collaboration and communication, there is a higher level of competency in Hungarian students (77.0%) in comparison with the Slovakian students (64.4%). For the area of ICT as a permanent tool for learning, there are high levels of competency in both cases: Hungarian students 89.1% and Slovakian students 89.9%.

Slovakian and Hungarians consider using ICT as an instrument of permanent learning to be their area of highest competency. For Slovakian and Hungarian students the area they felt least competent in was the legal use of the information obtained through ICT.

Hungarian students show higher levels of competency in the area of ethical competencies than Slovakian students.
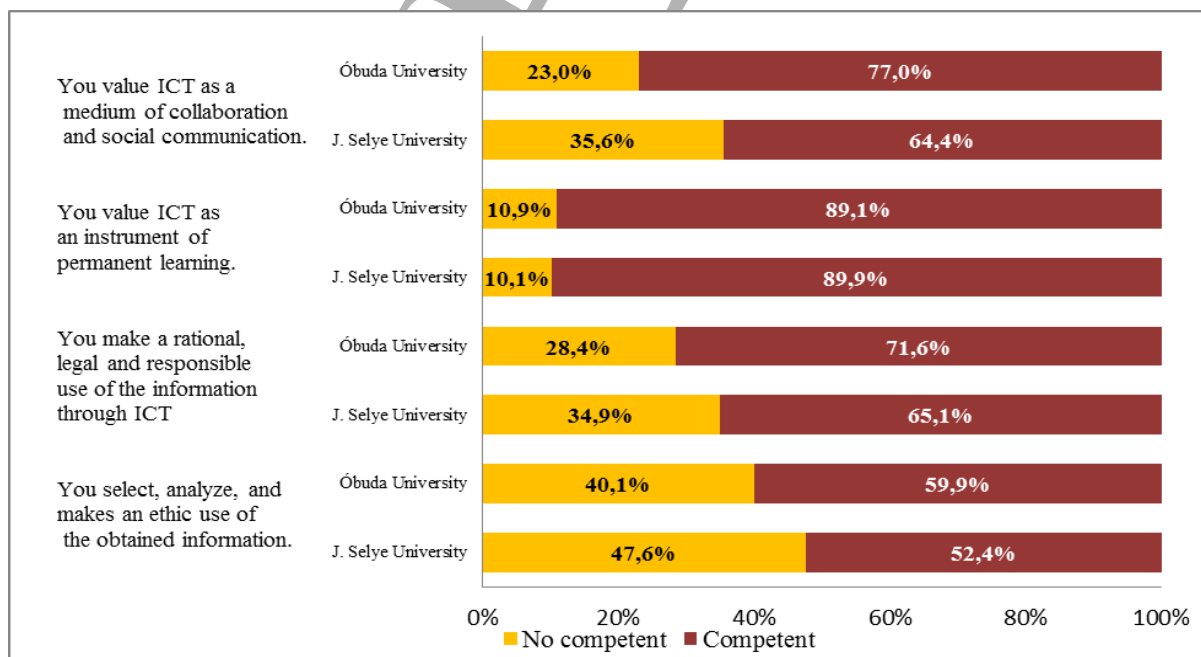
Fig. 10. Ethical Competencies: Level of Competency (%)

CONCLUSIONS

The situation of education in Hungary and Slovakia is not so very different although each country has taken a different path.

The results referring of Hungarian and Slovakian Students' perceptions of their competencies in ICT indicate that they perceive a high level of competency in ICT. The students obtained a high degree of competency in the use of ICT as a permanent means of learning and as a means of social communication. The students also felt they made productive use of the various applications that are offered. The main use given to these tools is obtaining information, and they claim they make legal and responsible use of the resources.

Referring to the hypothesis we proposed, we could say that in some areas there were some significant differences between the two participating universities (Óbuda University and J. Selye University) in reference to the students' perceptions regarding their levels of ICT Competencies.

The differences between Slovakian and Hungarian students found in the Mann-Whithey-Wilcoxon test include the selection of computer resources and the use of information obtained from the network, interaction with classmates through project developing, problem solving through the use of digital tools and the choosing ICT tools a for permanent learning and social communication. In the rest of the areas no relevant differences were found.

Meanwhile, we found that eight questions do not receive significantly different answers.

In this document a proposed classification of Competencies in ICT (Basic, Applicationand Ethical) was presented. In these terms, the highest level obtained was for Ethical Competencies, followed by Basic Competencies and finally Application Competencies. These results suggest the need for developing strategies that promote the effective use of technology resources by students and teachers alike.

As for differences by university (J. Selye and Óbuda), percentages indicate that there are higher levels of competencies in the Hungarian students. By using the main informatics and network resources, developing project in group, using a variety of media and formats the Slovakian students are more productive. The free hand of the teacher in Slovakia shows a good way for the Slovakian students to prefer teamwork over individual work what is more important in the future on the labor market.

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STUDY ON THE EXPERIENCES OF SECONDARY SCHOOL FEMALE TEACHERS ABOUT STUDENT GUIDANCE BASED ON THE GROUNDED THEORY

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The purpose of this study was to establish a grounded theory to explain the experiences of secondary school female teachers about student guidance in South Korea. In order to accomplish this purpose, data was gathered through the interviews of secondary school female teachers and this data was analyzed using a Glaser and Strauss Grounded Theory Method. Secondary school female teachers went through a range of emotions such as sense of accomplishment, responsibility, happiness as well as frustration, laboriousness, disappointment. So the central phenomenon of this study is 'female teachers who undergo various emotions in the school'.

Keywords: grounded theory, secondary school female teachers, student guidance

STUDYING OF 5-STEP LEARNING PROCESS (QSCCS) FOR MASTER'S DEGREE STUDENTS IN EDUCATIONAL TECHNOLOGY AND COMMUNICATIONS PROGRAM, FACULTY OF EDUCATION, NARESUAN UNIVERSITY

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ABSTRACT

The objectives of this research were: 1.) to study QSCCS activity performed by graduate students of Educational Technology and Communications program, Faculty of Education; and 2.) to study the opinions of the students concerning the QSCCS activity. The sample was six graduate students of Educational Technology and Communications program, Faculty of Education, who attended the subject of Integrated Technology for Learning Management course in academic year of 2014. Data was collected by using an assessment of behavior of the students concerning QSCCS activity, an assessment of achievement of students concerning QSCCS activity, and a questionnaire asking the students for their opinions concerning QSCCS activity. The data was analyzed to find percentage, mean, standard deviation, t-test statistic, independent t-test, and conclusion of problems and suggestions. The result of the study of 5-Step Learning Process (QSCCS) by graduate students of Educational Technology and Communications program, Faculty of Education shows that: 1.) graduate students of Educational Technology and Communications program, who attended the subject of Integrated Technology for Learning Management, had higher achievement than before. The statistical significance was .05; and 2.) The overview of behaviors of implementing QSCCS activity was rated as "high" (μ =2.85, σ = .09). Once considered all the aspects: S, Learn to Search, the overview was rated as "high" ; C, Learn to Construct, the overview was rated as "high" (μ =2.88, σ =.14); C, Learn to Communicate, the overview was rated as "high" (μ =2.92, σ = .13); and S, Learn to Serve, the overview was rated as "high" (μ =3.00, σ = .00); Q, Learn to Question, the overview was rated as "moderate" (μ =2.46, σ = .37). The opinions of graduate students of Educational Technology and Communications program, who attended the subject of Integrated Technology for Learning Management, concerning QSCCS activity, the overview were rated "mostly agreed" (μ = 4.21, σ = .47). Once considered all aspects: (1) the first three aspects showed that the aspect that met the highest mean was the one that allowed students to learn on their own (μ =4.67, σ = .82); (2) following by the three aspects that were the same mean: implementing QSCCS activity helped creating the environment of learning exchange (μ = 4.50, σ = .55); implementing QSCCS activity encouraged a more friendly learning environment (μ =4.50, σ = .84); and QSCCS activity supported an environment that friends would exchange experiences, knowledge, and attitudes more (μ = 4.50, σ = .55);

Suggestions of the 5-Step Learning Process (QSCCS) using communication technology, for example, internet and social networks, as learning tools were as following:

1. It decreased the usage of supply resources, for example, paper. It also decreased other costs, for example, travels, software, and buying equipment;
2. It accommodated finding information, by using social networks that had a large database, and organizing the information easier – to explain, the information could be shared to classmates and teachers easily. It could also be ran quickly online, and also be found a lot quicker, too;
3. It supported teamwork. The limitation of time and space was eliminated. Everybody could work together by using a smartphone that had internet access, even though they were not in the same room. Moreover, it also accommodated students to participate in learning activities whenever was convenient for them; and
4. It effected the more effective learning process. It responded students' learning. Lecturers could closely provide suggestions and the learning process became more interesting.

Keywords: Learning Process, Learning activity, 5-step Learning process, QSCCS

STATEMENTS OF THE PROBLEMS

Both instincts of teachers in the past and in the present are to "teach." Unlike in the new world, the 21st century world, teachers do not have to teach, they help their students think and demonstrate so that students can learn from launching. Teachers are to focus more on getting to know their students, not to teach what is in the course syllabus. Then they have to determine what students are to be given and what skill to be achieved. After that, teachers design the way of learning that the students would have to work on projects and do activities mainly by themselves. Teachers transform from "lecturers" to "coaches" who coach students how to work project for integrated-learning purpose. *Students will learn the best not from teachers putting all the things written in the books in their brains* (Phanit, 2012, p.138-139). From the statement mentioned, you can see that, in 21st century, the world's situation was definitely different from in 20th and 19th century. Students need skills, e.g., critical thinking, problem solving, creative thinking, communicating, and cooperating. Students are not just receiving information anymore, they need to also be able to analyze information. Similarly, teachers are not just giving knowledge anymore, they become advisors who would ensure that students learn by themselves so that they literally can survive in the nowadays world. These things result that education systems, in all levels, need development and change in accordance to the 21st century world. A system, that encourages students to learn by themselves, needs to be implemented.

Educational Technology and Communications program is an institution that considers the teachings of bachelor, master's, and doctorate in Educational Technology and Communications program as its main mission. We develop the education programs for all degrees every five years according to the standard of the Office of Higher Education Commission. The development is done in accordance to expand students' knowledge to what happens in the present (quality assurance document of the program, 2013). Currently, the program has developed courses to respond to the teaching and learning of 21st century. The development of instruction media, which focuses on students who study in this era of information technology, accords what the social needs and being 21st century citizen require. The QSCCS activity can be implemented to or used as a guideline for teaching. QSCCS contains five steps which are: 1. learning to *Question*; 2. learning to *Search*; 3. learning to *Construct*; 4. learning to *Communicate*; and 5 learning to *Serve*. These are the important steps that will lead the students to be knowledgeable. Also the students will have proper skills and attitudes that are needed for being a citizen in 21st century.

According to the statements, researcher would like to implement the QSCCS activity to developing students in Educational Technology and Communications program, Faculty of Education, Naresuan University, in 21st century.

Objectives

1. To study of 5-Step Learning Process (QSCCS) for graduate students in Educational Technology and Communications program, Faculty of Education, Naresuan University.
2. To learn the opinions concerning QSCCS activity on graduate students in Educational Technology and Communications program, Faculty of Education, Naresuan University.

Scope of Study

Population

The sample is six graduate students of Educational Technology and Communications program, Faculty of Education, who were attending the subject of Integrated Technology for Learning Management, academic year 2014.

Research Variables

The independent variable is the QSCCS activity.

The variable is results and opinions from the students concerning the QSCCS activity.

Contents Used in the Experiments

Course 355533 - Integrated Technology for Learning Management

RESEARCH INSTRUMENTS

The research "Studying of 5-Step Learning Process (QSCCS) by Students of Educational Technology and Communications program, Faculty of Education" created a questionnaire in accordance to the type of this research, which was an experimental research. Researchers divided the evaluation form into two types which were:

1. The evaluation form that was used for results of implementing QSCCS activity for undergraduate students of Educational Technology and Communications program.
   1.1 Behavioral assessment from implementing QSCCS activity

1.2 Achievement assessment of learning both before and after implementing QSCCS activity with Facebook in order to support self-study in 21st century in Integrated Technology for Learning Management
2. The evaluation from concerning opinions that students had towards implementing QSCCS with Facebook in order to support self-study in 21st century in Integrated Technology for Learning Management

Research Conducts
1. Creating Instruments
Steps to create evaluation forms regarding implementing QSCCS
1. Did researches on documents, treatises, journals, and studies that were related to opinions regarding creating evaluation forms for 5-Step Learning Process (QSCCS).
2. Studied on elements of QSCCS that would be implemented to each aspects of learning. Using the information as a framework to determine what were to be evaluated and analyze related documents.
3. Created behavioral assessment concerning implementing QSCCS in Integrated Technology for Learning Management by adjusting the training evaluation that was created by specialists from Faculty of Education. The form was used to evaluate schools in various aspects (*Vareerat Kaew-Urai and team 2013*). It contained 5 aspects which were: 1. learning to *Question*; 2. learning to *Search*; 3. learning to *Construct*; 4. learning to *Communicate*; and 5 learning to *Serve*. The type of the evaluation form was rating scale which contained 22 questions with three levels of questions that were: the behavior happened often by themselves – continuously; the behavior happened sometime by themselves – not continuously, and that behavior happened infrequently from being reminded by someone else – not continuously. The third part was opinions and suggestions.
4. Presented the created training evaluation to three specialists (name listed in Appendix ก.) for analyzing the correspondence between the questions and the content. Index of Congruence (IOC) will be calculated. The result of the consideration from the specialists concerning the consistence of the questions and the information was between 0.67 – 1.00 for 22 items.
5. Applied the questionnaire, which was tested by IOC from the specialists, to the samples.
6. Implemented one set of QSCCS to 6 people of the sample.

Steps to create achievement tests for pre/post-study regarding implementing QSCCS
Researchers created an achievement test in order to evaluate the result of implementing QSCCS. In the experiment, there were steps as followed:
1.   Studied on principles, ideas, and methods to create the achievement test.
2. Set objectives that were targeted to be the achievement test.
3. Set characters of the achievement test. In this research, researchers set the achievement test as a purpose-covered test in the subject of Integrated Technology for Learning Management. The test contained four-choice questions. Getting the question correctly, one point. If not, none point.
4. Took the created evaluation to related people to correct the information and language in the evaluation.
5. Implementing the edited evaluation to test the achievement level concerning studying.

Steps to create evaluation forms regarding students' opinions toward QSCCS
The rating scale of the evaluation were very high, high, moderate, low, and very low. The 5 rating scales were used to ask 16 questions concerning QSCCS.

2. GATHERING INFORMATION
Gather information from 6 students in the subject of Integrated Technology for Learning Management. The achievement was evaluated since the first class and after implementing QSCCS. The evaluation was finished at the end of the first semester. The steps were:

1. Evaluated achievement of the study by using QSCCS. At the same time, observed behaviors of students in the class. The range of time of the evaluation was the whole first semester.
2. Once each unit of study was finished, QSCCS would be implemented in order to get ideas of test result from the students.
3. Then evaluated occurred behaviors by following steps of QSCCS, using the developed learning evaluation.
4. Evaluated students' opinions by implementing QSCCS
5. Analyzed the achievement test, evaluation form regarding implementing QSCCS, and questionnaire that were answered, then concluded the result accordingly.

3. ANALYZING INFORMATION

1. QSCCS Evaluation

Researchers analyzed the information by using strategic analyzing program. Mean and standard deviation were analyzed. All information and caption were presented. Three Likert Scale were set for rating, which are:

High	=	3
Moderate	=	2
Low	=	1

After that, way of interpreting score was set by adjusting the criteria of converting the group average of (Boonchom Srisa-ard, year 2010: 121) which were:

Mean of 2.51 – 3.00 means that the behavior often happen, continuously;

Mean of 1.51 – 2.50 means that the behavior sometimes happens, not continuously;

Mean of 1.00 – 1.50 means that the behavior seldom happens, not continuously.

2. The achievement tests for pre/post-study regarding implementing QSCCS. The results will be compared by using t-test Dependent.

3. Evaluation form for students' opinions concerning QSCCS. To analyze the information, researchers worked on the analyzing as followings: analyzed total score of all the answerers and calculated mean and standard deviation. Qualitative data with QSCCS was presented. Researchers checked and analyzed the answered questionnaire by using a program. Five Likert Scale were implemented as:

5	means	"Mostly Agreed"
4	means	"Very Agreed"
3	means	"Moderately Agreed"
2	means	"Less Agreed"
1	means	"Least Agreed"

Then set the interpreting criterion of score as:

Mean of 4.50 – 5.00 means "Mostly Agreed

Mean of 3.50 – 4.49 means "Very Agreed"

Mean of 2.50 – 3.49 means "Moderately Agreed"

Mean of 1.50 – 2.49 means "Less Agreed"

Mean of 1.00 – 1.49 means "Least Agreed"

CONCLUSIONS

1. Learning achievement of six students concerning the subject of Integrated Technology for Learning Management was higher for post-study than pre-study. The significance was .05

2. Score of behavior concerning implementing QSCCS of graduate students of Educational Technology and Communications program, Faculty of Education, as a whole, was high ($\mu = 2.85$, $\sigma = .09$). After considering all aspects, it was found that Q (Learning to Question) part was moderate ($\mu = 2.46$, $\sigma = .37$), S (Learn to Search) part was high ($\mu = 3.00$, $\sigma = .00$), C (Learn to Construct) part was high ($\mu = 2.88$, $\sigma = .14$), C (Learn to Communicate) part was high ($\mu = 2.92$, $\sigma = .13$), and S (Learn to Serve) part was high ($\mu = 3.00$, $\sigma = .00$)

3. Student's opinions concerning implementing QSCCS with Facebook for supporting in self-study in 21st century in Integrated Technology for Learning Management subject. The overview was high (= 4.21, $\sigma = .47$). After considered three aspects respectfully, it was found that the aspect that had the highest mean was allowing students to study by themselves ($\mu = 4.67$, $\sigma = .82$), following by three aspects equally which were implementing QSCCS activity to help creating the environment of learning exchange ($\mu = 4.50$, $\sigma = .55$), implementing QSCCS activity to encourage a more friendly learning environment ($\mu = 4.50$, $\sigma = .84$), and implementing QSCCS activity to encourage an environment that friends would exchange experiences, knowledge, and attitudes ($\mu = 4.50$, $\sigma = .55$). There were two aspects that share the third highest mean, which were, explanation concerning the content of QSCCS activity and its learning process ($\mu = 4.33$, $\sigma = .82$), and the overview of implementing QSCCS activity in the classroom ($\mu = 4.33$, $\sigma = .52$).

Concluding problems and suggestions concerning implementing QSCCS by using communication technologies, e.g., internet and social network, as a teaching instrument, it was found that:

1. It became economical concerning usage of paper, paying for transportation, including purchasing office supply and soft wares.
2. It accommodated more concerning finding information in the internet, which contained wide database. Also, filing, sharing, and looking information up were done more easily, because of it was systematically stored.
3. It supported cooperation between peers, without concerning distance and time difference. That was because of internet could be accessed at all times on smart phones. Students were also able to work on their assignments at their convenience.
4. Helped increasing the efficiency of studying and learning. It answered the need of teachers and learners. Teachers could advise learners more closely. It also made learning activity more interesting.

DISCUSSION

The result of implementing QSCCS activity by graduate students of Educational Technology and Communications program, Faculty of Education, Naresuan University, showed interesting topics to be discussed as followings:

1. Learning achievement of students in Integrated Technology for Learning Management subject was higher in post-study than pre-study. The significance was .05. That was possibly because of the self-studying way that was implemented, teachers were only to give advices. That would encourage students' potentiality to learn.
2. The overview of behaviors concerning implementing QSCCS was high (μ = 2.85, σ = .09), which were S: Learn to Search, C: Learn to Construct, C: Learn to Communicate, and S: Learn to Serve. That was because the QSCCS activity encouraged students to change and share in a good way, and to gain leadership to develop way of learning together. Especially, this method was emphasized on the ways of doing rather than the consequences, which was the reason why the learning achievement result was obvious. At the same time, the result was not highly different, yet, all the aspects were obviously changing. That was consistent with Karunyaphol Viwatthamongkol's research in year 2010. The research found that the way that advisors closely advised students would affect how students manage their way of learning.
3. The result of studying on students' opinion concerning QSCCS in Integrated Technology for Learning Management subject, the overview was "mostly agreed" (μ = 4.21, σ = .47) The aspects that had the highest mean were: allowing students to study by themselves; creating the environment of learning exchange; encouraging a more friendly learning environment; and encouraging an environment that friends would exchange experiences, knowledge, and attitudes. The following result allowed students to improve the learning skill that focused mainly on learners and also encouraged students to have the potentials it would take to be citizens in 21st century, in accordance to the policy of the Ministry of Education. The policy would like students to come up with new ways of thinking, learn by themselves, gain life skills, and learn how to seek new knowledge from various sources. It was also consistent with the pleasant of Ratnoppakao (year 2013) that implemented coaching and mentoring system to a learning environment. The result was that students were satisfied with the system to "Mostly Satisfied" level.

Suggestions

Suggestions from the result

1. More follow-ups on learning behaviors should have been done all year. The behaviors should have been recorded and observed, so that, we know more strictly about the changing process.
2. Evaluating themselves and by their friends should gained us more information concerning how to develop learning activities.

Suggestions for future researched

Studying on implementing QSCCS with social networks should be done, in order to satisfy the way of learning in 21st century.

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STYLISTIC ANALYSIS OF SHAKESPEARE'S SONNET 130

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Shakespeare's sonnet 130 presents an elaborate joke on the conventions of love poetry which is very common to Shakespeare's day. His sonnets have no titles, so numbers are used when referring them. This is Shakespeare's most outstanding one among his other 154 sonnets in the way of expressing ambiguous feelings for the addresser's sweetheart, "a Dark Lady". The addressee is called like this because she has black hair and dark complexion, like we see in this poem. The poet conveys the message forcefully by using different stylistic devices. Therefore, this research is important in that it analyzes the structure and style of Shakespeare's poetry. The aim of this paper is to examine Shakespeare's Sonnet 130 from the viewpoint of stylistic analysis. This analysis deals with the different aspects such as the syntactical, graphological, phonological, semantic and grammatical, patterns. Like Sonnet 130, most sonnets are 14 lines in length and written in iambic pentameter with an alternating ABAB rhyme scheme. Although the main theme is love, there are numerous satirical references in the poem: "My mistress' eyes are like the sun"; "Her lips are red as coral"; "Her cheeks are like roses", "Her breasts are white as snow", "Her voice is like music", "She is a goddess".However, appearances is a major theme in Sonnet 130, since the lover talks much about what's wrong with his mistress's looks in the poem. He reviews dissectionof her face, her body, and her smell. He doesn't say anything at all about her personality, but instead satirizes problems with her appearance. In this respect, the poem is self contradictory in the sense that the addresser looks down upon his mistress in many ways though he says he loves her as in the lines; " I love to hear her speak yet well I know", "That music hath a far more pleasing sound". The theme of the poem is love but it is full of paradoxical comparisons that such similes and metaphors about natural beauties have been used for the lover. In Shakespeare's day, these metaphors are cliché but they are still the accepted technique for writing love poetry. The result is that poems make highly idealizing comparisons between nature and the poets' lover that are completely ridiculous if it is taken literally as in, "My mistress' eyes are like the sun"; "Her lips are red as coral"; "Her cheeks are like roses", "Her breasts are white as snow", "Her voice is like music", "She is a goddess". Sonnets often have a twist ending so in this poem, despite his criticisms, the readers are confused about the speaker loving his mistress in the lines: "And yet, by heaven, I think my love as rare", "As any she belied with false compare." The word "belied" is used in the meaning of misrepresented and "false compare" is used in the meaning of ridiculous comparisons. In conclusion, stylistics is a useful tool for anybody interpreting literary texts so, a stylistic analysis will be donein this study in order to make out how this sonnet is very carefully constructed both its form and content.

Keywords: Keywords: Stylistic, sonnet, syntactical, graphological, phonological, semantic patterns, joke

SUSTAINING CONTINUOUS PROFESSIONAL DEVELOPMENT FOR QUALITY TEACHING AND LEARNING IN HIGHER EDUCATION: THE ROLE OF POLICY AND POLICY IMPLEMENTERS

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ABSTRACT

Continuous professional development (CPD) is important for academics to improve the quality of their teaching and their students' learning. This paper reports the findings of a qualitative case study on CPD support at a Malaysian private university. It reports the perceptions of institutional leaders and academics on existing CPD support and how such support can be increased. Data was derived from interviews and teaching observations while factual verification was obtained through document analysis. Findings indicated the institution was supportive of its academics' CPD needs through top-down measures including policies and guidelines, and provision of different on-site CPD models. However, there were some gaps between areas of CPD needs and areas supported. One implication was that existing policy gap could be reduced through policy review and revision. Another implication was a need for academic heads to go beyond their role as policy implementers by identifying, initiating and supporting specific CPD needs at the departmental level.

Keywords: CPD, Higher education policy, quality teaching

INTRODUCTION

There has been a significant increase in access to higher education institutions (HEIs) in Malaysia in the last decade. Student enrolment in Malaysian HEIs in 2012 was 1.4 million, with 455,000 enrolled in private HEIs. (Ministry of Education, 2015). With the country's intention to become a higher education hub in the region, this number is expected to increase. By 2025, private HEIs are expected to have grown to accommodate the increase in student number, projected at 2.5 million. They are not only expected to grow, they are also expected to take the lead in providing HE access, especially for international students, surpassing public HEIs at 56% student enrolment (Ministry of Education, 2015). This is an indication of a positive change of perception towards private HEIs. In the past, private HEIs were often regarded as profit-making organisations that were impartial towards improving quality (Wilkinson & Yusof, 2005) due to its costly process (Tan Ah Mei, 2002). Now, they are regarded as genuine and strong contributors to the field, complementing the contributions of public HEIs (Wilkinson, 2015). With their important role, there is a need for private HEIs to find ways to improve the quality of teaching and learning provided because it is an important determinant to quality graduates.

"Quality of teaching" is a concept that often comes with multiple-meanings. In HE, what constitutes as quality teaching and what it takes for teaching to be considered as high quality is context, discipline and subject-dependent (Skelton, 2004). It is impacted by environmental factors even beyond the classroom (Linblom-Ylane, Negvi & Trigwell, 2011). Biggs (1999) proposed quality teaching as one that facilitates students' adoption of deep approaches to learning. Evidence also shows that increased deep approaches to learning has a direct correlation with higher class of awards for degrees obtained at undergraduate level (Trigwell, Ramsden, Prosser & Martin, 1999.) This means that lecturers would focus on students and their learning environment, motivating them to participate, engaging them, developing their independence and providing them with a supportive learning environment (Knight & Trowler, 2000). Quality teaching also means lecturers that are concerned with what their students actually do in the teaching and learning process and how the lecturers can facilitate their

students' learning by engaging them in meaningful activities and assessments (Biggs, 2001).

CPD and Its Role in Enhancing Teaching and Learning Quality

Teaching is not a natural talent. Lecturers do not learn to understand their students' conception of learning and how learning outcomes are achieved within the environment they are in by relying on their own experiences as students of higher learning. Just as students can opt for minimal, surface approach to learning, so can lecturers adopt a surface approach to teaching where they focus on themselves and what they do as lecturers, how much they need to cover and teach. As an institution, HEIs often recruit or promote teaching staff less for their excellence in teaching but more for other reasons which include their academic qualifications, publications and the research grants they can bring to the institutions (Partington & Stainton, 2003). Both of these situations point to the need for developing lecturers' pedagogical knowledge and skills. Lecturers need CPD that is holistic and addresses the progression of their thinking so that they could encourage development of deep approaches to learning in their students. Lecturers also need to develop these skills in relation to their subject area, the programmes and the institution that they are teaching in. In this respect, CPD for lecturers can come adopt different models (Kennedy, 2005), come in many forms for different purposes of development, and be formal or informal in nature (Park et.al, 2007; Ingvarson, Meiers and Beavis, 2005).

In supporting and sustaining CPD, private HEIs need to reflect and adopt the right approach. It is important that they ensure that they support the kind of CPD that have impacts at four levels: teachers' knowledge, belief and practice, and students' outcome (Lipowsky, 2004, cited in Roesken, 2011). This would ensure that they would be able to increase their graduate quality and promote staff retention (Ministry of Education, 2015). To achieve enhancement of teaching and learning quality through CPD, these institutions need to be reflective at three levels (Biggs, 2001). First, they need to be explicit about their espoused theories which influence decisions made about teaching. Next, they need to put in place built-in mechanisms which allow consistent assessment of current practices and how improvements can be made. Third, they also needs to take action to remove obstacles to quality teaching. The policymaking and policy implementation process within that institution should also assist in its continuous reflection and change (Soaib & Suffean, 2012).

THEORETICAL FRAMEWORK
Addressing the complex nature of CPD for quality teaching and learning in HE requires multiple factors to be taken into account. It needs to take into consideration students' learning needs, staff's development needs, institutional vision in the quality of graduates it intends to produce and their potential economic and social contribution to society. It also needs to take into consideration the resources that are available to the institution. It is probably through consideration of these multiple-factors that many HEIs developed their strategies for CPD and the policies and guidelines related to it. It is also through consideration of these factors that an HEI can review its current CPD support and provision in order to improve them.

Soft systems theory formed part of the theoretical framework for this research. Through application of soft systems theory, a systemic process of inquire was carried out to allow a better understanding of the situation and identify proper actions to be taken (Checkland, 2000). This research applied the appreciative systems theory derived from soft systems theory in order to understand how CPD for quality teaching and learning could be sustained within the institution. (Vickers cited by Checkland, 1994). The appreciation process involved: (1) selection from reality, i.e. relevant key ideas, stakeholders, action that had been taken; (2) perception of some aspects of institutional reality and making judgments about it, i.e. to what extent had action been taken to organise and implement CPDs and to what extent had the implementation of these CPDs actually helped lecturers improve teaching and learning; (3) contribution of ideas for modified or improved action that could solve the situation. The appreciative system is constantly open to further input based on the ideas and activities that are carried out in the appreciation process.

Situated learning theory formed the other part of the theoretical framework for this research. Literature identified four elements integral to successful CPD framework in HE (King, 2005). Firstly, CPD of all aspect of lecturers' role was normalised. Secondly, CPD modes were contextualised to the institution, the discipline and the lecturers' themselves, with the lecturers having autonomy in choosing which modes of CPD suited them best. Thirdly, the complex nature of CPD meant that it could occur in different settings, both formally and informally, involving different types of activities; therefore, it was important that institutional support of CPD recognised this complexity. The final element was inclusion of professional collaboration as crucial, involving conversations between lecturers with their colleagues in the same department, with lecturers in other departments and with those whose role were to support teaching. These four elements brought forth the

relevance of situated learning theory, which views learning as something which occurs between people and is distributed through interactions that govern what is learnt and how it is learned (Putnam & Borko, 2000). Learning is influenced by physical and social context (Putnam & Borko, 2000; Cobb & Bowers, 1999) and therefore, knowledge that is gained is indivisible from the context in which it was derived. Learning is "fundamentally situated" (Brown, Collins & Duguid, 1989). Knowledge is also seen as a co-product of an activity, context and culture within which it is being developed (Brown, Collins & Duguid, 1989).

METHODOLOGY
Research Design
This study adopted a qualitative case study approach to gain an in-depth understanding of the complex issue of CPD and CPD support within a private HEI, where multiple other factors have an influence on over it. The case institution selected is one of the oldest private higher education provider in the country. It was placed at tier 5 in the SETARA 2009, 2011 and 2013 rating, a Malaysian rating instrument which measures teaching and learning quality (MQA, 2015). Purposive and snowball sampling were used to select research participants. There were 14 participants. Three were professors who formed part of the institution's senior management, another 3 were a professor and two associate professors who were part of their faculty's management team and heads of at least one department within their faculty. Another 8 were novice and experienced lecturers holding the position of either lecturers, senior lecturers and one associate professor.

Data Collection and Analysis
Semi-structured interviews were conducted and audio-recorded. A naturalised approach to transcription which focused on informational contents of the sessions was adopted (Oliver, Serovic & Mason, 2005). Idiosyncratic elements were removed. Transcriptions were validated through member checking (Cresswell, 2013). Themes which emerged were then identified and categorised.

Research Questions
1. What are the lecturers' perception about their CPD needs to improve teaching and learning?
2. What are the participants' perception about the institution's support for CPD for quality teaching and learning?
3. How can CPD support for enhancement of teaching and learning quality be improved?

FINDINGS AND DISCUSSION
All names used to refer to participants in this section and the discussion section are pseudonyms.

The meaning of quality teaching and learning in the context of the case institution
All the participants had similar perceptions to the meaning of quality teaching and learning in their context. They identified four factors which contributed to quality teaching and learning: (1) the curriculum, (2) the lecturers, i.e. the knowledge and experience that they brought to the classroom, (3) provision of learning opportunities that went beyond the classroom, and, (4) teaching, learning and technological resources available to them.

Lecturer and student indicators of quality teaching and learning
There were ten indicators of quality teaching and learning that participants perceived to be identifiable in lecturers and their teaching. The ten indicators identified were: (1) content mastery, (2) pedagogical knowledge, (3) skilful teaching, (4) clear expectations, (5) coherent delivery, (6) connection and application to real life, (7) passionate and engaging, (9) quality assessments, (10) support for learning, and, (10) inclusiveness.

In addition to the ten indicators observable in the lecturers and their teaching, there were seven student indicators of quality teaching that were identified. These were: (1) attainment of learning outcomes, (2) good exam performance, (3) criticality in thinking, (4) internalisation of values, (5) application of learning, (6) problem-solving, and, (7) contributions to society. Some of these indicators could be observed during the course of the semester teaching and at the end of the course. Others could only be observed later.

Perception of CPD needs to improve teaching and learning
All lecturers identified almost similar areas of CPD needs for the enhancement of their teaching and learning. However, what they needed to develop within those areas had a slightly different focus. Both novice lecturers and experienced lecturers identified 'content mastery', 'pedagogical knowledge and skills' and 'student engagement' as the three main areas for development. Novice lecturers were concerned with building their knowledge and skills in these three areas to a level that they perceived to be adequate in order to teach

reasonably well. They felt that their existing knowledge and skills were insufficient. In contrast, experienced lecturers reported that they had experienced similar needs when they were novice lecturers themselves. However, at the present stage of their career, they had already reached a level of content mastery and were confident with their pedagogical knowledge and skills. Their needs for these three areas had shifted, focusing more on enhancement rather than building a base. For content mastery, experienced lecturers reported confidence in their existing content knowledge but also reported the need to keep current with latest research and development in their discipline and industry. In the area of pedagogical knowledge and skills, they reported the need to enhance existing skills and explore newer approach and teaching tools that could help their students learn better. In the area of student engagement, both novice and experienced lecturers shared the same amount of concern of concern. They all shared the concern of engaging students from different generations who were hyper-connected and easily distracted. Novice lecturers needed to develop their skills and strategies in engaging their students. In addition to that, with increasingly diverse student population comprising of local and international students from various countries, increasingly larger classes, all lecturers identified student engagement as an area that they needed to develop and improve further.

Existing institutional CPD Support for enhancement of teaching and earning

It was found that institutional support for CPD was most visible at two levels – at institutional level and at departmental level. Additionally, it was found that institutional level support focused mostly on formal forms of CPD which fitted with 6 out of 9 CPD models identified as the most common forms of CPD supported by HEIs (Kennedy, 2005). The 9 models identified by Kennedy were award-bearing, training, standards-based, cascading, action research, deficit model, communities of practice (CoP) and transformative model (a model which combined two or more of the earlier models). Of these, institutional level support focused on the following 6: award-bearing, training, standards-based, cascading, action research and transformative model. Support for CoP at this level was newly initiated and still at its infancy. Examples of CPD activities fitting with these 6 are illustrated below.

Support at institutional level

At institutional level, active support was available for some postgraduate qualifications, for example masters' degree and especially PhD as well as a postgraduate certification in academic practice (Award-Bearing Model). The support was evident in policy and guidelines which described the form of available support, i.e. financial, time and in some cases, the provision of the programmes themselves. However, there were other postgraduate qualifications viewed to be important by lecturers to enhance their teaching which were not supported. One example is professional exams related to a technical discipline area.

In collaboration with its' international partner which was ranked in the top 1 per cent for research and teaching (University Rankings, n.d.), the institution provided a development programme aimed at improving understanding of quality assurance and quality enhancement processes for teaching and learning. Lecturers from each of the faculties had or would have an opportunity to participate in this annual programme held at the international partner's campus and upon their return, shared their experience and what they had learned in a sharing session (Transformative Model – combining Training, Standards-Based, Action Reseach and Cascading).

There was also clear support at institutional level for local and international conference presentations based on scholarly activities or research work (Transformative model - with varied model combinations). Financial and time support for such activities were evident in the relevant institutional policies and guidelines. As part of the requirements, conference presenters had to present their papers internally upon returning, thus expanding this CPD activity (Cascading Model). Participants reported that such support was important to their development and that whether they presented on specific research on teaching and learning or on their discipline area, with purposeful reflection and application, it led to enhancement of their content mastery which led to enhancement of teaching. Steve, for example, reported that as someone relatively new to teaching, he gained a lot of knowledge from presenting his own research and listening to others share what they had done. It gave him opportunities to participate in professional conversations on his discipline area which gave him ideas that he explored in his own teaching.

In addition, through its Teaching and Learning Unit, the institution also provided a series of formal training sessions and workshops that aimed towards improving teaching and learning. Some of these workshops included workshops on Outcome-Based Education or OBE (Training Model), curriculum development and assessment strategies (Transformative Model -combining Training and Standards-Based models), classroom and student-management, reflective teaching, problem-based learning and experiential learning (Transformative Model - combining Training, Cascading and Action Research). Some of these workshops were facilitated by

Malaysian and or international experts in the area while other workshops were facilitated by the institution's own experienced academic staff recognised as champions of CPD in their areas. The Teaching and Learning Unit also facilitated institutional support on a community of practice which focused on blended learning. However, this was still relatively new.

Support at departmental level
All department heads and lecturers agreed that CPD should occur more at departmental level. At this level, support for semi-formal and informal CPD was found. It involved one or more of the following: (1) CPD activities initiated and supported by department heads, (2) CPD activities initiated by staff and supported by department heads, (3) collaborative initiation and sustainment of CPD activities by department heads and staff. The models of CPD supported at departmental level were coaching, mentoring, communities of practice, action research and transformative models.

Despite their support of the CPD choices of their subordinates, as governed by institutional policies, two of the heads of department were more active than the third, in initiating CPD activities for the specific purpose of improving teaching and learning. This could be linked to the demography of their subordinates, where the heads positioned themselves in relation to teaching, and what the department heads perceived to be needed for their staff to develop their teaching.

Professor Alan and Associate Professor Wendy both had "very experienced" and "very good teachers" in their departments but at the same time, also had novice lecturers with little to no experience when they joined the department. With more than 30 and 20 years of experience teaching in Malaysia and internationally, they viewed leadership, support and provision of professional development opportunities within the department as a crucial aspect of their role as the head of department. They used existing quality assurance processes such as moderation of coursework and final exam papers, marking and second-marking of answer scripts to initiate informal CPD activities by pairing novice and experienced lecturers to work together (Transformative model – combining cascading, standards-based and action research). Through the discussions and feedback exchanged between both parties, lecturers could improve their assessment strategies and this could lead to reflection and improvement of teaching and learning strategies and teaching materials.

Both reported their own active engagement in developing their staff (Mentoring/Coaching models). However, both had not actively promoted CPD within their departments through peer observation or co-teaching although they supported staff who wanted to carry out teaching observation of their peers and had previously assigned two lecturers to co-teach a subject for functional purposes. Both viewed this as a sensitive area which had to be dealt with carefully so that signals, intended or otherwise, were not sent to others that one party was lacking in some ways and needed to be taught by the other. As stated by Wendy:

> I start with moderation first, you see. So they don't feel it. The co-teaching thing, some people may be very defensive. Some people get very threatened because they feel, "What if in the midst of co-teaching, people discover I'm not so good?" You know, all the insecurities, so you've got to be very diplomatic and scientific about it. So it starts with moderation. So I pair them with moderators who are, let's say my X's [teaching] score is below three, I will pair X and Y who has fantastic teaching [score].

Associate Professor Simon viewed his teaching staff as being equally strong in teaching. In relation to the need for CPD for improving teaching and learning in his department, he stated:

> I think generally, there's not, no major complaints but, I mean, to me, no complaint does not mean that there are no challenges. But I've gone in and observed some of them, most of them. But after observing most of them, I think generally our lecturers are okay…. We are all competent, you know. Some are more competent than others but I don't see anybody incompetent.

While acknowledging that there were areas of development needed, Simon viewed such developments as a departmental need requiring lecturers to break away from their existing mental model about teaching in order to be more creative and explorative in their teaching. He cited the changing student demography and increased class sizes as reasons for doing so. He viewed himself, as the head of department, as the one to lead this effort but were constrained by his teaching and management responsibilities.

Two lecturers in another department reported that most lecturers in their department were engaged in two communities of practice that were subject specific and with overlapping participation. These CoPs, one initiated and facilitated by Siti, another initiated and facilitated by Steve with Siti's mentoring, resulted in active participation by lecturers teaching the subject and were viewed by the participants as successful in addressing

administrative, teaching, learning and assessment concerns they had in a collaborative and supportive manner (Transformative – combining CoP, Action Research and Cascading).   In addition, through the initiation of their head of department, peer collaboration in the form of peer observation and co-teaching for mutual learning was a normalised CPD practice (Transformative – combining Action Research, Mentoring, Coaching). Steve and Siti also reported their department head facilitated this by addressing relevant systemic issues such as class scheduling and workload allocation. Although their heads would introduce complementary partnerships to facilitate collaboration, lecturers in the department were encouraged to choose CPD activities which worked for them.

Although members of 4 departments reported mostly active level of CPD initiation and engagement, a member of a 5th department reported a contrast. Diana felt that pursuit of professional development in her department was very much an individual process, with her head of department focused on administrative issues and other concerns within the department. While she had the option to choose her own CPD activities as provided for by the institution, she also had to ensure that they did not interfere with her responsibilities within the department, as required by her head of department. Although there was very little CPD activities to enhance teaching and learning, Diana considered that there were still many CPD opportunities based on the workshops run by the Teaching and Learning Unit.

Improving Institutional Support, the Role of Policy-Makers and Policy Implementers

In general, all participants were of the view that the institution was very supportive of CPD for improvement of teaching and learning. Of the 9 CPD models commonly used in HE, support was given in different forms and at different levels, for 8 of the 9 models. Department heads and the university's senior management chose to take a positive approach to CPD and therefore did not support the deficit model, in which a lacking in certain areas were identified and then formed part of a CPD curriculum. CPD activities were organised to meet lecturers' and institutional needs but some sensitivity in this area resulted in these activities being viewed and promoted as developmental activities.   In addition, the institution appeared comprehensive in its support for CPD. Improvements in CPD support were still possible, after careful consideration of the multiple factors involved, including the institution's financial resources.

Firstly, there were some areas in which policy revision was needed. In accordance to that, some guidelines and implementation strategies needed to be reviewed. One of these areas was in relation to CPD support for award-bearing, postgraduate qualifications. Participants felt that to improve the quality of their teaching, PhDs were beneficial for some but not for others. Michael pointed out the need for him to take professional exams because his area was a technical area and by having sat for and passed the professional exams, he would have been able to guide his students better. Part of his programme's learning outcomes was for the students to obtain their degree and pass their professional exam. Yet, the institutional policy did not include such CPDs. This prevented him from obtaining financial support, despite his head of department's attempt to promote a change.

Secondly, while policy for conference participation and presentation were generally viewed to be good, there were areas that needed some revision and flexibility. One was that the amount of financial support given for international conference. The amount that was allocated for international conferences, especially those that were held outside South East Asia was viewed to be inadequate. As Professor Alan stated:

> There's some obviously good policies in terms of the research support although the funding is, is poor. You know, you can't / The ringgit is not [a] strong currency. You can't, you know, if you want to build your reputation and you want your staff to feel good about their achievements and they want to go to the conference in their area that happens to be in Paris, they need to be able to do that without it costing them personally.

Another area for reviewing is the funding of one author only for conference presentations and funding for conference participation without a presentation limited to within the city or the state. Novice lecturers like Steve found that conference attendance beneficial to their learning as they were able to network, participate in professional conversations about teaching and their subject area. Conferences in his subject area were not always held within the city or state, and the requirement to present made this type of CPD very challenging for a novice. He stated, "… that TEFL conference that I went to. There's so many interesting sessions but it's a very big hurdle. I have to do research and present."

Thirdly, it was recommended that a policy that made it mandatory for novice lecturers and new lecturers to attend certain CPD modules as part of their probation requirement be introduced. This meant that lecturers who did not meet this requirement will not gain confirmation of their position. At present, these lecturers were encouraged to attend some basic modules, especially novice lecturers. However, there is nothing that compels them to do so. Since novice lecturers were the ones reporting more CPD need for basic knowledge and skills,

the institution needed to ensure that such needs were addressed through its policy. Such a policy would also benefit lecturers who were new to the institution but had some teaching experience at other institutions. The uniqueness of one private HEI from another, i.e. different focus, different disciplines, different student demography meant that there would likely be differences in the ways to achieve quality teaching.

In connection to the above, time for professional development for lecturers new to teaching or new to the institution could be built into their workload. As an example, some gap in the time that the lecturers started work at the institution and the time when they were required to teach would enable them to attend some formal CPD modules as well as participate in other CPD activities either at departmental level or individual level. Alternatively or in addition to this, one day per week could be blocked for CPD activities, at least for the first six months prior to their confirmation. The teaching and learning unit, therefore, would need to ensure that at the very least, their basic CPD modules were offered more frequently to fulfill the needs of new lecturers hired throughout the year.

Fifth, the institution's Teaching and Learning Unit could solicit more comprehensive feedback from faculty members regarding their CPD needs in order for their programme offerings to meet the needs of more staff. All the senior members of the university management team, the heads of departments and most of the lecturers interviewed agreed that the institution had various internal talents who were experienced in teaching or their content area or both. While university's senior management saw these talents' involvement in internal CPD activities, other research participants felt that these internal talents were under-utilised and their strengths not tapped into. Doing so would enable more CPD activities that were concrete, based on the lecturers' teaching and learning needs and immediately applicable to their teaching situations to be organised.

Sixth, improvements of CPD provision needed to be evidence-based. Data related to the extent that teaching and learning activities were actually improved and sustained was needed. At present, participants indicated that data on perceived effectiveness of formal sessions held in relation to the facilitators and the contents were available through participant feedback form distributed and completed at the end of each session. But to what extent these sessions led to teaching improvements was under-reported. If knowledge and skills gained from CPD activities did not result in changed / improved teaching practices, this gap needed to be addressed. If it did, the information could be shared with others,

Finally, given the high value of CPD activities occurring at the specific departmental level, the role of departmental heads as the leader, driver and champion of CPD needed to be made more explicit, and not left to the discretion of individual department heads, as evident in the case of the 4 departments with active CPD level and 1 department which had yet to achieve it. While the 3 department heads had gone beyond their role as policy implementers to champion CPD initiatives in their department, another had not. When the role of department heads as the leader, driver and champion of CPD is made more explicit, with possible policy and guidelines, CPD activities at this level would be more consistent and not left to individual awareness. However, some department heads may need their own CPD support to enable them to champion the enhancement of teaching and learning quality through CPD located in their departments.

Challenges in Making Improvements
Of the seven recommendations given above, some may be easier to implement than others because they were also dependent on the institution's financial and manpower resources. In addition, while CPD for enhancement of teaching and learning quality was an important concern, it was not the institution's only concern. As a young university aiming towards becoming more recognised and better ranked in the local and international ranking system, the institution's senior management needed to be careful so that all areas of development needs were similarly supported. While there was a general recognition that institutional support for CPD had improved and should continue to improve, increased financial support in some areas might not be the decision that the institution itself wanted to make.

Quite understandably, the institution might have chosen to support CPD areas in which both the staff and the institution stood to gain more. A case in point was the support for PhD but not for professional exams. Given that they needed to manage their finance better and make it stretch further, supporting PhD would increase the institution's staff strength and PhDs count in all important ranking systems. PhD holders gain knowledge and skills in research, with the expectations to conduct research and publish papers. Again, research undertaken and paper publications count in all important ranking systems. The same could not be said about professional exams. Another case in point is providing funding support for a conference presentation to the first or one author only, for papers with multiple authors. This was a conscious decision by the institution to ensure that the amount of fund spent should correlate to institutional gains.

CONCLUSION

The case institution offered strong support for CPD both at the institutional level and at departmental level. Both heads of departments and lecturers reported that the CPD activities that they had chosen to engage in were beneficial to the improvement of their teaching practices. With evidence of the extent to which improvements had occurred, the institution, whether through the initiative of its Teaching and Learning Unit or through CPD champions would be able to identify and strategise ways in which CPD provision could be improved. Revision of relevant policies and guidelines in order to accommodate lecturers' CPD needs while taking into consideration institutional needs and constrains would also enable more systematic and inclusive support for CPD at the level that it needed to be supported. Beyond policy revision and changes, policy implementers could also explore ways in which opportunities for CPD could be created and sustained because policies cannot and should not prescribe everything. Finally, it needs to be reinforced that although CPD and CPD support are complex but necessary, they are among the many things that a young university needs to review and change for the better. As such, any form of changes need to be problematised and discussed by the stakeholders, and not be too drastic that they result in the institution being restricted from developing other areas.

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SYMBOLIC-ANTHROPOLOGICAL EXPRESSIVE MEDIATION:
FOR A HOLISTIC-INTERCULTURAL EDUCATION

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ABSTRACT

The paper is about the method of Symbolic-Anthropological Expressive Mediation, which comes mainly from the research, training and supervision carried out in *Eurinome*, the *School of Bodily and Expressive Mediation Pedagogy* of Perugia (Italy).

The specific methodology is set up as an educational re-working of methodologies, born in the dance-movement-therapy clinical field that enhances the symbolic and intercultural dimension of dancing and movement.

The characteristic element of the method is the holistic approach. Bodily and expressive mediation is designed and proposed as a privileged dimension to enable the various components of the person in all its complexity, in consideration of the plot of interactions in which he/she lives.

INTRODUCTION

With this paper, I intend to present some of the elements that characterise the theory and methodology of *symbolic-anthropological expressive mediation,* highlighting in particular the pedagogical potential of symbolic mediation. Both the theoretical and the practical dimensions of the specific method proposed prove deeply intercultural: the theory integrates philosophical, psychological and spiritual approaches of different geographical and historical contexts, searching within them that which unites in light of the broadest and most inclusive interpretation of human beings. The practice of the use of the symbol in expressive and dance mediation reveals obvious opportunities for intercultural opening and understanding thanks to the universality of the symbolic image itself. Thanks to bodily and expressive mediation, to which the spoken word is integrated with methods that increase the value of the creative processes, knowledge, from *sophia,* wisdom, becomes *fronesis*, wisdom of life.

1. SYMBOLIC-ANTHROPOLOGICAL DANCE-MOVEMENT EDUCATION: FROM THERAPY TO PEDAGOGY

The method comes from my personal path of training and research, which was divided over the years through different disciplinary fields, and by the work of education, research, training and supervision carried out in the *School of Bodily and Expressive Mediation Pedagogy, Eurinome*, of Perugia (See www.danzasimbolica.altervista.org), which has been in operation since 2006. All of this is also thanks to the exchange, sharing and researches carried out with colleagues both within the context of dance-movement-therapy and bodily mediation in different university contexts (Naccari 2004, 2006, 2012 ed., 2015).

The specific methodology is configured as a reworking and integration, in a pedagogical key, about theories and methodologies conceived mainly in the clinical field of dance-movement-therapy, methodologies that enhance the symbolic dimension of dance and movement. The new approach is thus established both as an explicit educational possibility in context and agencies proposed for pedagogical purposes, and as an educational integration within clinical practice. Also in clinical theory and practice, illness is now no longer considered only in reference to purely biological data, it is increasingly trying to consider the complexity of the affective, personal and social system of the person in need of care, a system that affects the status of health or illness, influencing the meaning that is attributed to the symptom and the way of accepting and reacting to the illness itself. In many medical systems (for example psychosomatics), symptoms are a language that refers to the whole person. In addition, the concept of well-being refers not only to the absence of illness but also to the subjective perception of "one's own state of satisfaction and of psychophysical balance" (Benetton 2012, p.23). For the World Health Organisation, well-being involves all the dimensions of a person, therefore not only the body, but also the affective, social and spiritual reality. Therefore, the well-being, and/or the *being well*, is inevitably intertwined with pedagogical matters because it affects the various *growths* (corporeal, affective, social, intellectual, ethical, spiritual…) of people, and the capacity they have to take care of themselves, of self-realisation and personal development.

In this sense the meaning of therapy increasingly approaches the original etymology of the term. In fact T*herapeuein* means taking care of the person in the broadest sense; therefore also educating those aspects that are seemingly distant from the "diseased part", in consideration of the total humanity of the person in therapy. Aspects that are distinctly medical, therefore, should not be disjointed from those that are pedagogical (see Naccari 2004, pp.10-11). Among other aspects, illness inevitably requires a change and a capacity of acceptance and of condescension towards human frailties that could inevitably prove to be educational tasks.

In developing the pedagogical approach, I consider the educational opportunity essentially *teleological*, that is to say related to the ability to look and to orient towards the future, towards the actualisation and the development of talents that are still not particularly developed, towards ideals that are still under explored, towards the possible evolution of the different components of the personality; in one word: towards empowerment of the person. In this, the approach differs from some *archaeological* approaches of therapeutic methods that are probably already outdated, that used mainly to dedicate attention to what happened in the past. I believe that within the concept of *time* should be regarded essentially a sort of dialectic circularity in the subjective conscience, in which the memory of the past and the expectation of the future, conceived in the present, influence each other. Designing one's own possible future can allow a different interpretation of one's past, and every time something happens in the present, the past is seen in a new light. Therefore, it is important to move away from the deterministic and linear logic in which the past radically influences what we can be; with Morin (but also with Saint Agostino and Ricoeur) I believe that in order to affirm the sense of freedom, of responsibility and of self-determination of the person, it is necessary to pass from a linear logic of time to one that is circular (Morin 1999).

In the symbolic-anthropological approach, the methods of working are usually *nutritive* in the sense that there is a tendency to offer from the outside through movement forms-symbols deemed psychotropic, i.e. positive for the personality of those involved. Through these images, it is possible to activate-learn new or little explored attitudes and possibilities of existence.

Symbolic images are proposed through a specific setting in which activities are structured (by those who lead, or by traditional choreographies…) and unstructured (open skills, theatre-dance and games-exercises, improvisation etc.) flow one into the other in relation to the same symbolic theme, chosen on the basis of educational needs of those participating in a particular group. In gestures used, the cultures of people of the world are enhanced through the appropriate and specific integration of ethnic dances and/or other expressive forms that include universal archetypal meanings: gestures that are culturally connoted, myths and narratives in general, graphic-pictorial expressions… etcetera.

Therefore substantially the symbolic image, central to the setting of each session, is proposed for a specific holistic (and always, inevitably intercultural) education, as I will describe in more detail shortly.

2. FOR A HOLISTIC EDUCATION AND INTERCULTURAL APPROACH TO KNOWLEDGE

The theory and the methodology of the symbolic-anthropological approach enhance a holistic education, with all the nuances that this definition involves. Dance, bodily and expressive mediation in general are conceived, and, in fact, proposed as privileged dimension to activate the various components of the person in his/her complexity, in the different life cycles and in consideration of the even more complex plot of interactions in which he/she is inserted.

The complexity of the person is considered through an intercultural reading, in which philosophical, religious, and medical systems of all time and places, (from the neoplatonic philosophy to the theory of multiple intelligences of Gardner, see Naccari 2006), find a peculiar convergence in the enhancement of the interdependence of the human being's different dimensions, and in their confluence in universal archetypes.

In the cultural worlds that have contributed to the weaving of the theoretical model of reference must be included the Jewish one, thanks to the philosophy of the dialogue of Martin Buber (1984) and the authoritative studies on the Jewish religion by Gershom Scholem (1960, 1982). The philosophy of the dialogue has allowed me to understand how human interaction, as well as being crucial for the formation of the human being and for the care of civilisation, is substantially a reality which entirely involves the whole person, and requires a kind of presence in which the spoken word plays only a small part. Becoming a person is thus configured as a *training of You,* in which the experience of relating with corporeal-emotional-imaginative-empathic-spiritual reality is continuously evolving and requires the ability to put oneself in the game and take risks, in order to meet the another in a special space (the *Zwischen*). Space in which understanding is also created from empathy, from signs, gestures, and glances, in short, from that which is non-verbal.

In addition, biblical Judaism, to which Scholem masterfully refers, does not know the dualism between body and soul even from a linguistic point of view. In fact, in Hebrew each term always refers to the human being's totality, emphasising a different perspective. No term describes a part of the person as if it could be imaginarily detached from the rest. The word *Basar* cannot be translated with the word *body,* but refers to a whole human being seen from the perspective of its earthly weakness. *Nefes* cannot be translated with *soul*, meant as guest of the body; but is instead as life of the body, which *animates* its emotions, feelings and desires. In relation to the interdependence of the complex realities that make up human beings, in the Book of Zohar, an interesting metaphor is proposed: *Nefes* is "intimately linked to the body, - and - having reached perfection, it becomes the throne on which it rests *Ruah* […]. When both, namely soul and spirit, have reached perfection, then they can receive *Nesamah*, the "super-soul", for which *Ruah* becomes a throne […]. The soul, *Nefes,* is the inferior impulse that touches the physicality; as a candle where the lower dark light is in contact with the wick, on which its very existence depends. When the dark light has become well established on the wick - i.e. *Basar*, corporeality -, it becomes the seat for the white light, above. When both are well established, then it is the white light that becomes a seat, for that elusive, invisible and unknowable light, that rests on

the white light" (Scholem, 1949 ed., p.18). Therefore, "between *corporeality, soul, spirit* and *higher soul* there is a relationship of substantial *systemic* interdependence*, where one part separate from the other is not in the least bit conceivable. From physicality to the *dark light,* to the *white light,* to that which is *invisible*, the metaphor indicates a progressive mutual belonging, where the conquest of the most beautiful light presupposes an improvement and not the mortification of previous-lesser *thrones*; but here *lesser* does not have a negative meaning, but only chronological precedence in the order of concrete existence and of possible improvement" (Naccari 2006, p. 20). The different dimensions of human beings are, therefore, in complex interaction and through one, it is possible to influence the other; corporeality and movement are an unavoidable reality for all the others, through which it is therefore possible to educate all the others.

The holistic approach not only refers to the totality of human beings in themselves, but in fact, also relates to the relational, cultural and natural context in which everyone is inevitably involved in a system of actions and responses (Bronfebrenner 1979; as a photo of a workshop with the pupils of the school metaphorically represents), and to the specific cycle of life that involves each one of us with different evolutionary crises and tasks.

In this respect I consider a *eco-systemic* perspective in *space* and *time*. Each one of us, even when we believe we are not particularly incisive, influences the context we are located in, and are, in turn, influenced by; just as a drop falling into water generates multiple circles around the point where it falls, each of us reverberates our own way of being around us, interlacing, in an extremely complex manner, our *circles* with those of all others. Therefore in educating, it is necessary to take into account the system of relationships in which people are inserted, and it should be remembered how the relationship that we tend to generate as educators and the relationships that establish themselves in the group of pupils-clients-users are in themselves crucial in the learning process. This, among other aspects, is particularly true in corporeal mediation workshops where the bodily, relational, expressive and emotional dimensions are central.

All this also looks to favour an assumption of the awareness of the specific geographical and cultural context in which one lives, with particular personal, natural and collective times and rhythms, with which to try to be in harmony (see Bronfebrenner 1979, Bateson 1972, Morin 1973).

We must consider, in fact, that we are citizens of planet earth (Morin 1999) not only in the cultural and intercultural sense, but also distinctly natural. For this reason, we are sensitive to the rhythms of nature and of the cosmos. We therefore need to be in harmony with the alternation of day and night, of the seasons, climate changes, the cycles of the moon etcetera. This in our methodology can be cared for-educated through the proposal for symbolic themes linked to the seasons and the natural and cosmic cycles (See Tosi 2012). In addition, such a reference to the *Other*, as human being, creature, element of nature, earth, universe, spirit, with which it is essential to be in harmony, is variously and richly present in different spiritual traditions, whose narratives and symbols (which will inevitably affect the perception of nature by human) can be integrated in the setting, as I will describe shortly.

From a purely didactic perspective, taking into account the network of relationships in which everyone is involved, means that, as dance-movement educators it is important to seek interaction with most of the operators involved in the system-institution in which we work, and, as far as possible, with the other external educators and/or therapists, relatives, parents, teachers, coaches, pastors and psychotherapists… It is what was defined *ecological model*, or

integrated educational system (Orefice - Sarracino 1981). What is therefore sought is effective teamwork through the hermeneutic sharing of the process in progress, recursively, with the educators involved in the educational system.

Regarding the dimension of *time,* holistic approach means considering and appreciating the specific life cycles of pupils-clients-users, with different existential crises and evolutionary tasks to be addressed, also in relation to the culture of belonging (Naccari 2010). Lifelong learning, intended as broad educational attention in every existential moment of a person, is now part of the pedagogical culture of the west and its ancient roots are sunk into different cultural contexts (Demetrio 2003). The study of life cycles is not meant to be a theory of stages on the basis of which to read the needs of people and to prescribe relevant educational opportunities; rather it is a kind of synthesis theory relative to what has been stated about different dimensions of the development of human beings. It is an instrument at the service of the person, which may help to understand better what is happening, in which direction we are perhaps moving in order to orient *teleologically* educational opportunities. In addressing personally, or in trying to understand crisis and developmental tasks of our clients, it inevitably happens that we (or our students-customers) are involved in more than one stage, precisely because the theory is indicative-orientative and today there is a great fluidity between ages. However, making the effort to understand where we likely stand and where others are (even if a very articulated framework becomes clear) nevertheless makes it possible to understand better others and ourselves and to be able to better imagine and plan possible educational interventions.

Everything proposed thus far is not only the prerogative of the dance-movement educators, that should know all this, as their educational background also allows them so to propose and implement, in the best possible way, corporeal mediation workshops. This entire world of intercultural knowledge, which is continually drawn upon and that is continually enriched with new and endless stimuli, is also a precious resource for students-users-clients. In our setting, in fact, at the end of each meeting there is a space dedicated to speaking in which each person tells what they wish to share of what they have experienced, to predominantly better understand and to integrate it within one's inner world. At this stage of the meeting, those who lead, if they deem it appropriate, may narrate meanings and cultural, intercultural and geographic references of the symbols explored, or can describe certain aspects of the cycles of life, which are being worked on. This contributes to the broadening of user's knowledge horizons, in a knowledge-oriented manner linked to the experience, and it is also a response to the need for truth and spirituality (as opening to a deeper and more mysterious meaning, that concerns the human in their own essence) that is increasingly present in our era (Frankl 1972). Those who are listening are free to address what is being narrated, and to select this with whom they feel in resonance, agreeing with the educator, at the beginning and at certain intermediate moments of the path, a number of educational objectives and possibly symbolic themes on which there is a desire to work. In this way, in a dialectic manner, in our setting (that is mainly non-verbal) there is an integration of a verbal dimension that can be compared in many ways to the *logotherapy* (Frankl 1972) and/or to the *philosophical counselling.*

3. PEDAGOGY AND DIDACTICS *THROUGH* THE SYMBOLIC MEDIATION

The pedagogical model that we use (as a school) is itself symbolic. A pedagogical model "represents a mediation between the dimension of being and that of the need to be" (Mollo, 2005, p.41), and thus allows the passage from the description of phenomena, and therefore from interpretations of the real, and from anthropological concepts to the concrete educational practice. It is therefore a sort of reference framework to remember everything that should be educated in the human being. Ours is a model that makes the body itself a memorandum of the dimensions that belong to a person and that, therefore, one must always bear in mind in educational planning. It is a synthesis that takes into account the personalist and neo-humanist vision (but also many intercultural respects, as I have previously described) of human beings.
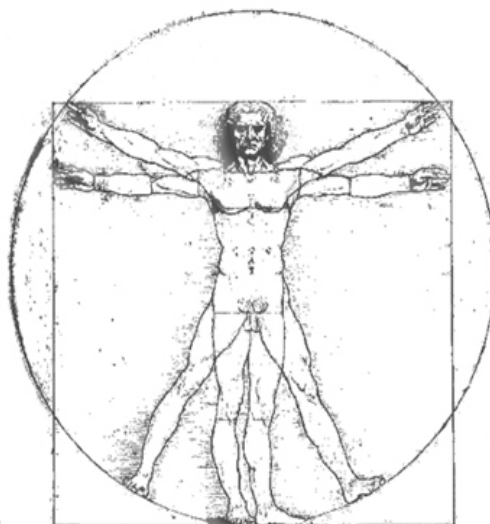
The human body, as shown by Leonardo da Vinci in the iconic drawing of the *Vitruvian Man*, is inscribed at the same time in a circle and a square. The first refers to the spirituality of man and woman, the second to their materiality. *Flesh and spirit*, incarnation and opening to transcendence in fact characterise the reality of the human creature as dialectic polarities. These polarities are also present in the upper and lower apexes of the vertical axis that passes through the body itself; we are, in short, located between *earth* and *heaven*, i.e. between matter and spirit, between deficit needs and being needs (Maslow 1954), between instincts and values (Guénon, 1957). The lower part, i.e. the legs and feet, roots us to the earth; the pelvis allows us to perceive and balance the attraction of the force of gravity. All of this symbolically refers to the need to accept limitations and naturalness, as well as the uniqueness of our birth in a precise place at particular moment in history, "with two parents that we cannot change, with a culture and a historic and geographical moment that determines and substantiates most of our way of being… But, at the same time, we are the only animal on earth with a properly erect posture, the spine is in fact set vertically to the ground, which indicates symbolically the irrepressible longing of a person to transcend the finite, to go beyond it with the powers of thought, that may push beyond the here and now and, therefore, beyond the limitations posed by space and time, and even further away thanks to the power of the imagination and intuition" (Naccari 2012, pp.47 -48).

The horizontal opening of the arms symbolises the meeting with other beings, men, women, animal creatures and with the natural and cultural environment in which we live. This is the crucial dimension in which we become human beings, because man and woman *become I through the thou* (Buber 1984). We become human thanks to the many human relationships in which we are involved in over time.

Therefore the *great triad* (Guénon 1957) of the symbolic dimensions in which we are involved synthesises the various *growth* that characterise us as human beings: the *Earth* (lower apex of verticality) concerns physical and emotional growth, physiological and safety needs (Maslow 1954), the need for play and movement; the *Horizon* (axis of horizontality) concerns affective-social growth, the need of love, belonging, esteem, communication and expression; the *Sky* (upper apex of verticality) concerns intellectual, spiritual, moral and cultural growth.

The further symbolic image that emerges from all this is that of the cross, which is a universal archetype present in many cultures. One needs only to think of the cross of Christ which, from a horrible instrument of death, becomes, thanks to the resurrection, symbol of transformation and extreme connection, in fact, between *earth* (finished, death) and *heaven* (spirit, immortality). Even in eastern philosophy along the axis of the verticality that crosses the human being are found the nuclei of vital energy (*chakras*), whose meanings are connected to the deficit needs and to being needs moving from bottom to top… I have dealt extensively with all these matters in other texts to which I am referring to (Naccari 2004, 2006).

The model as it is structured is a sort of *vademecum* to remember and read the educational needs and directions of the person, in order to focus on the dimension, which in turn is good to work on.

A fundamental aspect of didactic methodology is symbolic mediation in the concrete practice of movement and dance, which allows holistic contact of the person in all its different components. The choreographic symbol, if appropriately proposed, in fact, allows activation within the self of the meanings, experiences, attitudes and values related to the symbol itself, facilitating a complex synthesis between different aspects of the human being, and allowing new and meaningful learnings.

The symbol is eminently intercultural; the same symbolic images, with connotations that differ because of their specific geographical position, are found in distant cultures in time and space. This was precisely one of the characteristics that enabled Jung to deduce the existence of the collective unconscious composed of universal archetypes. Moreover, for

Jung, "the symbol is on the one hand a primitive expression of the unconscious, and on the other hand is an idea that corresponds to the deeper intuition of conscience" (Jung 1938, p.38). The image is "concentrated expression of the total psychic situation" (Jung, 1922-50, pp.17-18). The etymology itself of the term describes the multilateralism and, at the same time, the capacity for synthesis; *symballein*, in fact, can be translated with *joining,* that which indicates something that is composed of several elements, and which refers to different realities.

For Eliade the symbol is an "autonomous mode of knowledge … The symbolic thought is inherent to human beings, preceding language and discursive reasoning. The symbol reveals certain aspects of reality, the deepest aspects, which are beyond any means of knowledge. The images, symbols, myths … respond to a need and fulfil an important function: to uncover the secret mode of being… They project historically conditioned human beings in a spiritual world which is infinitely richer than that of the closed world of the historical moment" (Eliade, 1952, pp.13-17).

The gestural symbol, therefore, both in its collective-intercultural and personal connotation, precisely because it condenses within itself not only meanings, but also existential attitudes and values, is able to arouse emotions and images that facilitate change and makes people receptive to new realities. These are dimensions connecting micro and macrocosm, i.e. realities that belong at he same time to human beings and to civilisation, nature and cosmos.

Identifying oneself with a symbolic image through movement can activate inside oneself the corresponding meanings. For example: dancing the archetype of the tree, everyone is able to perceive inwardly how he/she is *rooted*, thus how one is able to welcome one's natural human reality; secondly (in terms of the polarity of the symbol) everyone can perceive how he/she allows and experiences the opening of his/her own *branches* to the sky, as an ideal inspiration, not as an escape; and how much the two dimensions are in harmony with each other.

All this allows the realisation of an experiential learning in relation to values and attitudes that are difficult to activate in a purely verbal manner. The movement, in fact, allows to experience from within the symbolic image itself, so to personally experience its potential. All of this happens in a particularly effective way, precisely because it is not limited to instructing on a plane of intellectual knowledge, but is made of immersive methodologies of experience, learning and knowledge; as such, it does not only involve rational understanding, but living; enabling knowledge to become from *Sophia*, wisdom, *Fronesis*, i.e. wisdom of life. Verbalisation, as I have described previously, helps in this because it allows the realisation of a varied and complex verbal and non-verbal synthesis between dimensions.

Certainly each time one propose a symbol *from the outside* is, such as a movement that is not only improvised but also learned through traditional dance, than it is inevitably actualised and personalized by the individual who is dancing and, therefore, making it his/her own. For example the *tree* (see Naccari 2004), which I have previously stated*,* "as universal symbol *of the axis of the world* (present in the most varied cultures), will become the olive tree under which I played as a child, or the great scented lime tree I see in front of my window when I work on the computer, or even the great oak, strong and friendly that I would like to be for my pupils and students. The symbol proposed *from the outside* thus connects (*circularly*) with the *inner* one, activating personal resonances and meanings, whose degree of awareness varies greatly… All of them, however, some more than others, will dance the power that has the tree to rebalance high and low, heaven and earth" (Naccari 2012, p. 75).

4. *SHAMANISTIC ORIGINS*?!

Due to the value assigned to symbolic mediation, I have always considered one of our ideal references as dance-movement educator in terms of Shamanism: without underestimating the epistemological distance between our world and that of the *multiple universes of* shamanism (Nathan - Stengers 1995). The shaman (Eliade 1951) administers the power of symbols, of movement, dance, music, trance, musical instruments, and various objects, such as masks, special clothes, colours, fabrics, feathers, nature's elements etcetera… We, as dance-educators, use all of these. Without searching intentionally for a particular trance-like state, in the setting of symbolic expressive mediation, the generation of a state of consciousness different from that which is usual is inevitable; this allows a lowering of the defences, to feel emotions, to allow oneself to imagine and to come into contact with one's own inner world. Often, among other aspects, those who lead the movement use instruments of various kinds, perhaps to mark time or to indicate a stop, thus administering the power of music that has often been considered in archaic cultures as a sort of mysterious language between the visible and invisible worlds. We also use objects of various kinds such as coloured cloths, balls and balloons of various sizes, sticks, newspapers, and much, much more. These become stimulus for the movement due to the characteristics of the material of which they are made and to their symbolic resonance.

The shaman is minister of the cult and, through the rite invokes and reactivates ancestral time, which allows all members of the community to return to the magic and the force of that time *beyond time* and to participate in it, finding meaning and energy for their daily lives to come.

In a very similar manner, in the symbolic-anthropological setting, in the space of a meeting, it is as if we narrate a story that evokes a symbolic theme and/or myth. Through the power of music, movement and instruments and/or objects with which it is possible to dance, there is an identification with the theme suggested, thus personally reworking it. Different activities of improvisation or traditional dance as well as others are seamlessly interwoven in a specific frame, which

makes up the integrator background and enables one to remain focused on the symbolic theme and the educational objective that is to be reached through it.

This weave relates to archetypical narrative roots, which, according to Jung, are both collective and unconscious matrices (forms of the collective unconscious) as well as cultural expressions (concrete manifestations of those forms). In addressing-identifying with these collective forms through corporeal and expressive mediation identification, it is possible to develop creatively one's own individual existential modes that in some way correspond to those images, activating a process of personal evolution. Thus, there is an orientation towards the realisation of one's existential authenticity, and towards the process of identification. The latter is understood as both a conscious comparison and assumption of collective meanings, and as an integration of unconscious experiences and ideals, in any case the two realities are in evident dialectic circularity with each other (see Naccari 2004, p.27). The process that is activated is thus both that of the conscious comparison with attitudes and meanings, and that of integrating sensations and hidden or latent instances that may emerge thanks to the proposed activities. All this however always occurs in the symbolic-mythical frame proposed by those who lead, which thus allows in a certain sense appropriate orientation and integration of the process of change (For examples see Naccari 2004, 2012).

The shaman is also a medicine man and psychopomp, in the sense that he cures not only with herbs, but also through his superior ability to sustain the soul on a journey that leads it back from the other-worlds where it was lost to the collective world to which it belongs, during which it is supported by the entire village. In a certain way we are doing something very similar, because we are trying to channel emotions and states of mind, of those who dance with us, towards more harmonic and evolutionary possibilities for one's own special path in life and in consideration of the context in which each one is inserted.

This is in fact possible through *the proposal of the right symbol* for that person at that particular existential moment. Durand expresses this concept as follows: "The psychotherapist who has to deal with depressive psychopaths injects into their asthenic psyche antagonistic images, images of ascension, of vertical conquest. And immediately, ... consciousness undergoes a genuine moral revitalization ... Similarly, in order to balance the neuropath who tends to lose touch with reality, Desoille makes them dream no longer of the ascent, but the descent to earth ... So in these therapeutic methodologies the change of regime sets up first imagination, and then behavior, a symbolic re-balancing " (Durand, 1964, pp.107-108).

Also in a pedagogical key, the symbolic dance theme is chosen on the basis of what people are deficient in. Initially it would be good to dance using the themes with which they already feel comfortable with, in order to be able to become familiar with the specific educational language, with the group as well as with those who lead.

A remarkable merit of the shamanistic therapy, from which we have much to learn, is to not to isolate the sick person, but to give them an important role in relation to the whole community. Tobie Nathan (Nathan - Stengers 1995) in speaking of non-western cultures, "*savage*", defines them *multiple universes societies*. This means that for them the world that we see is only one of the possible worlds, there are many others, inhabited by spirits, that are very different from each other; he calls our society, "*scientific"*, with unique universe, that of the "alleged" scientific truth. What characterises shamanistic therapies is substantially the reference and the restoration of the sick person to his/her own culture and community. The sick person, therefore, is not alone with his/her problem, is instead firmly linked to the system of interpreting the world of his/her people, and, because he/she is sick, plays for them an important role in mediating between the worlds; thanks to the illness, he/she has the power to allow them to communicate with other worlds, to bring messages from the spirits.

Many traditional dances, until the last century also in Italy, used to ritualise this therapeutic valence of movement, such as the restoration of symbolic identity of culture of belonging (see Naccari 2004). An example of this can be traced to *tarantism* from the south of Italy (De Martino 1961).

In the symbolic-anthropological setting, ethnic dances are used in all their cultural and community value. Moreover the attention towards the person is never alone as it is individual; there is a constant effort to consider and to enhance the subtle threads of membership to one's own loved ones, to one's own community, one's own culture in the intercultural opening and one's faith (whatever it may be), in the opening to the widest possible and authentically dialogical ecumenism.

5. NOTES ON THE SPECIFIC METHODOLOGY

To enable entrance into the specifics of the method, I will describe below in summary the basic characteristics of the setting of a meeting of symbolic-anthropological bodily mediation (The setting is described in detail in Naccari 2006 pp.211-246; and 2012 pp.53-62)

First, one should bear in mind that the structure of each meeting is always carried out in three phases patterns. Initially, the warm-up is never simply physical but also relational and emotional, and as well introduces the chosen symbolic theme. This phase lasts as long as people in the group need to be able to engage fully in play. Immediately after the warm-up we often propose an ethnic dance, or a sequence of *expression primitive* (Schott Billmann 1994), that

condenses the symbolic image which will be addressed below in the next phase of exploration. The choreographic sequence aims to enhance the sense of belonging to the group, and to allow familiarising oneself with the chosen theme by starting to acquire some gestures that are related to it.

The next part, the exploration, is the central part in which one fully immerses oneself in the experience of movement in the proposed theme of the meeting. Here the perceptual, emotional, intuitive, imaginative, relational, analogical and expressive processes have the supremacy over our usual mode of being conscious and over our language. At this stage it is as if we are able to suspend the time and space of everyday life, to experience a sort of extended present (see Naccari 2012).

The phase that closes the meeting, which we call integration, is that which allows return to a state of daily consciousness, while at the same time seeking to create the synthesis of what has emerged, allowing oneself to integrate this experience into ones daily life. In this part of the meeting, we often propose the development of an individual or group choreography in which to focus and condense the most important aspects that have emerged during the meeting. We may also propose a plastic-pictorial reworking that is isomorphic to the theme chosen. For example, if I proposed to dance their own *tree*, this will be the subject of the design of each person, after all the drawings can be placed together to create a large collective mural. If I have worked on *shaping,* sculpting statues in space, I can propose the use of the collage technique, which retains the same purpose on another plane and in another language. If work has been performed on abandonment, it will probably be useful to work with finger paints, which facilitate regressive and fusional experiences. Another possibility of integration is narrative reworking, where it is possible to invent a story or tale from what has emerged, to write a poem or a poetic text, to narrate a part of one's own biography. Usually, at the end, whether another technique of reworking the experiences has already been used, or none has been used whatsoever, *verbalisation* (talking about the experience) is used to describe and better focus on the experience and to remember it. Therefore, *verbalisation* is not just for the purposes of interpretation but it is used to find the words to describe what has emerged (See Naccari 2012), to increasingly better integrate into the consciousness new dimensions and experiences.
The space of integration is also the time when the educator, as in the case I described earlier, is able to tell the cultural relevance of symbols that have been explored; this allows a global integration of the gestures and themes explored.

An aspect always present in our setting is that related to the synchrony of the basic theme; this means that from the warm-up to the integration, attention is paid in proposing activities about the same educational and/or therapeutic objective through the chosen symbolic mediation. For example, if the chosen theme is that of the *cross*, since the warm-up all the activities allow the perception of one's own verticality and horizontality, then an ethnic dance related to this theme is proposed (for example, a Greek dance); through the exploration, between other activities, it is possible to integrate a *visualization* on the axes and then to take them into the space and dance them… In integration, everyone can design their own personal way in which they have *seen,* perceived and danced all this. The basic objective here is not only to harmonise the three dimensions, but also to *centre oneself* in relation to this; on the basis of the specific needs of the group, the educator will place the emphasis on one thing or another…
Yet, another feature is the dynamic and harmonic continuity between diachrony and synchrony and the way to live time, space and personal resonances within the theme suggested by those involved. Everything that is proposed never presents abrupt transitions or interruptions, so that those people who are dancing are eased into immerse wholly themselves in the experience. All this in listening to timing and the specific needs of the group; in fact, regarding the latter the person that leads the group can adapt the time and the ways of the proposals during the meeting.

The most important symbols and narratives used in the meetings of symbolic-anthropological bodily mediation, both through the choreography of ethnic dances and through other expressive activities include the circle, the *mandala*, the cross, the labyrinth, the opposed rows, the tree, the cycle of the sun, the great triad and many others. They are proposed in all their intercultural forms, not only to learn and express on a choreographic plane, but to revive the old pedagogical meaning of them, which involves people holistically in their multiple realities: physical, emotional-affective, relational-social, intuitive-imaginative, cognitive, ethical, spiritual, creative, natural cultural and …intercultural.

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SYSTEMS UNDERSTANDING. WHERE WE ARE? A LOOK INTO SCIENCE TEACHER EDUCATION

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ABSTRACT

As educators we have the tendency to compartmentalize content into units for the purpose of simplifying things. While this approach seems logical it also cripples our ability to develop a system understanding and see complex relationships. With this limitation in mind this study focuses on an ecosystem design activity and explores its impact on students systems understanding. The activity uses modeling approach and requires students to design and build functional closed ecosystems with terrestrial and aquatic components. Findings suggest that while participants successfully develop an understanding on photosynthesis and respiration thus water and O2 and CO2 cycles they struggle with other cycles in nature as well as the interactions within and between systems.

INTRODUCTION

The world we live in is consist of many systems, some natural and some men-made. Regardless their origin all of these systems share complex relationships and dynamics within and between its subsystems. Ben-Zvi Asaraf & Orion (2005) identifies a system as "A system is an entity that maintains its existence and functions as a whole through the interaction of its parts" (p519).

Understanding such complex systems is necessary for every individual to be able to solve real world problems (Hmelo, Holton & Kolodner, 2000) in social, professional and personal life (Evagorau et. al., 2009). One of the tools utilized in successful decision making and problem solving is system thinking (Hogan, 2002). However, contrary to the need of such understanding and necessity of skills there are two significant obstacles to it. For one, our tendency has been to compartmentalize things and look at them in a divided manner rather than making the big picture visible. The way we perceive things are generally from a simplified or compartmentalized view. Same approach is also adapted by educators in teaching. The tendency is to approach content in sections or units. While in practice this may seem logical in reality it makes it difficult for learners to grasp the system nature of content, the interactions and complex dynamics. Thus may affect their problem solving ability. Second obstacle identified by Feltovich, Coulson & Spiro is the counterintuitive nature of system understanding due to the working memory load (as cited in Hmelo-Silver & Azevedo, 2006).. Hence it makes it difficult to develop a system understanding easily.

Different disciplines, medicine, biology, robotics and education in general, focus on the importance of systems thinking. (Hmelo-Silver & Azevedo, 2006; Sweeney & Sterman, 2007; Sullivan, 2008). Its effectiveness as well as importance at different age groups is explored. Applications of systems biology in higher education goes back to approximately two decades in United States though it has a much recent history in Europe. There are also studies that focus on development of system understanding in early grades (Evagorou et. al., 2009).

Contrary to the need of having a systems understanding it is quite a challenge to develop one.
In 21st century in terms of public awareness environmental education receives a significant emphasis for the purpose of having a better understanding of environmental issues. A coherent understanding of environment is required for healthy decision-making on environmental issues (Ben-Zvi Asaraf & Orion, 2005). Such understanding may be acquired through systems education. Having a coherent understanding of ecosystems, element cycles, food webs and how sub-systems function within and interact with each other would allow a person to appreciate the environment they live in and adjust their living habits in a way that is peaceful towards environment.

Perkins (1986) proposes "considering knowledge ….as a design" (p.3). When this approach is adapted into education students should approach pieces of knowledge according to their goal and move beyond memorization. Research promotes system thinking as an essential component in science learning and investigates its effectiveness focusing on different age groups. (Hmelo, et al., 2000; Hogan, 2000; Ben-Zvi Asaraf & Orion, 2005). But the limited number of studies should also be pointed out on the topic as well as limited implementation of system teaching into the curriculum. Hence this study aims to investigate the impact of a design activity as a part of

ecosystems unit in biology education. The research question explored was "How designing and building a functional ecosystem affect students system understanding?"

THE STUDY

This study was exploratory in nature investigating the impact of designing functional ecosystems on participants' understanding of systems as a part of the Biology II Laboratory course. The laboratory course is aligned with Biology II theoretical course and consists of content on ecosystems and biological systems (i.e. circulatory system, respiratory system). The design activity subject to this study only focuses on the first section of the lab, ecosystems, though the length of the activity is extended to 11-12 weeks including design, set up and observations. The laboratory course is offered weekly following the theoretical course. Each week's content is initially covered in the theoretical course then lab sections take place. As a part of the lab course students were asked to build a self-sustaining ecosystem with aquatic and terrestrial components. Students worked in groups of 3-4.

The task of designing and building a self-sustaining ecosystem was completed in 3 phases. First phase consist of designing the ecosystems and identifying components and their relationships. This phase was completed on paper and discussions took place for couple weeks during the laboratory sections. Once the designs were revised and refined and students were comfortable with their designs, first phase was completed. Total length of the design phase was four weeks. Students were provided with guiding questions during the process. Following the first phase, construction phase started. The construction phase was one week long. Each group provided materials necessary for their designs and constructed their ecosystems during the laboratory. Students conducted observations of their ecosystems and were asked to keep a journal reflecting their observations and taught processes as phase 3 started. Observations, phase 3, lasted 7 weeks. At the end of the activity students were asked to discuss their designs in relation to their predictions and observations and turn in an individual final report.

METHODOLOGY

Participants of the study were second year pre-service science teachers who were enrolled in Biology Laboratory II course. A total of 64 students participated in the study. Out of 64 students, 15 of them were excluded from the analysis due to missing data. Data from 49 students were analyzed.

Students' designs, journals including weekly observations and final reports were analyzed to investigate students understanding of ecosystems. Document analysis was used for the purpose of analysis of the content and identification of emerging themes. General Systems Theory outlined by Boersma, Waarlo & Klaassen (2011) was used as a starting point of the analysis. Based on the theory, characteristics of an ecosystem were identified, and then revised as perceived by students and additional themes were included as they emerged. Each student in a group reported designs identically. However, weekly observations and final reports were found to be differing between group members.

FINDINGS

Ecosystems consist of dynamic and complex relationships and interactions within and between sub-levels including element cycles, energy flows and food chains. Students were expected to take these relationships and interactions into account in their designs and aquatic and terrestrial ecosystems were expected to interact. Except one group all groups identified only one possible way of exchange between aquatic and terrestrial ecosystems and that was water being transferred through a string, which is shown in figure 1. One group, however, included straws into their designs for air exchange as well, which is shown in figure 2.

Figure 1: Design with string allowing water exchange
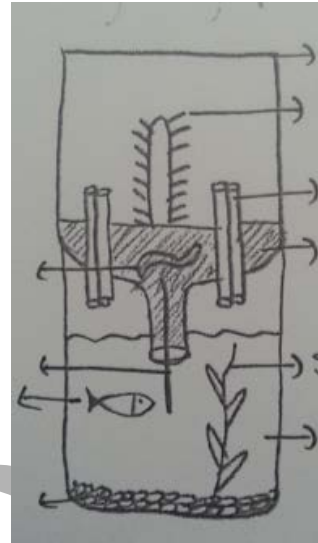
Figure 2: Design with string and pipets allowing water and air exchange

When student designs from phase1 were analyzed it was found that almost all of the participants were able to base their designs on:

1- Plants need CO2 for photosynthesis and in return they will produce O2.
2- O2 produced by plans will be used by other living organisms.

These two statements were provided for both aquatic and terrestrial ecosystems.

For terrestrial systems the components were soil, plant, earthworm, and insects. Only one group used ants and other insects in their designs that they've collected outdoors. Two groups defined the soil of their choice, potting soil, as it includes more nutrition for plants. The choice of plant between groups varied: from cactus being resistant to drought, to bean sprouts because they provide "....*N cycle*" [S29].

For aquatic ecosystems the components were water, sand, rock, aquatic plant such as elodea and fish. The choice of species varied among groups on several factors while some groups used less abiotic factors in their designs. Fish choice was based on nutritional needs and resistance to harsh conditions. Majority of the groups choose beta fish, as they are known to survive low oxygen environments with ability to use air in case the amount of dissolved oxygen is low in the environment. Interesting factor found in students' designs was the rationale students used to choose the species of fish. They were mostly focusing on species' resilience to hunger rather than designing an ecosystem that can meet fish's nutritional needs. While some groups completely ignored the nutritional needs in their designs, some groups failed to recognize nutritional needs specific to their choice of fish. Beta fish is known to be a carnivore and it was the most common choice among groups. One group stated adding fish food at the beginning to give the fish a chance of survival since the ecosystem will be closed and there will not be any food . Members of group 12 stated that although they planned they couldn't find *Artemia* to add to their design as a food source for the fish. Another group's choice of fish was catfish since "......*it is herbivore and resistant to hunger*" [S21]. Other groups assumed beta fish will eat elodea and some added moss as a food source for the fish. In final report one of students stated the need for "...choosing a species [fish] that is herbivore for the vitality...[S7]. This statement shows recognition of species' specific nutritional need.

In terms of feeding habits and food web, except one none of the groups were able to build food chains with 3 or more organisms in aquatic systems. However in terrestrial systems food source for earthworms were taken into consideration and included in the design. Students' designs were found to be very linear and limited in terms of nutritional design. Main focus was finding a species that can survive hunger for a long period of time. Regardless the designs, the written statements were indicating an understanding on the matter among students.

Most of the students did not explain choice of water plant beyond its use of CO2 and production of O2 in photosynthesis. However, eleven students commented on Elodea being able to regulate water chemistry. Two of

these students also commented on fish wastes accumulated in the environment especially and elodea being capable of balancing the environment. These two students were the only ones talking about waste issue in the ecosystems.

Light was also discussed by students in group 11 and where their ecosystem should be placed in the laboratory in relation to maximizing the efficiency of photosynthesis and production of algae.
When journal entries were analyzed for each student, one of the common trend found was reports on health of the ecosystem. Students were reporting how healthy looking their fish, plants, earthworms, and insects are and were also commenting on water quality as well as soil humidity. Some of the comments include:

> "On the 4th week life in terrestrial ecosystem started to slow down since plants were not getting enough day light and oxygen. In addition there wasn't sufficient food" [S9].
> "…fish is healthy, its color is good and moving around…"[S34].
> "…fish is not looking healthy, pieces are falling off from the tail. Based on my research I've learned that this is common due to change in water quality meaning pollution, unbalanced N cycle and fluctuations in pH and temperature" [S12].

Some of the students also commented on the other element cycles taking place in the ecosystems but these were limited to simple statements. Most extensive comment belonged to S12, presented above. In addition students were also stated observations on precipitation and evaporation though the accuracy of terminology used and explanation of causes were limited.

CONCLUSIONS
There are couple outcomes of the study shedding light on the impact of this design activity as a part of the curriculum. First of all integration of design activities into curriculum give students opportunities to critically think on the content beyond mere memorization of the facts. To be able to design a functioning ecosystem they need to have a solid understanding of dynamics and complex relationships. An unsuccessful failing ecosystem, as much as a self-sustaining one, would give them opportunity to question what was wrong in the design and investigate how can it be corrected.

Through this activity students got a chance to employ learned concepts of ecosystems to create a functional design. Observations allowed them to see how successful their designs were. They needed to answer the "why" question if something was failing. Hence they had to inquire what seemed to be failing in their designs. These may be issues that they wouldn't think about in a regular lecture based teaching approach. Upon their inquiries they were expected to come up with a solution.

The analysis of the designs, observations and final reports suggest that students were trying to come up with solutions they were facing in their designs. Some students were identified to be more successful in the process. Guiding questions can be restructured to support all the students.

Based on the data and outcome of the ecosystems designed by the students, it can be determined that students had difficulty designing functional self-sustaining ecosystems. Although they seem to understand concepts of photosynthesis, use of $CO2$ and $O2$ and light their designs failed to sustain themselves. This outcome indicates limited systems understanding, how dynamic and complex relationships and interactions within and between sub ecosystems take place among students. sIn addition, their understanding of element cycles and food chains were found to be limited based on the references made in the reports.

One of the challenges for students was not exactly knowing what kind of changes were taking place in their ecosystems since no real data was accompanied their observations. The changes of the amount of oxygen, carbon dioxide, light or ph was abstract for them and they were trying to make educated guesses in terms of why such changes occur and what would be the solution. Regardless of the challenges using design activity was found to be a productive approach in teaching systems nature of ecosystems as it promotes critical thinking and allowing students to make use of their theoretical knowledge.

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TEACHER AND STUDENT RELATED LEARNING HINDRANCES IN TURKISH SCHOOLS

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ABSTRACT

Problem: Learning environments with an orderly, positive and co-operative atmosphere is one of the strong determinants of school effectiveness and student achievement. In this study, it is aimed to describe the change from 2003 to 2012 and the relationship among the Turkish school principals' perceptions about the learning hindrances at schools originated both from students and teachers.

Method: This study is a secondary analysis and follows a comparative, cross-sectional and correlational design. The data related to students learning hindrances at schools were drawn from the dataset obtained by the PISA school surveys in 2003 and 2012. The sample includes 159 Turkish school principals from 2003 PISA cycle and 170 from 2012 cycle respectively. Teacher-related hindrance index includes variables of low academic expectation, poor relations with students, insensitiveness to students' needs, absenteeism, resisting change, strictness and lack of encouragement. Student-related hindrance index includes absenteeism, skipping class, lacking respect for teachers, use of alcohol and drugs and bullying. Resposes were first analyzed descriptively, and compared to each other based on their z-score distribution, and then analyzed correlationally for the relationship between teacher and student-related learning hindrances.

Findings: It is observed in the study that the most prevalent teacher-related factors in 2003 and 2012 appear to be the factors of low expectations, lack of encouragement, poor relations and insensitiveness to students' needs. The rate in teachers' low expectation of, lack of encouragement and poor relations with students decreases from 2003 to 2012, while the rate in insensitiveness to the needs increases. Similarly, the most prevalent student-related factors are student absenteeism, students' skipping and distrupting classes. While the problems of student absenteeism and disruption tend to decrease in this period, the problem of skipping is prevaling at schools. Additionally, it is also found that principals' perceptions regarding both teacher and student-related hindrances at schools are positively correlated.

Conclusion: The study reveals that Turkish school principals perceive both teacher and student-related learning hindrances in Turkish classes to decrease slowly over time, but the decrease in teacher-related hindrance is much faster than the students-related problems. On the other hand, they perceive learning hindrances in the classes are both teacher and students related at the same time. If there is a student-related problem in the class, there is also teacher-related problem accompanying it, vice versa.

Keywords: Learning hindrances, principal, PISA, learning environments, school climate

TEACHER'S PROFESSIONAL DEVELOPMENT THROUGH "AFFILIATED SCHOOLS AS PRACTICAL RESEARCH COMMUNITY " : INNOVATION FOR KOREAN EDUCATION REFORMING

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Korean society is located at the center of a turbulent transformative waves, which can be defined with revolutionary development of Information Technology, postmodernity of flexible truths and knowledge, opening and diversification of all the possibility and potentiality. In the middle of these changes, economic difficulties such as unemployment and low income are getting aggravated, uncertainty and complexity, which cannot be controlled with modern rationality, are getting deepened, pushing the entire society into injustice, inequality, and sufferings. So it is never too much to say that contemporary Korean society is passing through the "Age of suffering."

Public education is not an exception. So-called 'School collapse phenomenon' is worsening along with ever-flourishing private education, school violence, and failure of personality education. Taken for granted educational standards are being lost, and traditional pedagogical paradigm is being negated. Representation and legitimacy of educational research are at risk, while prudent choice and authentic dialogue from educational practice can be found nowhere.

What need to be done and how should it be done to save this endangered public education of Korea? This study suggests the following as a provisional answer. First we need to aim for a 'just' education. This implies a respect for fair distribution of educational opportunity, a tolerance for and solidarity with the other and the disadvantaged, and an effort to preserve diversity and minority. Second, we need to establish a new pedagogical paradigm. This new paradigm would become possible through critical reflection on hegemonic knowledge and language, as well as development of autonomous way of text reading. Third, collective intelligence or risk intelligence is required to solve the confronted problems. So this study presents a "Community of practical research and learning" of college of education and its affiliated schools as a strong alternative to the teacher's professional development, and consequently, to the entire public education.

Encountered with the 'Age of suffering', this study also suggests the orientations and the missions of Korean teachers as following: Performer of institutional function, Learner, Leader, Cultural Mediator, Critical Reflector. Teacher as a 'Performer of institutional function' provides students of an appropriate learning experience based on a certified curriculum. Teacher as a 'Learner' incessantly tries to develop their knowledge, skills, and values to enhance students' competence as well as learns and practices new professional knowledge and theories. Teacher as a 'Leader' collaboratively works with and influences the other educational subjects – such as students, parents, and other teachers – to improve their educational practices inside and outside of classroom and teacher community. Teacher as a 'Cultural mediator'

mediates the surrounded cultural settings to deal with the problem of inequality and injustice in a classroom teaching, by challenging the learning culture, via communication with teachers, parents, and local community. Teacher as a 'Critical reflector' continuously examine the institutional surroundings around them in a critical way, collaborating with the other teachers to improve such environments.

But we need to remember that what is required for the 'Teacher professonality' is not an administrative or economic perspective, but a more democratic perspective, which cherishes a cooperative work with other educational subjects and fosters teacher's own practice and research. This is because the essence of school and schooling as a social institution is based on the negotiation and collaboration among the stakeholders and their mutual trust. From this perspective of democratic professionality, teachers pass through a 'self-generating' process while thinking and behaving reflectively, and therefore, their 'self-narrative' takes on an important significance. In other words, based on a 'courageous and truthful voice', a teacher creates his/her own autobiographic narrative through critical reflection, and this helps teachers to develop a self-directed professionality. Considering other teachers, students, and theoretical perspectives make this process of self-reflection a more cooperative and participative practical research.

In Korea, there are 41 'college of education', as a separate college or department along with other colleges inside a larger unit of university, and its purpose is to raise secondary school teachers. Also, there are 13 'national university of education' as an independent university with no other departments, and its sole purpose is to raise elementary school teachers. Each of these colleges and universities of education has its own affiliated schools – elementary, middle, and high schools, – which is a perfect condition for collaborative work between colleges and schools. Therefore, the college of education and the affiliated schools have several characteristics of a 'community', and this leads us a to the clue to normalization and improvement of Korean public education.

First of all, the affiliated schools are based on a qualitative partnership with the college of education, and it forms a 'Community of practical research and learning'. This community facilitates the interaction between 'research knowledge' of colleges of education and 'local knowledge' of affiliated schools. Also, it is an educational community aiming for an immanent value, relatively free from political ideologies. And this makes the community a perfect place for professional development of teachers through collaborative as well as autonomous practical research. So it is an educational community with pride – a pride of caring for the students, and a pride of professional development – which are teacher's responsibilities and duties. Lastly, it is a community with national network, and this functions as a great advantage in spreading out the research outputs.

Based on the discussions so far, this study suggests to install "Korean Teaching Consulting and Leadership Center" with a view to form a 'Community of practical research and learning' of the college of education and the affiliated schools, and to develop teacher's professionality. And this community of practical research and learning would be built on a principle of 'Co-generative dialogue approach', 'Practical knowledge', and 'SMART education'. First, the principle of co-generative dialogue approach implies 'open dialogue' that every voice of the related people has an equal value, and that they all cooperate in producing the outputs. This narrows the relevance gap found between theory and practice, and guarantees both academic rigor and practical value. Next, the principle of practical knowledge is based on a respect for teacher's accumulated wisdom and an understanding about complex, contextual

features of teaching and learning. Lastly, the principle of SMART education aims for a Self-directed, Motivated, Adaptive, Resource enriched, Technology embedded education, and these provide Korean public education of an important theoretical basis.

Based on these principles, the 'Community of practical research and learning' will operate and manage an experience-practice system for pre-service teachers. The research output as well as the practical field knowledge will be granted with a 'communicative legitimacy', and this will increase the applicability for a practice, which will consequently contribute to the national diffusion or expansion. Along the way, communication, cooperation, and reflective dialogue among the members will cultivate the self-directed development of professionality. Especially, the affiliated schools will assume a central role and function as a base for the renovation of entire public education by providing a place for practical research and a learning community for teacher professionality.

No theoretical or practical improvement and renovation can find it's authentic meaning when it cannot be diffused to a larger sphere. Installing KTCLC has an importance in this sense. It is a necessary condition for developing teacher professionality, as well as an establishment of base community for research and practice of both pre-service and in-service teachers of the country. Through this central community, we can expect to construct and spread a new pedagogical paradigm for Korean education, and to recover an educational legitimacy through collaborative and intelligent dialogue as well as a prudent choice to overcome the crisis and conflict of Korean education.

At this moment in time, there is neither a clear solution nor a driving force to overcome the present crisis of Korean education. In the midst of this stalemate, establishing a practical research and learning community can be a seed of hope for endangered Korean education. We hope the teachers, who are leaders, learners, practical researchers, critical reflectors, and cultural mediators, to create and to become a foundation for more just education where every single student can bring out their best potential possibilities.

Keywords: Innovation for Korean education, Teacher's professional development, affiliated schools as

TEACHER'S ROLE IN CREATIVE EDUCATION

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Creative thinking is a key competency for the 21st century, in the first place, experts seek to flourish this fundamental skill by empowering teachers, schools, and educational systems Pishg hadam, etl(2012) stated that over the past decades, in the world of modern technologies, creativity and innovation have witnessed an overwhelming popularity (Chien, &Hui, 2010; Lau, & Cheung, 2010; Wu, & Albanese,2010). Likewise, contemporary psychology and pedagogy have found the creationistic approach

highly precious; according to which anyone is able to be creative (Karwowski, Gralewski, Lebuda, &Wisniewska, 2007This growing need of the society for promoting creative thought has led to what Craft(2005) referred to as 'revolution of creativity in education '. Starko,(2010)stated that , In accordance, the importance of schooling in cultivating students' creativity is indisputable (The classroom has always been an important environment for children to learn how to behave in society.

This environment can either encourage or discourage creativity (Eason, Giannangelo, & Franceschini, 2009)

However, the environmental factors mainly depend on teachers' (Chien, & Hui,2010). As Csikszentmihalyi (1996) indicated that teachers may be important gatekeepers of learners' creative potentials .Creative learning requires innovative teaching. Innovative teaching is both the practice of teaching for creativity and of applying innovation to teaching. Both aspects call for an educational culture which values creativity and sees it as an asset in the classroom. Teachers are key figures in constructing a creative climate, but they need support from both policymakers and institutions. In particular, curricula and assessment are key areas to be addressed in order to allow creativity in the classroom. There for this paper will try to illustrate,and shed the light on the following issues :

-what are the elements and features of creative education ?

-what is the role of the teacher as creativity facilitator in creative education .

 Keywords: teacher ,education ,creativity ,

TEACHERS' VIEWS ON FAVOURISM AND ITS IMPLICATIONS IN EDUCATIONAL ORGANIZATIONS

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ABSTRACT

The current study aims to investigate the views of teachers on favourism in educational institutions, and also elaborates on how favourism is reflected in schools and in the feelings of teachers. The study has a qualitative methodology. The participants of the study were 17 teachers working in formal secondary and high schools in Ankara-Altındağ during the spring term of 2013/14 academic year. The participants had at least 10 years of experience. The study used the criterion sampling method which is categorized under purposive sampling for the selection of participants. Therefore, the year of experience was used as a criterion for purposive selection. The data was collected by semi-structured interviews and descriptive analysis was used for data analysis. The findings showed that favourism exists in every level of the Turkish educational system; favourism is mostly practiced by teachers' union and school principals; crynism is the most common type of favourism reported by teachers; and favourism mostly affects educational processes. The study also presents that favourism arouses feelings of injustice, inequality, rage and anger in teachers. The research suggests that there is a need to increase awareness of decision-makers at every level of educational system on favourism, and the principles of transparency and accountability should be adopted.

INTRODUCTION

Each society in the course of time develops and applies an administrative mentality of certain characteristics which is distinctive and unique to a particular culture (Dyer, 2006). Yet, some societies' cultural characteristics may show similarities. For instance, in Eastern societies "collectivism" is a common cultural feature. Collectivism defines "welfare, happiness and peacefulness of a particular group or a family" (Gorodnichenko & Roland, 2012; Hofstede & Hofstede, 2005) and makes itself apparent in society when the interests of a group are valued above anything else for the sake of ensuring general welfare.

In this respect, favouritism practices can be argued to emerge in order to protect interests of a group through illegal ways with the influence of collectivism. Favouritism is generally seen as an unprofessional practice as it includes behaviours that do not fit to the rules and ethics of professional life (Abdalla, Maghrabi & Raggad, 1998). Favouritism is a phenomenon that appears when decision makers take decisions about members of organisation in accordance with their personal beliefs rather than knowledge, skills and qualifications of the members. So, top managers in organisations may exclude some of the members of organisation when making decisions on promotion, distribution of tasks, change of duties, assessment of performance, distribution of rewards, and professional development opportunities (Bassman & London, 1993) or they may prioritize or prefer certain people or groups on the basis of criteria they value. Favoured people and groups have better opportunities or are welcomed more regardless of assessment or performance criteria within the organisation (Basu, 2009).

The most frequent three types of favouritism in organisations are as follows: (1) favouritism of relatives (nepotism), (2) favouritism of friends (favourism), (3) political favouritism (cronyism). Favouritism of relatives (Nepotism) is the preferential treatment of relatives on the basis of kinship by blood rather than taking efficiency, experience, and education and communication skills of employees into consideration (Padgett & Morris, 2005; Wong & Kleiner, 1994). Research on the impact of nepotism on employees show that nepotism leads to loss of job satisfaction among employees (Araslı, Bavik, & Ekiz, 2006; Asunakutlu & Avcı, 2010; Büte, 2011a, 2011b; Hernandez & Page, 2006; Laker & Williams, 2003; Reich & Reich, 2006; White, 2000), increases employees' turnover intentions (Araslı, Bavik, & Ekiz, 2006; Araslı & Tümer, 2008; Büte, 2011a), job stress (Araslı & Tümer, 2008; Büte, 2011a, 2011b; Mahamatjan Kyzy, 2011), and conflict among employees (Hernandez & Page, 2006; Okyere-Kwakye, Nor & Nor, 2010), and decreases work oriented self-sufficiency (Sullivan & Mahalik, 2000; White, 2000), job performance (Keller, t.y.; Reich & Reich, 2006), and organisational commitment (Abdalla, Maghrabi, Raggad, 1998; Büte, 2011b; Düz, 2012; Ford & McLaughlin, 1986; Uğurlu & Üstüner, 2011; Van der Heyden, Blondel & Carlock, 2005). It also causes emergence of a much stronger authoritarian structure (Sünneli-Erden, 2014), decreases perception of organisational justice (Karacaoğlu & Yörük, 2012; Laker & Williams, 2003; Mearawi, 2010; Polat, 2012; Polat & Kazak, 2014; Spranger, Colarelli, Dimotakis, Jacob & Arvey, 2012; Uğurlu

& Üstüner, 2011) and organisational trust (Keleş, Özkan & Bezirci, 2011; Mearawi, 2010). In addition, nepotism also prevents the effective supervision of employees (Weber, 1946, cited in year, 2006, p. 254), the participation of non-family members in the decision making process (Hayajenh, Maghrabi & Al-Dabbagh, 1994; Kets de Vries, 1993) and perception of these practices as a threat to their careers by employees who are family members (Nelton, 1998). Finally, it works as an obstacle in the promotion of qualified people to managerial positions (Ciulla, 2007; Nelton, 1998).

Moreover, recruitment based on kindredship also prevents organisational development (Yeung, 2000 cited in Finelli, 2011), leads to perception of inequality among employees (Ateş, Sözen & Yeloğlu, 2014), and push employees to strengthen their communication and ties only with employees who are family members (Araslı, Bavik & Ekiz, 2006). This eventually cause ineffective reward or bonus systems (Sabancı, 1999, akt., Yıldırım, 2008), and loss of organisations' respectability (Şişman&Arı, 2009) and objectivity (İyiişleroğlu, 2006). Nepotism felt within organisation not only affects the existent employees but also potential employees (Araslı, Bavik & Ekiz, 2006).

On the other hand, some research show that kindredship based favouritism could also lead some positive outcomes. Nepotism, at the same time, is argued to increase jobs satisfaction and thus job performance of employees (Basu, 2009; Bellow, 2004; Sadozai, Zaman, Marri & Ramay, 2012), create competitive environment among family members and keeps the organisation alive (Abdalla, Maghrabi & Raggard, 1998). It also shortens the process of recruitment (Hernandez & Page, 2006), increases organisational commitment (Nelton, 1998), provides a successful connection from one generation to the other (Danco, 1982, cited in Finelli, 2011), forms a sense of solidarity and the instinct of belonging among employees (Wong & Kleiner, 1994; Molofsky, 1999, cited in Finelli, 2011) and finally it provides an opportunity for younger members of the family to learn the business life and nature of business (Dyer, 2006). However, contrary to several research which show that there is a positive or a negative correlation between nepotism and job satisfaction, Chandler (2012) did not find a meaningful statistical correlation between two variables.

Studies show that the disadvantages nepotism brings to the organisation outweigh the advantages (Finelli, 2011; Ford & McLaughlin, 1986). For this reason, several measures have been taken to prevent nepotism. Elbo (1998) argues that employers' meticulous attitudes in recruitment process from the very beginning can negatively affect nepotism perception in the organisation. Dökümbilek (2010) found out that employees who are family members are not fired even if their performance are constantly low but rather they are issued verbal/written warning or assigned to another position. For this reason, human resources departments of companies should be transparent and objective in order to prevent conflict among employees (Bellow, 2004; Finelli, 2011; Rabin-Margalioth, 2006) and they should also treat all employees equally (Morrissey, 2006). Not allowing close member of families to work in the same office or department is also noted as an important step to prevent nepotism (Coil & Rice, 1995; Laker & Williams, 2003; Podgers, 1996; Reed & Cohen, 1989).

On the other hand, some other research indicated that precautions taken to prevent nepotism can bear some negative outcomes within the organisation. For instance, a company which has adopted the policy of not employing any family members cannot be said to treat every candidate equally. It disadvantages a family member who has the necessary experience, education and skills (Reed & Cohen, 1989). Moreover, practices such as not allowing partners to work in the same department and company may force one of the partners to leave the job leading thus to serious promotion problems (Padgett & Morris, 2005). Lastly, in businesses where there are policies against nepotism, even if family members are recruited fairly, employees may still think that nepotism still exists and that family members have still preferential treatment (White, 2000).

The second favouritism type is favouritism of friends and acquaintances (favourism). This sort of favouritism is preferential treatment of friend or acquaintances in recruitment and promotion process (Araslı & Tümer, 2008). Loewe et al., (2008) defines favouritism in two ways; in its general meaning, it is an act of favouring a person or a group of people and in its specific meaning, it is the act of favouring friends or acquaintances from personal relationships. Favourism is also act of showing better treatment or tolerating to some employees just because they are friends or acquaintances (Davoli, 2008). In some countries, favouritism based practices are very common in recruitment of civil servants (Şişman & Arı, 2009) and the reasons for this are stated as (1) lack of alternatives (2) lack of enforcement towards favouritism, (3) societal norms and (4) political structure (Loewe, Blume & Speer, 2008). Favouritism of friends and acquaintances is also argued to increase employees' job stress (Araslı & Tümer, 2008), negatively affect the job satisfaction and increase turnover intentions (Araslı, Bavik & Ekiz, 2006; Araslı & Tümer, 2008).

The last type of favouritism is political favouritism (cronyism). Cronyism is partiality to people who share similar political ideology by recruiting, promoting or appointing them to higher positions regardless of their qualifications (Hernandez & Page, 2006). Cronyism is understood by employees as an unfair and unethical practice of recruitment (Khatri&Tsang, 2003). This situation causes employers to be seen as a dishonest and partial person who is engaged in illegal practices by employees (Begley, Khatri & Tsang, 2009). Like other types of favouritism, cronyism decreases employees' perception of self-efficacy and job performance (Erdem, 2010; Khatri & Tsang, 2003) and increase job stress (Araslı&Tümer, 2008) and employees' turnover intentions (Araslı&Tümer, 2008; Karataş, 2013). It is also reported to affect the job satisfaction (Araslı&Tümer, 2008; Erdem, 2010; Karataş, 2013) and organisational commitment negatively (Khatri&Tsang, 2003), and decrease organisational trust (Polat, 2013). In order to avoid negative consequences of cronyism, a transparent and a structured rewards system could be introduced, competitive job environment could be strengthened and people with leadership skills could be appointed to managerial positions (Begley, Khatri&Tsang, 2009).

In summary, there are different favouritism practices; nepotism is based on kinship whereas favouritism and cronyism are based on a preferential treatment towards friends and political friendships respectively. A common point among all these types of favouritism is that there is a relationship based on self-interest and a common network and that there is a third person or group that is negatively affected by these practices (Mahamatjan Kyzy, 2011). Favouritism and its impact within the organisation is a highly researched topic around the world. However, there are very few studies that use qualitative methodology to look into types of favouritism- nepotism, favourism and cronyism. In this respect, this study aims to find out whether there are any favouritism practices in educational institutions by conducting interviews with teachers who have at least 10 years of teaching experience and work at secondary level of schools. Thus, the research aspires to contribute to the literature by filling above mentioned void. The study also finds out the types of favouritism and how favouritism is reflected in schools and in the feelings of teachers.

METHOD
Research Design
This study is based on a qualitative research methodology, which aims to examine a phenomenon in detail (Creswell & Clark, 2007; Fraenkel & Wallen, 2006) and has employed case study. Merriam (2009) defines case study as an analysis or a detailed definition of a particular case, phenomenon or social unit. Case studies are studies of an actual phenomenon in its own environment. They are generally used in cases when there is not a certain boundary between a phenomenon and the context and when there is more than one evidence or more than one source of data (Yin, 2009). In other words, case studies are based on the questions of "why?" and "how?" and are preferred more when a case or phenomenon needs to be scrutinised or examined in detail (Yin, 2009).

The embedded case study was adopted for this research. Embedded case study assumes that there is more than one sublayer or units in one case (Şimşek & Yıldırım, 2013). In this study, the case that is dealt with is whether teachers have encountered various forms of favouritism or nepotism and if so how this situation have been reflected to the organization.

Participants
Participants of the research are 17 teachers who were working in either a secondary school or a high school in Ankara-Altındağ during the spring term of 2013-2014 academic year. The study used the criterion sampling method which is categorized under purposive sampling for the selection of participants. Therefore experience has been used as a criterion for purposive selection and participants who have at least 10 years of teaching experiences are asked to participate in the study. Experience is taken as a criterion in this study as it is thought to be an important variable in affecting teachers' experiences and ideas. Looking at a period of 10 years or more can provide more data and examples on issues of favouritism and nepotism. Therefore, participants are respectively determined on the basis of their experience, gender and field of teaching. In this regard, 4 teachers have 10 years, 1 teacher has 11 years, 5 teachers have 12 years, 2 teachers have 13 years, 4 teachers have 14 years and 1 teacher has 15 years of experience. Participants' ages range between 32 and 44. Study is conducted with teachers who belong to 8 different fields of teaching.

Based on the findings of research on favouritism, teachers' membership to a union is also regarded as an important variable. Profile of participants is presented in Table 1.

Table 1: Profile of participants

Code of the participant	Years of Experience	Field of teaching	Gender	Level of education	Membership to a Union
T1	11	Turkish Language and Literature	F	Bachelor's Degree	Member
T2	14	Mathematics	F	Bachelor's Degree	Member
T3	15	Physics	M	Bachelor's Degree	Member
T4	12	English	M	Postgraduate Degree	Not Member
T5	10	English	F	Bachelor's Degree	Not Member
T6	14	Mathematics	M	Bachelor's Degree	Member
T7	12	Physical Education	M	Bachelor's Degree	Member
T8	14	Chemistry	F	Bachelor's Degree	Not Member
T9	10	Social Sciences	F	Bachelor's Degree	Not Member
T10	14	Turkish Language and Literature	M	Bachelor's Degree	Member
T11	12	English	F	Bachelor's Degree	Not Member
T12	13	Turkish Language and Literature	F	Bachelor's Degree	Member
T13	12	Social Sciences	F	Bachelor's Degree	Not Member
T14	13	Computer	M	Bachelor's Degree	Member
T15	10	Turkish Language and Literature	F	Bachelor's Degree	Member
T16	12	Chemistry	M	Bachelor's Degree	Member
T17	10	Turkish Language and Literature	F	Bachelor's Degree	Member

Data Collection Tools

Semi- structured interviews were used for data collection as they allow the researcher to test a hypothesis (Fraenkel & Wallen, 2006, p. 455). In the process of forming data collection tools, a question pool which included opinion and values questions regarding the favouritism practices in the literature is formed and then a number of open-ended questions were selected from this pool by consulting the experts of the field. To ensure content validity, 3 lecturers in the field of educational administration were asked to look at the questions and then final interview protocol was produced. In order to understand whether the semi-structured interview protocol was clear enough for the participants, it was tested on two teachers who did not participate in focus group interviews. The interviews with these two teachers showed that the questions were clear and comprehensible.

Data were collected between April and May 2014 in Ankara-Altındağ through face to face interviews. Before the interviews, participants were provided with three different types of favouritism examined within the scope of this study and annotation on these types was distributed to teachers. In addition, to avoid any violation of ethics, "ethics form" was prepared and given to the participants. Ethics form informed about the process and research, assured of confidentiality and ensured that tapes and transcripts would be securely stored and would not be used for any purpose other than this research. This form enabled participants to reflect their real feelings and ideas about the research and thus their dispositions of social desirability were controlled.

During the data collection process, it is noted that some teachers replied question with anxiety due to the nature of topic. Two teachers rejected participating in the study upon being informed on the sort of questions they will be asked in interviews. Interviews were conducted in teachers' room of the schools and lasted between 25 and 30 minutes. It has been paid attention that no other person was in the room except from the participant and researcher during the interview. Only 13 interviews were audio-recorded and other 4 interviews were noted down. Later on, interviews were transcribed and the transcripts were emailed to interviewees for them to check and approve. After participants approved the transcripts, data analysis process started.

Data Analysis

Descriptive analysis was employed. First of all, each interview was transcribed and transferred to interview protocol as it was. The first part of interview protocol includes contextual information such as the school, interview date and time, number of interview and comments regarding the interviews whereas the second part has descriptive data. This descriptive data include the transcript of the interview. Data analysis started with several reading of transcripts. It was followed by extraction of statements that are not related to the topic of research. Then each interview was coded. In the coding process, two researchers coded separately the descriptive data and marked the

related themes. Thus, each theme worked as a boundary of data (Şimşek & Yıldırım, 2013). The coding process was followed by a comparison of the codes to ensure the validity and reliability of the research

Validity and Reliability

Content validity was first ensured by consulting three experts so that the study can produce valid and reliable results. To control participants' social desirability disposition, ethic form was prepared. The factor of "participants' characteristics", which is a threat to internal validity, (Fraenkel & Wallen, 2006, p. 170) was controlled by using maximum diversity sampling. Thus, the possibility of producing biased results that may arise from including participants that share same or similar characteristics has been reduced. Also, factor of location, which is again a threat to internal validity, was addressed through conducting the interviews in teachers' room. All teachers' room in which interviews were conducted shared similar physical characteristics so the factor of location can be argued to have less effect on the results of research. In addition, conducting individual interviews rather than focus group ones prevented possible 'interaction effect' on participants. On the other hand, Campbell and Stanley (1963) argue that 'instrumentation' also pose a threat to internal validity (Trochim & Land, 1982, cited in Stanley, 1963). The threat of instrumentation compromises the analysis of data collected; this data is also laden with the biases of the researcher (Fraenkel & Wallen, 2006, p. 173). In order to prevent instrument decay in the analysis of researchers due to fatigue and long hours of work, data was dealt with frequent and short intervals.

The reliability of research was sought through consensus among researchers who coded the data. Number of 'Consensus' and 'disconsensus' were formed. So if a coding is marked under the same theme, it is noted as 'consensus' but if codes are marked under different themes by researchers, then it is noted as 'disconcensus'. The formula of Miles and Huberman (1994) for research reliability was also used for the study:

Reliability: Consenus/ (Consesus) + (Disconsensus)

If reliability calculations show a value of 70 percent or over, then it means that research has produced reliable results (Miles & Huberman, 1994). In this study, the consensus among the researchers was calculated as 87%, which shows that research is reliable.

FINDINGS

Five themes emerged from data (transcripts). These themes are; 1) existence of favouritism (whether there is favouritism in educational organisations), 2) actors of favouritism (who practices favouritism), 3) types of favouritism (Nepotism, cronyism, favourism), 4) problems caused by favouritism (negative situations caused by favouritism) and 5) the effect favouritism and favouritism practices on teachers' feelings (how they feel about favouritism). Subthemes and frequencies of participants' views are presented in relevant tables.

The first theme emerged from data analysis is 'existence of favouritism'. As seen in Table 2, although 17 participants have different level of sureness regarding the existence of favouritism, they think that favouritism practices exist in any unit or level of education organisations. 12 participants think that favouritism exist, 2 of them firmly stated that favouritism definitely exists and 3 participants' preferred not to reply on the question of whether favouritism exists. Participants' ideas on favouritism provide an understanding of the dominant insight in education institutions.

Table 2: Teachers' ideas regarding the existence favouritism

Codes	frequency
Favouritism definitely exists	2
Yes, favouritism exist	12
Favouritism may exist	3
Total	17

The second theme is '*actor(s) of favouritism*'. Frequency level of this theme is presented in table 3. As seen in table 3, participants argued that favouritism mostly practiced by teachers' unions and school managements. Some of the views regarding teachers' unions are as follows:

"Today, there is a union which manipulates all the administrative staff" (T1).
"If you belong to the same union, favouritism exists. Everyone favours the people in their union (…) There is a lot of tension. Like 1980s, now it is not very safe to be a member of a union" (T6).
"(…) Unions gather a certain group of people who share the same ideology. These unions manipulate people and everyone is aware of it." (S17)

In Turkey, in total 1,007,865 civil servants in education and science services are a member of a union as of 2013 (Offical Newspaper, 2014). Unions with the most members are as follows: Eğitim Bir Sen (%24,92), Türk Eğitim Sen (%22,35), Eğitim Sen (%12,34) and Eğitim İş (%3,46). Yılmaz and Altınkurt's research (2011) conducted with 91 teachers argue that political parties which are in power try to interfere the system through unions.

Table 3: Teachers' ideas regarding the actors of favouritism

Codes	frequency
Unions	4
School Management	4
Government	3
Top Management of Ministry of National education	3
District Directorate of National Education	3
School principal	2
Participants who did not present an opinion	3
Total	21

Four participants indicated that favouritism is practiced by school principals and assistant principals whereas two teachers said it emerges from practices of school principal only:

> *"To be honest, we have practices of favouritism in our school. Assistant principal constantly overlooks some teachers' mistakes. Even if a parent complains about them, he stands for teachers. However, when a parent complains about me, he immediately calls me into his room to have a talk." (T11)*
> *"Principals sometimes form their own group or network of teachers in schools." (T10).*
> *"I am not speaking about my current school but in my previous school, the school principal was more tolerant to some teachers and was close friends with them. They were taking the rules together in school boards" (T2).*

These statements show that school principal(s) are close to certain group of teachers at schools; they are more tolerant to them; and they display different attitudes for different teacher groups. This finding concurs with the research findings of Meric and Erdem (2013).

Three participants indicated that favouritism arises from top management of Ministry of National Education (MoNE) whereas another three participants believe it is government-led. This finding supports the study of Yılmaz and Altınkurt (2011). In addition, three participants stated that District National Education Directorate plays a role in favouritism. Teachers who think favouritism is MoNE related made the following statements:

> *"Favouritism exists in every level. It happens both in the centre (meaning MoNE) and at schools. There is no place in which favouritism does not exist." (T10).*
> *"Favouritism generally exists. In the middle of the night, some schools announce that they need teachers. The teacher who is arranged to go that school applies for the position online and gets the job and since you are sleeping at that time you cannot see the position. If you know someone who can help you, the vacant positions open in the middle of night. They can even perform favouritism in such a centred online system." (T12).*

Thus teachers indicated that favouritism covers and affects the entire system and is practiced frequently. Participants who blamed government for favouritism expressed their feeling as follows:

> *"The school principal was more tolerant to some teachers and was close friends with them. They were taking the rules together in school boards. We were only two women and we were not saying much. Yet, the current government is responsible for these"(T2).*
> *"It is all being practiced by the government, is not it?(I am being frank because you will delete the recordings after transcription) (S7).*
> *"We all see what is happening in the centre (government). All the conditions/requirements on the system have been removed. Why? Because of government"(S14).*

The teachers who believe that favouritism is District Directorate of National Education related made the following statements:

"Branch officers (within District Directorate of National Education) are very influential in favouritism. My friend's father-in-law was a branch manager in the district of national education and his daughter-in-law was appointed to a central school when she was a first year trainee teacher. I had to work in the same school for 3 years to be appointed to that school because I did not have anyone who would support my application in District Directorate of National Education. Yet, she could work there on her very first year" (S16).
"We (our schools) is connected to District Directorate of National of Education and this institution practice favouritism"(T5).

One of the participants summarized the ideas regarding the favouritism as: *"I can say that school management and District Directorate of National Education practice favouritism. My experiences say so. District Directorate of National Education decides who will be a principal and everyone knows that this is determined on the basis of partisanship. School managements should take the diplomas and certificates of teachers into considerations"(T3).* Thus, he pointed out how system and actors act together in harmony in practicing favouritism.

The third theme is *'the most practiced type of favouritism in education system'*. As noted in methods section, participants were informed on three different types of favouritism. Table 4 below presents the data frequency below:

Table 4: The most practiced type of favouritism in education system

Codes	frequency
Political Favouritism (Cronyism)	11
Favouritism of Acquaintances (Favourism)	5
Favouritism of Relatives (Nepotism)	1
Total	17

Most of the participants said that political favouritism (cronyism) is noted as the most common favouritism. Their statements pointed out that political favouritism is more evident and felt more in relation to other types of favouritism. Below there are some striking quotations from interviews:

"I can say that, there is a union which manipulates management staff. Anyway, there is a political unity in this union. Therefore, based on the definition you gave, I can clearly say that cronyism is more common than the others." (S1)

"I would say cronyism (is the most common). In early years of my profession, favouritism of relatives or friends were quite a lot. These days, I think political favouritism is practiced more. This happens both at local and central (MoNE) level. Current situation shows that political ideas are common in these favouritism practices." (T5).

"There is mostly political favouritism. The school principals are a member of the same union for so many years. I have never seen an assistant principal who is a member of Eğitim-İş or Türk-Eğitim Sen. I don't think it is a coincidence. It is obvious that there is a political favouritism" (T6).

"There is a political favouritism and from time to time, it is possible to witness relative or friend favouritism. If you ask me which one is common, I would say the political one. But if you ask other people (my friends), they won't accept it. The ones who deserve do not get any promotion. They should promote the ones who work hard, should not they? I have lived in Europe for 2 years. It does not work like that there. No one cares about your political ideas, they take your skills into consideration." (T7).

"I don't know which one to say; relative-friend favouritism or political one? I can say that favouritism of friends or relatives is very much related to political favouritism because they know some people who are engaged in high politics such as branch manager or someone from district of national education. Everything is being handled somehow. If you have someone who supports you, every problem can be solved very easily. Of course, I can argue that in small cities these kind of things are handled much more easily. In Ankara, it is more difficult." (T12).

"Well, political favouritism is more common as in every arena of society. The way things work are also reflected us. But this is not something happening lately. There have always been political favouritism. It is not a recent issue." (T16).

Participants noted that the second common favouritism is favourism (favouritism of friends or acquaintances). One participant who thinks favouritism of friends is the most common said: *"I have worked in a couple of schools, so far. I have not witnessed anything in my current school, yet. But, in the previous school I worked, school principal was close to a number of teachers. Since they were close friends, I could say that favouritism of friends are common."* (T2). Similarly, another participant confirmed T2's idea and said:

"Favouritism of the people you know is the most common. If you find someone to support you, you can work in a more central school or you can have 2 or 3 hours of teaching in a week even if you are an extra teacher in the school. There are teachers who get paid without going to school. What else do you expect?" (T17).

The least common favouritism mentioned by teachers is favouritism of relatives (nepotism). Only one participant touched upon nepotism and said: *"They hire their relatives or friends as part time teachers. In one of my schools, the elder brother was school principal and the younger brother was assistant principal."* (T10). On the basis findings, it could be argued that political ideas matter more than the employee's qualifications or the requirements of a particular position in education system. This is followed by the personal relationships such as friendship and then kinship in promotions or access to opportunities.

The fourth theme, which is thought be caused by favouritism practices, is "*problems within and outside the school.*" Views regarding this theme are presented in Table 5. Participants mostly expressed that favouritism hindered education facilities ($f = 3$). Two of the teachers made the following statements:

"I could say that when we have an extra teacher of a particular field and there may be a need for that particular field teaching staff in another school. Yet, that extra teacher is not being sent there not to make her uncomfortable. We experience this a lot in this 4+4+4 system. In one school, the teacher does not have any classes whereas in another school, they need that teacher to do classes." (T4)
"Sometimes students fell behind in courses because some teachers constantly receive medical reports and do not come to school. It is school management's responsibility to control this." (T7).

These statements show that managers placed students into a disadvantaged position for the sake of protecting teacher. Another teacher also talked about how a branch manager in District Directorate of National Education appointed his wife, who was a trainee teacher, to a central school in the middle of term and left students in that school without teacher:

"I mentioned you about that friend. When she left all of a sudden to work in a central school, even the principal got shocked and immediately asked for a part-time teacher. Yet, it takes time for part-time teachers to be employed. It was pity for those children. Their teachers left all of a sudden so we covered these students' classes. They were first grade primary school students and waited quite long for a teacher. It is always like that. Someone makes a mistake and the ones who are left behind pay the price." (T16).

Table 5: Teachers' ideas regarding the problems caused by favouritism

Codes	frequency
Hindering education facilities	3
Lack of communication between parent and teacher	2
Not getting sufficiently prepared for ceremonies	1
Taking wrong decisions about students	1
Insufficient cleaning of school and classes	1
Not sending teachers in need of in-service education to trainings	1
Unequal distribution of equipment and classes	1
Inexperienced managers	1
Not meeting the obligations of a job or a task	1
Total	12

In this respect, favouritism practice hinder education (teaching) practices and cleaning facilities. This affects students since wrong decisions are being taken and it also influences teachers in a negative way as there is not sufficient inspection and teachers who need in-service training are not chosen for training. Mostly, it affects the managerial duties and practices given that unqualified and inexperienced people are being appointed to managerial positions in which these people cannot always serve meticulously. It could be argued that favouritism has a negative impact on every person in the education system.

The last theme in the study is "*effect of favouritism practices on teachers' feelings*". Table 6 presents frequency level of this theme.

Table 6: Teachers' ideas regarding effect of favouritism practices on their feelings

Codes	frequency
Injustice, inequality	6
Anger/Rage	5
Sadness	2
Loss of trust toward manager	1
Decrease in motivation	1
Jealousness	1
Desensitization (normalization of favouritism)	1
Total	17

Participants mentioned that when they witnessed or suffered from favouritism, their sense of justice was damaged or they thought that they were not being treated equally. This finding negatively affects organisational justice (Karacaoğlu & Yörük, 2012; Laker & Williams, 2003; Mearawi, 2010; Polat, 2012; Polat & Kazak, 2014; Spranger, Colarelli, Dimotakis, Jacob & Arvey, 2012; Uğurlu & Üstüner, 2011) and perception justice among employees (Ateş, Sözen & Yeloğlu, 2014). Thus, this finding concurs with those discovered by above mentioned research.

Some of the participants said they felt rage/anger and sadness. Also, one of the participants stated that the trust toward manager was damaged. This finding supports those found by other research (Keleş, Özkan & Bezirci, 2011; Mearawi, 2010). Favouritism can be argued to decrease the motivation, push people to dig a pit for each other and cause feelings such as jealousness. These findings confirm the research results of Hernandez and Page (2006) and Okyere-Kwakye, Nor and Nor (2010). When asked how favouritism makes them feel, one of the teachers said: "*You get used to this situation. In my early career years, I used to think that this was not fair. Now, I got accustomed to it. In Turkey, you get used to these things.*" This statement is rather important as it can be read as *normalization of favouritism* and developing desperation in fighting against it whereas the other feelings about favouritism imply that teachers do not approve it and see it something to be challenged and deconstructed.

.

CONCLUSION, DISCUSSION and SUGGESTIONS

The favouritism behaviour and its consequences affect mostly educational institutions as well as other organisations. Education institutions are different from other organisations as they are supposed to promote equity and justice and the equal treatment of students. In this respect, people or groups which work in these institutions and also the institution itself should "set an example for students". Yet studies show that there are instances and practices of favouritism in central institutions, provincial organisations and at schools and that teachers believe that managers discriminate on the basis of political beliefs and do not treat everyone fairly (Aydoğan, 2009; Ekinci, 2010). The fact that teachers' strong desire fair and impartial practices in the education system cannot be met has caused a number of negative consequences mentioned in the literature (Araslı, Bavik, & Ekiz, 2006; Araslı & Tümer, 2008; Keleş, Özkan & Bezirci, 2011; Büte, 2011b).

The first finding of the research is that participants confirmed favouritism exists in educational institutions. Two studies on favouritism (Meriç & Erdem, 2013; Polat & Kazak, 2014) showed that school managers rarely showed favouritism. Yet, in this research 14 participants out of 17 clearly stated that favouritism practices are evident in the system and exemplified these practices.

The second finding of the research is that there are many actors of favouritism in educational institutions. Participants pointed out not only school managers but also teachers' unions, governments, top management of MoNE and managers in District Directorate of National Education also practice favouritism. They argued that these kinds of behaviours exist and are prevalent at every level of education institutions. One of the participants said: "*I can say that school management and district directorate of national education practice favouritism. My experiences say so. District of National Education decides who will be a principal and everyone knows that this*

is determined on the basis of partisanship. School managements care about teachers' unions. Teachers' unions are quite influential on these issues." (T3). Thus, he drew attention to how a person, a group or a unit are indeed related to one another. One of the most important problem of education system is that political parties in power are constantly interfering to the system with political reasons. This may cause to question the qualifications of people who are assigned to higher ranks by the support of a political power. It may also lead these people to be seen untrustworthy (Yılmaz & Altınkurt, 2011). This outcome creates a perception that appointment of teachers and managers are not done on the basis of skills and qualifications but rather according to their political ideas and their closeness to the parties in power.   Aslanargun's research (2012) held with 19 principals showed that principals suggested in the process of school manager appointments respectively the criteria of exam, career, qualification and leadership skills should be taken into consideration. What is hopeful is that there are principals who suggest such objective criteria. In order to promote this objective thinking, employment of all educational employees should be clear enough to be understood by everyone; the principle of impartiality should be promoted; and objective assessment should be carried out in performance evaluation. Thus, there will be little space for practices of favouritism.

The third finding is that all three types of favouritism was mentioned as the most frequent favouritism by different teachers. This finding strengthens the judgement that every sort of favouritism can be seen in education organisations. Participants argued that cronyism is the most frequently experienced favouritism in education organisations and this has negative effects both for individuals and the organisation. The research show that politics oriented favouritism decreases self-efficacy and performance of employees (Erdem, 2010; Khatri&Tsang, 2003), and increases jobs stress (Araslı&Tümer, 2008) and turnover intention (Karataş, 2013). It is also found that cronyism decreases job satisssfaction (Araslı&Tümer, 2008; Erdem, 2010; Karataş, 2013), affects organisational commitment negatively (Khatri & Tsang, 2003) and damages organizational trust (Polat, 2013). Considering that organisational relationships and successes are based on mutual trust, commitment and shared interests and values (Berman, West & Richter, 2002), it is obvious that any external interference to education system can damage the way organisation operate. Therefore, to prevent cronyism, transparency and accountability should be introduced for the entire system including social system. Another suggestion on this issue could be to strengthen the knowledge of employees in education sector on "educational law and legislation".

The fourth findings is that favouritism can lead to various problems. Teachers' views regarding the problems caused by favouritism were limited with school mechanism. Teachers argued that favoured teachers' neglect of duty was ignored; students were victimised to protect favoured teachers; appointment of teachers were not conducted by the rules; and favoured teachers were privileged in in-service training courses which grants daily wage to teachers. These findings indicate that benefits that could be brought by standardized and well-structured operation processes and meticulous applications of these processes are ignored.   Standardized operation procedures of schools can guide operation of organisation; provide the necessary information to employees on how to carry out their tasks properly; create consistency, harmony and continuity within the organisation; monitor policies of organisation; and decrease the practices of favouritism.

The last finding is that teachers have different feelings about favouritism. It could be seen that favouritism mostly arouses the feeling of injustice, inequality, rage and sadness in teachers and also damage their trust toward school principal. This findings concurs with several research results (Ateş, Sözen & Yeloğlu, 2014; Karacaoğlu & Yörük, 2012; Keleş, Özkan & Bezirci, 2011; Laker & Williams, 2003; Mearawi, 2010; Polat, 2012; Polat & Kazak, 2014; Spranger, Colarelli, Dimotakis, Jacob & Arvey, 2012; Uğurlu & Üstüner, 2011). Basu (2009) argues that injustice is best concept that defines and characterises favouritism. Injustice causes employees to strive less and to feel insufficient for not being properly subjected to performance assessment criteria. It also leads employees to lose their motivation because their needs of self-actualization, success or feeling of self-worth are not met. Lastly, injustice creates loss of commitment if there is a lack of unity in organisation or opportunities of collaboration.

In order to prevent current and possible favouritism practices, transparency and impartiality principles should be adopted for recruitment and promotion of teachers and school managers. The people who are responsible of management of the system should have an equal stance to everyone and national promotion criteria should be restructured in a way that no one is favoured. It is hoped that the research findings can be beneficial and guiding for managers to re-design of aforementioned practices and policies. Also, it is believed that the study can shed light on planning of policy improvements based on transparency and accountability.

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TEACHING AND APPLYING CRITICAL THINKING: EDUCATION FOR JOBS OF THE FUTURE.

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Some of today's workforce will be performing in jobs during their lifetimes that don't exist currently due factors such as rapidly evolving technology and globalization. To meet the educational needs of the future, therefore, in addition to mastering subject-based content it is important to cultivate subject-independent problem solving abilities. Critical thinking skills are essential for problem solving, and research reveals that such skills can be identified, learned, and developed. Sometimes, however, educators demand critical thinking of students but neglect to actually teach *how* to think critically.

This presentation will reveal a case study in which students, enrolled in year two of a four-year program and focusing on the subject of textiles, learn critical thinking principles and apply them to discover, analyze, synthesize and explain information regarding new developments in the textile industry. Lectures included describing diverse components of critical thinking combined with in-class activities that teach content while training critical thinking skills. The critical thinking section of the assignment rubric was analyzed over the course of four semesters (N=260) and that data provided a basis for improvement of the full degree curriculum to assure that succeeding courses reinforced critical thinking and included a capstone to show competency in critical thinking. Because the framework employed for learning about and applying critical thinking is subject-independent, future study will measure the framework's efficiency when utilized with other subjects. Additional plans include evaluating how students draw upon the critical thinking knowledge gained to apply those skills in diverse contexts.

Keywords: critical thinking, teaching, learning, case study, framework

TEACHING AND LEARNING MATH THEORIES

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theori.

Presentation: oral presentation.

Summarized: theories prominent role in the learning and teaching of mathematics, especially as they help teachers understand and recognize learners growth characteristics which facilitate learning and teaching process, as these theories establish a solid knowledge base of teachers, making them more positive. Comes this paper that follow descriptive analytical approach in the search, to shed light on the most prominent theories of learning and teaching mathematics theory of Piaget, and the theory of Brunner, and the theory of Gagne, and the theory of Ozbil, and the theory of Deans and employ all the theory of those theories in the learning and teaching of mathematics.

Key words to search: theories of learning and teaching mathematics, mathematics learning, the teaching of mathematics.

D. Mohammed bin Salim Vahid Sarhani

Keywords: math teaching

TEACHING ENGLISH VIA ''SCENARIO BUILDING TECHNIQUE'':
A CASE STUDY IN TURKEY

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ABSTRACT

There are several different techniques of teaching English for pre-service students in the universities in Turkey. But, in this study, attentions are drowned upon "Scenario Building Technique (SBT)" as an authentic teaching technique of English Language. The aim of this technique is to overcome managing the crowded classes and to encourage the participation into the course and in this way to increase effective teaching. According to the framework of this technique, firstly, students are divided into five or six groups with seven or eight students in each class. Each group is assigned in different caption of social topics of varieties, such as global warming, environmental preservation, leaving home by plane or visiting a dentist in an office or spending leisure time in a coffee house. Then, every student in each group is given a role to implement connected with certain subjects such as task-based activities by dialogues on the scene of actual daily life. In this process, one student is given the duty of writing scenario as a draft, and the other is of the task of using the camera to film the acting and the actors, and the next student is given the responsibility of directing, and the last is of designing the costumes on the basis of their creative abilities. So, each group and group members find themselves in engagement and involvement in an interactive social environment with the sense of reciprocal respect and esteem. By doing that, even introvert students are not only incented to gain self confidence and participate into the course, but they are also facilitated to achieve self-actualization. Moreover, they're provided an opportunity to transmit their social messages to outer community while learning English language with a joyful mood by means of this technique. More importantly, they feel free of anxiety, of prejudices and of fear of learning that have already been accumulated from their previous backgrounds related to their individual characteristic differences regarding socio-psychology and socio-economy. That is to say, via "Scenario Building Technique" students learn English Language in a joyful and satisfying atmosphere. In conclusion, it's been observed that learners' motivation and enthusiasm for learning have raised and, the ability of making the students participate into classes has considerably been improved.

Keywords: Scenario Building, Crowded Classes, Joyful Atmosphere, Techniques of Teaching.

INTRODUCTION

When I entered into the classroom of 60 Pre-service Teacher Education Students (PSTE) for the first time to teach basic English, I discovered a mood of cowardice, a feel of dullness and a spirit of uncertainty as well as a lack of proficiency in their command of English reflecting in their brightly shining eyes. Though they had received English Language Learning education in primary, secondary and high school, the image they gave me regarding their language proficiency was not on the desired level. Most possibly, it was because of their socio-economic, socio-psychological and socio-cultural background due to the fact that most of them were coming from underdeveloped regions, relative to the other parts of the country. Almost all of them were there with the aim of achieving a success in English language at a basic and elementary level in order to use it in their potential professions and careers. The impression that they gave me about their ability of learning English was not assuring and determining for the upcoming days. After teaching English for almost about two months in the classes of Pre-service Teacher Education Students (PSTE) and dental students as well as the students from other disciplines with different subjects. I came to realize that my envisaged opinion regarding their learning ability turned out to be concrete reality. This is because I observed that nothing has changed in their attitudes, behaviors and level of knowledge against the desired level of mastering English Language Learning.

This was the indication of the fact that I was about to face with a challenging journey in my teaching experience; but I irresistibly felt that there had to be some precautions and solutions in overcoming those difficulties in this or that way when I was exposed to during English teaching processes.

The barriers preventing pre-service teacher education students from achieving English learning at a satisfactory level here were not the fact that the classes were overcrowded or that the noise they created was preventive at their classes. The thing I would like to emphasize here is something quite different which requires being taken into consideration at the beginning.

Obstacles Preventing Students from Achieving Success in Learning English in Overcrowded Classes

Although there are various obstacles arising out of the Hierarchy of Needs Maslow Mentions (Figure 1).
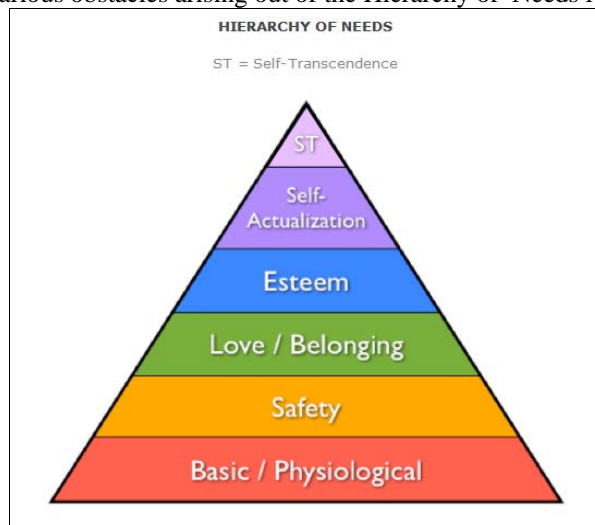
Figure 1. Hierarchy of Needs Maslow

I am going to focus upon some other obstacles that, I think, need serious consideration. The obstacles in learning English I am interested in here are mostly cultural-relative problems such as having a negative opinion towards learning a foreign language, and the others are lack of self-confidence, lack of motivation, and lack of positive attitude towards learning. In addition to those obstacles mentioned above, we identified some other serious obstructive factors preventing the students from reaching a considerable success in a Foreign Language Learning project. As it seems obvious, the unsatisfactory consequences in Learning English might be connected with reasons that is related to national identity, ethnical identification, religious convictions, and the global changes in the understanding of education all over the world in the last decade.

For instance, there are various papers in literature focusing on the fact that humanities are in the death agony due to the fact that the cooperative actions between the education institutions and industrial companies have changed the nature of education in a considerable extent. The fact that parents motivate their children towards the professions that bring financial gains in short terms, the students have come to lose their inner motivations towards learning because of the financial worries they have about the life they will have after they graduate from school.

Thus, as it is seen here, it is hard to address definitive conclusions about student achievement based on only the reasons expressed above and class size alone only, , it academically wouldn't be so logical approach for there are other variables such as the quality of teachers, students degree of motivation and the role of the parents. Furthermore ,

- Fear of failure: The main drive to do well comes from avoiding a negative outcome rather than approaching a positive one.
- Fear of success: "Nerd" vs. "cool" => Fear of losing social support (affiliation) may come into play, large classes cause difficulties (Atkinson & Raynor, 1974).

Apart from tangible problems that appear in English Language Teaching that have been mentioned above, at most, in crowded classes, there are some others as followed below;

- One of the main difficulties that a teacher may experience while teaching a large class is the tremendous effort that she or he will have to make. With an outnumbered class there is always something to be done.
- With a large class, it is difficult to get a satisfactory knowledge of student's needs. Intimacy with students and remembering names might be a problem.
- As a consequence of the large number of students, the noise level is inevitably high which adds to the stress teachers may experience.
- Organizing, planning and presenting lessons, may constitute another challenge for teachers in such classes as students abilities might differ considerably.
- There is another difficulty related to the learning process. In fact, engaging learners actively in the learning process may not be easy in a crowded class.

- It is hard to imagine how a large class would benefit from school resources such as computers, books, references…
- With a crowded classroom, teachers might find it difficult to measure effectiveness.
- A large classes gives reluctant students a place to hide.
- As teaching process has been so crucial but complicated that many scholars spent lots of effort and time in researches to find out the problems and bring solutions for it (Rhalmi, 2013);

Because of this, according to (Stronge, 2002) he explains that General obstacles or difficulties stem from several sources. Some derive from the fact that many prospective teachers do not clearly understand what constitutes self-reflection, or how to do it. They confuse reflection with describing issues, ideas, and events; stating philosophical beliefs; or summarizing statements made by scholars. They miss the analytical introspection, continuous reconstruction of knowledge, and the recurring transformation of beliefs and skills that are essential elements of self reflection.

Another outstanding researcher of this field is (Varus, 2002). He addresses that even teacher education programs that emphasize reflection frequently do not incorporate issues of race, ethnic diversity, and social justice in classroom practices. Another general problem is that teacher education students have few high-quality opportunities for guided practice in self-reflection. This should be corrected by instructors in pre-service programs using inquiry teaching techniques and helping students develop the habit, skills, and spirit of criticalness as habitual elements of their learning experiences. If these approaches to learning are cultivated and modeled across the general teacher education curriculum, they will set a foundation and precedent for teacher candidates to use in their own classrooms.

As Danielewicz (2001) stresses: Reflexivity is an act of self-conscious consideration that can lead people to a deepened understanding of themselves and others, not in the abstract, but in relation to specific social environments... [and] foster a more profound awareness... of how social contexts influence who people are and how they behave... It involves a person's active analysis of past situations, events, and products, with the inherent goals of critique and revision for the explicit purpose of achieving an understanding that can lead to change in thought or behavior (pp. 155-156).

Other difficulties in developing a general reflective ethos among pre-service teachers come from traditional beliefs that teaching is an objectifiable craft. It requires the mastery of technical components that are applicable to all teaching contexts and student populations. These beliefs are captured in statements such as, "Treat all students the same regardless of who they are," and "Good teaching anywhere is good teaching everywhere." It is troublesome for some teacher education students to overcome these orientations, and to accept teaching as a highly contextualized process. In fact, teaching is as much a personal performance, a moral endeavor, and a cultural script, as it is a technical craft (Cochran-Smith & Lytle, 1993; Danielewicz, 2001; Palmer, 1998).

Some Measures To Take To Facilitate Language Learning In Crowded Classes

So, all these significantly underscored obstructive which have been illustrated above emerge in all types of educational practicing environments, but the problem here is how to cope with them in educational process for the benefit of next generations.

In my opinion, some of the measures or remedies that can be put in forward are as described below: It is undoubtedly very difficult for a teacher to deal with large classes. Anything done to remedy the problem would be fruitless unless students are really motivated to learn. Nevertheless, the following tips may be useful to alleviate the intensity of the situation.

First of all, he thinks, it would be a great idea to train students to work in small groups of five to seven students. And when working in groups, it would be beneficial for students to sit around in a circle so that everyone could have a chance to participate.

- Groups should include fewer members to avoid any of the students coasting. It is important to find active roles for students to avoid them being lazy.
- Pair work may be also a good alternative to practice conversations, exercises and other language activities.
- Pairing weaker students with stronger ones might be an option unless you fear the weaker students feel intimidated.
- Changing the classroom desk arrangement to take into consideration the large number of students is a good idea. Finding out the right arrangement is up to the teachers' creativity and classroom size. Anyway, desk placements should make cooperative work easier.
- To optimize your work with students with learning difficulties, give them seats in front of you, closer to you so that you can spot difficulties easily while teaching.
- To reduce stress and noise level, set simple rules for class management.
    1. Establish simple rules of acceptable behavior for everybody to observe when working in groups, in pairs or individually.
    2. Train your students to deal with classroom chores:

- Getting into and out of the classroom at the start and end of lesson or during recess time,
- Handing out books, papers, and other materials,
- Putting away school materials at the end of the lesson.
- Teachers in large classes may also want to delegate some of the work to more able students. These can play the role of teachers' assistants.
- Another measure that might be effective for some teachers is to split the class into weak students and more able students. This would make it possible for the teacher to concentrate on the weaker students. However, this should be done with a lot of caution so as not to affect weaker students' self-esteem.
- Why not use technology? Technology ensures that everyone has time to connect with the teacher. For instance, teachers may plan to do the following:
  1. A large class will be better off with a blog or a wiki where students and the teacher could meet at home.
  2. Using students' emails would make it easier for teachers to connect with students off class.

The most effective solution that researcher pay attention and loads the importance on is generating a new approach ''Building Scenario as a Teaching Technique for acquiring English language. In this technique, for the 1st stage, he counts the class of sixty pre-service teacher education students from1 to 6 in numbers. The class is constituted of sixty students with variety of different aspects, cultures and knowledge of English with almost the same level as most of whom come from the similar socio economical background. Then, he collects numbers 1 in group "One" in front of the class, Next he collects number2 in group "Two", Placing them in the middle. After that he gathers the group3 made from number "Three". The next step he paces, he constructs the group4 from numbers "Four". He continuous creating groups until he establishes the group number "Five and Six". Actually, the number of each group might exceed up to "seven" or "eight" students depending on how large the class is in order to help releasing the stress occurring from the crowdedness, and as a result the noise they might produce.

At the 2nd stage, he draws a draft of different attractive subjects for each group from actual daily social life. These subjects can range from topic of variety like - 'Global warming, - 'Violence to the women'- 'conservation of eco-system'- a leisure time in a coffee house or 'having a toothache'. At the 3rd stage, he provides the students with opportunity for the groups to choose the subjects based on attraction of their interest. No doubt, each group is given or shared the subject depending on their desire of attraction. At the 4th stage, he selects a representative among the students of each constructed group to monitor or to lead the group in casting role depending on their creativity thoughts and skills in both English using in certain simple level and knowledge of using communicative technology like a smart phone or camera to film the actors or actresses on the scenes while performing their role within each group. At the 5th stage, he monitors the group in construction of writing the dialogues on drafts related to their topic chosen so that they can study and perform on the stages of their relevant subjects. And more importantly, at the 6th stage, after all groups have completed their tasks- 'Scenario Building' as a teaching technique,- each group brings their finished filmed work regarding to their roles in class to watch all together with whole groups in enjoyment and cheerful atmosphere.

DISCUSSIONS

If we go into peer reviewing of this technique, I believe that it's easy to find out that Krashen's many teaching theories have been put into implementation via using –Scenario Building as an effective teaching technique. Furthermore, it creates devices such as task-based, cooperative, collaborative studies in group working that contribute and accelerate language learning for students. The more importantly, it also requires involvement and engagement in educational process which are the most sophisticated and vital components in language learning environment. The methods he used that contributed to English Language Learning involves the following teaching and learning theories as illustrated below:

- grammar-translation
- audio-lingualism
- cognitive-code
- the direct method
- the natural approach
- total physical response
- suggestopedia

RESULTS

So, as a conclusion, by using an effective teaching technique of Scenario Building, it provides the learners not only with socializing environment, but also a happy atmosphere with the achieved goal. Because, in this technique, it requires all methods that make it easy for language to be put into implementation on large scales.

Moreover, it releases the students from the fear of anxiety, of failure, of prejudices about that they can't learn English stemmed from their socio-culture, socio-psychology and social-economy.

Moreover, this technique facilitates students to use their multi intelligence skill as they are crucial requirements for effective learning and practicing in achieving a language.

It is true that teaching a large class is challenging as it is pedagogically unacceptable and psychologically irrelevant. These classes involve, most of the times, mixed abilities, language levels, motivation, needs, interests, and goals. Nevertheless, teaching and managing such classes is possible if steps such as those described above are taken.

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TEACHING GENDER ROLES

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Gender role is the set of roles, activities, expectations and behaviours assigned to females and males by society. Female and male children generally become "masculine" and "feminine" at their early ages. Girls or boys begin to prefer activities defined by the society and/or culture, as appropriate for their sex. In a way, the society teaches the individuals how to behave and live according to their gender role. When the sociology of gender emerged, inequalities between women and men are inevitable. This study is designed to introduce the gender roles which cause inequalities between sexes.

Keywords: teaching gender roles, society, social construction

TEACHING STRATEGY TO DETERMINE EXPERIMENTALY THE STOICHIOMETRIC PROPORTIONS IN A CHEMICAL REACTION

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In this work we present a proposal, aimed at university level students, where we use the POE approach (predict, observe and explain), in a practical work where different amounts of metallic aluminum and copper (II) chloride are reacted in dissolution, with the intention of emphasizing the significance of the stoichiometric coefficients in a chemical equation, and that students understand the concept of limiting reactant. We present the results obtained with 36 students in General Chemistry at the Faculty of Chemistry, UNAM, Mexico City.

Keywords: Chemistry education

TEACHING STRUCTURAL ENGINEERING TO ARCHITECTS

Traditional vs. innovative methods of teaching (at CTU Prague and at selected European Universities)

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ABSTRACT
Share of Structural Engineering subjects in bachelor curricula of architectural studies at selected European universities typically ranges between 10-15% at most English speaking universities and between 15-25 % at most German speaking universities. Share of Structural Engineering subjects in master curricula of architectural studies is typically up to 5%, however some universities offer further specialization in Structural Engineering, which boost its share in curricula to 10-45%.
The major objective of the study is to discuss different options in educating architects in the field of Structural Engineering and to monitor innovative methods used for its teaching.

Two main streams in educating Structural Engineering to architects are represented by traditional teacher-centered instructional and behaviourist approach and more recent student-centered instructional and constructivist approach.

Students of architecture are accustomed to learn in visual, creative way, therefore student-centered instruction and constructivism approach seems to be more beneficial for them. Typical example of this method is participating in guided interactive manipulation with models, which improves critical thinking, understanding of the structure and it supports the development of an intuitive design of a structure.

Keywords: structural engineering, architectural curricula, architectural education, innovative teaching methods, structural engineering education

INTRODUCTION

In order to find out, whether Structural Engineering is an essential subject in Architectural Courses at European universities, a study has been conducted by the Czech Technical University in Prague (Pospisil, Vavruskova, 09/2014). For the comparison with the Czech Technical University in Prague, 27 leading European German (15) and English (12) speaking universities have been selected in accordance with rankings listed at the end of this article (University Rankings). There are currently two main types of architectural courses: Architectural Engineering and Architectural Design. Share of Structural Engineering in curricula varies according to the type of course as well as type of university. Following courses were taken into account whilst comparing the amount of Structural Engineering in curricula: Structural Mechanics, Statics, Concrete Structures, Steel Structures, Timber Structures and Foundations. Most of the above listed universities support ECTS (European Credits Transfer and Accumulation System), which has been used as an objective quantity indicator.
Structural Engineering appears to be an important part of architectural curricula at all European universities, especially for the bachelor courses. Its share in architectural curricula varies considerably among the analyzed universities, ranging between 5-42% in bachelor courses and 0-45% in master courses. German-speaking and leading British universities tend to have higher than average share of Structural Engineering in their architectural curricula, which in bachelor studies represents around 35%. Most English speaking European universities have 10-15% of Structural Engineering in their curricula, whilst German speaking European universities (Germany,

Austria, Switzerland) show overall higher volume of Structural Engineering in their courses, which varies between 15-25%. For majority of master architectural courses, Structural Engineering subjects represent up to 5% of curricula. Some universities offer further specialization in Structural Engineering, which boosts share of Structural Engineering subjects in their curricula to 10-45%. Finally, with 8.33% share in bachelor studies, Structural Engineering subjects at the Faculty of Architecture, Czech Technical University in Prague, seem to be underrepresented in context of the above-mentioned European universities.

THE STUDY

The main objective of our study is to discuss different options in educating architects in the field of Structural Engineering and to monitor innovative methods used for its teaching. According to Pospisil et al. (06/2014), situation in the Czech Republic, where the study is conducted is best described as follows: a number of architectural students within the last twenty years has risen significantly (almost ten times compared to 20 years ago), which corresponds to the amount of newly established schools that offer architectural education. This situation led to an increasingly pronounced polarization in education of exact and technical subjects. The newly established architectural education at the technical faculties and schools de facto extend previous studies of civil engineering and orient their education of architecture significantly in more technical direction and on the contrary, traditional schools of architecture show some efforts to simplify teaching of exact and technical subjects.

FINDINGS

Our study would like to compare two main attitudes to teaching Structural Engineering to architectural students as described by Pedron (2006).

I. Traditional Approach (teacher-centered instructional and behaviourist)
Traditional approach to teaching is a reflection of development of scientific thinking. Role of engineering for the design of a structure was considered as very important and that fact led to an introduction of sophisticated mathematics models into an educational process. These methods are therefore understandably predominant.
When described by the behaviourism theory, learning can be viewed as a cycle of stimuluses from teacher, closely followed by response actions from learners. It is the teacher's choice what he „transmits", students are only passive recipients and their role is reduced to memorize and absorb delivered facts. Active participation of students in the learning process is not encouraged by this method and furthermore it promotes individualism and competition.
According to our observations at CTU in Prague, we have noticed following problems whilst applying traditional approach to teaching structural analysis to students of architecture:
1.Majority of students learn by heart mathematic formulas used for solving study-case and apply them further on as a routine to all cases they consider to be similar without considering whether it is appropriate for them or not. They have got difficulties to adjust formulas for each particular case and from the application we can often see that they do not really understand what they are doing. When they need to apply the knowledge they should have gained by solving model-case in a different context, they get into difficulties.
2.A great number of students is also not interested in learning structural analysis, mostly because of lack of related subjects in their following studies. Other reason for structural analysis not being popular with architectural students is the characteristic way they are used to learn – visual and creative, which is not supported by traditional teaching.
3.We must also take into account the fact, that generally students of architecture do not have strong foundations in the area of mathematics, physics and mechanics, which is desirable for successful development of structural analysis skills.

II. Alternative approaches (student-centered instructional and constructivist)
The student-centered model of teaching is nowadays considered as more appropriate, because it helps to develop skills such as critical thinking, ability to solve problems, work in a team and to communicate. In this approach teacher provides moderately challenging tasks on which students can actively build their knowledge using previously gained experience. In the contrast to a traditional model, which uses problems after their content has been introduced, problem-based learning uses problem as a way to challenge students, motivate them and initiate learning. This approach also brings a great benefit in the form of strengthening students' ability to work as a team. We can imply, that education should be more deductively-oriented than inductively oriented, more process-oriented than product-oriented and more practice-oriented than technical skill-oriented. Another typical feature of constructivist theory is a fact, that „previous ideas" (students unerstandings of science with which they come to a course) are taken into account, they are made explicit and reviewed in order not to become barriers to learning and hence effective teaching. Social aspects are brought into the constructivist learning process through

discussions and negotiations with others (including explaining, clarifying, justifying, evaluating, questioning, analyzing, synthesizing...), which eventually leads to a consensus.

Department of Load-Bearing Structures at our faculty is in a close touch with other leading faculties of architecture (e.g. ETH Zurich, Switzerland or MIT, Boston/Cambridge, United States of America), whose observations further support alternative approach to teaching. In order to tackle the situation, some of the faculties have already incorporated a visual approach to teaching statics, which we consider as innovative opposite to frontal methods of teaching we are currently using.

The innovative methods (successfully used for several years at other universities) with which we would like to improve the quality of our tuition are mainly these:

II.1 Hands-on experiments

These experiments on a really small structure are considered by some tutors as especially suitable for students of architecture, who are used to learn in a visual way. It helps them better understand fundamental principles of a structural behaviour. Lecturers under the guidance of professor Künzle at ETH Zurich, Switzerland created series of demonstrations for the first course of structural analysis for their architectural students.

As described by Pedron (2006), some of the class demonstrations are:

Simple beam structures where a wooden beam is supported at both ends with one horizontally moveable support and loaded in the middle. Students observe bending of the beam when the moveable support moves. By further increasing the loads they can observe the linear proportionality between displacements and loads. Differences in elastic behavior of various materials can be seen when using beams of different material whilst keeping the same structure including its support and loading conditions

Most typical experiment for simple frames shows the comparison in behavior of a two-hinged, three-hinged and a fixed wooden frame vertically loaded in the middle of the cross bar and then only horizontally loaded in one corner. When submitted to the same load, each structure shows different deformations (for vertical load the largest deformations are for the three-hinged frame whilst they stay more or less the same when loaded horizontally).

To demonstrate static behavior of an arch, it is loaded vertically to show that it acts in compression whilst an interior chain (connecting the base supports) acts in tension.

Typical experiment for a wooden truss is setting it first without diagonals to demonstrate its instability and watch the stabilization by inserting diagonals in each rectangular field. Students can also observe local instability occurrence when replacing some of the wooden bars with steel wires, which are further submitted to stress.

However high is their educative value, hands-on experiments are affected by complications such as a limited number of experiments, lengthy preparation and tendency of students being passive. In order to tackle these problems, some lecturers are trying to involve students in creating hands-on experiments by giving them tasks to complete, often with the support of modern software technologies. (e.g. build a bridge of given length using the least material possible, then check the behavior of the structure using structural analysis program and finally fine-tune the structure).

II.2 Modern software technologies

Modern computer tools should not provide a substitute for a traditional class course, but represent a suitable accompaniment to it. As already mentioned, virtual models can be created simultaneously to hands-on experiments using computer software. At first features such as deformed shape, maximum displacement, normal forces, bending moment etc. are analyzed, then structure is further improved until the optimal design is reached. The most appraised benefit of such programs is their interactivity, which helps students with visualization of abstract concepts. Examples of the programs are: Easy Statics and eQuilibrium (ETH Zurich), Structural Gizmos (Washington), Deflect (Glasgow) or Grips (Stuttgart).

II.3 Graphic Methods

Graphic methods, popular in the 19th century, are nowadays seen by many lecturers as a way to enhance students' understanding of structural behaviour and therefore are finding their place back in the courses of structural analysis.

They offer powerful techniques for the analysis of structures. Often, the effort required is much less than that one required by theoretical methods and the solution is comparably accurate. Using these methods, forces in structures are calculated by drawing lines on paper corresponding to the magnitude and direction of the vector representing the forces. The main advantage of graphostatics is that it allows designers to visualize the flow of forces throughout a given structure along with providing a direct link between structural behaviour and structural shape.

Karl Culmann (1821-1881), a pioneer of graphical methods in engineering, published a book on the subject in 1865/66. He took up a chair of engineering sciences at the Swiss Federal Institute of Technology in Zurich in 1855 and had a profound influence on a generation of engineers.

Contemporary advocate for graphostatics methods for lecturing on structures is the team of Karl-Eugen Kurrer (2003), according to whom the clarity of graphical techniques has a high didactic value, since interdependencies, e.g. between forces and structural geometry, can be directly experienced.

At MIT Boston/Cambridge, USA, graphostatics methods in teaching statics to architects were revived by Waclaw Zalewski and Edward Allen (2010) and are being successfully developed by John Ochsendorf.

CONCLUSIONS

As observed by our team at CTU in Prague, traditional teacher-centered approach to teaching structural analysis to architectural students brings to attention especially these attributes we would like to tackle: lack of motivation to learn structural analysis, lack of interest to understand how the structures work, routine and often incorrect application of mathematical formulas. Traditional tuition puts students into the roles of passive recipients and compared to alternative methods of lecturing (already successfully applied at some universities such as ETH Zurich, Switzerland or MIT Boston/Cambridge, USA) seems to be less beneficial for them. We would like to improve critical thinking of students, together with their understanding of the structure and ability to solve real-life problems. We think this may be achieved by introducing a course of Visual Statics to the curricula. The pilot course was already run at CTU in Prague in winter term 2014/2015 as a voluntary supplement course and is described by Pospisil, Vavruskova (06/2015). We believe we can raise students' interest in structural analysis by interactive manipulations with real-life models accompanied by interactive software modeling (under the guidance of teachers). This student-centered instructional and constructivist approach furthermore strengthens students' independent thinking, improves their explaining and reasoning skills and prepares them to work in a team.

According to Ortiz et al. (2014) today's society with its requirements represent a major challenge for teaching staff at universities, where lecturers need to adapt their teaching methods in order to meet these new challenges. Educating new generation of students brings demands of teaching them select, update and use knowledge rather than processing facts and formulas. Students should have the ability to learn in different contexts during their professional careers and be able to adapt their knowledge with arisen new situations. Higher education should aim to bring up graduates which are fully prepared to face the challenges of the new economy.

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TEACHING THE AKSAK METERS THROUGH GEOMETRICAL SHAPES (AKSAK ÖLÇÜLERİN GEOMETRİK ŞEKİLLERLE ÖĞRETİMİ)

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ABSTRACT

This study aims to research, whether or not, 'Turkish Aksak' and other Aksak Meters specific to Anatolian culture can be taught to university students who have grown up in different geographical and cultural regions where traditional music does not contain the mentioned meters with using geometric shapes which is the common language of math.

The research group was composed of 36 university students from six different European countries (UK, Spain, Netherlands, Latvia, Hungary, and Italy) whose field of study was not music. Those students participated in this research within the scope of European Union Youth Project named as "Math's for All" Project. An educational programme in which the Aksak Meters were synthesized through geometric shapes developed by the researchers has been implemented during the project.

The research findings were obtained by using the "Self-sufficency Rhythm Scale for Perceiving Aksak   Meters" developed by the researchers. The scale was given to the participants as both a pre-test and post-test. The data was analyzed on the IBM SPSS Statistics 22 programme. The distribution information was described by frequencies and percentages for the categorical variables while it was described by statistical averages and standard deviations for continuous variables. After the students training, The Mc Nemar test which is used for analyze the relationship between two dependant categorical variables was applied to find whether there were any significant increases in the participants' post-test scores.

It was found in consequence that the learners' ability to distinguish ' Aksak Meters' improved during the applications through the use of geometric shapes. These

findings showed that the used method was effective in teaching the 'Turkish Aksak and Other Aksak Meters '' to the learners who had grown up in diverse cultures.

Key Words: Music and Mathematics, Turkish Aksak, Odd Meters, Aksak, Geometry and Rhythm

ÖZET

Bu çalışmada; geleneksel müzikleri "aksak ölçü içermeyen" farklı kültürel coğrafyalarda yetişmiş üniversite öğrencilerine, Anadolu kültürüne özgü olan 'Dokuz Sekizlik Türk Aksağı" gibi aksak ölçülerin, matematiğin ortak bir dili olan geometrik şekillerle etkili bir şekilde öğretilip öğretilemeyeceği araştırılmıştır.

Çalışma grubunu altı farklı Avrupa ülkesinden (İngiltere, İspanya, Hollanda, Litvanya, Macaristan ve İtalya) yükseköğrenim alanı müzik eğitimi olmayan 36 üniversite öğrencisi oluşturmuştur. Bu öğrenciler çalışmaya, 2014 yılı Avrupa Birliği Gençlik Projelerinden "Herkes İçin Matematik Projesi (Math for All)" kapsamında katılmışlardır. Araştırmacılar tarafından geliştirilen geometrik şekiller ile aksak ölçü ve ritimlerin sentezlendiği eğitim programı proje sürecinde uygulanmıştır.

Araştırmanın bulguları; araştırmacalar tarafından geliştirilen "Aksak Ölçüleri AlgılamayaYönelikÖzyeterlikRitim Ölçeği" kullanılarak elde edilmiştir. Bu ölçek öğrencilere ön test ve son test olarak uygulanmıştır. Veriler IBM SPSS Statistics 22 programına aktarılarak analiz edilmiştir. Kategorik değişkenler için dağılım bilgileri frekans ve yüzde ile sürekli değişkenler için ise tanımlayıcı istatistikler ortalama, standart sapma ile tanımlanmıştır. Verilen eğitimden sonra öğrencilerin son test puanlarında anlamlı bir artış olup olmadığını ortaya koymak için 2 bağımlı kategorik değişken arasındaki ilişkinin incelenmesinde kullanılan Mc Nemar testi uygulanmıştır.

Araştırmadaeldeedilenverilerden, öğrencilerinuygulamalarsürecinde, geometrik şekillerin kullanımıyla, aksak ölçüleri ve ritimleri ayırt etme öz yeterlikleriningeliştiği saptanmıştır.

Bu sonuçlar kullanılan methodun farklı kültürlerde yetişmiş bireylere geometrik şekiller ile 'Türk Aksağı gibi Aksak Ölçülerin Öğretiminde' etkili olduğunu göstermektedir.

Keywords: Key Words: Music and Mathematics, Turkish Aksak, Odd Meters, Aksak, Geometry and Rhythm Anahtar Sözcükler; Müzik ve Matematik, Aksak Ritim, Aksak, Geometri ve Ritim

TEACHING TURKISH AS A FOREIGN LANGUAGE TO ADULTS: A STUDY OF A MULTILINGUAL COUNTRY, LUXEMBOURG

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Language is the most effective tool used in ensuring interaction, in contacting communities and individuals with each other and in sharing and transmitting the norms and values between generations. To go beyond the boundaries of our own social circle and to be able to follow the latest developments in different fields as well is possible by learning a foreign language. Eagerness to learn a foreign language has been continuing from ancient times until today. Turkish is also among the languages wich many foreigners want to learn. Every day, this request and attempt is growing with technological developments, scientific activities, academic research, commercial activities, diplomatic contacts, admiration of Turkey and also alike. Today, 250 million people speak Turkish in the world. And this number is increasing every day both within in Turkey and around the world . Luxembourg is one of the countries where Turkish language is taught as a foreign language to adults.

The aim of this study is to analyze teaching Turkish in Luxembourg. Luxembourg is a multilingual and multicultural country in Europe. And I want to study how language teaching works in a such exceptionally multiligual country. This research is a descriptive study. The observation method and face to face interview method are used in this study.

Turkish is taugh through French medium. Therefore, general interaction between Turkish and French will be observed. The various aspects of threats and oppurtunities of Turkish language which multilingual students face while learning are studied. Thr following questions will be delved into: How does being a multilingual play a role in learning an other language? Is the similarity of target tangue to mother tangue an important factor and alike? The convenience and the difficulty of Turkish langue in comparisan to French language at some points will be searched. This study will focus on especially four language skills, grammar and used materials in two langue within a comparative way.

In conclusion, based on the findings of the study, an overall assessment of the situation will be carried out. And given the views of both the teachers and students, some recommendation will be presented for a better and successful teaching.

Keywords: foreign language, Turkish, teaching, Luxembourg

TEACHING WRITING IN FRENCH AT UNIVERSITY AND STUDENTS' CREATIVITY AS ITS COMPONENT

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ABSTRACT
The present contribution is devoted to the issue of teaching writing in language training, specifically teaching writing in French on the university level in the Czech Republic. The initial part of the paper sets basic definitions, most crucially writing in the sense of the French *expression*, or eventually *production écrite* as a part of four language competences as defined by CEFR. Since writing is closely connected to creativity, the final part of the paper is devoted to presenting particular examples of creative writing of students in selected French study fields in the Czech Republic.

Keywords: teaching writing, students' creativity

INTRODUCTION
The present article is a result of the project "The Innovation of 'Writing in French 1 and 2 courses' and the creation of parallel e-learning Moodle support" carried out in 2015 at the Faculty of Pedagogy at University of Hradec Králové. The aim of the innovated courses of writing is to develop students' writing skills necessary not only in the academic field. Additionally, the curses serve as an introduction to standards of writing in French on several levels, from a basic communication level to the academic level. During courses, students will get acquainted with basic types of documents, structure, range and formal issues of major writing styles with an effort to attain authenticity of the documents and support creativity of students. Since creativity in education is a modern and tendentious element, the conclusion highlights this fact in contemporary didactics of foreign language teaching as well as presents particular students' works.

WRITING
WRITING PROCESS IN CLASS
The fundamental interest of the present research is writing, in the meaning of the French term *expression écrite*, *production écrite* or *communication écrite*. Besides speaking, listening, and understanding, writing constitutes one of the four competences which are the focal interest of modern language education. In this context, Lieselotte Martens (2005) observes that essay writing, or writing in general is the skill which is being omitted, or which is receding in favour of dominating speaking skills. However, writing is an indispensable element of education hence it contributes to the development of an individual and the expression of their cultural and social values. It is our whole personality, whole body that participates in writing (writing here is understood as a target skill with a communicative function, rather than a tool with assistive, secondary function, cf. Janíková, 2005). In the process of writing, the author enters their inner self, often secluded from their surroundings (Hermanns, 1988).
Writing in foreign language teaching can be classified from various perspectives. The present article draws upon the classification as advocated by Benešová, to which it also conforms. This classification differentiates the type, the kind and the method of writing.

Table 1: Writing Classification (Benešová, 2008)

WRITING AS A TARGET SKILL			Writing Type
Directed Writing (Writing Following a Sample)	Independent Writing / Personal Writing		Writing Kind
Functional Writing / Pragmatically Oriented Writing	Fact Oriented Writing	Creative Writing	Writing Method

As the table above illustrates, creative writing, whom the following chapters will devote more attention, is understood as a target skill, i.e. it has a communicative function and is independent, i.e. it is not a subject to any models, samples or norms; it employs emotions and playful approaches to language (Faistauer, 1997). Although it is independent writing, it does not imply that its message is autotelic. We write to communicate, which on the

one side there is the one who writes, the person who tells, while on the other side there is the person who reads the text, i.e. the recipient of the given message. It is therefore real communication. According to Thảo (2007) "pupils do not create texts so that teacher would mark their mistakes […];" writing, on the contrary is an activity "which has a certain goal and sense […]."

While applying the abovementioned distinction in praxis, it is necessary to bear in mind that the communication situation must be clearly and accurately defined while setting the task to students of writing. The students are therefore guided that through the development of writing competences in various situational contexts they should be able to convey their ideas and feelings (cf. Bouchard cited in Pouliot, 1993). It is still necessary to observe that the text is understandable to the given reader and that they can comprehend the ideas communicated to them (Weber, 1993).

Such competences in writing are, according to Albertová (1998), possible to classify into several levels. Linguistic competences involve grammar, the behavior of lexicon, and the referential ability including mainly experience. Sociocultural competences contain social rules, norms and knowledge of cultural history. Cognitive abilities are linked with the knowledge and command of the given language. The last competence is discursive or pragmatic, which is the ability to compose texts corresponding with the given communicative situation.

The capacity of written expression is a complex issue which contains a variety of partial categories which must be considered while teaching.

WRITING IN FOREIGN LANGUAGE DIDACTICS
The position of writing within foreign language didactics has been gradually changing. Grammar-translation method understood writing as a means to acquire grammar rules and formalities. Audiolingual and audiovisual method conceived of writing as an accompanying/marginal element to speaking and listening. Communicative method accentuated exclusively oral expression; writing was seen as an attendant element until the late 1970s. The changes appeared in the 80s due to knowledge of cognitive processes which brought the emancipation of written expression. Besides cognitive processes, which are associated, as Kasta argues, with e.g. participation of more senses, writing becomes a parallel to reading, and is in its beginnings accompanied by inner speech etc. Thereby the focus on emotional aspects starts to be also considered (cf. L. von Werder, 1996).

These findings have been reflected in new methodologies and approaches to foreign language didactics in general, most notably in CEFR alias Common European Framework of Reference for Languages, where writing is equally defined. The CEFR framework defines completion of individual language levels according to the given criterion – the ability of written expression in a foreign language. Such defined markers correspond with French examinations DELF (Diplôme d'études en langue française – The Diploma of French Language Studies Levels A1-B2) and DALF (Diplôme approfondi de la langue française – The Diploma of Advanced French Language Studies Levels C1 and C2). The requirements for writing on different levels are available in the CEFR Handbook (p. 63).

The defining scale used by CEFR enables the teacher to measure students'/pupils' progress and allocate their language knowledge within the particular language level. Simultaneously, the scale is the guideline for teachers to develop particular knowledge and skills, which the language at the given level enables them.

However, writing does not need to be restricted to fulfilling CEFR criteria or obtaining the French Republic certificates. Writing is most closely connected with creativity and the development of creative approach in class – the area which we have been attempting recently also on university level. Therefore writing at universities will be the subject of the following chapters.

CREATIVITY
Before starting to elaborate on the term creative writing, it is necessary to define what it means in the context of language teaching.

The word creativity comes from Latin *creatio* meaning "to create, to make." Intensive and systematic insight into the issue of creativity was provided by J. P. Guilford (1950), and in the Czech Republic it was namely J. Maňák (1998), J. Hlavsa and M. Jurčová (1978) who devoted their research in the phenomenon of creativity.

The phenomenon of creativity is a highly complex and recently significantly modern issue (Puozzo, 2013) which includes a variety of fields of human activity – be it artistic, as it may initially appear – or history, psychology, economy and others. Therefore its definition is neither clearly designated nor limited. Craft (2005) describes creativity as "the generating of new ideas."

According to Czech authors Lokšová and Lokša (1999), "creative process whose result is a created product, is realized by a creative personality. They participate in a complex way with all their qualities and cognitive as well as non-intellectual psychic processes." The very creativity is hence supported by a creative personality with their creative abilities which lead towards creative production and activity.

In the context of language as Noam Chomsky understands, creativity is an individual's ability to create and understand an infinite number of new testimonies and these communicates later interpret (Robert, 2003). Among semantically related words of creativity are notions such as fantasy, imagination, originality, individuality,

energy, courage, experiment etc. (Šíp, 2013). Quite an extensive characterization of creativity within psychology is provided by Žák (2004) who differentiates its individual components, as summarized in Table 2.

Table 2: Creativity and Its Components (Žák, 2004)

CRETIVITY AND ITS COMPONENTS

1. Ability to	2. Attitude Of an individual, which is characterized by	3. Process Characterized by
Imagine or invent something new	Agreement, acceptance of the change and novelty	Hard work
Create ideas, thoughts corresponding with general criteria	Willingness to play with ideas and thoughts	Continuous mind activity to generate solutions
Understand and analyse problems, design their solutions	Flexibility of the perspective	Space for improvisation
Constructively work with fantasy and individual features of emotional intelligence	Willingness to take risks	order (imposed, created or gained)

According to Žák, creativity includes attitudes, abilities and processes, which are further differentiated and defined. Creativity is then one of the human competences which can be further developed in individual aspects (Benešová, 2008). In such a complex system which originates at a creative person with a potential to immerse in an original activity, an inevitably important role is played by the very teacher, the climate of the class, the methods used, etc.

CREATIVITY AND FOREIGN LANGUAGES DIDACTICS

Creativity has been an unknown term in didactics for a long time. Initially the methods were limited to imitating of given models (cf. Nováková, 2014) and exercises were restricted to a single correct answer; other possible alternatives represented system deviations. In foreign language didactics the term creativity appears no sooner than in 1970s as a part of communicative-pragmatic method; it is later developed in mid 1990s due to "action oriented approach," emphasizing the activity and individuality of a student (Cuq, 2003). In French milieu these methods were acquired by the Office for Teaching of French Language and Culture in the World (BELC, *Bureau d'études des langues et cultures*), whose funds also initiated the first publication aimed at creativity in foreign language teaching: *Game, speech, creativity* (*Jeu, langage et créativité*) focused on creative activities *les jeux de créativité*.

Presently creative writing based on the knowledge of modern psychology and pedagogy "on the distribution of creativity in the human population and its possible development" focuses on the development of "students' creative potential. […] It represents an integrated complex of aims, methods and approaches aiming towards the development of creativity of students and the formation of creative personalities within education" (Lokšová, Lokša, 1999).

Creativity in foreign language teaching has several techniques and principles:
- Brainstorming method (*rémue-méninge*): associations to the given expression/topic suitable e.g. for practice or activation of vocabulary, i.e. the introduction of the given topic, or a motivational element for creative writing. One of brainstorming means is so-called clustering or associograms; it is important to allow free flow of ideas which should be written down without their censorship.
- Language games (*jeux de langues*).
- Role-play (*jeux de rôles*): interactive communicative act leading to the development of students' expressive abilities in a foreign language with the help of three aspects – linguistic, sociolinguistic and pragmatic (Cuq, 2003).
- Global simulation (*simulations globales*): one of the techniques originated in BELC workshops where students create fictional worlds with the help of imaginary places, buildings, islands, villages etc. (Yaiche, 1996).

- Creative writing (*écriture créative*): details see below.

Nowadays the abovementioned activities were supplemented by many other, such as creating of so-called mind maps (a more complex form of cluster based on complementary elements such as pictures, pictograms, etc.), project based teaching, which supports the application of inter-disciplinary relationships (Nováková, 2014).

CREATIVE WRITING

Considering that creative writing constitutes a fundamental pillar of the present contribution, its conception and forming within foreign language didactics will be devoted the greatest attention.

Creative writing originated in the USA in 1920s at the University of Iowa where also the first specialised creative writing study programme opened 16 years later. Creative writing cherished equal popularity in Germany; however, it reached the Czech Republic no sooner than 1990s. In France creative writing still remained shaded by the prominent textual interpretation and analysis.

According to Z. Fišer (2001), creative writing can be understood from two perspectives: either as a formative activity leading to the development of an individual, or as an autonomous field with its own theory and technique. Within foreign language didactics creative writing is understood as a complementary method to other forms of writing where creativity is excluded.

The word "creative" used in this context means that the writing process is less bound with roles, e.g. formal, content, stylistic, or language requirements. Individual activities are targeted to underpin students' individuality, needs and interests. The student acts as an author or a poet securing certain aesthetic communication. One of the most frequently indicated and used models of creative writing is so-called literary workshop (*atelier d'écriture*), which is mostly connected to teaching literature, where students focus on the reception of the presented work, upon which they create their own texts of various genres (letters, poems, fairy-tales, essays, autobiographies, inner monologues etc.) (Mann, Ch., Schröter, E. Wangerin, W., 1995).

According to Vanderheyd (cited from Tardieu, Van Hoorne, 2003)creative writing is a method which presents writing in an entertaining way; it is at least in its initial phase deprived of grammar rules and restrictions. It should thereby elicit the feeling of pleasure among pupils who should thus feel desire to write and consequently be read.

There are various techniques of creative writing; they were described both in Czech Fišer, Mareček, Janíková, Čornej, Zajícová, Matušková), French (e.g. Vanderheyde, Pimet, Boniface etc.) and other contexts. The techniques span from association techniques and brainstorming through filling-in texts until the very individual literary production based on certain models. The last technique will be dealt closely in the last chapter, where also the practical output of our students will be presented.

CREATIVE WRITING IN PRACTICE

The last point of our contribution introduces an example how creative writing is put to practice in the Czech Republic within the university program called French Language in Education. The students participating were around 21 years old and their language level was B1/B2. The creative writing workshop was realized as a part of literary education, i.e. a students were introduced a literary text, a poem in our case, which served as a trigger (*texte déclencheur*). In the second phase students worked with the given text in a standard way, i.e. they performed literary analysis and later received a set of restraints for their own work. The first sample contained the poem *Il pleure dans mon cœur* in *Romance sans paroles* by Paul Verlaine. Based on the poem students were asked to create their own poetic works (Fig. 1) expressing their current feelings, impressions and mood. In the second case students focused on calligrams by Guillaume Apollinaire (Fig. 2) being thematically restricted to Christmas; the lesson had literary as well as civilizational orientation (sociocultural task completion): Christmas in France. Samples of selected poetry are reproduced at the end of this chapter.

However, students' activity does not need to be limited only thematically; the imposed restrictions can include e.g. the number of words, selected lexicon, grammar phenomena etc. The product of writing can be other literary genres: interview, short story, novel, criticism, flyer, etc. The task reflects the original texts, lesson focus and aims set by the teacher. Students can work individually or in groups. Pedagogic activities thus vary according to their activities, from functional (expressions of feelings), sociocultural (lifestyles in different countries) to linguistic (lexical, stylistic or grammar focus) and so on.

The problematic issue associated with creative writing is its final evaluation, which should be more of a qualitative character (Šíp, 2013). The text should be understandable, yet it is originality, resourcefulness, and students' enthusiasm that are considered its most significant elements. A beneficial component is other students' participation in the evaluation (Martens, 2005), which is also practiced in out context. When performed regularly, creative writing assessment (with regular students' participation to assess their peers) can create a chart of best poets of each year.

Poetic creativity can thus become a component of far more ambitious projects such as creating a poetry-book (considering the thematic and genre diversity), or organizing its final public presentation by reciting their own poems.

Fig. 1: Poems based on Paul Verlaine

QUESTIONS POUR UNE FLEUR

Une petite fleur qui maintenant dort
ne sait qu'elle m'a laissé seule
ne se réveille pas, aujourd'hui, encore
son corps reste là mais déjà veule.

Être si belle et devenir pâle
loi de la nature ou simple crime ?
Je veux la protéger avec mon châle
j'ai peur de froid sans estime.

Regarder derrière ou voir devant ?
Je cherche des lunettes pour aviser bien
Pourquoi des réponses me donner avant
Je ferme mes yeux ne demandant rien.

FINS AMÈRES

Gris est le ciel, des arbres sont affligément nus,
Des allées sombres cachent les sculptures inconnues,
L'éclat s'envolait avec les hirondelles,
Gris est le ciel, le témoin de cet acte cérémoniel.

Pourquoi les fins amères tuent notre fois ?
Est-il possible de gagner cet aboi ?
La voix impassible proclamera la peine -
Sans bouger les lèvres, sans sentir la haine.

La lutte déchirante est après tout finie ;
Le goût de récriminations indéfinies
Avec l'odeur de feuilles mortes m'enivrent.
Je ne peux plus, ils ne cessent de me poursuivre.

Il est là, sans invitation, le chagrin.
J'essaie de l'oublier ; il en reste un grain,
Il m'aveugle comme une lumière crue.
Douloureux est de remercier pour ce qu'on n'a plus.

Fig. 2: Calligrams based on Guillaume Apollinaire

CONCLUSION

« En chaque personne sommeille un poète. »
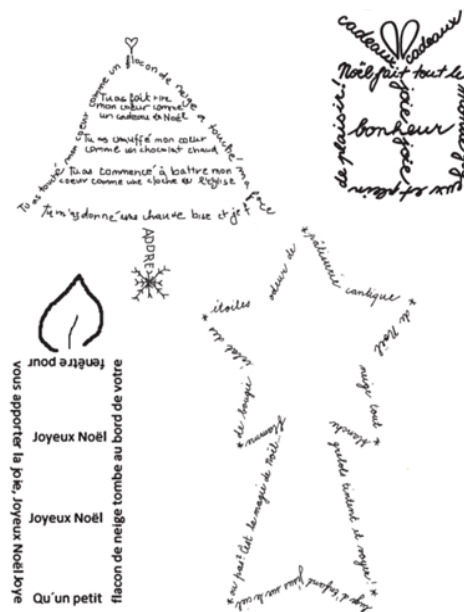
The present contribution concludes with a quote from Vanderheyde (cited from Tardieu, Van Hoorne, 2003), which states that a poet slumbers in everyone. This is an observation to depart from while teaching creative writing; students initiated and motivated to self-expression, which enables not only to develop (not gain) language, but also literary and critical competences. Furthermore, creative writing is bound with emotions and functions thus as form of therapy where they students can "write themselves from their glooms." The motivational aspect of creative writing lies in students' realization that they are able to create original texts in a

foreign language, texts which are additionally recognized by others (cf. Maley, 2009).

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TECHNICAL EDUCATION OF PRESCHOOL AND SCHOOLCHILDREN

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ABSTRACT

A project "Technical kindergarten" was prepared and realized in years 2013 – 2015 to support the interest in technology. The aim of the project was to rouse the interest in the children between the age 6 and 11, as well as support the overall technical and scientific literacy. It was supposed to improve their ability to understand new basic technical knowledge while understanding its practical influence on everyday life. The implementation of technical information into the teaching and creation of individual assignments were ensured by a diverse team of schoolteachers and specialists working in technical praxis. In the project, there were involved a university, primary school, two technical companies and Czech Management Association (an association of top managers of prominent companies in Czech Republic). This paper describes the project as well as pedagogic and psychological aspects of such education and, of course, the experience gained during the introduction of the exercises into the teaching.

INTRODUCTION

In the last years, the number of university graduates is increasing very fast, but the increase involves mostly humane and economic disciplines. Technical and natural branches of study rather stagnate decreasing their representation in the whole level of education. It is clear that mathematics, physics or chemistry interest fewer students than is desired and needed. As a result, Czech Republic contends with a lack of technically educated young people. However, this issue applies to the whole EU as well.

To improve this situation, an intention turned up to start the technical education of children as soon as possible. Since 2010, an experiment took place that was focused on the development of knowledge and dexterities (such as motor activity, thinking, communication, cooperation) of preschool children. Children made mostly bridges out of wood and paper. Several walks were made around the city Brno to increase the interest. The targets of these walks were bridges around the city with different structural systems. Thus, the teachers in the kindergarten had to learn some new technical information from this field of knowledge. The academic stuff of Brno University of Technology participated in this in the form of workshops for the teachers. Of course, the groundwork was adjusted as to fit the needs of teaching small children. The whole project was then awarded in a national competition INNOVATION 2011 organized by the Technology Agency of the Czech Republic.

These activities expanded in the year 2012 to the primary school. By working on simple experiments, it is easy to improve the ability of the children to use small tools as well as to introduce them into natural and technical laws. Since 2013, the preparation of methodical manuals (Havelkova, 2015) began for such schooling. The teachers of selected primary school and academic stuff of BUT created a lot of subjects in the following areas: occupational safety, houses and bridges, means of transport, music, trees, historical buildings, mathematics and experiments.

Trial schooling of these methods started in May 2014 and it covered children of age 6 to 11 years old (first to fifth grade). The schooling started in the primary school whose teachers were involved in the preparation of the manuals. Also, some of the children were already included in the experimental teaching mentioned above i.e. they had almost five years of experience with technical education (especially these children showed significant improvement in dexterity). The trial teaching was carried out in several other schools to verify the teaching method in an environment without any experiences with technical education. The teaching was not restricted by the exact quantity of teaching lessons – it depended on interest and skill of children, equipment of the workshop and personal attitude of teachers and parents.

CONCEPT OF THE PROJECT

The main goal of the project was to boost the motivation of the students in a way to inspire them to build some working model, design new model and try new activities in form of a game while discussing problems with other students. The concept of the project merges standard steps used in creative and innovative processes: idea – design (drawing) – production – presentation.

Student's own creation (design, drawing) as a teaching method begins to be an irreplaceable method in school educational programs. It is necessary to involve as many senses as possible while adopting new knowledge together with understanding related basic principles. The principle is to switch from traditional schooling (based predominantly on memorizing) to methods oriented towards confidence in student's own capabilities. Such principle has two pillars:
- interactive teaching materials,
- actual working as a teaching method.

Students make a functional model of the technical object they are learning about. This model is based on their own ideas and design, however they are led by their tutors. This way enables better fixation of gained knowledge. The following game with those models allows better understanding of functioning as well as technical capabilities of given technical device. Also the game is a collective activity of a group of student, forcing them to converse with each other and thus learning new technical terms. It is best if this activity is completed with excursion.

The change in teaching lies in widening the role of the teachers; they do not work as a mere carrier of knowledge. Teachers perceive themselves as intermediaries of cognition, educators, mentors and partners of the students at the same time.

BASIC SCHEME OF THE LESSON
Every lesson in the project Technical Kindergarten should follow given pattern:

1. Familiarization with the task
Student are told what purpose the given technical object serves for, what is it is practical significance and value. Also, the background is explained, such as how it is made, who does the design and who produces it. This is done using explanation, pictures, working models, field trips and excursions (Fig. 1). It is important to maintain correct technical terminology during the whole phase because the students are meant to learn it.

Figure 1: Familiarization with the task and theoretical background of the problem

2. Formation of own idea
Students draw the object according their own imaginations and ideas (Fig. 2). This drawing serves as a basis for building a model of the object. It is necessary for the teachers to interfere and correct if need be to maintain basic technical solution.
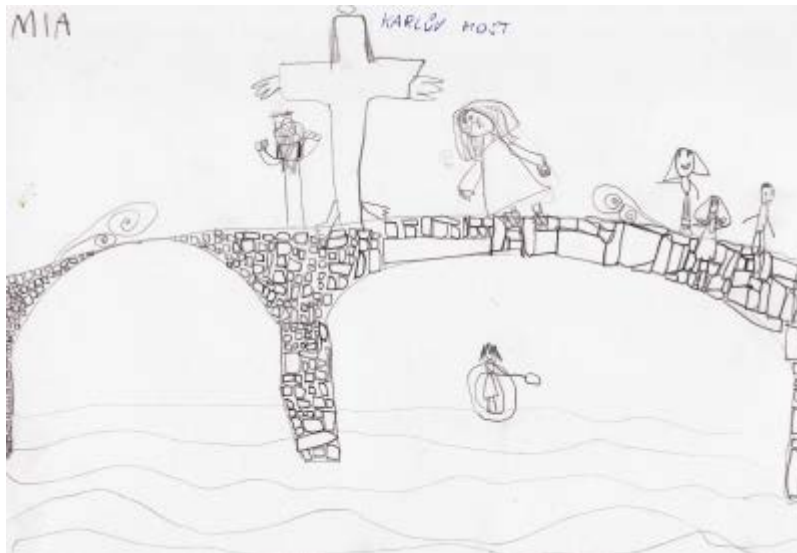
Figure 2: Technical drawing of a bridge

3. Production of the model

A model is created based on the design from the previous phase. Alternatively it is possible to use a ready-made model provided by the teacher. The models should be made of material suggested in manuals, but it is possible to experiment with other materials. The students have to be familiarized with correct manipulation with tools and aids as well as with occupational safety in the workshop. This part of the lessons is the most demanding for both students and teachers.

4. Functionality of the model

The finished model is understood as a play toy simulating real technical object. It is put to the test to verify its functionality (Fig. 3). It should fulfill basic technical demands. If it does not it has to be corrected, supplemented or altered – often, this is a desired output as well.

Figure 3: Working model of the bridge during the loading test

5. Discussion

Students comment their own handmade model in groups. They try to express the technical solution of the problem. There are several important points (questions) they should be able to express:
- Why?
- How?
- Why was this particular solution chosen?
- What purposes is it meant for?
It is expedient to write down the ideas and reactions of students on the flipchart. Also, students can present their

notions not only in their class groups but in their families and at children parties as well.

6. Assessment of the lesson
The teacher completes the final assessment of the lesson based on the group discussion (Fig. 4). It is possible and desirable to motivate students into further interest by positive approach and acknowledgment of student's effort.

Figure 4: Final assessment of the lesson done in an assembled group of students

BASIC METHODICAL RULES OF TEACHING
The rules are based on a presumption that the teaching is strongly influenced by the social climate of the class. This climate results from collective activities and social communication under the influence of social relationships (student, reaction of the group of students, different intelligence type, teachers personality and his teaching technique). The climate influences following:
- cognitive results,
- manifestation of affective behavior.

This is the reason communication plays a significant role during the lessons. There are several methodic rules for the teacher's work that reflect the mutual interaction between teacher and student.

1. Assignment of univocal instructions
Students have to know exactly what to do, why to do and by what means.

2. Opening of the class
Emphasis is put on the initiation of the class. It should be started with clear noticeable signs to catch student's attention immediately.

3. Keeping attention and activity of the students
Cooperation of pupils can be increased by linking the theme of the class with their experiences, for example. It is recommended to switch between different work forms.

4. Tempo and progress of the class
It is necessary to think about the pace of the teaching – it has to correspond with the abilities of all students. Also, the switching to other activities has to be transparent. It is advisable to provide other activities for the quicker student while the slower ones are finishing their tasks.

5. Individual creation
The students should be checked while fulfilling the task and they should be acknowledged for good work. The teacher has to offer support when students lack the ability to complete the task but have the will to do it.

6. Summary of the class
Teacher leads the students in the discussion to assess and summary the knowledge gained during the lesson. This increases the probability of remembering the schoolwork.

7. Utilization of feedback

The criteria used in assessing the students have to be explained to children. Those criteria should be set as to offer the best chances for students to succeed. Even the less successful students should be acknowledged. As a feedback, the students are asked to express what they liked most.

8. Continuous switching between different themes

It is possible to use the manual step by step. During the lessons it is necessary to notice students asking for help – teacher's response should be calm and quiet and focused on the concerned student alone. Quicker and skillful student can fulfill an additional task on the other hand.

9. Dealing with minor disorders

Students have to be watched carefully for the teacher to be able to detect and avoid disorders and problems. Appropriate intervention in time in essential.

10. Safety of schoolchildren

To provide a safe environment for the workshop classes, it is necessary to keep all rules that were explained to the students beforehand. They have to be familiarized with the equipment of the workshop, working with the tool and with keeping of the order on the table.

EVALUATION FROM A PEDAGOGICAL AND PSYCHOLOGICAL STANDPOINT

The project is undoubtedly a great contribution to the students, teachers and society. It expands the interest in technical activities. The project brings the technical and natural branches of study closer to the schoolchildren using methods appropriate for their age – this is especially important in time of quick technical progress. Students learn to help and advise each other, listen to instructions, counsels and directions of the teacher. The teacher contributes to the development of children's interest in the activities involving an active approach to given tasks that lead to fulfillment of the ultimate teaching goals. Besides increased interest in technical activities, the socialization of the students develops by adopting specifically human forms of behavior and by integrating them into a group and society. An important part is the area of communication development (introduction to technical vocabulary).

During the assessment of the class the teacher emphasizes student's reciprocal cooperation, help and contribution to the task. This contributes to exhibit sociability and friendship. It directs the students to look for a solution and not dwell on the problem to finish the given activity. Gained knowledge are gradually transformed into skills. The teacher can recognize if the student does not hesitate to ask for help (either from the teacher or another pupil).

The preparation of groundwork for the project was based on an approach emphasizing interaction between student and teacher. It used latest finding from the area "communication teacher-student", available social teaching theories (Dinkmeyer, 1996 and Cangelosi, 1996) and "Step by step" methodology (Novotna, 2008). Stimuli and evaluation of the program were prepared in a way to provide psychological conclusions comprehensible not only for academia but for other interested parties as well.

There were several questions influencing the preparation of the project and the final manuals:
- How does it develop the knowledge of the basis of technical and natural sciences?
- What news do the students become aware of during the project?
- What are the activities that influence students the most?
- What is the influence of the project on the future professional career and development of talent of the student?

Results of cognitive abilities of the students were gathered during the year 2014 in a group of primary school children. The testing method was performed according the timeline "pretest" – trial schooling using prepared manuals – "posttest". The criteria were chosen to be as follows:
- analytic-synthetic abilities, logical thinking,
- visual-motor abilities,
- motor and sensory perception, visual memory,
- manual dexterity,
- practical thinking.

The testing battery (Havelkova, 2015) was compiled in a way to allow exact measurement of performance of the students in the testing group. Testing methods were chosen according the stated requirement:
1. Wechsler's scale of general intellect – non-verbal part with the tests:

- dice (motor and sensory perception, analytic-synthetic abilities, logical thinking and understanding of context, manual dexterity),
- jigsaws (visual- motor coordination, manual dexterity, visual perception, practical thinking) and
- coding (visual- motor coordination, attention).
2. Ray-Osterrieth's figure test (motor and sensory perception, attention, visual memory, the level of perception and remembering details including spatial relations).
Additional tests were used to survey visual- motor level:
- TST test (shape assemble test) performed in the groups,
- Bender-Gestalt tracing test performed in the groups and
- orientation laterality test
Non-cognitive factors were equally important part of the success. However they were difficult to measure. Young children are not matured and are highly dependent on evaluation provided by authorities. Positive motivation, persistence, systematic training, support of the family are the most important factors.

The lapse of time between testing of random test groups was six months, to avoid the influence of simple drilling of the tasks. The first testing took place during spring 2014 (before experimental teaching); second testing round took place during autumn 2014. There were 24 students in the testing group, 12 girls and 12 boys. All of them were born between 2003 and 2005 i.e. age 8 to 11. It has to be noted that the initial group was fairly small. Therefore the following results should be taken as an approximate indicator of the development.

There were five left-handers in the testing group, but no direct influence was noted concerning cognitive performance. One student was disabled (health problem), three students were diagnosed with specific learning disorders (light dysgraphia and dysorthography). Fairly small number of students with specific learning disorders does not allow to generalize the influence of these disorders on the performance of the pupils. However, it is obvious, these congenital insufficiencies in visual- motor coordination limited the capabilities of such student to handle some graphomotor tasks very well. The students suffering from dyslexia can run into difficulties with reading of the manuals – it is recommended to appoint another student or teacher to read the instructions.

Comparison of results observed through Wechsler's scale shows significant improvement of cognitive abilities (see Table 1). Tracing test (Ray-Osterrieth's figure) showed considerable constancy both in qualitative as well as quantitative results of individual students. This test determines level and quality of orientation in a complex scheme. Eight students (i.e. 33% of the total number) were discovered with the above-average motor and sensory perception level.

Table 1: Test results of Wechsler's scale of general intellect.

Test	No. of improved results	Percentage improvement
Dice	8	33%
Jigsaws	7	30%
Coding	3	8%

The successfulness of the trial schooling was assessed by inspection and questionnaires for students as well as for teachers. Three criteria were determined to evaluate the teachers:
- pedagogical climate (the way the teacher treats the students and creates interaction between teacher and student, i.e. how does the teacher manage to cooperate with students),
- management and organization of the class (the way the teacher organizes tuition and prepares the classroom environment),
- didactics (the way the teacher instructs and employs suggested methods).

The questionnaires of the students showed a positive assessment of the trial lessons (in total 115 students, 83% of them rated the lessons as definitely favorable). The children were most attracted by following:
- manual work, meaning creating own items,
- the possibility to show their products, and cooperation with classmates,
- the possibility to try out basic practical skills and technical coherence while playing games,
- additional tasks for skillful students.

The teacher's evaluation consisted mostly of the following assessments:
- appreciation of connection of practical work with a theoretical level of teaching,
- very well prepared and comprehensive basic information from the fields of technology, music and natural science,
- some experiences show the necessity to adjust the choice of tasks to the curriculum of the given class,

- teachers got new insight at their student from a different point of view.

Other recommendations and conclusions were gathered during inspections in individual classes. These observations show the most efficient method of managing students is to divide them into small groups of four or five. It is possible to delegate a skillful student to lead such small group. The spatial conditions in the classroom have to be adjusted to prevent groups of student students to disturb each other while allowing the teacher to maintain the overview of the events in the whole classroom. The crucial point to keep in mind is that the creativity of such young students is always influenced by the creative attitude of the teacher.

CONCLUSIONS

The summary of the overall results of cognitive abilities of the testing group concludes, that there were no major differences between girls and boys in the testing group; one-third of the student improved in practical thinking and analytic-synthetic abilities. The improvement was up to 30%; one-third of tested students showed above-average potential in motor and sensory perception. There were several aspects that contributed to reaching good results. The students had very good ability to work, working habits and showed no attention deficit. Also, they had adequate aspiration level and motivation to succeed. The testing group involved several children that had passed through the project "Workshops" (mentioned at the beginning of this paper) during their time in kindergarten. The verification of all manuals during monitoring teaching proved that the students were interested in all themes provided by the project and resulting manuals. Always the role of the teacher is crucial, as it can initiate inner motivation of the students.

Technical abilities (especially in the younger schoolchildren) have the same potential as any other natural ability and thus it cannot be left to only spontaneous development. Students always need systematic training, fine guidance of teachers and a support of their family to achieve their potential maximum in the future. A standing support and motivation are required to learn and use new information from the fields of technical and nature science in praxis.

The content of the project „Technical kindergarten" is focused on the basics of technical knowledge and natural science, thus enriching the current curriculum in the first years of primary school.

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TECHNOLOGY AND CREATIVITY IN LANGUAGE TEACHING: DO THEY REALLY GO HAND IN HAND?

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Language teachers have always been in search of the most efficient approaches and strategies to use in the classroom as well as exploring the qualities that characterize effective teachers, one of which is "the ability to bring a creative disposition to teaching" (Richards, 2013). The use of technology in language teaching can give many opportunities to teachers in improving their strategies and thus fostering creativity in the language classroom. However, using technology as a tool to promote creativity may not be promising to some language teachers and they may be of the opinion that the more technology is incorporated into the language classroom, the less creative the teachers and learners become. The main aim of this research is to elicit EFL teachers' perceptions of the effects of using technology in the language classroom on teachers' and learners' creativity. The participants will be EFL teachers working at a university. The data will be elicited using a questionnaire, semi-structured interviews and teachers' reflection essays and the study will draw on both qualitative and quantitative methods of data analysis.

Keywords: EFL, technology, creativity.

TECHNOLOGY INTEGRATION IN THE CONTEXT OF BRUNEI PRIMARY SCHOOLS

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ABSTRACT

Integrating technology effectively into teaching and learning, teachers should acquire the knowledge of Technological Pedagogical and Content Knowledge (TPACK) and also the 21st Century Learning Design (21CLD). This study examines the levels of teachers' integration of technology and also investigating the students' view on the use of technology in their classroom. Thirty classroom observations were conducted at three schools from three different districts using a TPACK observation instrument and 21CLD rubrics. A total of eight teachers were observed and thirty students were involved in five different focus group interviews. The results of the research show that the teachers' use of technology integration was at the developing stage. In terms of students' views on technology use in the classroom, the results showed that they like instructions with technology especially for better learning, games and using software. The main issue that arose by the students during the interview was that there were not enough games in their lessons. They believed that instruction with digital technology has a positive impact on their learning as they become motivated when using it. From the results, it can be concluded that most teachers are still at the developing stage in using technology in their teaching; this is supported from the students' interviews that indicated there was not enough technology in terms of gaming used in their classroom.

Keywords: Technology Integration; Primary Schools, TPACK, 21CLD

INTRODUCTION

Technology integrations can be successful when they are rooted primarily in curriculum content and content-related learning processes, and secondarily in smart way uses of educational technology (Harris et al., 2009). Educational Technologies have been exposed and provided to teachers in their teaching. The technologies provided in schools come in many ranges such as desktop computers, Apple MacBook's, Interactive Boards and iPad. Most teachers in Brunei might not know how to integrate these technologies in their teaching. Most teachers only use the educational technology as a tool to deliver their teaching. The teachers may have not realized about the importance of how to use the digital technology effectively in their teaching. Most teachers do not realize the digital technology tools provided by the Government can be used innovatively to give an impact in their teaching. Some teachers or the public might say it was just a waste of time or money using digital technology (Norbu & Salleh, 2014). McCormick (1999) stated that although a large amount of money has been invested into technology, the impact of technology is disappointing where there has been only little benefit and changes. What McCormick has said about disappointing might be because how the teachers used the technology was not effective or essential in integrating the technology in their teaching.

Digital technology or Information and Communications Technology (ICT) cover any product that can store, retrieve, manipulate or transmit information electronically in a digital form. Some examples of ICT include Microsoft Word, Excel, PowerPoint, Adobe InDesign, Photoshop and Illustrator, email, videoconferences, digital cameras, CD-ROMs, fax machines, and the World Wide Web (Firmin & Genesi, 2013). Roblyer and Doering (2013) stated that digital technology could play an important role in inquiry oriented science instruction. Technology integration strategies for science instruction support involving students in scientific inquiry through authentic online projects. Currently in Brunei, teachers are trained using inquiry based science education (IBSE) and integrating it using digital technology. With the initiatives of the *e-Hijrah* programme, some schools in Brunei have been equipped with the iPad for the use of teaching and learning. The programmes were '*1:1 Computing in Model Schools*' and '*Projek Rintis – iPad for Schools*'. The teachers have attended professional development courses on the uses of the iPad but they might not know at what stage they are at when integrating technology using iPad in their teaching. The public in Brunei might also not know the impacts of using iPad to the students in the schools. Empirical studies mentioned by McDougall and colleagues (2010) showed that short professional development to train teachers in the use of technology had mostly focused on technical aspects of

the technology being used. Teachers were not taught how to revise pedagogical practice with the technology. And in Brunei, researches conducted mainly focused on the pedagogical aspects of classroom practices (Microsoft, 2014; Shahrill, 2009; Shahrill et al., 2013; Shahrill et al., 2014). This study may prove significant in contributing to investigate issues of learning and teaching using technology for quality research that will advance knowledge and inform improved practice (McDougall et al., 2010). The significance of the research assessment study was to assess the teachers on how well or at what level of quality of technology integration the teacher had currently. The lesson planning was observed because according to Britten and Cassady (2005) it is critical to the successful infusion of technology in planning the connections among standards, best practices in teaching, and uses of technology; and most importantly the involvement of school leaders as the initiators, motivators and implementers of technology in their schools (Salleh & Laxman, 2014b).

The main purpose of this present study was to investigate how Brunei primary school teachers brought about the use of educational technology, which is the iPad or the interactive whiteboards in teaching and learning in their classrooms. And also what were the impacts of technology integration to the students when used innovatively and effectively. The specific aims of the study were, to assess to what extent do the teachers integrate technology effectively in their teaching, and to investigate the students' view on the use of technology in their classroom. The following research questions were formulated to elicit data to achieve the purpose of the study: To what extent do the teachers integrate technology in their teaching and learning in the primary classroom? And what are the students' views on the use of technology in their classroom? This study only focused on the schools equipped with the current digital technology such as computers, Internet, iPad and interactive whiteboards. The teachers that were observed had to be the teachers who were already trained and had attended professional developments on the use of technology in their teaching and learning. The time to collect the data from the three primary schools was four months only.

THEORETICAL FRAMEWORK OF THE RESEARCH

TPACK is a type of knowledge that supports content-based technology integration that has been characterized as the multiple intersections of teachers' knowledge of curriculum content, general pedagogies, technologies, and context. The TPACK influences teaching and learning when technology is integrated in the classroom (Kim et al., 2013). TPACK is an extension of Shulman's study (as cited in Hofer et al., 2011) of pedagogical content knowledge, which is the specialized knowledge required to teach differently within different content areas that revolutionized our understanding of teacher knowledge and its development. The TPACK is knowledge that results from teachers' understanding of content, pedagogy, technology, and learning contexts, it is learned mainly by four intersections of knowledge types as shown in Figure 1. The pedagogical content knowledge (PCK) is the Shulman's construct about how to teach specific content-based material. The technological content knowledge (TCK) is how to select technologies that best embody and support particular content-based precepts. The technological pedagogical knowledge (TPK) is how to use particular technologies in teaching. The Technological Pedagogical Content Knowledge (TPACK) is how to teach specific content-based material, using technologies that best represent and support it, in ways that are appropriately matched to students' needs and preferences (Harris et al., 2009).
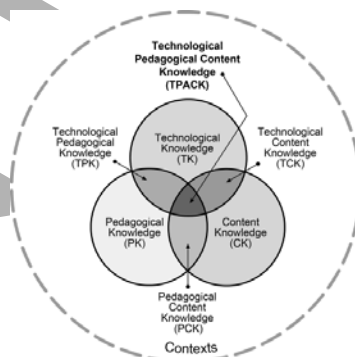
Figure 1: Technological Pedagogical Content Knowledge (Kim et al., 2013)

TEACHERS' USE OF TECHNOLOGY IN THEIR TEACHING

There is quite extensive research on factors influencing teachers' use of technology in their teaching. However, in this review, the foci are on attitude, subjective and control factors (Salleh & Laxman, 2014a); approaches to theoretical model of technology integration using TPACK framework (Harris et al., 2009); and the development of TPACK-based technology instrument (Harris et al., 2010; Hofer et al., 2011). A study by Salleh & Laxman (2014a) showed that Bruneian teachers are influenced by their attitudes, the subjective norms and the control factors. From that study, the attitudes are the teachers' liking, enjoying and feeling comfortable during teaching

when using technology. The subjective norms are the social factors such as the principal and the head of department that are influencing the use of technology. The control factors are the capability and having the resources, the knowledge, and the skills to use technology effectively and successfully. The relevance of the study was helpful in selecting the participants to be used for this research. The participants used were the schools that had the resources and the teachers that had the knowledge and skills to use the technology.

Harris and colleagues (2009) critically analyzed existing approaches to technology integration in teaching, arguing that many current methods are technocentric. Most approaches are neglecting the concern of the dynamic and complex relationships among content, technology, pedagogy and context. In addition, Britten and Cassady (2005) designed a Technology Integration Assessment Instrument (TIAI) to assess how the technology is used and on how the technology is integrated to pedagogical features such as assessment, individualized attention to student needs, and addressing educational standards. The TIAI developed by Britten and Cassady (2005) provides for ratings across seven dimensions of a lesson plan, with four levels of classification within each dimension. The classifications represent a continuum of technology integration; the labels are (a) Technology Not Present, (b) Non-Essential Technology Component, (c) Supportive Technology Component, and (d) Essential Technology Component. That study was adapted and tested by Harris et al. (2010) to design the *technology integration assessment rubric*. The study was to check the reliability and validity of assessing the lesson plans of the teachers integrating technology using the rubric designed. The results of their study, using Intraclass Correlation Coefficient (ICC) calculations, percent agreement computations, and the Cronbach's Alpha measure, concluded that the rubric has an adequate reliability to be recommended for further use. The implication of that study was to have further study on assessing the TPACK of the technology integration in an observed classroom. From that study, design and implication, the technology integration assessment rubric has evolved to *TPACK-Based technology integration observation instrument* study that was tested by Hofer et al., (2006). Their study was to check the reliability and validity of the Technology Integration Observation Instrument of the teachers teaching in the classroom. They discussed the results of reliability testing across 11 judges using ICC calculations, percent agreement computations, and the Cronbach's Alpha measure, and concluded that the instrument has comparatively strong reliability and they were confident in recommending it to assess TPACK in observed lessons. The instruments were used in that study to pre-service and in-service teachers. The researchers were pleased to place the instrument in the public domain for its use to share experience using the instruments. This instrument was useful for this research to assess to what extent the teachers are integrating technology in the teaching and learning in the classroom. The instrument's inter-rater reliability coefficient was 0.80 and the internal consistency (Cronbach's Alpha) was 0.91. Test-retest reliability (score agreement) was 93.9% (Hofer et al., 2011).

THE STUDENTS' VIEW ON THE USE OF TECHNOLOGY IN THEIR CLASSROOM
There was not a lot of review research investigating students' views on the use of technology in their classroom. There is research by Sad & Ozhan (2012) where they investigated the views of primary students about interactive whiteboard use in classes from attitudinal and pedagogical perspectives. The article also determined the aim to evaluate the quality of instruction with IWB by outlining its weaknesses and strengths based on the students' views. The research data collected from the focus group interviews were used to gain unique insight of existing beliefs, behaviours and attitudes. The researchers prepared three open-ended semi-structured research questions: What do you like the most about having IWBs in your class? ; What do you like the least about having IWBs in your class? ; How does instruction with an IWB enhance your learning? The data collected from the study was then transcribed and analysed using Nvivo 9 qualitative data analysis software. The qualitative data was analysed into three successive steps which were data reduction, data display and conclusion drawing/verification. The analytical data reduction choices were made in consideration with the research questions. Clusters of meaning were inductively developed from participants' significant statements into themes. The data display step assembled organized information into accessible compact form. The results from the study showed that practical and economical use of IWBs was the most liked feature. The least liked about instruction with IWB was the technical problem. The findings discussed that the students were uncomfortable with the interruptions and distractions caused by the power cuts, the unintentional shut downs, the impaired colour settings, the virus program constantly blocking the screen, and the decalibration. The most disturbing technical problem was the recalibration. The students' views about how the technology could enhance their learning were categorised into visualization and contextualization, effective presentation, test-based use, motivation, and student participation and interaction. Most students believed that IWBs helped visualization and contextualization better making them better in learning.

METHODOLOGY
The methodology described in the literature reviewed is relevant to this current study. In this current study, the methodology was replicated in the Bruneian context. Using the focus group open-ended semi-structured

interview helped collect data on investigating the views of the students' on the use of technology in their classroom. The method on analysing the data collected was completed by making chunks of code that were used to categories the response given by the students during the interview. Consequently, this present study used a mixed methods approach to answer the research questions.

Participants

The sample for this study was from three primary schools from three different districts in Brunei, which were Temburong, Tutong and Belait districts. Eight teachers were randomly selected to assess their teaching using technology. The teachers had a mean of 2.13 years with standard deviation of 0.35 teaching experience using digital technology. Since the focus of the study was to assess the technology integrations in primary schools, it was essential to select the schools which had the teachers that were already trained and had attended professional developments on technology integration and also had sufficient amounts of equipment for technology integration in the classroom. A total of 30 students were randomly selected for the focus group interview. Five focus groups were conducted and each group has six students with mixed abilities.

Data Collection

The techniques used to assess the teachers' integration of technology were by using the TPACK-based technology integration observation instrument, the 21CLD learning activity rubric and the 21CLD student work rubric. A total of 30 classroom observations were done to collect the data. Ten lessons from each school were observed and the subjects ranged between Science, Mathematics and English. We should also note that the pilot studies were conducted three times at a school that had about the same context as the intended sample for the research.

TPACK-based technology integration observation instrument

This instrument was used to assess classroom observation on the use of technology in teaching and learning (Hofer et al., 2011). The rubric presents a scoring of performance from 1 to 4 (*Entry (1), Developing (2), Approaching (3) and Ideal/Target (4)*) for each of the 6 criteria of *curriculum goals and technologies, instructional strategies and technologies, technology selections, fit, instructional use,* and *technology logistics*. The instruments have been tested and it was valid and reliable to use (Harris et al., 2010; Hofer et al., 2011). The instruments were tested for reliability as discussed in the literature review with inter-rater reliability coefficient of 0.80 and the internal consistency (Cronbach's Alpha) of 0.91.

21CLD observation coding instrument

In order to keep up with infinite information in a world without boundaries, educators were challenged and emphasized developing a 21st century skills in students' educational development (Saavedra & Opfer, 2012). The instruments that consisted of the 21CLD learning activity and the 21CLD student work rubrics (Microsoft, 2014) were used to assess and score the coding of 21st century skills of the classroom learning activity and students' work. The six dimensions of 21st century learning design (21CLD) that are considered significant for students development are; collaboration, knowledge construction, self-regulation, real-world problem-solving and innovation, the use of ICT for learning and skilled communication (Microsoft, 2014). For the first research question, only four dimensions out of the six, from the 21CLD learning activity and the 21CLD student work, were used to assess during the classroom observation. The four dimensions were the *knowledge construction*, the *use of ICT for learning*, the *collaboration* and the *skilled communication*.

The second research question focused on investigating the views of the students' on the use of technology in their classroom. Five focus group interviews were conducted to collect the data for the second research question. Adapted from Sad and Ozhan (2012), three open-ended semi-structured questions were asked to the five focus groups of students: What do you like most about having digital technology in your classes? What do you like the least about having the digital technology in your classes? How does instruction with the digital technology enhance your learning? Probing questions were asked during the focus group interviews to obtain in-depth information. The interviews were digitally recorded and field notes were taken to identify the students who spoke during the interview. The students who were interviewed were assigned pseudonyms from *Student 1* to *Student 30*. The five focus groups were categorised into *Group 1, Group 2, Group 3, Group 4* and *Group 5.*

Analysing of data

All the data from assessing the classroom observations were input into a SPSS version 21. The data was analysed using descriptive statistics for its frequency and percentage. The data from the interviews was transcribed into the Microsoft word. The common categories across the entries for each question were analyzed and identified. The frequencies of the common categories were counted for frequency and arranged from the largest number of entries to the least.

RESULTS AND DISCUSSIONS
Quality of Technology Integration of Teachers in their Teaching
The results and discussion of the quality of technology integration of teachers in their teaching are divided into Technological Pedagogical And Content Knowledge (TPACK), 21CLD learning activity and 21CLD student work. Each of these results and discussion will be examined in further detail below. The percentages of the scores from 30 classroom observations using the TPACK-based technology observation instrument are presented in Table 1.

Table 1: Distribution into stages of TPACK-based technology observation instrument

Stage	TPACK-based technology observation instrument criteria (%)					
	TPACK 1	TPACK 2	TPACK 3	TPACK 4	TPACK 5	TPACK 6
Entry	23%	0%	0%	0%	7%	0%
Developing	53%	47%	80%	80%	40%	40%
Approaching	23%	53%	20%	20%	53%	60%
Ideal/Target	0%	0%	0%	0%	0%	0%

Referring to Table 1, the majority of TPACK 1 (53%) was at the developing stage. The TPACK 1 is the criteria for curriculum goals & technologies, which are matching the technology to the curriculum. The finding shows that technologies used in the lesson were partially aligned with one or more curriculum goals. This suggests that the teachers need more improvement on the technological content knowledge (TCK) on how to select technologies that best embody and support particular content-based precepts. It can also be seen only 23% on TPACK 1 of the lessons observed were at the approaching stage. TPACK 2 is the criteria for instructional strategies and technologies. The TPACK 2 results show 53% of the lessons observed were at the approaching stage. This suggests that the technology used by the teachers support instructional strategies. This could be due to the professional development attended by the teachers on the technicality use of the technology supplied such as the tablet and interactive board. The mean of the teaching experience using technology of the teachers is 2.13 years with standard deviation of 0.35. Even though the teachers' only have two years' experience using the technology in their teaching, it showed they have a major starting point on the technological pedagogical knowledge (TPK) on how to use particular technologies in teaching. The TPACK 3 shows the result of the technology selections made by teachers to match both curriculum and instructional strategies. 80% of the thirty lessons observed were at the developing stage. It shows that the technology selections were marginally appropriate with the curriculum goals and instructional strategies. The TPACK 4 shows the technological pedagogical content knowledge (TPACK) score on how the teachers teach specific content-based material, using technologies that best represent and support it, in ways that were appropriately matched to students' needs and preferences. 80% of the lessons observed were still at the developing stage. This could be due to the technological content knowledge of the teachers being still at the developing stage. The technology integration of the teachers' lessons can be improved by planning their lesson using the TPACK framework. TPACK 5 is the implementation of using technologies effectively for instruction. 53% were at the approach stage where the instructional uses of technologies were effective in the observed lessons. The operating of technologies effectively from the TPACK 6 result shows that 60% of the thirty lessons observed were at the approaching stage. The teachers and students could operate the technologies well in the observed lessons and enjoyed using the technologies. Salleh and Laxman (2014a) reported that Bruneian teachers are influenced by their attitudes, and also the teachers' liking, enjoying and feeling comfortable during teaching when using technology. This could be due to the accessibility of the technologies such as the tablets and the IWB to the teachers and the students. All the classrooms observed were equipped with the IWB and there were enough tablets for each one of the students to use.

21CLD Learning Activity
A learning activity is any task that students do as part of their school-related work such as an exercise or a project that are prepared by the teachers (Microsoft, 2014). Only four out of the six dimensions of the 21CLD learning activity rubric were assessed during the classroom observations. The four dimensions used were knowledge construction, use of ICT for learning, collaboration and skilled communication. Referring to Table 2, 23 of the 30 lessons observed were coded at 2, where the students used ICT for their learning activities. But the coding of 2 for this learning activity did not require the students to use ICT to support their learning. The finding shows that the learning activities observed did not give the students the opportunity to use ICT to the extent of developing the skills to design and create new information and ideas using ICT. In only two classroom observations it was found that the learning activities using ICT supported the students' knowledge construction. During the classroom observations, it was observed that most of the uses of ICT by the students were only for answering questions. The tablets were mostly used as a substitute for writing books and printed worksheets. The

finding also shows that most of the teachers have not acquired the skills and methods to design a lesson that requires the ICT to support the students' knowledge construction.

Table 2: Distribution of the 21CLD learning activity coding on the use of ICT for learning dimension

21CLD learning activity rubric: Use of ICT for learning coding	Freq.	%
1) Students do not have the opportunity to use ICT	5	16.7
2) Students use ICT	23	76.7
3) Students use ICT to support knowledge construction	2	6.7
4) ICT is required for constructing this knowledge	0	0
5) Students are designers of an ICT product	0	0

Table 3 shows that only 26.7% of the classrooms observed had learning activities whereby students had to have shared responsibility during pair or group activities. In addition, from Table 3 only two learning activities required the students to work in pairs or groups but did not state the instruction for the students to have shared responsibility. Without giving instructions in the learning activity to the students to have shared responsibility, one or more of the students in the group may just be watching or only helping.

Table 3: Distribution of the 21CLD learning activity coding on the collaboration dimension

21CLD learning activity rubric: Collaboration coding	Freq.	%
1) Not required to work together in pairs or groups	20	66.7
2) Students are required to work in pairs or groups	2	6.7
3) Students have shared responsibility	8	26.7
4) Students make substantive decision together	0	0
5) Students' work is interdependent	0	0

As Table 4 shows, only one learning activity's main requirement from the classroom observation was knowledge construction and it did require the students to apply their knowledge in a new context. Table 4 also shows that the learning activities that had been coded at 3 were found during four class lessons. At code 3 of the knowledge construction coding, the learning activity is knowledge construction as the main requirement. Knowledge construction requires the students to interpret, analyse, synthesize, or evaluate information or ideas (Microsoft, 2014).

Table 4: Distribution of the 21CLD learning activity coding on the knowledge dimension

21CLD learning activity rubric: Knowledge construction coding	Freq.	%
1) No knowledge construction	21	70
2) Requires knowledge construction	4	13.3
3) Main requirement is knowledge construction	4	13.3
4) Students apply their knowledge in a new context	1	3.3
5) Learning activity is interdisciplinary	0	0

Table 5 below shows the coding of the skilled communication learning activity during classroom observation. From Table 5, only one of the classrooms observed incorporated a learning activity that required students to produce multi-modal communication and they were required to provide supporting evidence. That lesson's activity required the students to choose their own software applications to create their presentation.

Table 5: Distribution of the 21CLD learning activity coding on the skilled communication dimension

21CLD learning activity rubric: Skilled communication coding	Freq.	%
1) Students are not required to produce extended or multi-modal communication	26	86.7
2) Students are required to produce extended communication or multi-modal communication	3	10
3) Students are required to provide supporting evidence OR to design their communication for a particular audience	1	3.3
4) Students communicate to a particular audience	0	0

21CLD Student Work

21CLD student work is what the students produced when they have completed the learning activity (Microsoft, 2014). Table 6 shows the results of the implementation of the students' work on the use of ICT for learning. One lesson observed required the students to use video to observe and analyse the life cycle of the butterfly. The students were constructing knowledge to learn something that was new to them. ICT was required for the

activity because it would take a greater amount of time if the students were observing the real life cycle of the butterfly from the egg stage to the adult stage.

Table 6: Distribution of the 21CLD student work coding on the use of ICT for learning dimension

21CLD student work rubric: Use of ICT for learning coding	Freq.	%
1) Students work does not demonstrate ICT use	5	16.7
2) Students used ICT	23	76.7
3) ICT supported students' knowledge construction	2	6.7
4) ICT was required for constructing knowledge	0	0
5) Students designed an ICT product with attention to specific users.	0	0

Table 7 shows distribution of frequency and percentage for the students' work on collaboration dimensions of the 21CLD. Referring to Table 3, it can be seen that eight learning activities required the students to have shared responsibility during the group work. From Table 7, it was found that the implementations of the shared responsibility were not observed during the students group work. It is possible that the teachers were not facilitating the students' group work effectively that resulted in the students failing to have shared responsibility fairly.

Table 7: Distribution of the 21CLD student work coding on the collaboration dimension

21CLD student work rubric: Collaboration coding	Freq.	%
1) Students are not working together in pairs or groups	20	66.7
2) Students are working together	10	33.3
3) Students are sharing responsibility fairly	0	0
4) Students make substantive decision	0	0
5) Work product is interdependent	0	0
Total	30	100

Table 8 shows that the students did not demonstrate conceptual understanding. From Table 4, there was one learning activity that required the students to apply their knowledge in a new context. But the result in Table 8 shows that the activity given to the students was not effective in enabling students to demonstrate conceptual understanding. To get a higher level of collaboration, teachers should design the learning activity so that the students have shared responsibility for their work, and the learning activity is designed in a way that requires students to make substantive decisions together.

Table 8: Distribution of the 21CLD student work coding on the knowledge construction dimension

21CLD student work rubric: Knowledge construction coding	Freq.	%
1) Students work does not demonstrate knowledge construction	21	70
2) Students work does demonstrate knowledge construction	4	13.3
3) Student's main effort was knowledge construction	5	16.7
4) Students demonstrate conceptual understanding	0	0
5) Students apply their knowledge or the work is interdisciplinary	0	0

Table 9 shows that one student work activity from one classroom observed had achieved in the students being able to do multi-modal communication and the students did their work with sufficient supporting evidence.

Table 9: Distribution of the 21CLD student work coding on the skilled communication dimension

21CLD student work rubric: Skilled Communication coding	Freq.	%
1) Communication is not extended or multi-modal	26	86.7
2) Communication is extended or multi-modal	3	10
3) It does contain sufficient supporting evidence or it is designed appropriately for a particular audience	1	3.3
4) Designed appropriately for a particular audience	0	0

Impacts on the Students' View on the use of Technology in their Classroom
The results and discussion for the impacts on the students' view on the use of technology in their classroom is divided into 3 parts: what students like the most about digital technology, what students like the least about digital technology and how instruction with digital technology enhances students' learning.

What do students like the most about digital technology? The analysis of the interview contents revealed basic categories about the most liked properties of digital technology use in their lessons. These categories are listed vertically in Table 10 from the most to the least referenced among the different groups. It was found that the highest number of students referenced *better learning* with digital technology in their classroom [*"Easy to learn" (Group 6)*] as what they most like about digital technology, but other research findings by Sad and Ozhan (2012) found this to was the least referred.

Table 10: Distribution on what students like the most regarding digital technology

Categories	Number of references by group (*f*)					
	Group 1	Group 2	Group 3	Group 4	Group 5	Total
1. Better learning	3	3	3	3	6	18
2. Games	3	3	5	3	3	17
3. Software / apps	3	3	3	5	0	13
4. Hardware	2	1	1	1	2	7
5. Multimedia	1	0	0	0	1	2
Total	12	10	12	12	12	57

The second most appealing feature of the digital technology referred to by the groups was the *games* [*"The games are fun" (Group 3)*]. The students stressed that the games motivate them to learn [*"The games can make us want to learn" (Group 2)*]. This suggests that the students like to play games when they are learning. The *software* was also referred to many times by the students [*"Pic Collage, Edu Creation, Book Writer" (Group 4)*]. It shows that the students know much about the software they used. This coincides with the result of the TPACK on the technology logistics, where the students operate technologies well in the observed lesson. The *hardware* was not referred as much as the *software*, which means that the students are more interested in the software rather than the hardware. The only referred to type of hardware during the interviews was the iPad. The least referred to category was the *multimedia*, which is the Internet and watching videos on YouTube [*"It is fun because we can access the internet to watch YouTube" (Group 1)*]. This feature was referred to the least maybe due to the learning activity prepared by the teachers not requiring the students to access the internet that much.

What students like the least about digital technology? The analysis of the interview contents revealed basic categories about the least liked properties of digital technology use in their lessons. These categories are listed in Table 11 from the most referred to, to the least among the different groups.

Table 11: Distribution on what students like the least regarding digital technology

Categories	Number of references by group (*f*)					
	Group 1	Group 2	Group 3	Group 4	Group 5	Total
1. Minimal games	1	1	3	5	1	11
2. Nothing	2	1	1	1	2	7
3. Cannot bring home	1	0	0	0	1	2
Total	4	2	4	6	4	20

The most referred to category about the least liked aspects regarding the digital technology in the students' classroom was having *minimal games* in their lesson [*"Do not have many games" (Group 4)*]. Although the students referred to games as only the second most liked feature of the digital technology in the classroom, they still felt the game-based learning in their classroom was not enough. The students demonstrated positive attitudes toward the use of game-based learning, which was previously reported by Liu and Chen (2013). The second most referred to of the students is "*nothing*". They had nothing to dislike about having digital technology in the classroom. This suggests that many students like everything about the digital technology in their classroom [*"Nothing at all. We like everything" (Group 4)*]. Two students referenced that they *cannot bring home* the iPad that was one of the least referred to issues about the digital technology that they have in their classroom [*"Cannot bring the iPad back home" (Group 1)*]. This issue about bringing home the hardware could not be addressed by the school due to maintaining the safety of the hardware.

How instruction with digital technology enhances students' learning? The analysis of the content from the focus group interviews revealed views about how instruction with digital technology facilitates students' learning. Resulting categories were listed in Table 12 from the most to the least referred to across different groups.

Table 12: Distribution on how instruction with digital technology enhances students' learning

Categories	Number of references by group (*f*)					
	Group 1	Group 2	Group 3	Group 4	Group 5	Total
1. Motivation	1	5	3	2	5	16
2. Finding information	3	1	0	0	1	5
3. Student participation and interaction	0	0	2	2	0	4
4. Effective presentation	0	0	2	1	0	3
5. Visualization	0	1	0	0	0	1
Total	4	7	7	5	6	29

The students of Groups 2 and 5 especially, believed that the instruction with digital technology *motivates* them to learn [*"Getting energetic" (Group 2)*] [*"To make us eager to learn" (Group 5)*]. Sad and Ozhan (2012) also reported that the students agreed that the ICT on its own aroused interest and curiosity contributing to enhance student learning. Students in Group 1 referenced that the instruction with digital technology enhanced their learning because they could *find information* they wanted [*"We can get information from the internet" (Group 1)*]. It is true that they could find information for them to learn because the results from the 21CLD learning activity and student work shows the students were mostly using ICT during their lesson.

Student participation and interaction had quite a number of references by the students during the interview [*"We can make a poster using iPad" (Group 3)*] [*"We can do our work together" (Group 3)*]. Preston and Mowbray (2008) reported that the students need hands on activities, and students prefer having sufficient opportunity to use the ICT themselves for better learning. Students pointed out that they could make and create *effective presentations* for their task and activity [*"We can share our work with our teacher and friends using iPad" (Group 3)*]. Although the skilled communication of the students' 21CLD result shows they did not do extended or multi-modal communication, they still did their work using ICT. Only one student mentioned about *visualization* of the digital technology [*"Attractive" (Group 2)*]. Research by Sad and Ozhan (2012) showed that visualization was the most highlighted by their students for better learning.

CONCLUSIONS AND RECOMMENDATIONS

The results obtained in this study indicated that the qualities of the TPACK learning activity prepared by the teachers are at the *developing* stage. This can be considered good because most of the teachers have been integrating the technology into their teaching for only two years. From the thirty classroom observations, the majority of the eight teachers observed had designed or prepared their learning activities at the low level on the dimensions of the knowledge construction, the use of ICT for learning, the collaboration and the skilled communication of the 21st century learning design (21CLD) rubric. For the knowledge construction learning activity, only one learning activity was coded 4; and the highest coded for the learning activity with the use of ICT for learning were two lessons. For the collaboration learning activity, only eight lessons were coded to 3, which is the activity that requires students to have shared responsibility. There was only one lesson that required the students to provide supporting evidence and it was multi-modal.

During the implementation of the learning activities, the students' work was also coded to find if the learning activities prepared by the teachers achieved their target. It turned out that some learning activities had and some had not achieved their expected outcomes. The learning activities with the use of ICT for learning and the skilled communication dimensions had achieved the same outcomes during the implementation of the students work. One learning activity that required the students to apply their knowledge in a new context did not achieve its planned target because the students did not demonstrate conceptual understanding during their work. Eight lessons were designed for the students to have shared responsibility when they were doing their work, but during the implementation of the group activities, the students were not sharing responsibility fairly. These results suggest that the teachers and students were capable of operating the technologies and effective in the instructional use of ICT, but the technologies used were only partially aligned with the curriculum goals. The availability of technologies to fit with both the curriculum and instructional strategies were not abundant. The teachers should not only be given professional development on the technical use of the technology, but also it is very important to train the teachers in the technological pedagogical and content knowledge. The teachers should also be trained to design learning activities using the 21st century learning design.

With respect to the views of the students about digital technology use in their classes, the results indicated that what students liked the most about instruction with digital technology was better learning, playing games, using software, using digital technology hardware and multimedia. The problem with the digital technology in their classroom was not having many games in their lessons. But most of them said that they do not have any problem

with the digital technology in their classroom. The students were found to believe that instruction with the digital technology enhanced their learning thanks to such factors as motivation, finding information, student participation and interaction, effective presentation and visualization. The learning activities should have more student participation and interaction as reported by Preston and Mowbray (2008), that the students should have sufficient opportunity to use the ICT themselves for better learning. These results concur with the findings by Liu and Chen (2013), whereby it can be suggested that to improve learning, game-based learning should be integrated into the teaching and learning. Further studies are therefore necessary to find the impact of game-based learning to the teaching and learning in the classroom.

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TEK PARTI DÖNEMININ KÜLTÜR KURULUŞU OLAN HALKEVLERINE BIR ÖRNEK: KÜTAHYA HALKEVI

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Milli Mücadelenin kazanılması ve Türkiye Cumhuriyeti'nin kurulmasının ardından yapılan devrimler halkta yeterince ilgi ile karşılanmadığı gibi halk tarafından benimsenmemiştir. Nitekim 20. yüzyılın ikinci çeyreğinin başında gerçekleşen Menemen Olayı ve çok partili rejim denemesinin(SCF) başarısızlığa uğraması en önemli kanıt olarak gözler önüne serilmektedir. Bu nedenle de devrimlerin halk nazarında yer edinmesi, halkı eğitmek ve dahi bilinçlendirmek noktasında Halkevleri kurulmuştur. 14 Şubat 1932 yılında açılmaya başlayan Halkevleri süreç içerisinde bütün Türkiye'ye yayılmış misyon ve vizyonunu çok partili rejime geçilmesiyle tamamlayıp yeni iktidar(DP) tarafından kapatılmıştır. Bu çalışmada Kütahya Halkevinin kuruluşundan kapatılışına kadar geçen süre içerisinde yapmış olduğu faaliyetler, mal varlıkları ve şubeleri elde bulunan belgelere dayandırılarak değerlendirilmiştir.

Keywords: Halkevleri, Kütahya Halkevi.

TESTING ALGORITHMIC AND APPLICATION SKILLS

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ABSTRACT

Sprego is a deep approach programming tool in spreadsheet environments. Its main features are a set of general purpose functions, entitled Sprego functions, and the ability to create multilevel functions and formulas built on these functions. Equipped with these tools Sprego can serve as an introductory programming language for programmers and as the ultimate language for end-user programmers. We have launched a project to test the effectiveness of Sprego on different levels of the education system. The present paper details the developmental progress of students of informatics studying spreadsheet management with Sprego.

INTRODUCTION

We launched the project entitled Testing Algorithmic and Application Skills in the 2011/2012 academic year at the University of Debrecen, Hungary (Biró et al., 2014, 2015a, 2015b; Biró & Csernoch, 2014). The aims of the project were to test the level of computational thinking and algorithmic skills (Wing, 2006) and problem solving approaches (Csernoch & Biró, 2015b) of students of informatics in different traditional and non-traditional programming environments (Biró & Csernoch, 2013a, 2013b).

We have found that the students only consider high level programming tools adequate for developing algorithmic skills. To provide an explanation for these opinions, we analyzed the different approaches to non-traditional computer related activities, focusing on birotical document management. It was found, on one hand, that the software companies maintain that handling birotical programs and documents does not require any theoretical background or any algorithmic skills, and that users can wander around in the GUI (Graphical User Interface), and as if by magic after a couple of clicks the output will appear. On the other hand, even highly qualified educational professionals support the software companies' slogans, and claim that document handling is a low-level activity (Bell & Newton, 2013), and furthermore, is responsible for the failures encountered in the teaching of informatics (Gove, 2012, 2014).

However, in the process of creating a typology of computer related problem solving, we found that non-traditional computer activities could aid development of algorithmic skills just as well as traditional programming environments do. The key to this concept is that both traditional and non-traditional activities should be carried out by deep approach methods (Booth, 1992; Soloway, 1993; Case & Gunstone, 2002; Warren, 2004; Sestoft, 2010; Csernoch & Biró 2014b, 2015b). Based on this theoretical background, we have developed deep approach methods for both text and spreadsheet management – ERAC (Error Recognition And Classification) (Csernoch & Biró, 2015d) and Sprego (Spreadsheet Lego) (Csernoch & Balogh, 2011; Biró & Csernoch, 2014a; Csernoch, 2012, 2014; Csernoch & Biró, 2013a, 2013c, 2014c, 2015a, 2015c), respectively –, and claim that these should be applied instead of the popular but ineffective surface approach methods.

THE STUDY

Within the framework of the TAaAS project (Csernoch & Biró, 2013b; Csernoch et al., 2014), we have introduced

Sprego at different levels of the education system in Hungary. The present paper details the results achieved by first year students of informatics at the University of Debrecen.

The students arrive into tertiary education after completing several years of informatics classes, both in primary and secondary school, and most of them pass the graduation exams in informatics and the ECDL exams with excellent results. Both the informatics curricula and the graduation exams (SLE, n.d.) emphasize the importance of spreadsheet management, and the ECDL has its own separate module in the subject (ECDL, n.d.), so the students can be considered experts in this field. However, we found that the figures are not as clear as they initially appear. This finding is in accordance with the extremely high number of error-prone documents, which cause serious financial losses and waste time, human and computer resources (Csernoch & Biró, 2014a; EuSpRIG 2015; Panko & Aurigemma, 2010; Powel et al., 2008; Tort et al., 2008; Van Deursen & Van Dijk, 2012).

To find out how students are affected by this issue, how Sprego affects their spreadsheet knowledge and their problem solving approaches, and what knowledge is stored in long term memory, we launched the Sprego test over several phases. The first phase (1ST) is carried out when the students enter tertiary education. In the first semester they study spreadsheet management with Sprego, and they are tested with short questionnaires. However, the final (FI) test is carried out one year later, following the completion of the Sprego spreadsheet courses (Table 1). In the first phase we tested the knowledge which they bring with them from secondary education, while in the final phase the test relates to the effects of Sprego.

Table 1: The sample. The number of students participating in the Sprego test

	1ST	FI	Total
2011	142	83	225
2012	123	41	164
2013	126	102	228
Total	391	226	617

In the Sprego test a sample table is provided (Fig. 1) and real world problems are presented based on the data. The majority of the tasks should be solved with spreadsheet formulas (Fig. 2, Tasks a)–e)) and one additional task should be answered with a natural language sentence, which is a what-does-the-program-do type of task (Fig. 2, Tasks f)).

	A	B	C	D	E	F	G
1	Country	Continent	Capital	Area	Population (thousand)		
2	Afghanistan	Asia	Kabul	647500	27756		
3	Albania	Europe	Tirana	28748	3545		
4	Algeria	Africa	Algiers	2381740	32278		
5	American Samoa	Oceania	Pago Pago	199	69		
6	Andorra	Europe	Andorra la Vella	468	68		
7	Angola	Africa	Luanda	1246700	10593		
8	Anguilla	America	The Valley	102	12		
233	Yemen	Asia	Sanaa	527970	18701		
234	Yugoslavia	Europe	Belgrade	102350	10657		
235	Zambia	Africa	Lusaka	752614	9959		
236	Zimbabwe	Africa	Harare	390580	11377		

Fig. 1: The sample table of the Sprego test

a) What is the capital city of the largest country?

b) What is the population density of each country?

c) How many African countries are in the table?

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d) What is the average population of those countries whose surface area is smaller than G2?

e) How many countries have a surface area greater than G2?

f) What is the result of the following formula?

   {=SUM(IF(B2:B236="Europe",IF(LEFT(A2:A236)="A",1)))}

Fig. 2: The tasks of the Sprego test

Task a) is a classical programming problem, which can be solved with a three-level formula in spreadsheets. The algorithm of the task is the following:
– finding the largest number in a vector (S1),
– deciding the position of this value (S2),
– finding the matching item in another vector (S3).

   S1. =MAX(D2:D236)
   S2. =MATCH(MAX(D2:D236),D2:D236,0)
   S3. =INDEX(C2:C236,MATCH(MAX(D2:D236),D2:D236,0))

Task b) requires that the student knows how to calculate the population density, recognizes that the population is presented in thousands (Fig. 1), and is able to create a vector output. For the vector output there are two solutions: create one output then copy the formula (S5) or create an array formula (S4).

   S4. {E2:E236/D2:D236*1000}
   S5. =E2/D2*1000 then copy the formula to the other countries

Task c) is again a classical programming algorithm: a counting problem with an inside condition. To solve this problem there are several different solutions in spreadsheets. We can use the appropriate built-in *IF?() functions (S6, S7), the database functions, or create a two-level formula with the Sprego functions (S8).
The Sprego formula has an inside IF() function with the condition and the output vector of 1s and the default FALSEs on the true and the false branches, respectively. The outside SUM() function calculates the sum of the items of the vector.

   S6. =COUNTIF(B2:B236,"Africa")
   S7. =COUNTIFS(B2:B236,"Africa")
   S8. {=SUM(IF(B2:B236="Africa",1))}

Task e) is a one-folded extension of Tasks c). This task is a counting algorithm, but the condition is different, since an inequality is checked and the comparable number is stored in a variable. We have to note here that when using the built-in *IF?() functions the syntactic rules are changed (Csernoch, 2014), and a somewhat inconsistent method is applied to express the condition (S9, S10). On the other hand, using a two-level conditional array formula the syntax is simple and in accordance with other programming languages (S11).

   S9. =COUNTIF(D2:D236,">"&G2)
   S10. =COUNTIFS(D2:D236,">"&G2)
   S11. {=SUM(IF(D2:D236>G2,1))}

Task d) is a further extension of Tasks c) and e). This task calculates the average of those values which suit the condition. In this task the condition is an inequality with a variable, and the average of the population has to be calculated.
Using the built-in *IF?() functions is quite confusing. Similarly to Task e), we are faced with the problem of the syntactic rule of the condition. Beyond this, the argument lists of the AVERAGEIF() and AVERAGEIFS() functions are different.
However, when using a two-level array formula, we do not have any of these problems. The algorithm, and consequently, the structure of the formula, and the syntactic rules for Tasks c), d), and e) are the same. The difference between Task d) and Tasks c) and e) is that d) is not a counting problem, but calculates the average of

a vector. The vector is the output of the IF() function, which holds the population and the default FALSEs on the true and false branches, respectively. The average of this vector is calculated with the outmost AVERAGE() function.

S12. =AVERAGEIF(D2:D236,"<"&G2,E2:E236)

S13. =AVERAGEIFS(E2:E236,D2:D236,"<"&G2)

S14. {=AVERAGE(IF(D2:D236<G2,E2:E236))}

The solutions of Tasks c)–e) clearly show that using the built-in *IF?() functions requires knowledge of the names of the functions, the different syntactic rules, and the different order of arguments, which is extremely difficult to handle (S6, S7, S9, S10, S12, S13), (Csernoch, 2014). Using the database functions without any background knowledge in database management is even more complicated (Csernoch, 2014). While applying array formulas, we follow the algorithm which is well-known in programming: selecting the items which match the condition with an IF structure; following this we do further calculations with the output vector. Consequently, with the array formulas the algorithm is the same for Tasks c), d) and e) (S8, S11, S14), (Csernoch, 2014; Csernoch & Biró, 2015a, 2015c).

Task f) is a completed array formula, which calculates the number of European countries starting with the letter A.

Task e) was added to the test in year 2013, so some of the data is missing for this task (Table 1).

FINDINGS

To compare the students' results in the two tests (Table 2 and Fig. 2), we carried out a mixed analysis of variance. The factor year (with three levels: 2011, 2012 and 2013) was a between-group variable, while there was a repeated-measures variable with the order of the test (with two levels 1ST and FI). The dependent variable was the results of the tasks in percentages, and the total results.

Table 2: The students' average results in the Sprego tests

	Task a)	Task b)	Task c)	Task d)	Task e)	Task f)
1ST test (1ST)						
2011	10.75	20.42	28.47	10.23	NA	31.22
2012	14.74	22.76	37.50	9.98	NA	42.82
2013	18.25	25.79	44.55	12.62	17.56	40.48
Final test (FI)						
2011	28.19	27.40	75.02	49.53	NA	76.60
2012	16.75	32.32	72.52	47.15	55.01	79.67
2013	24.25	42.16	75.58	48.81	57.80	78.43
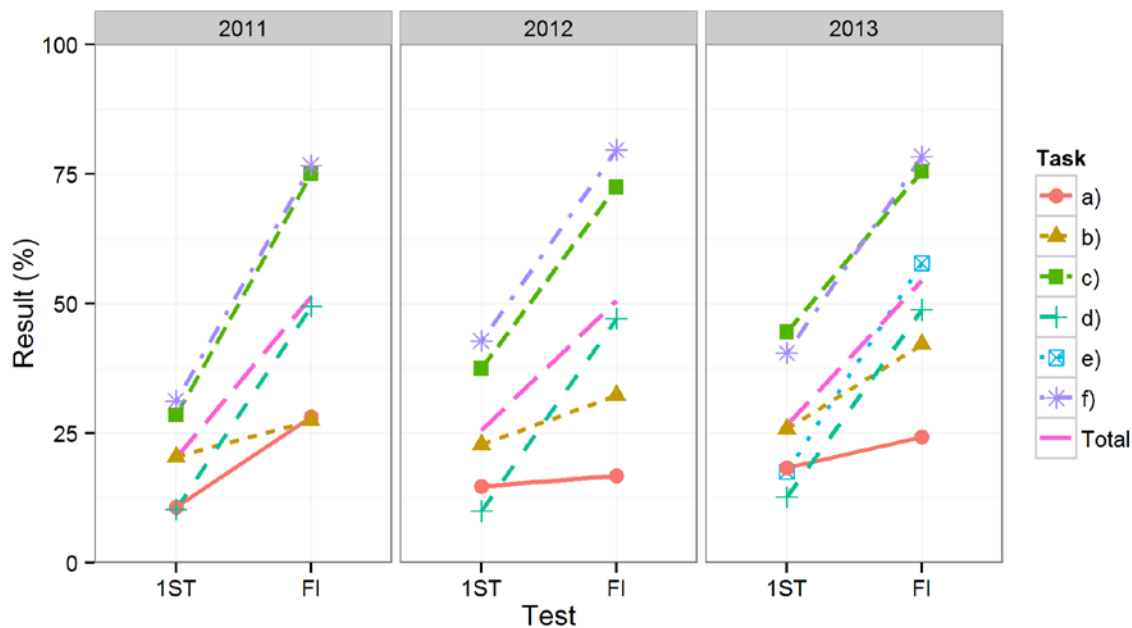
Fig. 2: The average results of the students in the first (1ST) and the final (FI) tests

Considering the total results, there were significant main effects of the test ($F_{(1,134)}=113.21$, $p<0.001$) and the year ($F_{(2,134)}=12.38$, $p<0.001$). However, the interaction was not significant ($F_{(2,134)}=2.05$, $p=0.132$). This analysis proved that the results in the final test were significantly higher in all the three years than in the first tests. In Task a) the interaction is significant; however, analyzing the averages there is an ordinal interaction, so the increase in the results from the first test to the final test shows differences in the different years. We examined the main effect of the order of the test, which is proved to be significant, as is the year factor ($F_{(2,134)}=5.35$, $p<0.006$). In all the other tasks the interaction was not significant; however, the year and the order of the test were.

Since Task e) was included from 2013, here a paired t-test was selected to test the significance. The test proved that there is a significant difference between the results of the two test results ($t(52)=-559$, $p<0.001$).

As the statistical analyses proved, significant differences were found between the results of the first and the final tests. The students' results improved by applying Sprego instead of the popular surface approach methods: although when tested a couple of months after their school leaving exams they scored extremely low, one year later – after becoming familiar with Sprego – they were able to recall the method and achieved extremely good results.

In the following we focus on Tasks c)–e), since these are the tasks in which the students have the opportunity to select between the built-in functions and the Sprego functions.

Applying the SOLO categories of understanding – P, U, M and R, for Prestructural, Unistructural, Multistructural, and Relational (Biggs & Collis, 1982; Lister et al., 2006; Clear et al., 2008; Sheard et al., 2008; Tan & Venables, 2010), respectively – to the spreadsheet solutions of Tasks c)–e), we found the patterns presented in Table 3. From the first to the final tests in Task c) the students' level of understanding has increased (Bowker test, $p=0.001$). While in the first test the Prestructural and the Unistructural levels were dominant, in the final test it was the Multistructural and the Relational (1ST: 13+30 and 13+16; FI: 1+16 and 16+39). In Task e) the pattern is similar (1ST: 9+8 and 2+2; FI: 0+4 and 2+15), and the effect of studying Sprego is also significant ($p=0.009$). With Task d), which is a two-folded generalization of Task c), we found the pattern, but we have to note here that in this task, even in the final test, the number of students with a low level of understanding is higher than in the other two tasks.

Table 3: The SOLO level of understanding recognized in the solutions of the two tests

1ST \ FI	Task c)					Task d)					Task e)				
	P	U	M	R	sum	P	U	M	R	sum	P	U	M	R	sum
P	0	1	3	9	13	3	3	2	4	12	0	2	1	6	9
U	0	10	4	16	30	0	3	3	5	11	0	2	1	5	8
M	0	3	6	4	13	0	0	0	1	1	0	0	0	2	2

R	1	2	3	10	16	0	0	1	2	3	0	0	0	2	2
sum	1	16	16	39	72	3	6	6	12	27	0	4	2	15	21

In the final two steps of the analysis we checked the selection of functions (Table 4 and 5). In Table 4 we can follow the students' change in the selection, while in Table 5 we can see the absolute numbers of the selected functions. In Task c), which is a low-level routine task with a constant and equality in the condition, in the first test they preferred the *IF?() functions, and then switched to Sprego, while every student who used Sprego in the first test, with one exception, did not change their approach. In the first test in Task c) as many students use *IF?() functions as Sprego functions. In the final test all but one *IF?() user switched to Sprego. In Task d), which is a two-folded generalization of Task c), none of the students used the *IF?() functions, either in the first or the final tests. We can conclude that in all the three tasks, the effect of teaching Sprego was significant (McNemar-test, $p < 0.004$). The choice between the *IF?() and Sprego functions is significantly affected by teaching spreadsheets with Sprego between the two tests.

Table 4: Students' changes in their selection of functions

FI / 1ST	Task c)			Task d)			Task e)		
	*IF?()	Sprego	sum	*IF?()	Sprego	sum	*IF?()	Sprego	sum
*IF?()	5	38	43	0	2	2	1	10	11
Sprego	1	26	27	0	24	24	0	10	10
sum	6	64	70	0	26	26	1	20	21

The high number of students who ignored the tasks in the first test is remarkable. In the final test most of the students worked with problems. The selection of the method to use clearly shows a change from the *IF?() functions to Sprego. However, we have to note that even in the first test, as the tasks become more difficult the students increasingly prefer Sprego, even if they are not aware of the method.

Table 5: Students' choice of functions in the two tests

	Task c)			Task d)			Task e)		
	*IF?()	Sprego	NA	*IF?()	Sprego	NA	*IF?()	Sprego	NA
1ST	123	77	191	8	79	304	24	20	347
FI	16	183	27	3	142	81	1	96	129

CONCLUSIONS

We have introduced a deep approach problem solving method in spreadsheet management, entitled Sprego. The essence of the method is that we handle spreadsheet as a programming environment, and carry out concept and/or algorithmic-debugging activities. To prove the effectiveness of the method we launched a testing series in 2011. The present paper details the results of the first and the final tests. The first test is carried out when the students start their tertiary education, right after secondary school, and the final test one year later after covering spreadsheets with Sprego.

The statistical analysis clearly demonstrates that Sprego is significantly more effective than the popular surface approach methods. Both the students' average results and their level of understanding were increased. We have also found that after covering spreadsheet management with Sprego the students prefer Sprego when they have the opportunity to choose. It was also found that without being aware of the method, students prefer Sprego-like solutions in more complex problems.

We can conclude that we have found a method of spreadsheet management which is more effective than the previously favored surface approach methods. This approach to spreadsheets would serve as an introductory programming language, with which we can effectively develop students' computational thinking and algorithmic skills.

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TEXTILE DESIGNS EMBELLISHMENTS: RETHINK DESIGN MODELS FOR FISH SCALES TEXTURE PATTERN STUDY

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ABSTRACT

This study to seek and gain the understanding of Fish Scales that possibility to be used as an artistic substance in textile design. Toward the research interest, this study has interrelated with inventive and creative design preceding relation. Fish Scales being selected as a propose media for gaining the acquired research interest. This research also will relate with several progression and methodological approach on the explorations of design process. In other aspect, preceding studies have indicated that Fish Scales substances that able to be manipulating as an artistic and commercial creation. Those progressions have being regulated with several acquired procedure to gain the demand interest. Regarding to the research interest, this study will specify several particular persons that passionate in design areas as research respondent. For specific research formation, additional advancements will be organized to capturing the perception outcome from respective respondent commitment. Furthermore, the sensible Fish Scales material can be utilized as a complementary chance as the accessible artistic support formulation. These researches also attempt to indicate the Noble design convention from Art & Design mechanisms. Perhaps, artistic sensitivity will determine the research perspective and established the creative implementation. Textile Design segmentations can be able to obtain various expected valuable visual aspect from Art & Design artistic interests.

INTRODUCTION

The application of textile embellishment has always being conflict to outcome consciousness which able distress artistic determinations. This research will explore the Fish Scales as the proposed material for alternative media context. Design manipulation is part of the thoughtful progression has been greatly acquired for the artistic appearances of adequate sensitivity development. In regards, development of Textile Designs should equip with the convincing and artistic sensitivity outcome. At certain aspect, the unwanted substances will happen and caused the obstacles matters. From the artistic element creations, the required outcome should be enclosed with variety of applicable pattern. In order to enhance textile appearances, the surface can also be ornamented with expected design patterns in many ways. As for the consequent, surface embellishments have required for the unique determination and values added in art & Design appreciation. Furthermore, by applying design theories for theoretical framework appreciation will seeks the identifications of the unique media in arts & Design that can be utilized as alternative surface prospect. The significance will indicate surface decorative patterns that respond to the artistic projected and contextual appreciation. Therefore, by support the valuables progression will serve the artistic identity and determine the Textile Designs recognition.

AESTHETICS APPRECIATION

Design is associated with applied ability for particular commercial appreciation and functionalize accordingly to the human life requirement. According to (P. Jones, 2006), considering to the inspirations on designs materialize from the perspectives of sociology, history and philosophy, original ideas are generated by exploring the answering to the why, what and how the research to be formulated by our sense of curiosity. The conviction is extremely important in obtaining a sense of the applicable knowledge and ideas that extremely required. Designs sources for

inspiration should not be bounded into a rigid conditions and stop the artistic commitment moving. Respectable exemplars that will be gain from selected respondent as acquired for fulfill the research ideas came into the researcher intentions. The progressions attempt to favors the sources as the inspiration for attaining the worthy cognitive conscious and creativity concentration where originally sustained. As matter being considered, the procedure of generating the ideas should be influenced by design activities. However, the understanding manner toward audient consumption is also important to associate with social impact on Textile Designs interest. The essential involvements is needed in order to locate the effectively ideas on creating the theme and the concepts of Textile Designs relevance. In other aspect, textiles Designers have to innovate the acquired products generation and positioned the better services routines for artistic scenes. The conventional perception should be reform and gain on social innovation that will tackle the evolution towards a sustainable design process. According to (E Mazzini, 2008), the idea of sustainable design should be focused on forming the possibility of propagating original design solutions. Textile designers should response in order to increasing physical work on such innovative materials that often closed with technology-driven. However, the improper design progressions will generate risks and the acquired solutions are quite problematic. Kind of knowledge and design technological where associated with issues on how the Textile Designs patter will functionalize the outcome. Probabilities, the interactions forms (Abidin, Warell & Liem, 2010) are interrelated to respective obsessions that have been neglected on how the technology-driven develop.

REVIEW OF THE EXISTING DESIGN MODELS

The rising of the important design knowledge and artistic sentiment has relatively acquired research on the Textile Designs demand. The factor has associated with artistic appreciation among practitioners in Textile Designs. This study attempts to meet the opportunity by exploring the artistic factors and appreciation to specify Textile Designs determinations in design works outcome. According to (Xenakis, 2013), has point the material toward the factionalism on negative impact and knowledge ideas for art spaces development. Surface design has been proposed as a mechanism for integrating the artistic appreciation among several individual thinking levels. Reconsidering toward the art appreciation conception will guide and promotes the attachment for Textile Designs identities.

Habitually, it has been proposed as a mechanism for integration and complication overcome. The rational of this study will increase the influence of visual appreciation and applicable provisions. Fish Scales substances will be enclosed for the acquired surface design attachments as matter that being considered. In addition, the explorations should extent the appreciation on design sentiments and conception efforts. Methodologically, the study is relies on Qualitative procedure to gain the artistic appreciation regarding to applicable theoretical framework. From the specify data progressions will obtain the in-depth understanding by respective research subject and discipline. According to Jones (2010), considering that inspirations for designs materialize from the perspectives we hold on sociology, history and philosophy, original ideas are generated by exploring the answers to the "why", "what" and "how" formulated by our sense of curiosity. Optimism is vitally important in obtaining a sense of knowledge and ideas that is borderless. The source for inspiration knows no bounds. A good example for that would be late designer Alexander Mc Queen who most of his ideas came within a dream. It became his favorite source of inspiration for it came from deep within his cognitive and unconscious creative mind where originality is sustained.

In general, the process of producing ideas is influenced by design activities. However, understanding the manner of consumption is also significant in deciphering the environmental and social impact of a design (Abidin, Othman, Shamsuddin, Samsudin & Hassan, 2014). These are the necessary inputs needed in successfully churning out ideas, creating the theme and the concepts of a design. Designers need to innovate a generation of products and services systems that steers away from the traditional perception and explore a fresh take on social innovation to get the gears going on the evolution towards a sustainable design process. According to Manzini (2008), the idea of sustainable design should be focused on forming the possibility of propagating original design solutions. The product design framework is a model illustrated from the structure that makes up the process of thoughts and ideas. In this model, thought process is presented in a way that categorizes existing knowledge as a basis of cognition and new thought as informational queue.
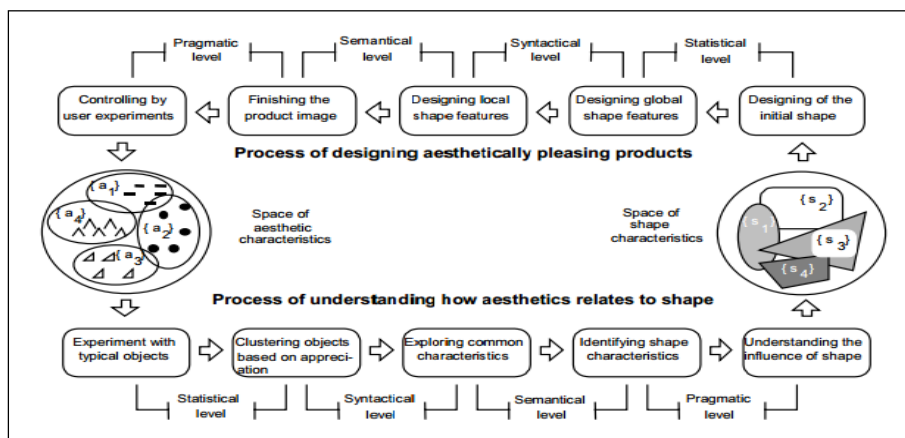
Fig. 1. Model of design for aesthetic with two directions, each having four levels of communication

As depicted in Figure 1, a set-theoretic description of such mapping was developed by the author in his attempt to investigate its feasibility in regards of both exploration and creation. Here is a brief description of the main components from the adopted model of formalism and an illustration of its usage. Generally, any or all of these entities can be perceived as non-singular. Several designers can collaborate together in designing a single artifact; various artifacts can be designed simultaneously at one time, and a great number of users can make use of the artifact. The connections are as follows, (1) The designers design the artifacts, and (2) The users utilize the artifact. But these connections are entangled. What that means is the way the user uses the artifacts is determined by the designer based on the product design's structure. However, the condition where it calls for a designer to even begin designing an artifact requires that it is within the users' demands and needs. Using (Maier and Fadel 2006), a relational model has been developed for design based on the entities and connections' above: the designer-artifact (product)-user (DAU) system, is shown in Figure 2. The significant outcome is that this formalism is a complex adaptive system (CAS) as well, following the same cycle as other CAS (Gell-Mann 1994). The primary aim will be to inspect the stability of value assignment to the characteristics. The depth of formalism, as shown in Figure 2, may look distant to every day design practice, but is essential in gathering human knowledge, make it real and more likely to be processed.

TEXTILE INTERACTION IN DESIGN
Through the acquired interaction on Textile Designs interaction, researchers have recognized the matter that should be monitors. Designs manner toward the acquired object should relates between the function and applications interaction. Textile Designs should be functionalize and stress on the object that respective audient have used and interact freely with the moment that would be consider. Therefore, the attentions in Textile Designs have to interact with the connection and concerning toward the function and attractions. Perhaps, the researcher will generate the textile enhancement based on the acquired designs interest. At this point in time, researcher formulates the basis strategies for the artistic and innovative design progressions. The progressions are almost similar the actual fashion designs practices, however the interest is fully equipped into the Textile Designs interest. The most concern is the formulation is associated with the radical chance in artistic perspective since the Textile Designs is much more technical in nature acceptance. The arrangement of textiles designs, will derive into the artistic familiarity and enclosed with particular textiles materials. Perhaps, Textile Designs will get interacted with designs relation into a smart textiles application. Toward the matter, the terms of integrating designs ability is natural to be located and being flexible.

Table 1. The Term And Terminology used in Textile Design

Term	Terminology
Fish Scales	Most species of bony fishes are covered with and protected by a layer of plates called scales
Texture	The actual feel (roughness or smoothness) of a surface. In art, texture may refer to the illusion of roughness or smoothness often achieved with contrasting patterns.
	Texture: The surface feel of an object or the representation of surface character.
Pattern	decorating a surface composed of a number of elements (motifs) arranged in a regular or formal manner

Textile Design	Textile design is the understanding and creation of textiles to solve design problems. It involves an understanding of traditional techniques as well as modern mass production methods.
Embellishments	Embellishment is a value adding property to the fabric or garment
Creative	Creative is a vital and innate human quality - everyone has the potential to develop creative behaviours and skills if they are nurtured, facilitated and encouraged. It's these creative behaviours that are increasingly essential to successful learning, living and working in the modern world.
Art Practitioners	Creative Practitioner is a term particularly developed by Creative Partnerships. It's a term that took the notion of artists a step further – a way of describing people who in their professions exhibit and use creative behaviours

However, the problematic in redefine textiles into the terms of categorizations will connect between function and interaction. The concentrations on the understandings of textiles applications will interact with innovative inquiry regarding to the artistic relations. In certain matter, design work could be complication toward the conceptual determinations. In several distinctive forms of innovative formulate and creating interventions that has been expressed by textile property influences. The fundamental necessity will be enclosed in research objectives and it gather the alternative progressions to describe the textiles design expressions and interactions. The opportunity is attempt to determine the innovative significances by demonstrate the experimental textile interaction design that focusing the textile interaction expression. The progression means to design something and present as Textile Designs with specify expression on interactions indication. However, the purpose of the concepts needs to be specific and comprehend the complications based on regulations description. Presently, the Textile Designs occasionally needs to be enclosed with additionally universal and wide-ranging functional properties.

Textile designers should be questioning with sophisticated complications that correlated to respective design areas. Necessarily, several any design work should involving with interaction form that might be quite intellectual, precise or clear and highly explicit in terms of expressiveness. A distinctive pattern of an experimental design approach that will be employ with the thinking thoroughly explore. Generally, knowing about the conceptions of Textile Designs is related with soft, and flexible as the basic characteristic of textile interaction expression. Through the study intention, the presented textile can be conveyed into the important design instrument. While, Fish Scale is under available media to be enclosed in textile fabricating as effective product with applicable purposes. Toward the matter, researcher is attempting to demonstrate the respective thing as considered media to be utilized in textile interest. Perhaps, researcher will achieve the argument and provide advantages explanations for aesthetics interaction. As part of the dynamic nature, researcher acquired to fulfill the several operations that will be forms in order to gain the aesthetic experiences. Along with the course, researcher will introduce a possible effective virtual to detecting affordances through Textile Designs interactions. The explanation will improve artistic understanding regarding to the potential usage of Textile Designs interaction. The aesthetics affordances will enclosed with the researcher responsibility tend performed in formulate design decisions.

The provisions of intention adaptation will effects according to affordances and aesthetics interactive in what way Textile Designs is perceived. Design process will interact with aesthetics purposes as recommended appliance in way to evaluates the internal and external requires the successful interactions motivations. An appropriate design presentation is formed when the research respondent well evaluated with the interactive and potential knowledge through aesthetics experience. In order to attain convinced expectations and reduce uncertainties Textile Designs outcome the incorporation will interact with the parallel design line. Through the respective aesthetic experience, researcher will assign values interactive potential that will reduce the hesitation and enhancing the artistic ability. The interaction of acquired aesthetic will formulate research respondent improve the interactive design progressions.

STATEMENT OF THE PROBLEM

Statement has stated by (Hallnas, 2006), Experts in the Textile Designs fields have often expressed concerns that young designers are lacking exposure in terms of material innovation. Toward the matter, the action should be considerate regarding essential of knowledge and awareness engagement. As criteria being considered, the researchers are acquired to be knowledgeable in order to figure out ways and valuing the significance of the expected design. For this reason, it has inspired the proposed approach to initial the range of design works through unconventional materials (Fish Scales) as intended to create a broad sustainable concept of design practice. Centered from preceding study by (Mohini , 2007), has indicate the needs of the material was one of the arising issues at time to tend to further to several of arts discipline. This matter has confirmed by the respective researcher,

that artwork requires the variety of texture to be enclosed. In other aspect, it has similar to Fine Art discipline as being recommended for the priority arrangement. The issue also enclosed with how researcher may transmit to the dynamic properties of smart textiles. It is also part of the things that might happened in researcher / respondent / audient experiences on upcoming innovative program. A kind of technological also where the issues of how the Textile Designs will function.

OBJECTIVES OF RESEARCH

As being regulated by the acquired procedure, clearly the research aim will specified: Interpreting Fish Scale pattern experiences into Textile Designs practice and discipline. Principally, the purpose will follow proper indications and eliminate the present unwanted complication Textile Designs outcome. From artistic sensitivity, the acquired design factor will determine the sensation and achieving motivated perception. By introducing innovative and specialized substance generated and inventing imaginative experience in surface design. Toward the explorations that will be conducted for gaining the valuable matters, researcher attempt to looking into the proposed domain related to:

- To explore the potential of Fish Scales that could be utilized as alternative substances for textile design embellishments.
- To acquire the artistic sensitivity from Fish Scale designs manipulations.
- To formulate textile designs comprehensions for Nobel creative conception

The expected upright thing from this study will benefit various involvements in the Art & Design discipline. The progression will demonstrate the useful information for researches along with other interest fields. Additionally, the predictive consequences from the research can be applied for other effectiveness design exposure. This research is significantly will correspond to be share between upcoming emerging researcher and designer. A well-mannered awareness will be grow toward the Fish Scales as the appropriate applied resources in regards to enhance the idea as wish to be express. As for the sake of research conventions, the study can also be response in turning respective passion and knowledge of design works based into a profitable design commercial. Perhaps, the respective respondent will formulate creating pieces of products and gain proper knowledge from the research material relations. Along with the acquired willingness, several regulations on designs creation will be channel a good chance and revolving into respectable revenue venture. The research will be undertaking by a selective design module in progress procedures to nurture artistic Textile Designs surface.

CONCEPTUAL/THEORETICAL FRAMEWORK

The study will be restricted toward the innovation on textile surface ranges in Textile Designs specialty such Batik, Printing and Fiber. The selection will concentrate to Educator Practitioners who engage in Textile Designs Department based on design explorations. Toward the research progressions, (4) Persons have being considered on every proposed majoring. Total number for entire propose respondent (Educator / Practitioners) is (12) that will be consider for the acquired research regulation.

- Batik: (4) persons, years above working experience in the Textile practices.
- Printing: (4) persons, years working experience in the Textile practices.
- Fiber: (4) persons, years working experience in the Textile practices.

The propose respondent will required to follow the entire research progression that being regulated by researcher. The permissions will be considered as part of the Consent Procedure that being requires by research methodology.
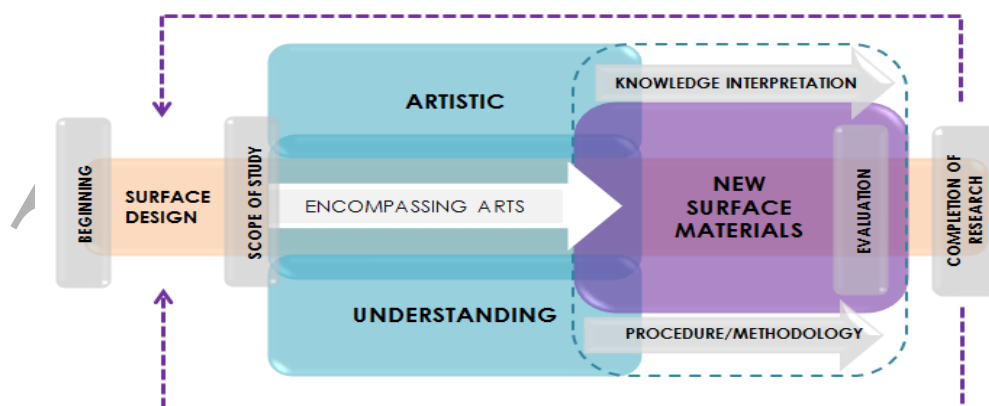
Fig. 3. Aesthetics appreciation theoretical framework has been modified from computer.

The contact of artistic appreciation is requires on design principal submissions on how entire design section and phase response under expected design surface. Handling the Textile Designs components will requires a proper systems approach and understanding on the broad representation. How and why the expected components will interrelate to achieve the optimal consequences on appropriate surface creation in design works applications. As represented in proposed framework, a set of theoretic description of such mapping has being developed. The researcher is attempting to investigate the feasibility in regards looking the reasonable exploration and creation. Moreover, statement from several descriptions toward the main components will adopted from model of perceptions and artistic applications. The theory is the amended from basis oriented design for aesthetics support arrangement. The actual development such a required system will represent the concerning spatial of design variables that specify on aesthetics demand. The interplanetary of aesthetic will include emerging characteristics should be proper formalized. Identically, the planning will specifies the uniqueness of aesthetic expressed intention that concluded the values of identity parameters and comprehend a design model to conforming the research intention.

RESEARCH FRAMEWORK PROGRESSION
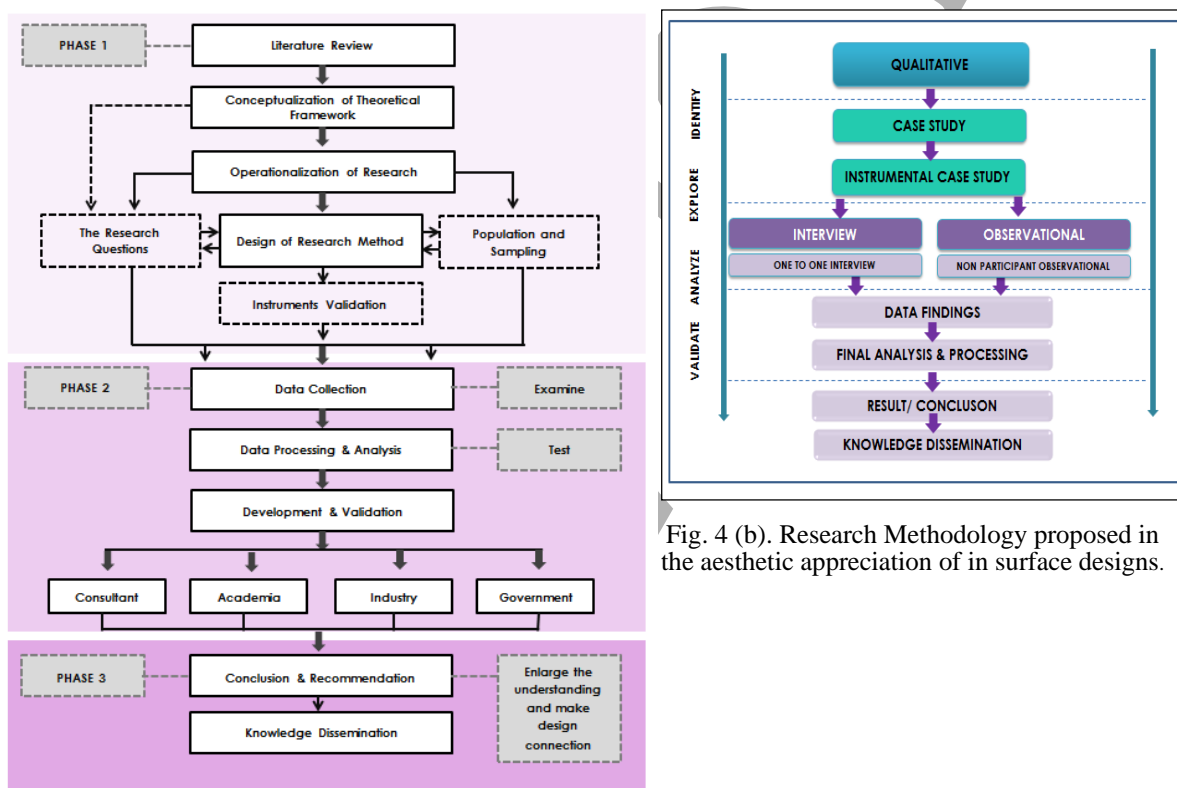
Fig. 4 (a). Flowchart of the research framework

Fig. 4 (b). Research Methodology proposed in the aesthetic appreciation of in surface designs.

The respective framework, see [Fig. 4 (a)] is representing the acquired information and relation domain that will consider as the research on Qualitative in Art & Design nature. The evaluation will be set based on the proper establishment research structure and considerate the meaning involved in form of artistic elements. These will involve with 2 distinctive levels; Dissimilar level of trend development and specific trend such as explorative, explanatory and persuasive; Special level of profession expansion such as, educator practitioners and; Distinctive level of acquiring on work such as Art & Design conventions toward artistic industries. The proposed progressions will involve with the investigation that expected to be thoughtful and provoking. The essential and constant progress is to express the research questions and sources of data will be utilized after verifications from new findings being refined.

a. PHASE 1

The initial argument for this research, is define to the dynamic material artworks or Textile Designs interest. Literature review will endure from the early stage of the research identification. The clear understand toward the research terms will be defined (Anwar, Hassan & Abidin, 2015). Issues and problem with regards to the research

interest will gain as much as possible with the related information and knowledge look / gap / hole. Researcher will conduct the exploratory research essentially indicate among the respective respondent. The considerations will be executed in while parallel to exploration enclosed with the required descriptive and slight matter in sequential about the innovative surface material. The outcome of the Qualitative design phase will comprehend the preliminary toward the artistic concern. The appreciation and feedback will be gain in supporting the specialized development for surface designs.

  b. PHASE 2

In the following phase, the researcher originates to understanding and formulating the need of design transpires for the opportunities of research framework. Accordingly, the preliminary revision will be conducted among expertise about characteristic and style of design to be resolve. The research questions will integrate with the intention defines additional surface material in Textile Designs approach. Adaptation from respective theory will be associated with the material towards surface design interest (Anwar, Hassan & Abidin, 2015). In order to provide the rationale, the literature considerations will concrete the research manner and provide guidance to classify knowledge gaps. By considerate statement from: (Lars Hallnas, 2009), the research will be undertaken into the specify design works interaction. The information will facilitate researcher to bring out the alternative and propose concepts in several research development or argument associated to the textile surface complications. For getting the better framing to the research progressions, the aesthetics appreciation model will consider for research application. The proposed innovative material for surface design will facilitate by the qualified respondents that be selected based on their expertise. By enclosed the acquired formation based from Textile Designs model will be revised. Evaluating toward framing and re-framing research procedure (Anwar, Abidin & Hassan, 2015) will be consider based on exploration for surface intention in Textile Designs. The conclusive stage will determine by initial the integration procedures between applicable resources for surface design. The principle of measurable for apparent integration with artworks will be confirmed and verify by proficient and qualified respective specialist interpretation. According statement by (Abidin, 2012), the verification of design research will be based on logical verification and verification by acceptance. In order to establish the applicable and relevance guidelines, the validation will be apprehending based acquired theories. Abidin (2012) has further stated to the research validity is consider important degree which able to examine on measures on what research supposed to be indicated such as content area, constructions, and predictions.

The translation of research methodology, see [Fig. 4 (b)], which follows closely by adapting required proper research design model developed by respective preceding research. The understanding for the methodology selection relies in appropriate fact that extensively identified broad applied for exploratory purposes among research field. In relationships of design research, the methodology is academically established and demonstrated to be highly wide-ranging. By enclosed distinctive viewpoint, the methodology would be standardizing based on the appropriate research field. As specified in the research frame, the foundation of the study will consists of several important phases. The required methodology will be developed to review the key elements that will be focused on the applicable research design process and focusing the materials exploratory.

In order to explore the integration, a Qualitative research approach will be selected by enclosed innovative material surface design (Anwar, Hassan & Abidin, 2015). To developing the research impact, the study will be employed a single research design that consider to enclosed in research exploration. The contributions of single exploration Material Corporation in Textile Designs process by using innovative substance. Exclusively, the intention of the study will investigate how particular theory capabilities can be develop through the entire material exploratory on Textile Designs surface. The interviews progression is aimed to elicit the practitioners and expert perceptions on how the process of designing can support them to develop their artistic appreciation capabilities. This interviewed will be based on Verbal Protocol Analysis (VPA) developed by Nigel Cross (1996) for the identification of design thinking and theory. The cooperation of selective practitioners will be determined by identical level of thinking and experience (Abidin et al., 2009). In order to construct guaranteed data or answered expected, the empirical apprehension will be thorough on how selective subject are being selected. Single type of exploratory research will be determined toward the respective interview that being originates with proper brief explanation. The purposes to get the information by conducting the interview are being deliberate necessary in study interest. The listed research interview questions will be undertaken with particular period toward the selected respondent. Subsequently, the audio-record data and photo will be proper transcribed after entire research interview being regulated.

The interview transcriptions will be analyze in essential phases including; Preliminary data analysis will explore the emerging issues and potential coming out themes. Research data as will specified the issues that needed to be

further resolved. The investigation will be follow with applicable research procedure in entire interview. Subsequently, the actual regulation researcher will revise a lot uncertain situation by sensibly reviewing selected patterns or circumstances that transpired phenomenon. According to (Grbich, 2007), has pointed into the thematic data analysis matter that generates the themes on the role of material on Textile Designs development.

CONCLUSION

From the respective Art & Design theory is highly influential on research range disciplines and including sensibility toward the artistic fieldwork study. Artistic persons have long used visual principles into the multiple dimensional bodies of works such as images and print layouts. By doing those progression thoroughly, the improvement toward the composition will be proper organize information and enhance the visual communications. While, researchers have to understand about the visual laws and will be presented in qualified visual intentions. Most of the work being presented in two-dimensional and several interactive items are significantly presented. By applying visual theory in the research, the interactive alternative media in designs will be comprehended the visual laws within visual framework. The interactive design processes will provides respective respondent with a scientific structure, which able are analyze and visually improve the intention designs. Understanding artistic principles will stretch greater mechanism over the visual and designs. The creations will be presented additional pleasant designs and increase the possibility toward the applicable message that convince communicated to respective audience. Through the propose study, visual attention on affordances can be brought into the clear understanding and undeniably important for design implementation. However, when comes at certain situation the acquired instrument is not available as designs support material in formulating a product with effective functions. Perhaps, researcher prospect is to achieve the research provision with an explanation that takes advantage on aesthetics interaction. The dynamic and design nature will presented with the various operations that forms the aesthetic into the expected experience.

Along with the matter, researcher anticipates to introduce a possible relation to perceiving have enough Textile Designs innovation through the reliable interactions. The explanation will improve audient about the understanding toward the potential design interaction and practice. The aesthetics knowledge will interact the responsibility in composition in making design decisions. Additionally, the provision about innovation adaptation wills effects the affordances and interacts to aesthetics on how an artifact or product design is perceived. Design process and interaction from aesthetics functions will recommend the proper mechanism in a way that evaluates the Element and Principle requirements that motivates successful interactions. An appropriate design-representation will form when the research respondent participate in evaluated the interactive potentialities knowledge through aesthetics experience. In order to achieve convinced expectations and moderate design principles, artifacts will incorporated with potentialities interactive that correspond to the interactive affordances. Through the particular artistic experiences, respondent will able to allocate principles toward the potentialities interactive in design aspects. Thus, by enhancing the aptitude will promote interactive affordances and reducing the uncertainty design complication. In general, interaction aesthetic support research respondent improve the process by which interactive affordances are detected. Though, to start and set out the explicitly explorations will involve in relations between attitude and sequential form. In order to position an emphasis data, researcher might deliberate about concerning textile and additional material from an aesthetic point of view. The expected innovation program will allocate much supplementary with the upcoming issue on artistic media integration. The response will increasing body of work in such innovation media a frequently involved technology driven development. Artistic determination on Textile Designs will be generating solutions for uncertain problem. Textile Designs interaction and the required form are interconnected to each other design department have been neglected and how an often technology-driven development resolves the risks.

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THE ABILITY TO ASSERTION OF GRADUATES IN REGIONS OF THE CZECH REPUBLIC

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ABSTRACT
The abilities to compete with other regions are appear from the social-economic development of the region. The competitiveness is given of region development, in the sense of development of business activities, development of positive social environment and so on. The several scientific papers and materials affirm that the level of population´s knowledge is one of the conditions of region development and his competitiveness, and then it affirms that the level of education is one of the determinants of ability to assertion in labour market. On base of these affirmations the paper will deal with the ability to assertion of graduates in particular regions in The Czech Republic.

Keywords: university; employability; graduate; region; education;

1. INTRODUCTION EMPLOYABILITY OF GRADUATES

The Czech Republic and its regions and districts of administration are like other regions in EU, since 1989 year, open and proexport economics. The globalization is occurring on several economics still more and it put the accent on human resources as an advantage of economic. The growth of importance high competent work labour, ability to additional education and adapting for several regions is the competitive advantage and the challenge for inflow of capital and investments. As far as structure of population education, in period 2003-2010, its marked changed (see Figure nr 1). Come to increase of number universities graduates and to decrease Citizen with basic education.

	1995	2000	2005	2010
Primary education	2236,3	2002,9	1745	1500,2
Secondary without GCE	3255,3	3268,8	3284,3	3192,4
Secondary with GCE	2255,7	2533,9	2779,6	3086,6
Higher	658,6	780,4	907,1	1236,3
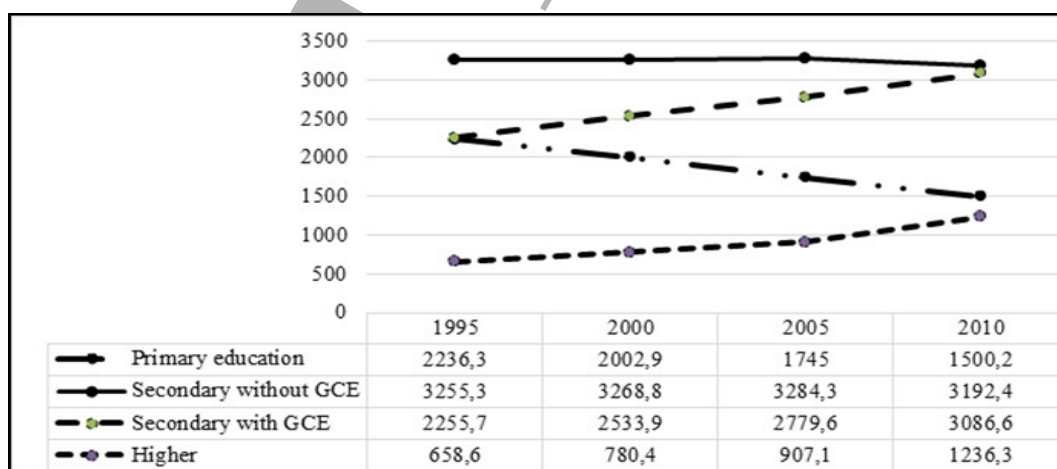
Fig. 1 The structure of citizens' education

Qualifications and absence of experience is even more difficult to the employability of graduates on the labor market. On the other hand, education is essential criterion for many employers. The progress of number unemployed graduates during the period of 2003 -2012 followed the economic situation in the country.

During the years 2003-2008 the number of registered graduates decreased. In the years 2008 -2012 a recession reacts negative, which results are an increase of the number of registered applicants, graduates (see Figure 2, Burdová).
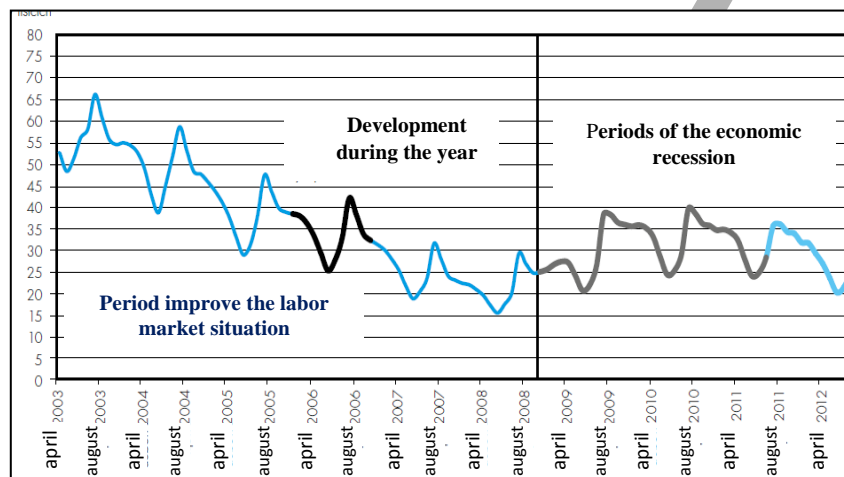
Fig. 2 The development of number unemployed graduates and young people (April (duben) 2003-August (říjen) 2012, in ts.)

On the basis of the analysis was evaluated the ability to assertion of graduates according achieved education. The analysis is based on the evaluation of time period in two seasons. In first quarter (data for April) analyzed year and in September (ie 9th month) analyzed year.

These two terms are significant to the registration of graduates on the labour office, the students end their study and they are going from a full-time student status to the applicant status or employee status. For the evaluation of the location was used the semaphore method, when the data was divided at the minimum (green), the maximum (red) and 50% percentile (orange).

2. DEVELOPMENT OF REGISTRATION GRADUATES - LEVEL EDUCATION BY DISTRICT

On Figure 3 we could see, that during all observe period are the most registered in absolute numbers graduates in the period from September to August. It is due to the fact that students most often ended their studies in term, usually in June, and subsequently they used during July and August the statute of the student. The largest contributor to the unemployment of graduates is the Moravian-Silesian region, followed by South Moravian Region and Region Usti nad Labem.

Table 1 The total number of registered graduates in several regions ČR

	4/2002	9/2002	4/2003	9/2003	4/2005	9/2005	4/2007	9/2007	4/2009	9/2009	4/2011	9/2011
Prague	1 597	2 750	1 891	2 805	1 355	1 978	905	1 233	658	1 296	1 397	1 510
Central region	3 424	5 631	522	5 338	2 169	3 550	1 501	2 398	1 706	2 994	2 456	2 965
South Bohemian	1 872	3 366	2 003	3 134	1 445	2 283	970	1 472	1 450	2 026	1 583	1 739
Pilsen region	1 306	2 547	1 416	2 330	1 004	1 736	709	1 155	942	1 478	1 000	1 241
Karlovy Vary	1 252	1 865	985	1 498	792	1 032	500	671	601	967	742	900
Ústí region	5 581	7 179	4 593	5 892	3 218	4 286	2 214	2 687	2 069	3 100	2 403	2 702
Liberec region	1 614	2 298	1 560	2 205	916	1 444	672	1 030	878	1 282	1 032	1 348
Hradec Kralove	1 448	2 781	1 773	2 752	1 338	1 934	752	1 228	986	1 780	1 174	1 603
Pardubice	1 729	3 061	2 007	3 096	1 573	2 267	874	1 364	1 155	2 022	1 319	1 712
Highlands	1 938	3 881	2 542	3 522	1 696	2 646	1 145	1 711	1 495	2 401	1 848	2 156
South Moravian	5 588	8 770	5 664	7 783	4 577	5 847	2 614	3 579	2 661	4 437	3 609	4 281
Olomouc	3 829	5 475	3 997	4 487	2 347	3 034	1 303	1 886	1 592	2 690	2 103	2 455

Zlin region	2 646	4 250	3 515	4781	2 258	2 909	1 374	1 881	1 616	2 394	1 844	2 332
Moravian-Silesian	11 244	15 356	9 864	1057 7	6 469	7 341	3 672	4 439	3 079	4 741	3 951	4 279
Total CZ	45 068	69 210	45 375	6020 0	31 157	42 287	19 205	26 734	20 888	33 608	26 461	31 223

The most affected by unemployment are graduates with less education, in view of the analysis of requirements in a Labour offices portals and personal agencies. It was traced that employers have increased demands for knowledge and skills. Also, for increase the probability of ability to assertion of graduates, on the basis of certain level of education attaches employment agents. According to staff of Labor offices employability is influences not only with the economic and socio-demographic development in the region, as well as access to job search, education level, level of key competences, field of education and skills, abilities and work experience (see Figure 3, The European Social Fund).

Fig. 3 The importance of factors, which influence good employability of graduates

At the least of the registered graduates during the years 2002, 2003, 2005, 2007 and 2009 were in labour offices in the regions of Karlovy Vary, Liberec and Hradec Králové. The highest number of registrations graduates in the Moravian-Silesian Region had the district Karviná and Ostrava - city. (See Figure 3, table 1).

Table 2 Number of graduates in the regions of the Czech Republic

	4/2002	9/2002	4/2003	9/2003	4/2005	9/2005	4/2007	9/2007	4/2009	9/2009	4/2011	9/2011
Bruntál	595	810	625	835	516	613	276	357	338	516	436	431
Frýdek-Místek	1 693	2 115	1 810	2 093	1 221	1 429	674	840	479	867	599	677
Karviná	3 586	4 743	2 144	2 488	1 693	1 929	1 028	1157	742	1 145	915	954
Nový Jičín	1 236	1 659	1 108	1 340	669	756	283	438	318	372	309	490
Opava	1 680	2 410	1 279	1 624	879	1 057	575	649	545	808	673	701
Ostrava-město	2 454	3 619	2 898	2 197	1 491	1 557	836	998	657	1 033	1 019	1 026

The graduates with higher education, it means the doctoral degree and university education, have the best ability to assertion, according to CSO data analysis. Regarding the employability of graduates in 2003 and 2011 (like in the case in 2007 and 2009) in several table 2, 3 (the value of x - cannot be evaluated) is clear that the most of applicants - graduates with higher education have better ability to assertion.

The highest ability to assertion of graduates is in The Pilsen Region, The Ústí Region, Liberec Region and Moravian-Silesian Region. On the other hand the worst ability to assertion of graduates of doctoral studies is in Hradec Králové Region and Zlin Region.

Table 3 Employability of graduates in the regions of the Czech Republic 9/2003

Education[1]	D	E	H	J	K	L	M	N	R	T	V
Prague	x	15,6	19,0	x	12,0	12,6	21,3	52,9	31,8	54,3	71,4
Central region	x	24,9	28,5	0	41,4	26,2	34,9	37,5	49,4	71,6	125,0
South Bohemian	0	23,6	32,5	x	48,8	35,8	37,3	48,2	66,7	91,4	150,0
Pilsen region	50	19,1	23,2	x	32,1	24,6	25,9	32,7	29,2	80,7	300,0
Karlovy Vary	x	15,3	25,5	0	11,5	27,7	32,3	23,8	45,8	96,4	100,0
Ústí region	50	18,8	27,3	66,67	23,8	24,7	29,3	28,1	47,1	80,2	183,3
Liberec region	x	22,3	29,7	0	22,2	31,1	29,1	47,1	53,2	108,1	225,0
Hradec Kralove	0	21,4	24,6	0	20,6	27,8	24,9	31,5	52,1	88,9	12,5
Pardubice	0	15,8	27,8	0	22,2	30,8	25,1	30,2	55,2	95,7	120,0
Highlands	x	6,7	28,0	0	37,5	30,5	29,0	29,8	58,2	75,0	71,4
South Moravian	0	19,2	21,9	100,00	23,3	22,7	24,6	30,8	47,9	68,7	60,0
Olomouc	0	15,0	19,6	x	14,7	19,6	25,2	35,1	40,3	71,6	66,7
Zlin region	x	16,4	20,1	25,00	20,5	21,3	23,2	59,3	62,5	65,0	40,0
Moravian-Silesian	100	23,2	28,6	0	32,0	27,8	27,5	32,5	53,4	64,1	185,7

Relatively good ability to assertion of graduates with university education is in Liberec Region, Karlovy Vary Region and The Pardubice Region. The Moravian-Silesian Region is ranked after Prague on the latest place and it has the lowest rate of ability to assertion of university educated graduates. By 2011, the employability had improved of university graduates in the Moravian-Silesian region (see table 4).

Table 4 Employability of graduates in the regions of the Czech Republic 9/2011

	D	E	H	J	K	L	M	N	R	T	V
Prague	x	12,2	27,0	0	45,0	39,6	29,5	30,8	42,3	67,1	107,7
Central region	x	26,7	33,9	0	49,3	41,5	40,9	36,2	59,7	86,2	100,0
South Bohemian	0	33,6	42,2	x	45,5	51,1	62,6	50,6	90,9	79,5	150,0
Pilsen region	x	33,3	41,0	x	13,3	44,2	42,9	27,3	51,9	70,1	150,0
Karlovy Vary	x	17,6	29,1	0	19,4	47,4	30,3	15,0	46,9	73,0	x
Ústí region	0	21,5	28,2	0	39,3	45,4	37,2	35,4	62,6	72,1	200,0
Liberec region	x	33,3	26,7	0	25,9	36,1	35,2	34,5	48,1	89,3	66,7
Hradec Králové	0	21,8	30,4	x	33,3	44,2	35,6	28,8	54,5	80,2	125,0
Pardubice	x	34,2	37,3	0	40,0	41,1	38,9	44,3	53,8	96,7	100,0
Highlands	0	17,1	34,1	0	26,8	38,0	38,2	51,5	51,5	101,4	166,7
South Moravian	0	22,0	35,8	0	25,4	38,2	37,1	33,7	53,6	73,9	42,9
Olomouc	x	21,9	34,8	x	19,7	32,6	32,3	29,0	43,6	87,6	100,0
Zlin region	0	19,2	27,6	x	25,5	43,5	30,8	43,3	40,3	82,5	57,1
Moravian-Silesian	x	21,8	34,9	x	26,5	50,3	42,3	43,2	50,2	90,6	158,3

In terms of specific municipalities with extended competence, e.g. Teplice, Kroměříž, Ostrava and Karviná and Ostrava (in 2003) has the worst ability to assertion of students within the framework of evaluation of the ability to assertion of university graduates, on based of selected municipalities (see table 5, 6). Generally, the employability of graduates is below the national average. In Karviná is the greatest interest in the graduates with higher education, and even here, it is unable to fully meet the demand of graduates after work. This fact is due to

[1] D – Lower secondary education, E - Lower secondary education, H - Secondary vocational education with a vocational certificate, J - Secondary vocational and apprenticeship without GCE certificate, K- USV Gymnasium, CSE apprenticeship and graduation, L - CSE apprenticeship and graduation, M - CSE vocational school (without apprenticeship), N - Higher Vocational Education, R - Bachelor of Education, T - Higher education, V - Doctoral education

that Karviná District is a district with considerable restructuring problems and this district is an area with high long-term unemployment in the context of municipalities (2nd place).

Table 5 The location of applicants2 – graduates - selected municipality with extended competence 9_2003 (0-not graduate)

9/2003	D	E	H	J	K	L	M	N	R	T	V
Praha	x	15,56	18,96	x	12,00	12,65	21,25	52,94	31,82	54,27	71,43
Benešov	x	23,53	30,38	x	0,00	32,10	34,83	25,00	100,00	94,44	x
Beroun	x	25,00	23,81	x	150,00	23,81	41,82	133,33	300,00	87,50	x
Kladno	x	37,50	33,58	x	37,50	29,79	31,71	66,67	41,67	55,88	x
Kolín	x	0,00	40,38	x	33,33	20,00	54,29	16,67	x	100,00	x
Kutná Hora	x	75,00	32,00	x	50,00	34,62	59,09	27,78	50,00	142,86	x
Mělník	x	5,26	20,83	x	60,00	36,23	37,50	22,22	26,67	70,59	x
Mladá Boleslav	x	33,33	28,95	x	0,00	30,77	34,88	83,33	50,00	83,33	200,00
Nymburk	x	25,00	48,00	x	36,36	9,76	21,57	33,33	0,00	61,54	x
Praha-východ	x	35,71	10,87	x	33,33	9,52	18,00	10,00	0,00	100,00	x
Praha-západ	x	16,67	16,22	x	0,00	21,43	20,00	16,67	200,00	30,77	0,00
Příbram	x	17,50	23,74	0,00	52,94	27,17	30,37	34,62	40,00	55,32	100,00
Rakovník	x	36,36	31,15	x	62,50	20,69	51,39	200,00	50,00	113,33	x
České Budějovice	x	14,29	22,40	x	66,67	28,21	40,95	53,85	52,38	75,82	200,00
Český Krumlov	x	20,00	32,94	x	0,00	27,03	39,53	33,33	14,29	85,71	x
Jindřichův Hradec	x	31,58	36,45	x	75,00	39,29	29,89	37,50	91,67	96,77	100,00
Písek	x	23,08	35,06	x	66,67	37,93	26,15	33,33	44,44	158,33	x
Prachatice	x	28,57	40,91	x	66,67	51,52	75,00	66,67	85,71	135,29	200,00
Strakonice	x	18,18	49,09	x	0,00	27,27	29,41	71,43	66,67	87,50	0,00
Tábor	0,00	31,82	29,21	x	44,44	43,18	35,29	41,18	112,50	87,80	x
Domažlice	x	30,00	26,67	x	100,00	28,13	23,53	22,22	60,00	100,00	x
Klatovy	x	46,15	28,13	x	0,00	24,24	23,75	23,08	20,00	65,12	x
Plzeň-město	0,00	9,52	14,61	x	66,67	38,71	27,50	40,00	16,67	70,37	x
Plzeň-jih	x	20,00	12,33	x	16,67	10,71	30,61	12,50	33,33	171,43	x
Plzeň-sever	x	8,33	31,08	x	0,00	30,00	19,35	33,33	60,00	83,33	0,00
Rokycany	x	22,22	35,48	x	33,33	32,14	34,48	33,33	0,00	85,71	x
Tachov	x	13,33	24,73	x	42,86	9,09	27,59	100,00	33,33	100,00	x
Cheb	x	4,17	26,09	x	0,00	25,00	30,91	20,00	16,67	150,00	x
Karlovy Vary	x	33,33	26,47	x	20,00	25,40	32,28	23,08	46,15	70,59	100,00
Sokolov	x	9,26	24,17	x	11,11	33,33	32,89	33,33	80,00	128,57	x
Děčín	x	15,69	25,60	x	46,15	31,67	29,70	33,33	171,43	109,52	0,00
Chomutov	x	21,43	46,67	x	31,58	26,58	39,86	0,00	125,00	83,33	x
Litoměřice	x	20,83	28,00	x	27,27	18,31	31,62	19,05	66,67	91,67	x
Louny	x	52,00	35,71	x	11,11	34,29	33,90	100,00	50,00	50,00	x
Most	x	22,50	39,20	x	5,88	24,72	23,53	25,00	36,84	62,50	x
Teplice	x	10,77	29,03	x	22,22	18,18	20,90	14,29	71,43	30,77	x
Ústí nad Labem	x	21,67	28,23	x	36,36	18,18	31,13	80,00	42,86	96,30	200,00
Česká Lípa	x	26,09	26,56	x	22,22	29,31	24,03	50,00	14,29	140,00	x
Jablonec nad Nisou	x	38,46	35,82	x	25,00	36,00	36,84	53,85	46,15	126,67	66,67
Liberec	x	22,22	29,17	x	16,67	26,15	31,11	68,75	60,00	91,43	300,00
Semily	x	0,00	30,65	x	25,00	41,38	28,36	22,22	85,71	107,14	x
Hradec Králové	x	13,16	21,05	x	0,00	24,36	20,18	37,93	53,33	87,84	33,33
Jičín	x	25,00	24,30	x	50,00	12,77	37,33	33,33	85,71	107,41	0,00

[2] Ratio of the number graduates at the end of the period and the number of placements of graduates

	D	E	H	J	K	L	M	N	R	T	V
Náchod	0,00	19,23	23,81	x	14,29	35,00	32,00	85,71	37,50	105,00	0,00
Rychnov nad Kněžnou	x	18,75	26,67	x	0,00	35,56	26,23	15,79	150,00	60,00	x
Trutnov	x	32,26	27,49	x	33,33	36,84	17,29	20,00	27,27	80,95	0,00
Chrudim	x	26,32	19,41	x	25,00	31,51	26,09	21,05	70,83	100,00	0,00
Pardubice	0,00	10,34	28,18	x	12,50	29,63	25,19	9,38	68,18	93,65	100,00
Svitavy	x	12,82	23,53	x	28,57	31,71	18,52	42,86	30,00	77,14	150,00
Ústí nad Orlicí	0,00	13,56	40,37	x	20,00	30,00	30,56	43,33	50,00	109,52	200,00
Havlíčkův Brod	x	0,00	24,80	x	10,00	26,74	18,92	40,00	68,00	73,17	x
Jihlava	x	2,44	24,05	x	42,86	25,81	29,53	10,00	47,22	69,23	x
Pelhřimov	x	5,00	48,15	x	100,00	23,81	47,17	0,00	81,82	75,76	x
Třebíč	x	10,53	24,78	x	41,67	32,69	26,71	42,11	50,00	58,90	0,00
Žďár nad Sázavou	x	15,79	31,64	x	28,57	36,70	32,12	32,26	57,14	104,00	0,00
Blansko	x	8,70	24,62	x	10,53	19,64	18,33	25,64	30,43	87,30	100,00
Brno-město	0,00	5,00	26,00	0,00	35,71	33,82	28,89	50,00	42,86	63,28	80,00
Brno-venkov	0,00	11,11	12,20	x	22,73	17,12	22,28	25,00	50,00	63,38	25,00
Břeclav	x	35,29	20,69	x	34,62	25,45	27,53	23,81	57,14	83,87	x
Hodonín	x	18,37	23,48	x	20,00	22,05	24,31	35,90	61,54	59,43	100,00
Vyškov	x	26,09	27,52	x	15,38	32,08	21,99	16,67	38,10	53,85	0,00
Znojmo	x	27,78	24,14	x	18,75	20,54	28,57	37,50	60,00	90,91	66,67
Jeseník	x	22,22	31,15	x	0,00	25,81	26,67	14,29	142,86	160,00	x
Olomouc	x	14,00	17,93	x	20,59	20,09	24,54	36,36	32,76	79,66	x
Prostějov	x	10,00	14,89	x	25,00	16,09	27,94	30,00	41,67	60,61	x
Přerov	x	8,93	17,45	x	8,33	16,80	24,35	66,67	57,14	65,08	50,00
Šumperk	0,00	22,45	23,45	x	0,00	23,23	24,83	27,78	21,43	56,94	0,00
Kroměříž	x	15,91	18,12	x	18,18	19,28	28,23	69,23	64,00	32,39	x
Uherské Hradiště	x	16,67	20,24	x	50,00	23,47	21,84	45,45	57,89	133,33	0,00
Vsetín	x	11,11	18,93	x	7,69	16,67	24,14	42,86	53,57	84,52	0,00
Zlín	x	19,61	23,04	x	27,27	25,88	19,66	75,00	70,00	52,38	x
Bruntál	x	23,91	22,47	x	44,00	26,67	14,97	66,67	25,00	66,67	x
Frýdek-Místek	x	25,71	27,27	x	38,89	30,56	24,53	25,00	50,00	77,88	25,00
Karviná	x	15,94	24,59	x	17,86	16,44	32,99	27,78	33,33	51,72	x
Nový Jičín	x	22,58	30,00	x	66,67	36,36	32,53	81,82	100,00	87,80	300,00
Opava	200,00	30,19	32,32	x	8,33	43,97	31,75	33,33	85,71	67,65	150,00
Ostrava-město	0,00	23,44	33,43	x	42,86	26,90	28,94	10,53	34,78	54,48	x

By 2011, university graduates the employability in the Municipalities have improved largely as before its university graduates. On the contrary, worsened e.g. Klatovy, Litoměřice, Most, Teplice and Zlin (details see Table 5.6)

Table 6 The location of applicants – graduates - selected municipality with extended competence (% rate located graduates/base, in 9/2011)

9/2011	D	E	H	J	K	L	M	N	R	T	V
Praha	0,00	12,24	27,03	0,00	45,00	39,65	29,50	30,77	42,31	67,14	92,86
Benešov	x	50,00	42,03	x	200,00	38,10	48,10	47,62	81,25	100,00	x
Beroun	x	0,00	57,45	x	0,00	28,57	50,00	0,00	80,00	150,00	x
Kladno	x	44,12	41,67	x	55,56	43,06	36,88	107,14	**23,53**	119,44	x
Kolín	x	0,00	7,81	x	0,00	27,78	16,67	0,00	28,57	57,14	x
Kutná Hora	x	0,00	45,83	x	x	40,00	57,89	33,33	33,33	150,00	x
Mělník	x	15,63	34,96	0,00	100,00	43,14	38,98	10,00	62,50	90,63	x
Mladá Boleslav	x	20,00	11,11	x	33,33	34,48	13,56	12,50	53,33	66,67	x
Nymburk	x	14,29	46,67	x	16,67	69,57	43,14	16,67	40,00	78,57	0,00

Praha-východ	x	20,00	29,41	x	40,00	46,94	42,17	0,00	233,33	41,18	x
Praha-západ	x	25,00	18,52	x	25,00	26,83	37,50	33,33	100,00	59,26	100,00
Příbram	x	29,17	35,65	0,00	44,44	39,58	55,34	43,75	71,43	75,76	0,00
Rakovník	x	44,44	35,00	x	50,00	59,09	43,94	33,33	66,67	68,75	x
České Budějovice	x	23,33	44,53	0,00	33,33	46,97	62,11	52,17	80,43	76,42	50,00
Český Krumlov	x	42,86	40,00	x	x	94,12	66,67	100,00	170,00	121,43	100,00
Jindřichův Hradec	x	44,44	46,67	x	66,67	58,82	75,00	36,36	81,25	78,95	200,00
Písek	x	45,45	43,08	x	0,00	36,36	58,33	37,50	61,54	83,33	0,00
Prachatice	x	25,00	50,98	x	100,00	114,29	85,71	100,00	81,82	92,31	0,00
Strakonice	x	30,00	26,15	x	0,00	27,27	27,50	85,71	100,00	70,37	x
Tábor	x	33,33	42,35	x	71,43	44,00	65,63	44,44	100,00	75,00	x
Domažlice	x	27,27	52,50	x	0,00	42,11	25,64	12,50	133,33	200,00	x
Klatovy	x	33,33	49,12	x	0,00	51,72	43,86	25,00	38,46	60,98	0,00
Plzeň-město	0,00	50,00	25,35	x	0,00	57,14	49,25	23,08	41,46	65,79	100,00
Plzeň-jih	x	54,55	34,04	x	33,33	26,92	55,17	25,00	40,00	47,06	x
Plzeň-sever	x	20,00	43,48	x	0,00	23,81	43,40	0,00	46,15	80,00	100,00
Rokycany	x	0,00	33,33	xx	100,00	60,00	37,50	300,00	100,00	60,00	x
Tachov	x	30,77	51,92	x	0,00	50,00	40,63	75,00	83,33	77,78	x
Cheb	x	7,14	45,24	x	0,00	100,00	32,08	25,00	116,67	88,89	x
Karlovy Vary	x	20,59	24,62	x	36,36	30,23	32,32	0,00	50,00	52,38	x
Sokolov	x	18,92	28,57	x	16,67	52,17	27,87	50,00	21,05	114,29	x
Děčín	x	22,22	26,83	x	16,67	47,37	43,41	64,71	82,35	125,00	x
Chomutov	x	13,51	30,77	x	66,67	42,50	49,07	38,89	25,93	83,33	x
Litoměřice	x	23,08	23,76	0,00	66,67	36,17	38,40	36,36	92,31	31,03	x
Louny	x	12,90	33,33	x	150,00	65,38	36,36	21,43	31,58	109,52	x
Most	x	31,25	24,66	x	33,33	37,50	23,39	42,86	58,62	51,28	x
Teplice	x	22,92	31,20	x	30,00	36,00	28,43	13,33	111,11	52,00	0,00
Ústí nad Labem	x	26,42	27,72	x	23,08	64,44	42,35	14,29	66,67	96,00	33,33
Česká Lípa	x	12,24	26,39	x	50,00	36,96	31,34	60,00	46,15	109,09	x
Jablonec nad Nisou	x	20,00	23,33	x	0,00	40,63	36,99	26,32	72,22	112,50	x
Liberec	0,00	86,96	24,26	0,00	75,00	29,79	46,07	58,33	30,77	79,17	166,67
Semily	x	30,00	35,53	0,00	12,50	39,39	24,53	21,05	54,55	70,37	100,00
Hradec Králové	x	31,58	34,31	x	100,00	53,73	31,16	31,58	51,56	64,55	50,00
Jičín	x	18,18	28,99	x	33,33	40,00	56,52	20,00	93,75	81,82	x
Náchod	x	19,05	33,33	x	0,00	25,00	41,27	25,00	37,04	81,08	100,00
Rychnov nad Kněžnou	x	18,18	44,44	0,00	75,00	66,67	36,96	11,11	140,00	128,57	x
Trutnov	x	14,81	21,64	x	7,69	33,33	28,83	41,18	36,36	131,58	50,00
Chrudim	x	37,50	44,76	x	0,00	44,19	54,12	33,33	58,62	92,86	25,00
Pardubice	x	43,33	31,21	x	40,00	37,78	43,93	72,73	66,67	91,30	0,00
Svitavy	0,00	32,26	25,71	x	28,57	33,90	22,76	60,71	38,71	93,62	x
Ústí nad Orlicí	x	25,71	51,69	x	120,00	51,16	40,35	24,00	46,67	109,26	x
Havlíčkův Brod	x	10,00	46,43	x	50,00	47,92	41,86	34,48	53,13	90,20	100,00
Jihlava	x	23,53	34,81	x	30,77	32,20	41,09	50,00	52,08	133,33	100,00
Pelhřimov	x	0,00	86,67	x	28,57	75,00	46,51	100,00	44,44	109,76	x
Třebíč	x	12,90	21,36	x	16,67	25,25	35,38	50,00	54,10	118,18	0,00
Žďár nad Sázavou	x	23,81	34,85	0,00	25,00	43,24	32,52	54,05	48,72	74,39	0,00
Blansko	x	36,36	31,53	0,00	27,27	34,43	40,00	25,00	76,19	105,66	200,00
Brno-město	0,00	15,79	23,57	0,00	0,00	27,66	21,71	21,21	32,14	59,39	300,00
Brno-venkov	x	24,32	34,21	0,00	57,14	41,28	40,57	50,00	75,76	67,48	150,00
Břeclav	x	24,00	46,51	x	16,67	34,94	33,93	58,33	51,52	87,72	x

Hodonín	x	13,95	39,69	x	30,00	44,27	37,56	40,00	58,70	78,95	x
Vyškov	x	11,11	31,25	x	28,57	42,86	42,20	25,00	47,83	74,42	x
Znojmo	x	45,00	37,80	0,00	35,29	42,19	47,89	33,33	52,00	88,00	0,00
Jeseník	x	3,70	51,85	x	0,00	81,25	30,88	400,00	37,50	52,94	x
Olomouc	x	28,95	33,91	x	24,14	35,03	24,11	25,00	34,02	93,79	300,00
Prostějov	x	57,14	29,36	0,00	12,50	31,25	50,00	31,25	52,63	102,04	x
Přerov	x	23,08	38,46	x	30,77	36,25	33,63	16,67	55,88	71,95	0,00
Šumperk	0,00	20,51	30,43	x	0,00	15,85	35,96	33,33	51,85	92,59	0,00
Kroměříž	x	17,14	32,31	x	42,86	57,89	21,49	40,91	20,37	78,57	x
Uherské Hradiště	x	14,29	26,00	x	50,00	37,08	39,73	54,55	48,08	72,29	75,00
Vsetín	x	13,64	30,11	x	20,00	46,22	33,11	62,50	58,54	93,00	x
Zlín	x	28,57	22,70	x	16,67	39,60	31,76	31,58	39,33	83,20	x
Bruntál	x	13,51	23,42	x	4,17	35,71	39,67	0,00	58,33	96,77	300,00
Frýdek-Místek	x	32,26	50,33	x	8,33	73,08	52,42	36,36	58,70	101,71	250,00
Karviná	x	22,54	33,22	x	29,17	43,84	39,32	30,43	50,00	89,92	22,22
Nový Jičín	x	35,48	46,46	x	40,00	29,03	32,03	71,43	51,11	90,41	x
Opava	0,00	9,09	33,15	x	35,71	60,92	37,91	76,47	45,16	82,24	50,00
Ostrava-město	0,00	22,54	31,15	x	64,71	55,97	45,27	18,75	46,67	87,65	20,00

3. RESUME

From the graphs and tables is clear that the progress of the number of unemployed graduates is dependent on the economic development of the regions. It is clear that the most affected regions are the districts of the Moravian-Silesian Region (Karviná, Ostrava). The least ability to assertion of graduates has graduates with lower education. These findings confirm the generally valid conclusions. The ability to assertion depends on the level of achieved education and it confirms the trend at of knowledge-based economy. Nevertheless, this principle is not generally valid and in structurally affected regions could exist some disproportions. The paper is created within the project SGS 20/2014 "Analysis of the business environment in Karvina region" and it is a sub-analysis of a more extensive research.

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EVALUATING THE PSYCHOMETRIC PROPERTIES OF TURKISH VERSION OF THE SCIENCE MOTIVATION QUESTIONNAIRE

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ABSTRACT

The aim of this research is to examine the validity and reliability of the Turkish Version of the Science Motivation Questionnaire (SMQ; Glynn, Taasoobshirazi and Brickman, 2008). Participants were 302 university students. The results of confirmatory factor analysis demonstrated that the 30 items loaded on five factors and the five-dimensional model was well fit ($x^2=1353.45, df=390, RMSEA=.0091, NFI=.95, NNFI=.96, CFI=.96, IFI=.96, RFI=.94,$ and $SRMR=.034$). The internal consistecy coefficients were .94 for intrinsic motivation and personal relevance subscale, .75 for self-efficacy and assessment anxiety subscale, .92 for self-determination subscale, .84 for career motivation subscale, .87 for grade motivation subscale and .95 for the overall scale. The corrected item-total correlations of SMQ ranged from .21 to .77. Overall findings demonstrated that this scale is a valid and reliable instrument for measurement of individuals' science motivation.

Keywords: Science, motivation, validity, reliability, confirmatory factor analysis

INTRODUCTION

Science education aims to provide students to stir sense of wonder about the scientific and technological developments, comprehend natural world, develop their information, experience and interests about jobs based on science, utilize scientific procedure and principles effectively and properly while making decisions, decide explicitly and definitively upon scientific subjects (MEB, 2005; YOK/World Bank, 1997). Motivation -one of the emotional components- is a process of acting in particular manners so as to meet their needs (Lefrançois,1995; Sabuncuoğlu and Tüz, 1998). Students' interests and grades of subjects, sense of task, attitude and condition in the process of acquiring scientific knowledge, purposes are the components effecting the motivation of students (Tuan, Chin & Sheh, 2005). The most essential element influencing learning deeply is motivation (Ryan & Deci, 2000). Researches in the scope of motivation and learning demonstrated that personal goal inclination, meaning of a task, sense of self-efficacy, test anxiety, learning environment and purposes have an effect upon learning motivation (Barlia and Beth, 1999; Brophy, 1998; Garcia 1995; Pintrich and Schunk, 1996; Tuan and Chin ve Shieh, 2005). Motivation effects highly both learning and achievement. Students with high motivation make more effort on the tasks and activities in the classroom than any others (Wolters and Rosenthal, 2000). In addition, motivation has an influence on the frequency of the students' learning process and duration of an activity (Schunk, 1991; Barlia, 1999). According to Schiefele and Rheinberg (1997), motivation has an impact on three dimension of learning. These are sustainability of learning activities, form of performed learning activities and functional role of the student during learning process (Vollmeyer & Rheinberg, 2000). Science motivation of students is a multi dimensional notion which is influenced by individual properties of students and teachers, methods and techniques used in teaching process and the environment of learning activity. According to Lee ve Brophy (1996), providing students' motivation for a better understanding of science, and applying active methods and strategies to manage this motivation are the two properties to be based on while explaining students' science motivation (Barlia, 1999). In terms of constructivist teaching theory, students are the individuals who carry out permanent and meaningful learning process by combining the new knowledge with the existing knowledge(Palmer,2005) . When students understand concept and activities of science as important for themselves, the newly learned subjects are being more persistent. While learning a new term, students comment better on this term from the point of their prior

knowledge, aim, interest and beliefs (Palmer, 2005). In this study, the adaptation of the Science Motivation Questionnaire to Turkish and the investigation of its psychometric properties are aimed.

METHOD

2.1   Participants

The sample of this study consisted of 302 university students from Sakarya University, Turkey. Of the participants 202 were female, 100 were male. Their ages ranged between 18-36 (M=20.25, Sd=2.07) .

2.2. Procedure

Following steps were taken for the adaptation of the scale. First of all, a permission was received to adapt the scale by the use of electronic mail. Firstly, English form of the scale was translated into Turkish by 4 English speaking instructors then the Turkish forms were translated into English again and language consistency and grammatical revision of the two forms were checked, and a trial form of Turkish scale was obtained. Secondly, the Turkish form of the scale was negotiated by 3 instructors who work in the departments of educational sciences and assessment, evaluation and the scale were prepared for the application with the final revision. In order to examine construct validity of the scale, confirmatory factor analyses (CFA) was applied. Reliability of the scale was examined with Cronbach's alpha internal consistency method and item analyses were investigated with corrected item total correlation. SPSS 22.0 and LISREL 8.54 (Joreskog ve Sorbom, 1996) were used for item and reliability and validity analyses respectively.

RESULTS

3.1. Construct Validity

When investigators have clear or competing hypotheses about a scale – the number of factors or dimensions underlying its items, the relation between specific items and specific factors, and the association between factors, confirmatory Factor Analysis (CFA) is functional. In other words, CFA provides researchers to assess the degree to which their measurement hypotheses are consistent with actual data developed by respondents using the scale (Furr & Bacharach 2008). The results of confirmatory factor analysis demostrated that the five-dimensional model was well fit.
($x^2=1353.45, df=390, RMSEA=.0091, NFI=.95, NNFI=.96, CFI=.96, IFI=.96, RFI=.94,$ and $SRMR=.034$).   Factor loadings and path diagram of Turkish version of SMQ are presented in Figure 1.1
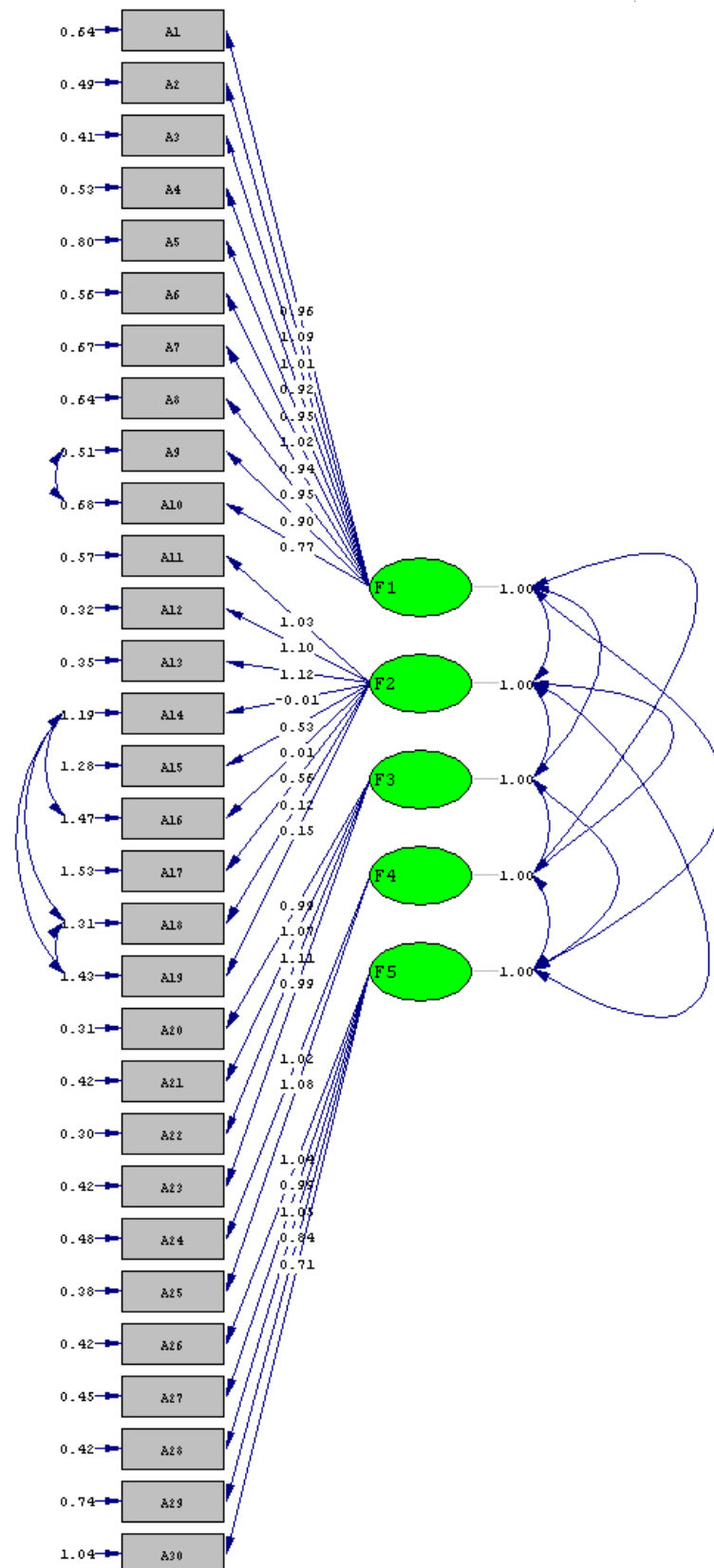
Chi-Square=1353.45, df=390, P-value=0.00000, RMSEA=0.091

Figure 1.1 Factor Loadings and Path Diagram for the SMQ (F1= intrinsic motivation and personal relevance , F2= self-efficacy and assessment anxiety ,F3= self-determination, F4= career motivation ,F5= grade motivation)

3.2. Reliability

The Cronbach's Alpha internal consistency reliability coefficients of the scale were found as .94 for intrinsic motivation and personal relevance subscale, .75 for self-efficacy and assessment anxiety subscale, .92 for self-determination subscale, .84 for career motivation subscale, .87 for grade motivation subscale and .95 for the overall scale. The corrected item-total correlations of SMQ ranged from .21 to .77.

DISCUSSION

The adaptation of the SMQ into Turkish and the investigation of its psychometric properties were aimed with this research. The fact that the factor structure was harmonized with the factor structure of the original scale, was indicated by CFA. Hence, it can be said that the structural model of the SMQ which comprises of five factors was well fit to the Turkish culture (Bentler & Bonett, 1980; Hu & Bentler, 1999; Schermelleh-Engel & Moosbrugger, 2003). The internal consistency reliability coefficients of the scale were high (Büyüköztürk, 2010; Kline, 2000). Taking into consideration that item total correlations having a value of .30 (Büyüköztürk, 2010). The results of confirmatory factor analysis demonstrated that the 30 items loaded on five factors and the five-dimensional model was well fit

($x^2=1353.45$, $df=390$, $RMSEA=.0091$, $NFI=.95$, $NNFI=.96$, $CFI=.96$, $IFI=.96$, $RFI=.94$, and

$SRMR=.034$). Motivation is one of the primary components to construct knowledge in mind. After reviewing the research, unsuccessful students can be said to have low motivation. Motivation of learning science has a positive influence on academic success as well. Following the searches, a linear relationship was found between students' science learning and their motivation. Motivation variable can not be observed directly. It is the most crucial component which should be in purposive activities to receive a successful result in education activities. Students should be provided to be active in the learning process to raise their motivation. The students should be allowed to go through trial-and-error and learning by experience. This study can be developed to examine the relationships with different variables as well. For instance, it can be investigated how gender, education of parents, grades, learning strategies can effect motivation of learning science. Validity of science motivation scale can be increased by applying the scale to students of primary and high schools except from undergraduate students. The current research has some limitations. Sample size of the present study is an important limitation. Stated in other words, following studies should examine the same research questions with a wider sample size. A wider sample size may explain some correlations and so increase the validity of the results. If these results could be generalized to a larger population, applying this research in different rural areas of Turkey may represent. Another limitation of the present survey is that the sample consists of university students which limited the generalizability of the results. Therefore, it could be essential to survey the relationship of these variables in other sample groups. The fact that this scale had high validity and reliability scores were indicated by overall findings.

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THE ANALYSIS OF SOCIAL SCIENCES HIGH SCHOOL STUDENTS' OPINIONS ABOUT UNDERGROUND RESOURCES - KÜTAHYA SAMPLE

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The purpose of this study is to try to explain the secondary education students ' perceptions regarding the concept of Underground Resources with the help of metaphors. A total of 154 students studying at Kütahya Social Sciences High School in the academic year 2014-2015 have participated in this research. In the study, following questions have been searched to answer: (a) through which metaphors do the secondary education students explain the perceptions they have in relation to the concept of underground resources ? (b) Under which categories are these metaphors collected in terms of common properties? The data in the study have been obtained depending on students' answers to this sentence: Underground Resources are like... because... . In this research, phenomenological pattern has been used and the data have been analysed by using content analysis technique. According to the findings of the research; (a) Secondary education students have produced 114 valid metaphors related to the concept of underground resources in total. (b) These metaphors by being examined in terms of common features have been grouped under four different categories. As a result of the survey , it has been observed that 49 % of the students at Social Sciences High School have perceived the concept of Underground Resources as the source of Economic Value and Wealth , 22 % as Guarantee of the Future , 20,2 % as the Source of Life 8.8 % as The Expression of Love. As a consequence, the metaphor related to the concept of Underground Resources could be used as a powerful research tool in understanding and explaining the secondary education students' perceptions concerning concept of Underground Resources.

Keywords: Secondary Education, Metaphor, Geography Education.

THE APPLICATION OF KAIZEN PRINCIPLES IN THE DISTANCE TECHNICAL EDUCATION CONSIDERING BLOOM'S TAXONOMY

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ABSTRACT

The application of Kaizen principles in engineering production units revolutionized the employee's way of thinking about their work and created very successful economies based on a culture of true continuous improvement. Although the Kaizen principles until now seem to be restricted to industrial production, the author found that the same principles and work philosophy can be applied to create a very successful engineering teaching and learning environment. Due to the existing information resources available, technical teaching tends to be clogged with side information not really relevant to the respective course. Over teaching is a sin of the advanced technology era and the introduction of Kaizen principles for Lean Manufacturing in teaching will result in efficient "Lean Teaching".

Keywords: Engineering Education; Bloom's taxonomy; Kizen principles

INTRODUCTION

The rapid access to information by electronic means and the shear amount of information available resulted in over teaching, clogging the learning material with information not necessarily needed for a specific course. With such huge amount of information, the student is at risk of being side-tracked and a dilution of the absolute necessary information is taking place, resulting in poor assessment results. Every time that a student is accessing a website to collect needed information, the average number of "sending" to another website is at least 3 or more per page and continues in geometrical progression from site to site. An important task of the module lecturer is to reduce the amount of information to a reasonable level without compromising the quality and understanding of the module. Considering the Kaizen lean manufacturing principles, the authors found that the majority of Kaizen actions are linked perfectly to the Problem-based Learning (PBL) and Action Learning (AL) which are examples of forms of teaching which have been good standard practice for centuries. Bloom's and Anderson & Krathwohl "wheels" correlate perfectly with the traditional TPM "5S" foundations and 8 columns "house", demonstrating how versatile the Kaizen principles and philosophy are.

1. The "Gestalt" and "Knack" principles

The Kaizen principles and philosophy until now was directly linked to improving industrial production. However the author found that the same principles and work philosophy can be applied to create a very successful engineering teaching and learning environment. In education, Bloom[1] and Anderson & Krathwohl[2] classifications identified three main domains namely: Cognitive, Affective and Psycho-motor. Each domain was organised as a series of levels or pre-requisites. Problem-based Learning (PBL)[3], [4], [5] together with Enquiry-based Learning (EBL) and Action Learning (AL)[6], [7] are examples of forms of teaching which have been good standard practice for centuries and in the modern era can be easily adapted to Kaizen principles and philosophy. The German term of Gestalt loosely translated as "pattern", in learning it concentrates on the way in which "the mind insists on finding patterns in things"[8], and how this contributes to learning, especially the development of "insight"[8]. Gestalt acknowledges the "knack" or "insight" or "got it" element that underpins all cognitive theories. Due to the extraordinary information resources development in the last years, technical teaching tends to be clogged with side information not really relevant to the respective course and somehow the problem based learning tends to be diluted. Over teaching is a sin of the advanced technology era and the introduction of Kaizen principles for Lean Manufacturing in teaching will result in efficient "Lean Teaching". When a comparison between Lean Manufacturing and Lean Teaching is made (see tables 1 and 2) there is hardly any text change to be done, as the same principles apply to efficient production and efficient teaching. In order to achieve Lean Manufacturing the Total Productive Maintenance (TPM) principles must be applied. To achieve Lean Teaching the TPM production principles can be applied with hardly any modification. An important task of the module lecturer is to reduce the amount of information to a reasonable level without compromising the quality and understanding of the module. Considering the Kaizen lean manufacturing principles, the authors found that the majority of Kaizen actions are linked perfectly to the Problem-based Learning (PBL) and Action Learning (AL) which are examples of forms of teaching which proved to be good standard practice. Bloom's and Anderson & Krathwohl "wheels" correlate perfectly with the traditional TPM "5S" foundations and 8

columns "house", demonstrating how versatile the Kaizen principles and philosophy are.

2   Bloom's Taxonomy (classification)

2.1 Cognitive Domain (Knowing / Head)

Within the classification of different levels of learning, in 1956 Bloom identified three main domains namely: Cognitive (knowing / head), Affective (feeling / heart) and Psychomotor (doing / hands). Each domain is organised as a series of levels or pre-requisites as shown in figure 1[1]. Later in 2001 Anderson and Krathwohl[2] made some significant modifications, developing the revised taxonomy of the cognitive domain. It should be noted that in the new classification the nouns were replaced by verbs meaning that the cognitive process should be the result of the actions taken by the learner. The existence of the pre-requisite layers implies that one cannot effectively address higher levels until those below them have been covered (serial structure).
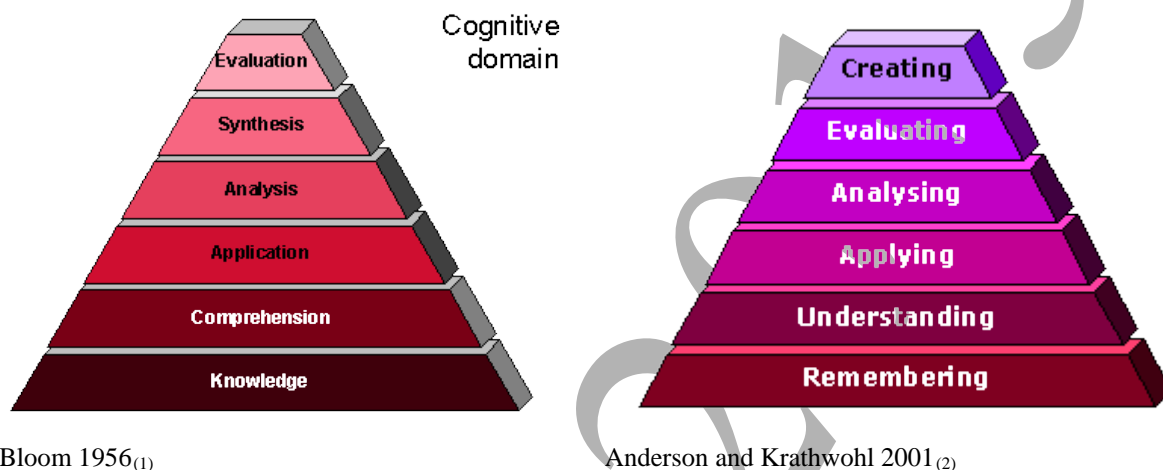
Bloom 1956[1]   Anderson and Krathwohl 2001[2]

Fig. 1 Bloom – Krathwohl cognitive domain classification[1],[2]

This principle translates in teaching by identifying the pre-requisite modules needed in order to enrol for a certain module. Also it provides a way of categorising levels of learning, in terms of the expected ceiling for a given programme[2] i.e in the cognitive domain the training for technicians should go just up to "application". However the positioning of Understanding / Comprehension in either classification may be questioned. The German term of Gestalt loosely translated as "pattern", in learning it concentrates on the way in which the mind insists on finding patterns in things, and how this contributes to learning, especially the development of "insight"[8]. The Gestalt emphasises that the mind rejects what does not make sense and for real-world learning draws the attention to problem solving as a part of learning. Problem-based Learning (PBL)[3],[4],[5] together with Enquiry-based Learning (EBL) and Action Learning (AL)[6],[7] are examples of forms of teaching which have been good standard practice for centuries. The PBL method of teaching has a "weak" or a "strong" approach to curriculum and course design. For tertiary technical education the "strong" approach makes sense as it requires crossing disciplinary boundaries. The real PBL involves finding out additional information to solve the problem / case, where the learner has to work out what knowledge is needed to solve the problem, he / she have to research it and to apply the findings to the issue. Gestalt acknowledges the "knack" element that underpins all cognitive theories. A cognitive theory is interested in how people understand the material world, the aptitude and capacity to learn and learning styles. It is also the basis of the educational approach known as constructivism [9];[10];[11] which emphasises the role of the learner in constructing his own view or model of the material, and what helps with that.

Figure 2 shows a very simple example of how the mind works (Johnson S; 2005).
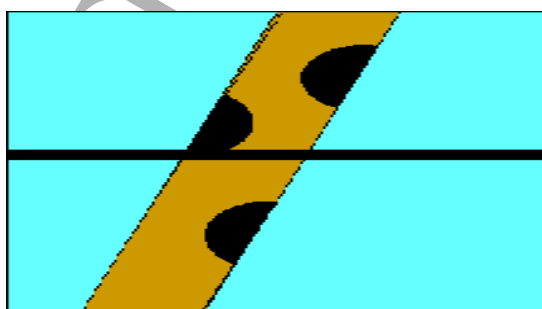
Initially this image make no sense but if the viewer is told that it is the neck of a giraffe passing by a window, the image placed in a frame of reference makes sense. Explaining the image, a cognitive re-structuring take place, consequently the viewer capacity for potential action has changed[3].

Fig. 2 How the mind works[8]

A "knack" or "insight" can be best illustrated via the practical example of learning to ride a bicycle or to swim. Figure 3 shows the learning curve of riding a bicycle (perfectly adapted to the learning to swim process). The learning happens in a few moments, and is "permanent—although it may have taken a long time to get to that step with seeming little progress"(3). In other words when the learner "got it" there is a sudden quality jump in his / her skill in mastering the process.
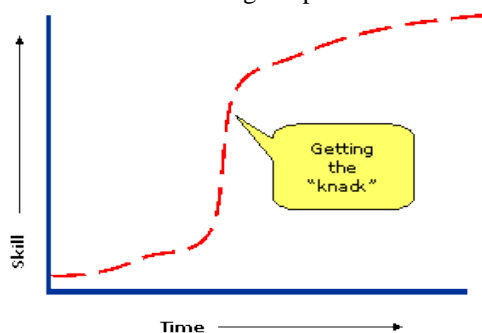
Fig. 3 Getting the "Knack" in mastering a process(8)

A typical example of the "knack" in engineering teaching is the tensile test to destruction of mild steel sample. In theory the student learns about the shape of the stress-strain diagram and the meaning of different important points of the diagram, but only when the student sees the stress-strain diagram generated by the testing machine, the apparition of the "neck" on the tensile sample and finally the breaking of the sample he/she "gets it". Also included in the simple process of the tensile test are the "responding" and "valuing" levels from the affective domain classification.

2.2   Affective (feeling / heart) Domain

Skills in the affective domain describe the way people react emotionally. This domain received less attention as it is concerned with perception of value issues, that may be subjective differing from one individual to other and ranges from simply receiving the information up to being able to recognize a values concept (12) (Kratwohl et all 1964). Figure 4 shows the levels of pre-requisite in the Affective Domain.
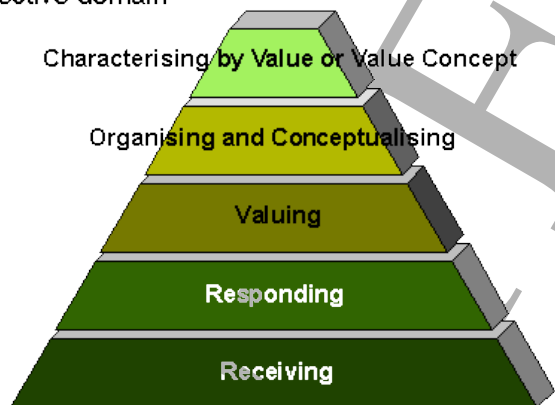
Characterizing by value or value concept: The student personal values system exerts influence on his/her behavior so that it becomes a characteristic.

Organizing and conceptualizing: the student can attach value to the information, comparing and relating to what has been learned.

Valuing: The student attaches values to the knowledge acquired.

Responding: The student participate actively in the learning process

Receiving: The student pays passive attention

Fig. 4 Affective domain pre-requisite levels(13)

2.3   Psychomotor (doing / hands). Domain

Skills in the psychomotor domain refer to one's ability to physically manipulate a tool or an instrument. Although Bloom was the first to list this domain it was completed only later by Dave in 1975(13) who proposes a simple version with 5 levels of pre-requisites, as shown in figure 5. There are several other classifications like the one proposed by Simpson in 1972 with 7 levels of pre-requisite but Dave's version draws attention to the fundamental role of imitation in skill acquisition. Although there is a tendency to consider "imitation" as a lowest form of learning several educators demonstrated that "imitation" is a very efficient form of learning. Once the educator practically demonstrates something, the quality of learning is determined by the ability of the learner to reproduce the action which has been demonstrated. The simple process of imitation is an everyday occurrence in engineering teaching, especially for laboratory work. On the other hand imitation is considered to be more about "process" than "content". Imitation is a component of learning in social situations and modelling oneself on someone ("role-model") is a more generalised and sophisticated variation on imitation. Generally young people follow role-models and there are countless famous examples of charismatic leaders modelling a

School of disciples (see "Imitation of Christ" by Thomas à Kempis).
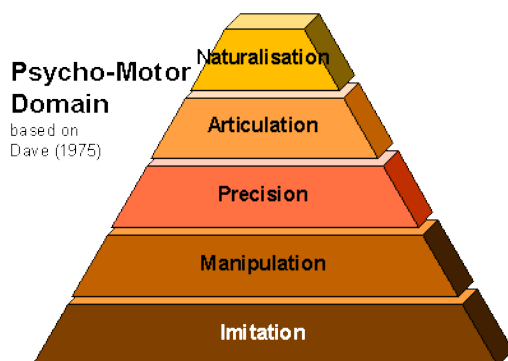
Naturalization: The student masters one or more skills with ease and making the skill automatic with limited physical or mental exertion.

Articulation: The student can modify a skill or produces an object to fit new situations; combinee more than one skill in sequence.

Precision: The students through independent work, performs a skill or produce the product with accuracy, proportion, and exactness; at an expert level.

Manipulation: The student produces an object in a recognizable fashion by following general instructions rather than observation.

Imitation: The student attempt to repeat a set of actions, or see a finished product and attempt to replicate it.

Fig. 5 Psycho-Motor Domain pre-requisite levels[13]

3   Kaizen Principles[14][15][16]

Kaizen (Continuous Improvement) is a strategy where human beings work together proactively to achieve regular, incremental improvements to a specific activity. Kaizen has a dual nature of action plan and work philosophy.

- As an action plan, Kaizen is focused on improving specific areas of a particular activity with the emphasis on involving everybody within the particular organisation. The consistent application of Kaizen as an action plan develops Kaizen as a philosophy.
- As a philosophy, Kaizen changes the employee's way of thinking about their work and creates long-term value by developing the culture for true continuous improvement.

The Kaizen strategy of continuous improvement can be adequately applied to the process of technical education.

- The action plan of any tertiary education institution is the continuous improvement of study material and teaching methodology in order to improve the student throughput – final product, thus eliminating the "waste" – students who repeat subjects.

- The Kaizen philosophy develops a culture of true quality education where there is a symbiotic relation student – lecturer – university management, concurring toward the final goal of quality engineering graduates.

4   Comparison between Kaizen cycles related to lean production and lean education

The basic idea of lean production is to eliminate any type of waste from the production process. This type of cycle is frequently referred to as PDCA[14] (Plan, Do, Check, and Act). PDCA brings a scientific approach to making improvements. Table 1 shows the comparison between lean production and lean education processes

Table 1 Comparison between "Lean Production" and "Lean Teaching"

LEAN PRODUCTION[15]	LEAN TEACHING
Plan (develop a hypothesis) i.e. set goals and provide the necessary background, review the current state and develop a plan for improvements.	Plan (develop a strategy) i.e. set goals and provide the necessary background, review the current state and develop a plan for improvements.
Do (run experiment)	Do (set assessments considering the new strategy)
Check (evaluate results) i.e. Review and fix what doesn't work.	Check (evaluate the assessment results) i.e. Review and fix what doesn't work.
Act (refine your experiment; then start a new cycle) i.e. Implement improvements, report results and determine any follow-up items.	Act (refine your strategy, then start a new cycle) i.e. Implement improvements, report results and determine any follow-up items.

In the production environment there are "Seven Deadly Wastes" namely: Overproduction, Waiting, Transport, Motion, Over processing, Inventory and Defects. Table 2 shows the meaning of the "Seven Deadly Wastes" in the production context compared to the meaning in teaching context.

Table 2 The "Seven Deadly Wastes" meaning in Production and Teaching contexts

LEAN PRODUCTION[1]	LEAN TEACHING
Overproduction: Making something before it is truly needed.	Teaching chapters in the preparatory modules that are not needed at the current instructional level
Waiting: Time when work-in-process is waiting for the next step in production	Poor design of the laboratory work timetable i.e. the students are wasting time waiting to start their laboratory work
Transport: Unnecessary movement of raw materials, work-in-process or finished goods	Inefficient transport of students between different campuses, to attend laboratories and workshops, available only on certain campuses of the same university.
Motion: Unnecessary movement of people (movement that does not add value)	Poor class rooms distribution, resulting in the students needing to move from one class room to other, not situated in close proximity. The students are late for class due to distance that they have to cover in a short 5 minutes break.
Over processing: More processing than is needed to produce what the customer requires. This is often one of the more difficult wastes to detect and eliminate	Over teaching i.e. bombarding the students with not needed information resulting in intellectual fatigue and confusion. There is a tendency among some of the lecturers to "show of" with the amount of knowledge that they have in a certain field.
Inventory: Product (raw materials, work-in-process, or finished goods) quantities that go beyond supporting the immediate need.	Teaching chapters that contain information not needed for the progression in knowledge assimilation for the particular module.
Defects: Production that is scrap or requires rework.	Student failure of assessments

5 Comparison between Bloom / Anderson and Krathwohl "wheels" and the traditional TPM model

The traditional approach to TPM as shown in figure 6 was developed in the 1960-s in Japan and consists of 5S as a foundation and eight supporting activities (sometimes referred to as pillars).
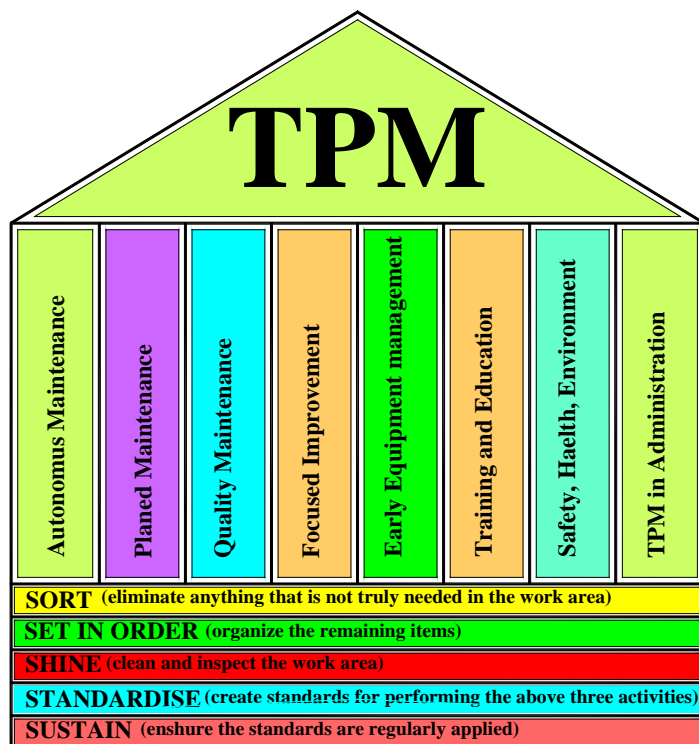
Fig. 6 Traditional TPM "house" [14]

The traditional approach to lean manufacturing is applicable to the teaching and learning environment, as well as to the teaching process. The goal of 5S is to create a work environment that is clean and well-organized and it consists of five elements:

Table 3 5S foundation Production versus Teaching environment

TPM 5S foundation as applied to industrial production	TPM 5S foundation as applied to teaching environment
Sort (eliminate anything that is not truly needed in the work area) – Safe working space;	Make sure that there is enough teaching space available (eliminate overcrowded class room where the students are standing of sitting on the stairs)
Set in Order (organize the remaining items) - Easy to find parts and tools;	Make sure that when teaching "talk and chalk" or using mixed media for teaching, all students can see and hear the lecturer
Shine (clean and inspect the work area) - Spot emerging fluid leaks, material spills, metal shavings from unexpected wear, hairline cracks in mechanisms, etc.	The teaching environment should be clean, free of noise pollution, adequate environmental temperature: i.e. properly heated in winter and cooled in summer; the mixed media is in proper working condition, there is adequate internet access for the student tablets.
Standardize (create standards for performing the above three activities);	To properly perform the above three activities the campus assets management must be actively involved via venues usage standards.
Sustain (ensure the standards are regularly applied);	There is need for regular inspections of the teaching space to make sure that everything works.

The eight pillars of TPM as described in table 4 are mostly focused on proactive and preventative techniques for improving equipment reliability in industry and improving knowledge transfer in teaching environment.

Table 4 the TPM 8 pillars of Production versus Teaching environment

Pillar name	Meaning in the production environment	Meaning in teaching environment
Autonomous Maintenance	Places responsibility for routine maintenance, such as cleaning, lubricating, and inspection, in the hands of operators.	Introduce dedicated class rooms for groups of students and involve the students in the proper maintenance of their class room. Give the students "ownership"
Planned Maintenance	Schedules maintenance tasks based on predicted and/or measured failure rates.	Make sure that the maintenance of class rooms is done over the recess periods and are finished before the classes are starting. Ensure early detection of the "at risk" students and take steps for correction.
Quality Maintenance	Detection of design errors and preventing them from entering the production process. Apply root cause analysis to eliminate recurring sources of quality defects.	Detect the root cause of recurring failure sources of class rooms' infrastructure and try to eliminate them. Also through student questionaries' apply the students' suggestions for teaching process improvement and relevance of the module syllabus.
Focused Improvement	Have small groups of employees work together proactively to achieve regular, incremental improvements in equipment operation.	Involve as many students as possible in the process of continuous improvement of the teaching and learning process. Make sure that each learning level of students, have a lecturer in charge to advise and help solve their problems (study level coordinator).
Early Equipment Management	Directs practical knowledge and understanding of manufacturing equipment towards improving the design of new equipment.	Make sure that the new laboratory equipment is run by properly trained laboratory technicians and there are proper laboratory study guides available for the students. Request the students to prepare for the laboratory session via a short assignment based on the laboratory study guide and theory relevant to the case.

Training and Education	Fill in knowledge gaps necessary to achieve TPM goals. Applies to operators, maintenance personnel and managers.	Fill in knowledge gaps necessary to achieve TPM goals. Applies to students, maintenance personnel and academic staff.
Safety, Health, Environment	Maintain a safe and healthy working environment.	Maintain a safe and healthy working environment
TPM in Administration	Apply TPM techniques to administrative functions.	Apply TPM techniques to the module administration by lecturers. Eliminate irrelevant admin processes taking up the lecturer's time. Also apply self-evaluation techniques for the students.

Figures 7 shows the graphic representation of Bloom and Anderson – Krathwohl wheels based on the cognitive domain classification.

In Bloom's wheel at the centre there are the six pre-requisite layers of the cognitive domain. Each of these layers has a corresponding set of appropriate verbs describing the activity related to pre-requisite layer and the student "product" showing the knowledge acquired by the student through those activities.

In the Anderson and Krathwohl wheel there are only five pre-requisite layers of the cognitive domain as the remembering and understanding are merged, followed by two layers of verbs reflecting student activities and ending with a final layer of how the students understand to apply their knowledge for further professional and affective development. The final layer has six areas which are encompassing all activities related to learning without being restricted to the prerequisite layers of cognitive domain.

Bloom's wheel   Anderson – Krathwohl wheel
Fig. 7 Bloom's and Anderson – Krathwohl wheels(1)(2)

TPM / BLOOM'S WHEEL

Autonomous Maintenance	Planned Maintenance	Quality Maintenance	Focused Improvement	Early Equipment Management	Training and Education	Safety, Health, Environment	TPM in Administration

KNOWLEDGE (Events, Recordings, Dictionary, Definitions, Text books, Magasine articles)
SORT (eliminate any information which is not truly needed for the teaching of the module)

COMPRHENSION (Analogy, Graph, Summary, Diagrams, Explain, Describe)
SET IN ORDER (organise in a logical structure the aquired knowledge)

APPLICATION (Project, Design sketches, Build prototipes, Solve exercises)
SHINE (Engineering drawings, projects , graphs should be neat and clean easy to read organised in logical sequence)

ANALYSYS (Survey, Syllogism, Model, Conclusion, Argument broken down, Questionaires, Report)
STANDARDISE (create rules with which the students must conform when analysing thechnical problems)

SYNTESIS (Experiment, Report, Model, Set of rules, principles or standads, Invention)

EVALUATION (Conclusion, Valuing, Self evaluation, Group discusions, Recommendations)
SUSTAIN (ensure that all standards, rules and regulations are systematically and consistently applied)

Fig. 8 TPM "house" based on Bloom's wheel[1][14]

More congruency can be achieved if the TPM "House" is based on Anderson and Krathwohl wheel as shown in figure 9. The five pre-requisite layers are the equivalent of "5S" TPM foundations

TPM/ANDERSON & KRATHWOHL WHEEL

Autonomous Maintenance	Planned Maintenance	Quality Maintenance	Focused Improvement	Early Equipment Management	Training and Education	Safety, Health, Environment	TPM in Administration

REMEMBER / UNDERSTAND (Define, Observe, Explain, Information sheet, Creative thinkers)
SORT (eliminate any information which is not truly needed for the teaching of the module)

APPLY (Draw, Construct, Ilustrate, Model, Diagram, Reflective learners)
SET IN ORDER (organise and apply in a logical structure the aquired knowledge)

ANALYSE (Compare, Diferenciate, Deduce, Clasify, Report, Diagram, Team Worker / Self Managers)
STANDARDISE (create rules with which the students must conform when analysing thechnical problems)

EVALUATE (Conclude, Judge, Justify, Defend, Recaomendations, Self Mamagers / Effective Participators)
SUSTAIN (ensure that all standards, rules and regulations are systematically   and consistently applied)

CREATE (Produce hypotesis, Design, Change, Find an unusual way, Effective Participators / Independent Enquierers)
SHINE (Engineering drawings, projects , graphs should be neat and clean easy to read organised in logical sequence)

Fig. 10 TPM "house" based on Anderson and Krathwohl wheel[2][14]

Total Production Maintenance (TPM) is an extremely successful industrial production process based on Kaizen principles and philosophy. Important additional tools for TPM successful implementation[14] is the Overall Equipment Effectiveness (OEE)[17][18] and is a measure that identifies the percentage of planned production time that is truly productive.

- An OEE score of 100% is perfect production.
- An OEE score of 85% is world class for discrete manufacturers.
- An OEE score of 60% is fairly typical for discrete manufacturers.
- An OEE score of 40% is not uncommon for manufacturers without TPM and/or lean programs.

OEE consists of three underlying components, each of which takes into account a different type of productivity loss. Table 5 shows the parallel between the production and teaching losses due to OEE, as well as the corrective measures that can be taken to prevent the losses.

Considering the OEE scores above, the parallel with teaching is easy to see. In South Africa the majority of engineering teaching tertiary institutions would have a maximum OEE score of about 60 % with 40 % being quite common. That shows how inefficient our tertiary education system is, in other words is "bad business". In the end the final product of universities are our future engineers which graduate at an excruciating slow rate of about 2 % up to 12 % per year. This very low graduation rate reflects badly on the country's ability to develop and create new jobs. The steps to be taken for improvement are comparable between industry and teaching. It is extremely

important to measure OEE in order to expose and quantify productivity losses, and in order to measure and track improvements resulting from TPM initiatives.

Table 5 the OEE type of production / teaching losses

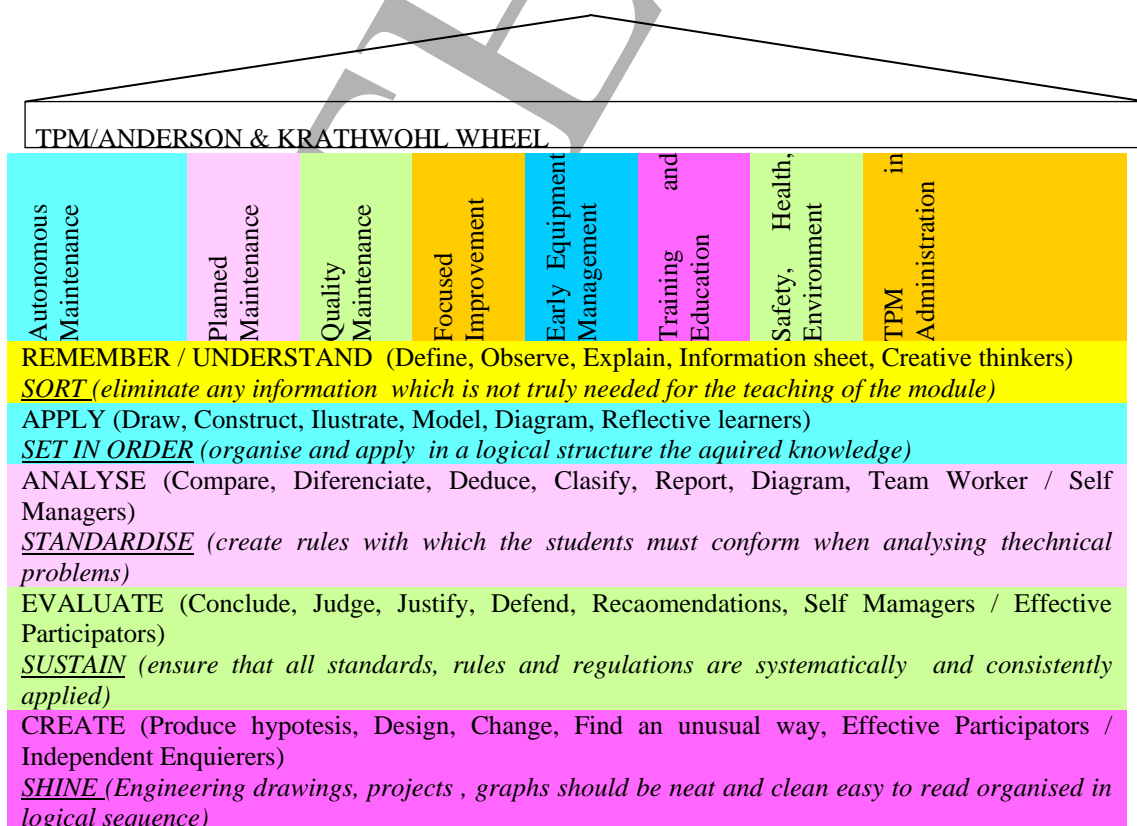| Component	TPM Goal	Type of Production Loss	Type of Teaching Loss	Corrective measures to reduce teaching loss
Availability	No Breakdowns	Availability takes into account Down Time Loss, which includes all events that stop planned production for an appreciable length of time (typically several minutes or longer).	Down Time Loss includes events that stop planned teaching for an appreciable length of time like student unrest, staff strikes, Lecture halls not ready for teaching due to late repairs etc.	Develop a culture of communication between students, lecturers and management. Solve the outstanding issues before the teaching stars. Engage with the student and lecturer's organizations before the trouble stats.
Performance	No Small Stops or Slow Running	Performance takes into account Speed Loss, which includes all factors that cause production to operate at less than the maximum possible speed when running.	Speed Loss includes all factors that causes inefficient / go slow teaching due to unavailability of text books, study material, laboratory equipment malfunctioning etc.	Prepare for the teaching year start making sure that the study material is available and all laboratory equipment is up and running.
Quality	No Defects	Quality takes into account Quality Loss, which factors out manufactured pieces that do not meet quality standards, including pieces that require rework.	Quality Loss includes all factors influencing the student's success rate during assessments.	Ask the students opinion regarding the quality of teaching and relevance of the module. Take improvement decisions' considering the student's input. At risk students must be identified as soon as possible and monitored.

6 The application of the Cognitive, Affective and Psycho-motor domains taxonomy in industrial production

Although it has many similarities with the cognitive and psycho-motor domains taxonomies, depending on the way in which TPM is applied, it can successfully blend with the Affective domain taxonomy as well (see figure 4). Already the division of the domains in pre-requisite layers prescribes the qualitative and quantitative teaching differentiations between qualifications. In industry will differentiate the responsibilities and remuneration scales.

One of the South African leading manufacturing companies has a very original approach to TPM. The company decided to train "off the street" machine operators (without a formal technical training) using visual panels installed next to the machine showing the operator through drawings the continuous maintenance process. Usually a machine operator is supposed to have a minimum of engineering manufacturing process knowledge. However when the "off the street" work force is involved, there are no existing skills and everything must start from zero. As the process of TPM is based on preventative maintenance [19][20][21] in order to succeed TPM must be a group effort where the entire organization works together to maintain and improve the equipment. By performing routine maintenance items, the employee assumes an ownership role leading to an on-going production improvement. Next to each of the designated machines a panel was installed, as shown in figure 10, listing the main possible break-downs and the corrective steps to be taken. Figure 11 show a detail of the maintenance panel. Using graphic symbol i.e. ear = listen to the noise, eye = watch the temperature, oil level, clock = watch the duration of the operation, spanner = call the maintenance team etc. The case study company successfully implemented a "custom made" TPM programme, resulting in a significant increase of productivity and self-esteem of the staff members. The key words promoted by
the company are:

Aptitude	= Pride	Commitment	= Accountability
Knowledge	= Job satisfaction	Understanding	= Empowerment
Intelligence	= Self esteem	Bonding	= Ownership
Respect	= Responsibility		

The case study company managed in a short time to train the machine operators from the "Receiving" level of the Affective domain up to the "Organizing and Conceptualizing" and "Characterizing by Value or Value Concept"

Once the basics of TPM implementation were done i.e. designating the operators and the machines, study and examination material was developed to accommodate low qualified operating staff. The change in attitude toward the work place was absolutely dramatic.

Figures 11, 12 and 13 show examples of TPM implementation via visual panels[19].

Fig. 11 Machine 327 – TPM implementation via visual panels[19]

The most important achievement of the TPM implementation in the case study company was the pride and commitment that the staff at grass roots level took in their work.
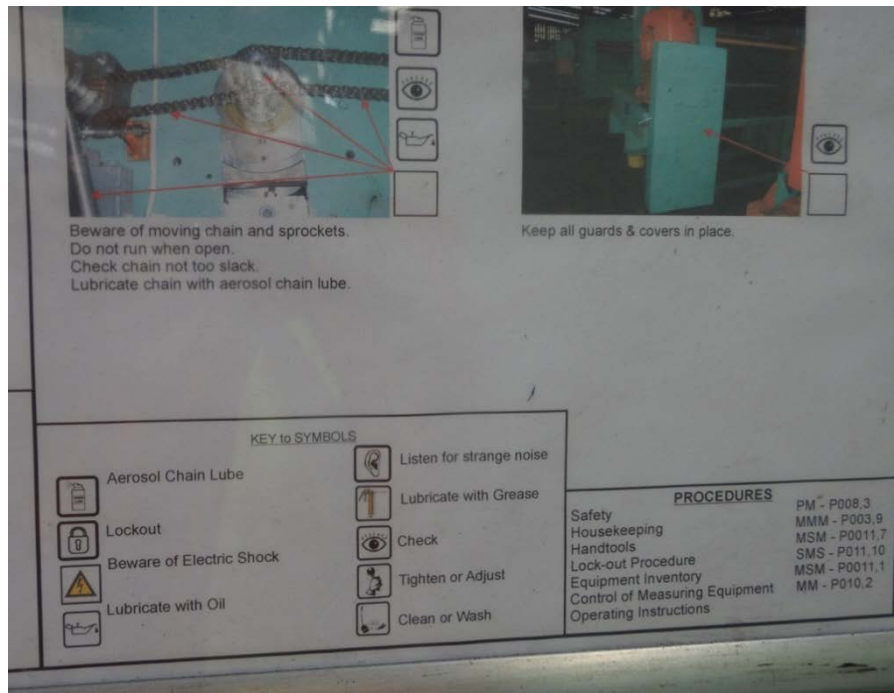
Fig. 12 Filter line 1 – TPM implementation via visual panels (detail)[19]

Fig. 13 Filter line 1 – Machine operator completing the daily checks to be done[19]

7 Achieving sustainable Lean Teaching improvement in tertiary education

One of the greatest challenges in any company be it production or education is how to achieve sustainable improvement. This includes both a) achieving short-term success and b) maintaining that success over the long-term. There are four techniques to be used for achieving sustainable improvement[19]:

   ▪ Engaging students, teaching staff and management;

- Engaging all stake holders is important for both short-term and long-term success of initiatives. A   powerful technique for engaging everybody is creating a shared vision of the future "improved" state of the Department/Faculty and clearly outlining how it will benefit everybody. This will create a strong, broad-ranging motivation to succeed. Another powerful technique is recognizing and rewarding desired behaviour. In the context of teaching, this may include providing a rotating trophies for the best students or/and lecturers.

- ▪ Succeeding Early;

- Succeeding early helps to ensure long-term success by building momentum behind the initiative. By way of contrast, if an initiative is perceived as having been tried and failed, it will be much harder to successfully implement that initiative in the future(2).

- ▪ Providing Active Leadership;

- Providing active leadership is one of the primary responsibilities of senior management (up to and including the Deputy Vice-Chancellor Academic). It means regularly demonstrating the importance of lean teaching activities through words and actions. Active leadership combats the natural tendency of students and lecturers to drift back into old patterns of behaviour and old ways of working. It continually feeds new energy into the initiative, which over time is absorbed by all involved, in the form of new engrained behaviours.

- ▪ Evolving the Initiative;

- Evolving the initiative applies continuous improvement techniques to ensure that it does not become stale and that the stake holders do not become complacent. The goal is to keep the initiative fresh and interesting. Evolving the initiative also helps to ensure that it thrives over the long-term by constantly adapting it to a changing environment.

8 Conclusions

- For a successful Lean Teaching all stakeholders must be involved;
- Review all modules to avoid repetition and overlapping of information;
- Reduce the module content to essential information needed for the student to understand and be able to use the knowledge provided. Any additional information non-essential to the module such as famous design failures, module history etc., which the lecturer would like to give, should be obtained by the student via self-study.
- In the study material the lecturer must introduce essential information that will reduce the student study time; i.e. introduce the Greek alphabet used for symbols, basic integrations and derivations formulae, temperature scales, units conversion tables etc.

- Generally the students resent being "spoon fed" and appreciate classes where they are required to contribute, not just passive receivers.
- Correlate the programme offered with other tertiary engineering teaching institutions to ensure the mobility of the students;
- Emphasis must be put on ensuring a pleasant and free of technical problems learning environment;
- Use to maximum the modern technologies teaching/learning aids;
- The student / lecturer bond must be strong working toward throughput improvement;
- Work toward a radical change in work philosophy. Students, lecturers and management have to feel as integral parts of a whole.
- Improve the access of students to lecturers and management.

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THE ART OF THE SCALES IN THE METHODOLOGY OF PIANO EDUCATION

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The scales are the indispensable methodological approach in piano pedagogy to build pianists on solid professional basis, as one of the main tools in piano teaching of beginners and advanced, as simplified pattern, unlike the complicated structure of other type instructive materials, as etudes. The scales are tested and useful means in the practice of teachers and concert performers. Scales develop skills, height-timbre listening, prevent the staging weaknesses and problems. Our objectives are to change the stereotype of monotony in their routine handling: from synonymous of annoying exercises to become pleasant activity as an integral part of the music art.

Keywords: Scales, piano, skills

THE ASSESMENT OF PRE-SERVICE SECONDARY SCHOOL MATHEMATICS TEACHERS' MATHEMATICAL COMPETENCE ON PISA

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ABSTRACT: The study investigates the mathematical competence of pre-service secondary school mathematics teachers by PISA. The participants of this research consisted of 30 pre-service secondary school mathematics teachers at a university in South-East Turkey. The research is a case study. In this study 2012 PISA Mathematic questions were used as a means of data collection. The data were analyzed according to the rubric of PISA mathematic questions. In the light of the data obtained, competence of pre-service secondary school mathematics teachers were compared with the means of OECD.The findings show that mathematical competence of pre-service secondary school mathematics teachers were found to be below the OECD average.

Keywords: pısa,mathematical competence,pre-service secondary school mathematics teachers, oecd

THE ASSOCIATIONS AMONG ECONOMIC HARDSHİP AND MARİTAL RELATIONS BASED ON THE FAMILY STRESS MODEL

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Increase in number of countries striving with economic crises and unemployment highlights the importance of models that explain how financial problems influence the lives of married couples. According to Family Stress Model, developed by Conger and his colleagues (1990), economic hardships lead to deterioration in marital relations and increase risk for marital instability indirectly through emotional distress (Conger, Conger and Martin, 2010). By taking into consideration the negative economic conditions in Turkey, this study primarily aims to explore the association between economic pressure, financial concerns, perceived emotional distress and marital relations (marital satisfaction, negotiation, psychological aggression, physical assault-injury) within the frame of Family Stress Model. 431 married women living in Ankara aged between 28-61 years were included in this study. Our findings have shown that perceived emotional distress mediated the relationship between objectively measured economic pressure and three dimensions of marital relations (satisfaction, psychological aggression and physical assault-injury). Similarly findings revealed that perceived emotional distress mediated the relationship between objectively measured economic pressure and three dimensions of marital relations (satisfaction, psychological aggression and physical assault-injury). The findings of the current study provide a significant support for the FSM and show its applicability to Turkish culture.

Keywords: Economic hardship, marital relations, emotional distress

THE ATTITUDES OF (DISTANCE AND FORMAL EDUCATION) STUDENTS TOWARD ENGLISH LANGUAGE: A SAMPLE FROM BAYBURT UNIVERSITY AND BÜLENT ECEVIT UNIVERSITY

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ABSTRACT

Distance language education has gained importance in our country especially in recent years. Moreover, most of the universities uses this technology, and the students are decided to get English lessons with distance education, at elementary level such as Bülent Ecevit University, Turkey. However, the main question is whether it is more useful to use distance education option. The aim of this study is to determine whether there is any significant difference on the attitudes toward English language of the undergraduate students from the aspects as their gender, kinds of high schools, and the reasons why they learn English, and the most important one, education type. This comparison has placed in the primary school teaching department which is a problematic department on learning English. From this perspective, this study adds a new dimension on literature. Survey method was used in this study. The participants are composed of 80 undergraduate students from the department of Primary School Teaching, at the Faculty of Education of two universities; formal education from Bayburt University and distance education from Bülent Ecevit University. The data were collected from English attitude questionnaires and were analyzed via SPSS statistical program. According to the results, the attitudes toward English have significant differences toward gender and education type. However, the attitudes do not have significant differences toward purpose and the type of high school.

Keywords: attitude, English language, distance education, formal education

INTRODUCTION

Learning language becomes a grifted concept including dependent or independent variables. In Turkey, the most demanded foreign language is English. Thus, it is getting more and more essential to research about it. English language has been studied by linguists pivoting around Turkish and English languages, in Turkey. However, there are still lots of problems waiting to be searched. More deeply, the attitude studies, toward the languages, have gained ground as being one of those problems in learning language. Some of the students have positive attitudes for the language on contrary with the others. The differences of attitude depend on different variables. Toward English, the attitudes developed by the students, vary according to some factors such as gender, distance education, the reason why they learn English etc. Those factors were researched in this study. Even under the same conditions, the students may develop different attitudes. Ergin (1980) states that the lesson may be in relation with the student's past or a problem. The experiences become important for the attitudes. In literature, Cook (1991) attracted notice that individual differences have important role in learning second language learning.

As English is the compulsory lesson in the first grades of all universities in Turkey, it is necessary to examine the attitudes as the individual difference of students. Moreover, from the other side of the coin, and with the development of the technology, some universities comply with the technology and present the English lessons as distance education programs, which means that the students can attain the lessons online such as Bulent Ecevit University, in Turkey.

Distance language education has been introduced via radio program in 1970s, and it has gained importance in our country especially in recent years, since people want to get education not only at schools but also at their home, for instance. On the other hand, some of the applications gain appreciation with the technologic improvements, and nowadays, everybody can try to learn a new language even without interacting other people. Most of the universities uses this technology, and the students are decided to get English lessons with distance education, at elementary level such as Bulent Ecevit University, Turkey.

In Turkish, there are few studies on this ground (Aydoslu, 2005; Çakıcı, 2007; Genç & Bilgin-Aksu, 2004; Gömleksiz, 2003; İnal, Evin & Saracaloğlu, 2005; Kiziltepe, 2000; Saraçoğlu, 2005). Those studies have searched for the different variable effects, but this study examined the attitudes toward the English language whether there is any significant difference among some variables such as gender, education type, the purpose of learning English, and the high school. This comparison has placed in the primary school teaching department which is a problematic department on learning English. From this perspective, this study adds a new dimension on literature. The aim of this study is to determine whether there is any significant difference on the attitudes toward English language of the undergraduate students from the aspects as their gender, kinds of high schools,

and the reasons why they learn English, and the most important one, education type. Therefore, it can be possible to state whether there is any significant difference among the variables depending on attitudes of students, to recommend in line with this situation. Furthermore, the data will shed light on teaching English under better conditions and to increase success rate.

METHODOLOGY

Research method
Survey method was used in this study.

Sample
The samples are composed of 80 undergraduate students from the department of Primary School Teaching, at the Faculty of Education of two universities; formal education from Bayburt University and distance education from Bülent Ecevit University. On the other hand 40 male and 40 female have replaced in this study as participants.

Data collection
The data were collected from English attitude questionnaires. The data collection tool was developed by Aydoslu (2005).

Data analysis
The data were analyzed via SPSS statistical program.

FINDINGS

The results are as follows:

The Analyzes of Gender to High School

Table 1. The descriptive analyzes of Bayburt University (formal education) comparing gender to high school.

gender * highschool Crosstabulation

			Highschool				
			common high school	anatolian high school	anatolian teacher training high school	others	Total
gender	Female	Count	16	3	1	1	20
		% within gender	76,2%	14,3%	4,8%	4,7%	100,0%
	Male	Count	12	5	2	0	20
		% within gender	63,2%	26,3%	10,5%	,0%	100,0%
Total		Count	28	8	3	1	40
		% within gender	70,0%	20,0%	7,5%	2,5%	100,0%

From Table 1, we understand that most of the students graduated from the general high school, and a few of them from Anatolian teacher high school. On the other hand, the number of male students graduated from these two high schools are more than females.

Table 2. The descriptive analyzes of Bülent Ecevit University (distance education) comparing gender to high school.

gender * highschool Crosstabulation

			common high school	private high school	anatolian high school	anatolian teacher training high school	vocational high school	others	Total
						Highschool			
gender	female	Count	8	2	4	2	4	1	19
		% within gender	36,8%	10,5%	21,1%	7,2%	21,1%	3,3%	100,0%
	male	Count	7	1	3	1	7	0	21
		% within gender	38,1%	6,8%	14,5%	5,3%	35,3%	,0%	100,0%
Total		Count	15	3	7	3	11	1	40
		% within gender	37,5%	7,5%	17,5%	7,5%	27,5%	2,5%	100,0%

From Table 2, we understand that most of the students graduated from the general high school and very few students graduated from private school and Anatolian teacher high school. On the other hand, the number of female students graduated from these school are more than females.

The Analyzes of Gender to Purpose

Table 3. The descriptive analyzes of Bayburt University (formal education) comparing gender to purpose.

gender * purpose Crosstabulation

			passing	contact with foreigners	find a good job	doing a carreer	undecided	others	Total
					Purpose				
gender	female	Count	13	4	1	1	0	2	20
		% within gender	61,9%	19,0%	4,8%	4,8%	,0%	9,5%	100,0%
	male	Count	7	2	0	2	2	6	20
		% within gender	36,8%	10,5%	,0%	10,5%	10,6	31,6%	100,0%
Total		Count	20	6	1	3	2	8	40
		% within gender	50,0%	15,0%	2,5%	7,5%	5,0%	20,0%	100,0%

We understand from the Table 3 that most of the students learn English language to pass the lesson. Only one of them choose the "to have a better job" option.

Table 4. The descriptive analyzes of Bülent Ecevit University (distance education) comparing to gender to purpose.

gender * purpose Crosstabulation

		Purpose							
		passing	contact with foreigners	find a good job	going abroad	doing a carreer	undecided	others	Total
genderfemale	Count	9	1	2	1	3	1	2	19
	% within gender	47,4%	5,3%	10,5%	5,3%	15,8%	5,3%	10,5%	100,0%
Male	Count	7	0	4	1	8	0	1	21
	% within gender	33,3%	,0%	19,0%	4,8%	38,1%	,0%	4,8%	100,0%
Total	Count	16	1	6	2	11	1	3	40
	% within gender	40,0%	2,5%	15,0%	5,0%	27,5%	2,5%	7,5%	100,0%

Again we understand from the Table 4 that most of the students learn English language to pass the lesson.

The Analyzes of Education Type to Attitude

Table 5. T-Test results of education type to attitude scores

Group Statistics

Education Type	N	Mean	S	Df	t	p
face to face education	40	95,65	19,96	78	2,67	,009
distance education	40	107,07	18,15			

As we understand from the Table 5, the attitude toward the English language, there is a significant difference in education type [t $_{(78)}$ = 2,67, p < 0,01].The students taking distance education have more positive attitudes than the students taking formal education.

The Analyzes of Gender to Attitude

Table 6. T-Test results of gender to attitude scores

Group Statistics

Gender	N	Mean	S	Df	T	P
Female	40	109,40	15,96760	78	3,95	,000
Male	40	93,32	20,18807			

As we understand from the Table 6, the attitude toward the English language, there is a significant difference in gender [t $_{(78)}$ = 3,95, p < 0,01]. The female students have more positive attitudes than the male students.

The Analyzes of Attitude to High Schools

Table 7. The ANOVA results of attitude scores to high schools.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2562,505	5	512,501	1,333	,260
Within Groups	28443,982	74	384,378		
Total	31006,487	79			

According to results of Table 7, there is not a significant difference between attitude and the high schools [$F_{(5-74)}$= 1,33, p > 0,01].

The Analyzes of Attitude to Purpose

Table 8. The ANOVA results of attitude scores to purpose

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3475,384	6	579,231	1,536	,179
Within Groups	27531,103	73	377,138		
Total	31006,488	79			

According to Table 8, there is not significant difference between the scores of attitude and the purpose . [$F_{(6-73)}$= 1,53, p > 0,01].

DISCUSSION AND RESULT

English language is the language of universe and has the priority in communication. It cannot be ignored that English is essential both in technology and education. In Turkey, most of the students are taken English as the foreign language. Naturally, the attitudes become the most important factor in learning English. There are lots of studies examining the attitudes toward English language. The positive attitudes have positive effects on learning, on the other hand, the negative attitudes have negative effects, or cause delaying the learning. To develop a negative or positive attitudes toward a language varies from different variables. According to the results, the attitudes toward English have significant differences toward gender and education type. Selçuk (1997) and Kobayashi (2002) stated that there is significant differences with gender in their studies, on the other hand Çakıcı (2001) found different results. However, the attitudes do not have significant differences toward purpose. In this study the type of high school does not have any effect on the attitude in learning English but Çakıcı (2001) found that high school is important factor for the first grade students.

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THE ATTITUDES OF SECONDARY SCHOOL STUDENTS TOWARDS SCREEN READING

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In today's world, young or old every person communicates each other and obtains information by reading e-texts on electronic devices such as computers, mobile phones and TVs. Considering this rationale, this study aims at identifying the attitudes of secondary/high school students towards screen reading and investigating the results according to various variables.

The sample of the study was created with random sampling method from secondary/high school students in Giresun city centre (N=500).

The students' personal information such as gender, age, family information and reading habits will be gathered through *Personal Information Form* and the students' attitudes towards screen reading will be determined through *Attitude Scale for Screen Reading*.The data will be analysed using SPSS. In the light of findings, there will be recommendations for teaching reading and communication process.

Keywords: Reading, Screen reading, electronic reading, e-book, obtaining information, communication

THE CHOICE OF EDUCATIONAL AND PROFESSIONAL PATH OF BASIC SCHOOL PUPILS AS A COMPONENT OF THE REALISATION OF THE TECHNICAL EDUCATION

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ABSTRACT
The article deals with the issue of career choice from the point of view of a pupil of the second stage of basic school (ISCED2) and the instruction of a general technical subject. The educational area *Člověk a svět práce* (i.e. *Man and the world of employment*) contributes to the issue of the pupils' choice of further educational and professional path mainly by the fact that it allows pupils to cognize the selected professions and occupations – they indirectly develop the set of soft skills (including the self-efficacy and self-assessment). These can be a key to a choice of further educational path which is in accordance with the real possibilities and abilities of the pupils.

Keywords: The choice of educational, technical education

INTRODUCTION
The issue of career choice is for a pupil of the second stage of basic school (ISCED2) a quite difficult task. The researches evidence that the dominant role in this area has the family of a pupil. The role od the school is, however, not secondary. Its role in the process of pupil's choice of further educational path may become important in case of undecided pupils, in case of talented pupils (in talented in more than one area), or in case when the family background of a pupil is not completely functional. The school should provide the pupil information about their talent for the individual areas of education as well as about their possibilities of further education. In the submitted treatise, we focus on the role of the general technical subject in relation to the issue of pupils' career choice.

THEORETICAL OUTLETS OF CAREER DECISION-MAKING
Career-related theories emphasizing the pupils' decision-making connected to further educational path and career are, at the level of basic schools, relatively new. As an example, namely theories by Osipow (1968), Osipow (1990), Weinrach (1979), Corsini and Ozaki (1984), and of the more current N. Gikopoulou (2012), could be named, among others.

The Czech and Slovak authors who deal with the mentioned topic are i.a. Koščo et al. (1987), Hřebíček (2001), Vendel (2008), Hlaďo (2012), Hlaďo (2013), Hlaďo and Drahoňovská (2012), Balcar et al. (2011), Friedmann (2011), Friedmann (2012), Pugnerová (2006), Trhlíková (2012), Walterová (2009) and others.

For the needs of the present treatise, we based on the works of Hlaďo (see above) who deals with career decisions in terms of family influence (see above), are used. In accordance with the work of P. Hlaďo (2012), terms used within this text are understood as follows:

- **Career decision-making** is understood as a process of finding viable career alternatives, while these alternatives are being compared with one another and one of them is as a result of the process chosen by the person who undertakes such career selecting (Hlaďo, 2012, p. 16).
- **Career choice** is understood as *the process which includes decision-making concerning the study or vocational training, choosing a concrete profession and the entire future career.* (Hlaďo, 2012, p. 16)
- **Educational path** is defined as a passage of the individual through a various stages and types of schools or institutions of formal education during their life.
- **Choice of further educational path** is derived from the term **educational path**, and it is, in accordance with the work (9) understood as *a long-term decision-making process, characterized by the selection of specific type of high school, area of education and specific educational institutions.* (Hlaďo, 2012, p. 17)
- **Professional orientation** is, in accordance with (Pajers, p. 181), understood as *the creation and development of the real career aim and perspectives of a young person along with the characteristics and abilities important for the career-choosing process and career performance, eventually its retraining.*
- **Career readiness** is an important factor in the career-choice, expressing *the readiness to carry out informed, age appropriate decisions on career choice*. This model embodies both the aspect of career choice competence and aspect of attitude towards the career-based decision-making. (Hlaďo, 2012, p. 45)

Career theories are, from the point of attitudes, divided into the **structural** ones and **procedural** ones. Structural approaches are characterized as connections and interactions between the individual and the work environment. These approaches use a range of psychometric tools in order to assign the person's character to appropriate occupational groups. By those means, the approaches contribute to career choice in such ways as to attempt to identify personal predispositions of the individual and subsequently compare them with the requirements and possibilities of the world of employment. (Hlaďo, 2012, p. 22)

The procedural approaches do not perform a direct link between the individual and the world of employment. Their important attribute is the idea that a career development is an ongoing process which occurs over a long period of time and, therefore, is in contrast to the events which occur at any point during the individual's life. In the light of these approaches the career development is seen as a lifelong decision-making process. (Hlaďo, 2012, p. 22)

The key components of the career development are individual, environment, interaction and change. From this perspective, the developmental theories can be divided into those that emphasize the content (they define factors influencing the career development of an individual) and those that emphasize the process (which focus on explaining changes over time and knowledge of patterns of decision-making processes). (Hlaďo, 2012, p. 22-23) The dynamic understanding of career development defines three stages – *fantasy choice period* (early childhood up to roughly 11 years of age), which is followed by a *period of experimental choice* (from 11 years to 16-17 years of age) and then the *period of realistic choice* (from 17 years to young adulthood). (Hlaďo, 2012, p. 30)

TAXONOMY OF OBSTACLES IN CAREER CHOICE OF ADOLESCENTS
The presented taxonomy (Gati, Krausz and Osipov, 1996) provides an overview of obstacles encountered in career choice-making. The main categories of this taxonomy are:
- insufficient readiness for career choice,
  - low motivation,
  - indecision,
  - incorrect assumptions,
- lack of information,
  - lack of information related to the process of career decision-making and its individual steps,
  - lack of information related to the individual's potential,
  - lack of information related to the world of employment, system of education and available alternatives,

- o lack of information related to the methods of obtaining information,
- inconsistency of career information,
  - o inconsistency of career information caused by unreliability of information,
  - o inconsistency of career information caused by internal conflicts,
  - o inconsistency of career information caused by external conflicts. (Hlaďo, 2012, p. 47)

While the taxonomy of obstacles in career choice of adolescents is primarily aimed at a different age group, it can still be helpful in searching and identifying the individual problems of process of career choice, and in many of them an attempt can be made to rectify the educational reality in terms of implementing the educational area *Člověk a svět práce* (i.e. *Man and world of employment*).

For dealing with these issues so called seven-phase model of the progress in pupils' career choice is used, see Image no. 1.

Career theories illustrate that the main determining factor in the choice of further educational path is the family of the pupil. Its dysfunction may prove to be a crucial problem in the choice of one's future educational path. Area in which can the educational reality in the process of choosing future career be helpful is the area of educational content (experience with selected areas of human work is crucial for either making or not making the choice of such area which gradually leads towards preferred work activity). Taken from this perspective, it is important for us that the career education of pupils is represented in the curricular documents for the basic school level by the educational area *Man and world of employment*. Another case where the educational reality in the process of future career choice can be useful is the area of supported pupil's self-concept development. If needed (for example in case of pupil's indecision, lack of information, dysfunctional family, etc.), the role of school may be important in the first six stages of the model in question.
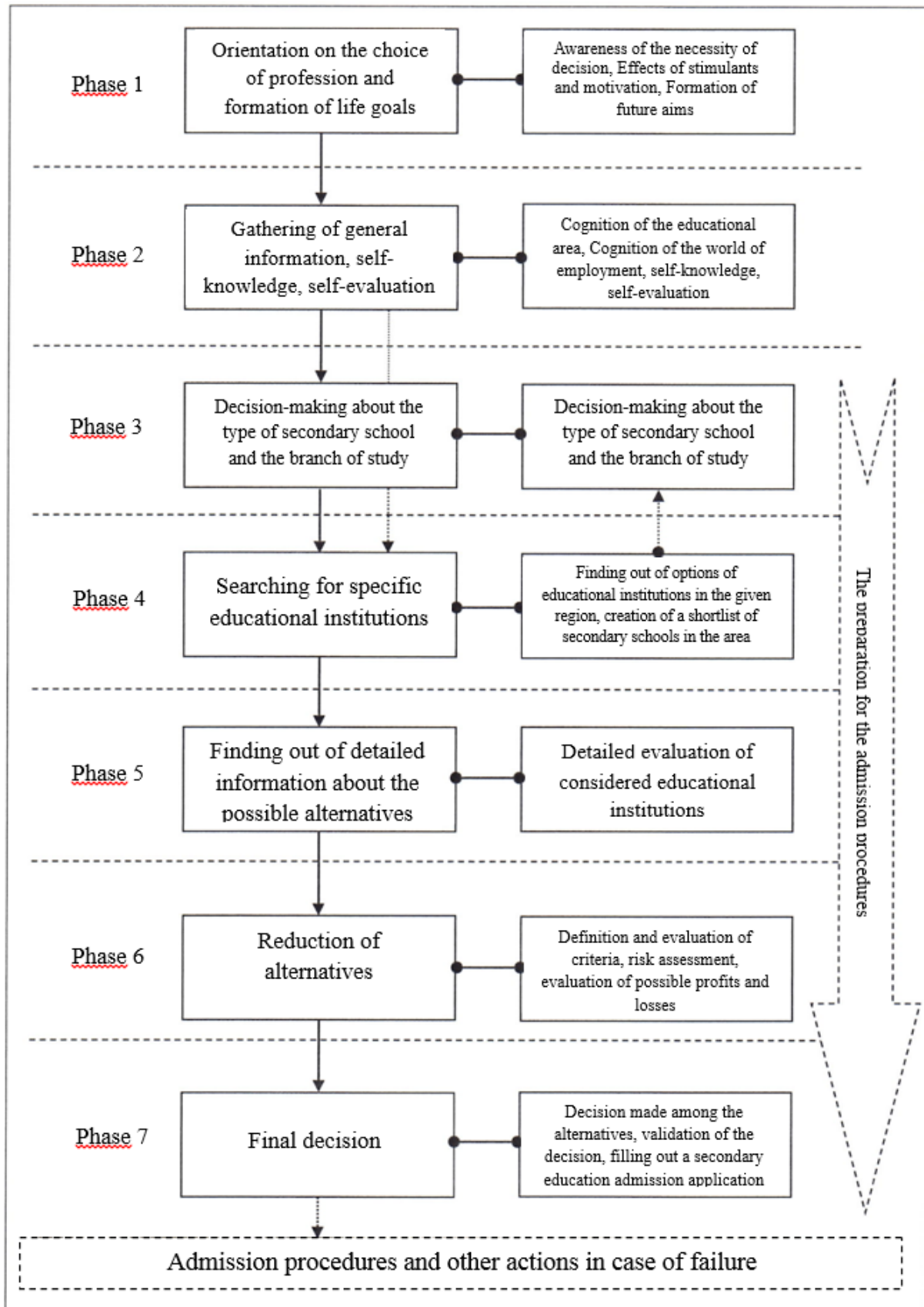
Image no. 1 – The seven-phase model of a process of choice of profession among the pupils (Hlaďo, 2012, p. 91)

SELF-EFFICACY

A theory of a professional development by D. E. Super seems to be a contributing one. Its important constituent is the individual's self-concept: it is individual's idea about themselves, a self-image that is *a result of the physical, mental and social maturation, interaction with the adults and watching their work-related behaviour.* (Super, 1996) The term *self-concept* is related to a term *self-efficacy*, which is linked to a name A. Bandura; it influences the aspiration to a certain profession.

A self-efficacy can be described in three characterizing features. Those are:
- a level – already explained relation between the ability and the difficulty of the task;
- a size – a measure of the inner certainty, depth of conviction;
- generality – a broadness of the area, in which is the conviction valid (Weinrach, 1979, p. 20-21).

F. Pajares, according to the translation by T. Mertin, states that *the convictions about one's efficiency can be generalized among the activities and situations*. That means that the convictions gained from one environment can influence the new experience.

THE SUBJECT *PRACTICAL ACTIVITIES* - UNIFYING THEME: THE CHOICE OF PROFESSION – DECISION-MAKING ABOUT CAREER OR EDUCATIONAL PATH

The educational area *Man and world of employment* covers a broad spectrum of work activities and technologies. It is aimed at the development of competences which are relevant to situations connected to technology and activities of practical nature. At the second stage of basic education, the area is divided into eight relatively diverse topics, which are structured **around the meanings of such terms as work, practical work of pupils**, economic and environmentally friendly behaviour, efficient solving of situations usually associated with technical issues and **decision-making about one's career or educational path**.

Thematic areas for second stage of basic education offer certain options, from which schools can choose according to their conditions and pedagogical aims always at least one more area. When selected, however, they have to be implemented in full range. According to our experience, some of these areas are being chosen minimally. Subjects, in which is the educational area implemented, are named according to individual schools preferences, most frequently as work education, practical activities etc. The important topic of the educational area *Člověk a svět práce* (mainly of a subject *Practical activities*) is decision-making about one's own professional and educational path.

SELF-EFFICACY AND THE TECHNOLOGY-RELATED INSTRUCTION

A respected teacher can influence the self-knowledge, self-assessment, motivation and even self-efficacy of a pupil. Their means is the way of their instruction and now also the choice of a suitable content.

A perception of the self-efficacy focused on the themes of technical subjects' instruction at the basic schools (operation and maintaining of household, work with technical materials, application of digital technology, etc.) can be seen differently from theme to theme and even as a whole for different pupils concerning the necessity of the themes. The field didactics has a number of researches that, in our conditions, show significantly different preferences of the basic school pupils about individual thematic complexes (i.a. Cráska and Poláchová, 2005). The same could be, however, stated about the instruction of other subjects and the content which is included in them. For the potency of technical subjects' instruction at the basic school, also the character of content – technology (which reflects and includes the natural, societal and also the humanist connections, (Kropáč and Chráska, 2004)) contributes to the development of self-efficacy, apart from the abovementioned "practicality" and the activity approach.

The basic approach to the technology and the activities with technology is a critical, evaluating approach, which is based on an ability of critical thinking related to connections as broadest as possible, and an approach developing this critical thinking. The critical thinking is (according to (Grecmanová, Urbanovská and Novotný, 2000, p. 8)) characterized as the active, arranged and complex. The initial condition is the understanding of the input information and then their reflected assessment in a context. A pupil, during this process, compares the new information with those that they already know, with the other opinions on solving, searches further information, asks questions, creates answers and alternatives, and heads towards the defensible decision. With all that, the critical thinking development is a wider field for the development of perception of self-efficacy, since this thinking can be applied by the pupil also towards themselves, to assess their determinateness, continuously created competences and abilities, here mainly for the situations linked with technology. Therefore, if they is learning the thought processes linked to the technology assessment, they can also acquire experience with assessment and self-assessment, self-evaluation, cognize their determiners for the technology activities, and the already acquired competences – according to the achieved results, opinion of the peer group, assessment by

a teacher, etc. In this way, there can emerge a "well-founded" conviction of oneself, which is (apart from the knowledge of technology and its principles as an educational content) also a condition for the choice of professional orientation related to the technology.

CONCLUSIONS

If we use complex tasks, which are, by their nature, close to the real life, during the instruction of a general technical subject, we i.a. contribute to the development of pupils' technical thinking. During that, we can also develop a quite wide set of pupils' competences, which will be applied also in connection to the choice of further professional and educational path. We include among these competences also the pupils' self-efficacy.

The educational area *Člověk a svět práce* contributes to the issue of further educational and professional path of pupils both directly (it allows pupils to cognize some selected professions and occupations) and indirectly, by the development of the set of soft skills (i.a. self-efficacy and self-assessment). Those can be a key to a choice of further educational path which is in accordance with the real possibilities and abilities of pupils.

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THE COMMUNICATION SKILLS AND SCHOOL ACHIEVEMENT AMONG THE STUDENTS: A REVIEW OF THE STUDENTS AT VOCATIONAL HIGH SCHOOLS

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ABSTRACT

Human being is in communication with his/her environment. This interaction is generally in the form of interpersonal communication. The person performs it according to his/her communication skills. The communication skills are the ability of making more than one senses when he/she encounters the events. In the research, the Communication Skills Inventory developed by Ersanlı and Balcı (1998) was used. This scale analyzes the level of communication skills from the points of its behavioral, cognitive and emotional dimensions. In the study, the communication skills of the students, their school achievement and other variants are analyzed. The study is conducted on the students of Aksaray University, Aksaray Vocational High School of Social Sciences. The study was limited with the expressions in the data collecting instruments.

Keywords: communication, communication skills, school achievement,

INTRODUCTION

Communication is a system which forms the base of the society. It is an instrument makes the method work effectively, a technique affecting the personal behaviors, an obligatory science from the point of social relations or an art necessary social adaptation. Thus, the answer to the question of "Why do people communicate" may be given as knowledge, persuasion, management, sharing, sharing the differences, amusement, changing, problem solving and cooperation (Küçükaslan, 2014; 6). Communication is a human activity which is known by everybody, yet only a few people can completely define it. The samples of communication can be listed as talking face to face, television, information dissemination, hairstyle, literary critics, walking style of the individual etc. (Fiske, 2014;71)

Communication is divided into two groups such as source module and target module. The source module is the module which sends the message. It may be a talking person, a meowing cat or a computer playing chess. The target module is the module which the message is sent. The talking module is the source while the listening module is the target module when two people talk *(Cüceloğlu, 2001;68)*.

Two basic elementary ideas emerge when the approaches are considered in explaining the term communication. The first of them reveal the direction of the communication process. This is an approach characterized with the model of sender-message-channel-receiver. In those models, it is stated that an attitude, an emotion and an idea is transferred to the other side. Other approaches are mutually and common perceiving and sharing (Mutlu, 2012;149).

Communication skills are the basic factors in eliminating or decreasing the conflicts in establishing an effective and correct communication and abilities related to speaking, writing, reading, listening and thinking (Toy, 2007; 14). Thus, the individuals having effective communication skills in their daily and business life will have increased success rate.

One of the basic factors affecting the School Achievement of the student is the attitudes of parents. Parents desire to do their best for their children and contribute to the development of their children. Since the rights of mothers and fathers are different from each other, however, their attitudes to their children also vary. The basic stones of the personality of the child begin during the pre-school age and continue until university age. The attitudes of the parents set an example to the developing child, the child imitates whatever he/she sees and starts to shape his/her personality through internalizing those attitudes. For that reason, the parents have to behave according to the behavior model they expected from their children *(Gümüş, Kurt, Ermurat, & Feyetörbay, 2011)*.

Other factors affecting the School Achievement of the students are vulnerability of focusing and motivation. Such deficiencies, if prioritized, may be listed as follows; being unable to find a job after university, environmental and noise pollution, health problems, bad friends, inter-parental conflicts, economic insufficiency, the problems of transportation, terror and violence, and the problems of housing *(Katipoğlu, 2012)*.

Numerous studies were conducted in both Turkey and the world on the various variants of communication skills. Some of those studies are as follows.

When the relationship between the communication skills and sub-dimensions of resolving interpersonal problems is analyzed, there is a positive relationship between communication skills and total score of skills for resolving interpersonal problems *(Koç, Terzi, & Gül, 2015)*. According to the research conducted on various sectors, however, no significant difference was observed in terms of the age variant of communication skills. Moreover, no significant difference was obtained in terms of educational levels of the employees *(Örücü & Kıvrak, 2013)*.

METHODS

The Communication Skill Inventory (Scale) was used in the research. This scale was developed in 1998 by Ersanlı and Balcı through conducting the validity and reliability checking. There are three basic sub-dimensions in the scale such as behavioral, cognitive and emotional dimensions. Moreover, the School Achievement was tackled as another variant. The data of the scale was obtained from 168 students studying in the first year of Aksaray University Aksaray Vocational High School of Social Sciences in the Spring term of 2014-2015 Academic Year. In the study, Communication Skills Inventory developed by Ersanlı and Balcı (1998) was used. This scale analyses the levels of communication skills from the behavioral, cognitive and emotional dimensions. The scale consists of 45 narrations. The items in the scale were scored as "always 5", "generally 4", sometimes 3", "rarely 2" and "never 1". Maximum score to be obtained is 224 while the minimum score is 45. The high levels of scores in the entire scale mean that the individual got high scores while the lower total scores indicate that the individual received lower marks. Moreover, there are 15 items for each sub-dimension. Each sub-scale may be separately analyzed as well as evaluating the general communication of the individual through considering the total scores of a scale. The maximum score for sub-dimension is 75 while the minimum score is 15. As seen in the general communication ability, the higher levels of ability mean high scores and low levels mean the lower scores. *(Ersanlı & Balcı, 1998)*. SPSS 15.0 program was used in order to analyze the data obtained within the scope of the research. The descriptive statistics were used in the analysis of the data, Pearson correlation analysis were used to determine the relationships between variants, the ANOVA test was used instead of parametric test assumptions in order to determine the differences between the variants and Kruskal-Wallis test was applied when the assumptions don't become true. Moreover, Cronbach's Alpha test was applied in order to measure the consistency of the answers to the questions in the questionnaire and internal consistency coefficient of Cronbach's Alpha was found as 0,844. Namely, 84,4% of the responses given by the participants of the questionnaire is reliable and consistent.

FINDINGS

The related characteristics of the students and families are given in Table 1.

Table 1: The Frequencies of the Students and Families related to their Characteristics

Characteristics		Quantity (n)	%	Characteristics		Quantity (n)	%
Gender	Female	95	56,5	**Mother Education Level**	Primary School	120	71,4
	Male	73	43,5		Secondary School	39	23,2
Department*	BYY	56	33,3		Associate degree	3	1,8
	Hİ	51	30,4		Undergraduate	4	2,4
	MVU	37	22,0		Graduate	2	1,2
	ÖGK	24	14,3	**Father Education Level**	Primary School	82	48,8
Attitudes of Parents	Over-Permissive	2	1,2		Secondary School	65	38,7
	Normal	103	61,3		Associate degree	7	4,2
	Over Protective	42	25,0		Undergraduate	13	7,7
	Authoritarian	21	12,5		Graduate	1	0,6

Attitudes of Father	Over-Permissive	5	3,0	School Achievement**	Unsuccessful	3	1,8
	Normal	101	60,1		Fail	2	1,2
	Over Protective	26	15,5		Medium	6	3,6
	Authoritarian	30	17,9		Over Medium	29	17,3
	Irrelevant	6	3,6		Fine	45	26,8
Family income levels	Too bad	3	1,8		Very Fine	45	26,8
	Bad	3	1,8		Perfect	30	17,9
	Medium	108	64,3		Wonderwork	8	4,8
	Fine	51	30,4	**Total**		168	100
	Very fine	3	1,8				

*BYY:Office Management and Executive Assistance ,Hİ: Public Relations and Publicity ,MVU: Accounting and Tax Practices, ÖGK: Private Security Protection

** Wonderwork (3,51 – 4), Perfect (3,01 - 3,50), Very Well (2,51 – 3), Well (2,01 - 2,50), Over Average (1,51 – 2), medium (1,01 -1,50), Poor(0,51-1), Unsuccessful (0 - 0,50)

Within the scope of the study, 168 students participated the research. Among them: 56,5% (95) of them are Female while 43,5% (73) of them are Male students. Among the students who participated the research, 33,3% (56) are the students of Office Management and Executive Assistance, 30,4%(51) are Public Relations and Publicity, 22% (37) of them are Accounting and Tax Practices and 14,3% (24) of them are the students of Private Security Protection department.

When the school achievements of the students are analyzed, 1,8% (3) of them was unsuccessful, 1,2% (2) of them was poor, 3,6% (6) of them was medium, 17,3% (29) of them was over medium, 26,8% (45) of them was fine, 26,8% (45) of them was very fine, 17,9% (30) of them was perfect and 4,8% (8) of them had the level of Wonderwork.

In this study, the communication skills were analyzed in three sub-groups. They are cognitive (mental) communication skill, emotional communication skill and behavioral communication skill. Within the scope of the research, total scores related to the communication skills were used. Moreover, total scores of communication skills were analyzed as the general communication skills.

Table 2: The Descriptive Statistics Related to Communication Skills and Sub-dimensions

Dimension	Range	Minimum Score	Maximum Score	Average	Std. Deviation
Cognitive CS	33	39	72	57,50	6,61
Emotional CS	38	33	71	55,25	6,95
Behavioral CS	30	41	71	57,70	6,431
General CS	82	125	207	170,49	17,30

The maximum score which general communication skill can obtain is 225 and minimum score is 45 while the maximum score in general communication skills according to the descriptive statistics given in Table 2 was 207 and the minimum of that was 125 and the arithmetic average was 170,49. Accordingly, it can be said that the communication levels among the students are high. When the sub-groups are considered, the emotional communication skill levels are seen to be lower than others and the scores of cognitive and behavioral communication are very close to each other.

In order to decide whether to use the parametric test or a non-parametric test in testing the significance of the difference between the school achievement and communication skill levels, we should consider the assumptions of normality and homogeneity of the variances.

H_0: groups are normally distributed.
H_1: groups aren't normally distributed.
Table 2: The values related to the normality test of the groups

Shapiro-Wilk	
GROUPS	**p**
Cognitive CS	0,203
Emotional CS	0,018
Behavioral CS	0,168
General CS	0,129

As seen in the values given in Table 2, the result of Shapiro-Wilk normality tests applied to the variants was found $p>0,05$ for cognitive CS, emotional CS and General CS. Namely, those variants are convenient for normal distribution. However, behavioral CS doesn't have the normal distribution due to its value of $p<0,05$. In this occasion, ANOVA test will be used to measure whether the difference between cognitive CS, emotional CS and General CS and the school achievement is significant; and Kruskal-Wallis test will be used in order to measure whether the difference between behavioral CS and the school achievement is significant.

First of all, ANOVA test can be applied in case the variances for the variants of cognitive CS, emotional Cs and General CS which provide the normality assumption are homogenous. The results of Levene Test performed to test the homogeneity of the variances are given in Table 3.

H₀: The variances between the groups are equal.
H₁: At least one group has different variance than the others.

Table 3: The Test for Homogeneity of the Variances

	Levene Test	S.D.1	S.D.2	p value
General CS	1,005	7	160	0,430
Cognitive CS	,450	7	160	0,869
Emotional CS	1,384	7	160	0,215

The hypothesis that the result of homogeneity test conducted for General CS, cognitive CS and Emotional CS is $p>0,05$ H₀ was accepted. Namely, the variances are homogenous and the assumptions of the normality and homogeneity of the variances were proved in order to perform ANOVA test.

H₀: There is no significant difference between cognitive CS, emotional Cs and general CS from the point of school achievement.

H₁: There is a significant difference between cognitive CS, emotional Cs and general CS from the point of school achievement.

Table 4: The Values of the Effect of General Communication Skill, Cognitive Communication Skill and Emotional Communication Skill on the School Achievement

		Sum of Squares	S.D.	Sum of Squares.	F value	p value
General CS	Intergroup	1857,272	7	265,325		
	Intragroup	48140,704	160	300,879	0,882	0,522
	Total	49997,976	167			
Cognitive CS	Intergroup	505,541	7	72,220		
	Intragroup	6794,459	160	42,465	1,701	0,112
	Total	7300,000	167			
Emotional CS	Intergroup	225,503	7	32,215		
	Intragroup	7840,491	160	49,003	0,657	0,708
	Total	8065,994	167			

According to the result of ANOVA Test, H_0 hypothesis is accepted since general communication skill is p=0,522>0,05, cognitive communication skill is p=0,112>0,05 and emotional communication level is p=0,708>0,05. Namely, general CS, cognitive CS and emotional CS have no effect on the school achievement. In Table 5, the results of Kruskal Wallis test which is used in the analysis of the differences between behavioral communication skill and school achievement which doresen't prove rhe hypothesis.

H_0: There is no statistically significant difference between school achievements, behavioral communication skills.
H_1: There is a statistically significant difference between school achievements, behavioral communication skills.

Tablo 5: The values of the effect of behavioral communication skills on School achievement

	School Achievement	n	Mean Rank	p value
Behavioral CS	Unsuccessful	3	43.67	
	Fail	2	109.50	
	Medium	6	76.25	
	Over Medium	29	82.98	0.564
	Fine	45	85.11	
	Very Fine	45	89.60	
	Perfect	30	75.87	
	Wonderwork	8	105.50	

According to the results of Kruskal-Wallis test, it was found that p=0,564 > 0,05. In this case, the hypothesis of H_0 is accepted. There is no statistically significant difference between the school achievements and the averages of behavioral communication skill. Namely, behavioral communication skill has no effect on school achievement.

Finally, the relationship between the school achievements of the students, their communication skills and sub-groups was analyzed through. The values of correlation coefficients are given in Table 6.

Table 6: The relationship between school achievement, general communication skills and sub-groups

	School Achievement	General CS	Cognitive CS	Behavioral CS	Emotional CS
School Achievement	1				
School Achievement	0,134	1			
School Achievement	0,192*	0,883**	1		
School Achievement	0,056	0,,875**	0,706**	1	
School Achievement	0,095	0,845**	0,592**	0,592**	1

*Correlation is significant at the level of 0.05 (2-ways).
** Correlation is significant at the level of 0.01 (2-ways).

Cognitive CS, behavioral CS and Emotional CS have positive and highly relationships with each other. For example, the student with high cognitive communication skills also has both high behavioral communication and

emotional communication skills; thus, he has high general communication skills. If the cognitive communication skill is low, the other communication skills will also be low.

We can state that the levels of communication skills have a very slight effect on the school achievement. It means that the student with high levels of communication skills may have lower school achievements.

CONCLUSIONS

In the study, the communication skills and their school achievements were aimed to research. The study was conducted on 95 female and 73 Male students with a total of 168 who study at Aksaray University. The attitudes of the parents of the students were normal in the rate of 60%. It was concluded that mothers are more Over-protective than fathers.

Communication skill and its sub-group consisting cognitive, emotional and behavioral communication skills are in the interaction with each other however they have no effect on the school achievement.

A student with high school achievements may not   have high communication skills. Hence, the student with low school achievement doesn't mean that he has low communication skill. Namely, it is not true to decide about school achievement considering the school achievement.

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THE COMPARISON OF ENVIRONMENTAL LITERACY OF CZECH AND TURKISH PRE-SERVICE PRIMARY TEACHERS USING ELSA SCALE

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ABSTRACT
The paper deals with the issue of environmental literacy of teachers as one of the important prerequisites of effective environmental education. It presents the results of research conducted in 2015 between Czech and Turkish pre-service primary teachers (university students). The topic of the research was the environmental literacy of these students. As a research tool was used Environmental literacy scale for adults (Atabek-Yigit et al., 2014). In addition to students' nationalities, other demographic characteristics such as age and sex were also pursued. Data were analyzed using advanced statistical methods.

INTRODUCTION
The comparison of national educational models as well as the results of the pupils has a tradition, which is today represented mainly with TIMMS and PISA testing. The ways for assessing of the results of environmental education are not included in this widely known and respected tests. Originally it was planned to add a framework for the assessing of environmental literacy as an optional component in the PISA for the 2015 (Hollweg et al., 2011), but this idea was rejected. Even so, this plan bore a fruit in the form of very strong and research-based definition of the environmental literacy (Hollweg et al., 2011). According to Hollweg and her colleagues (2011), the domain of environmental literacy consist of four interconnected dimensions (knowledge, dispositions, competencies and environmental responsible behavior). Such a complex phenomenon with a number of variables is hard to assess at once. It is therefore not surprising, that published studies on this topic only focus on a few of the variables, usually knowledge, attitudes and behavior (e. g. Buethe & Smallwood, 1987, Hsu & Roth, 1998, Moorone et al., 2001, Činčera & Štěpánek, 2007, Yavetz et al., 2009, Matějček & Bartoš, 2012, Kroufek & Látová, 2014).

The primary education plays an important role in the development of environmental literacy of children and is forming their future pro-environmental attitudes and behavior. Therefore it is up to their teachers to help the proper development of this literacy. The main driver for this help should be teachers own environmental literacy, therefore it is very important to know how to measure its level. If we know the ways how to measure the environmental literacy and how to compare its development, it could help us to develop it in the right way at faculties of education. The researches of the environmental literacy among primary teachers and pre-service primary teachers (university students) are not very often. Moseley & Utley (2008) compare pre-service primary teachers involved and not-involved in GLOBE program. They found, among others, a significant increase of environmental teaching outcome expectancy among involved pre-service teachers. Tan (2014) investigate primary school teachers' attitudes towards reading books on environmental issues and their environmental behavior and thinking. He found significant variance across gender and programs they are attending. Kroufek & Látová (2014) found significant difference of level of environmental literacy between full-time and part-time students, where the part-time ones has higher results. They also found quiet strong correlation between attitudes and consumer behavior of students.

The interest of environmental issues has begun since 1992-1993 education season in Turkey. İn primary school environment, health, traffic and read lessons have been implemented. Also the environmental classes have been added into lesson programs of "Science Lesson" in Secondary schools. "Environment and human" course has been added as elective courses into the curriculum in tertiary school (Tombul, 2006). New curriculum had been developed in context of the constructivist approach. The acquisition of Science-Technology-Society-environment tried to be inserted anywhere in the curriculum.

In the Czech Republic, the environmental education is part of the curriculum from kindergarten to university. At primary school, the environmental education is conceived as a "cross-cuting topic" that affects all educational areas (Činčera et al., 2011). Teachers have partial freedom, and decide on the inclusion of environmental activities into their courses.

The aim of this study is to put forward similarities and differences of two different countries from two different continents, Czech Republic and Turkey in their student's environmental literacy. The second aim is to determine the usability of the ELSA scale (Atabek-Yigit et al. 2014) among university students of different countries.

THE STUDY

The environmental literacy of pre-service primary teachers was assessed using the Environmental Literacy Scale for Adults - ELSA (Atabek-Yigit et al. 2014). The scale is composed of 20 items and, according to its authors, has three dimensions. The research was conducted among 248 pre-service teachers of the primary school. 156 of them were from Czech Republic (12 male, 144 female), 92 from Turkey (29 male, 63 female). Age varies from 18 to 53 years. The distribution of data was not normal (Shapiro-Wilk W=0.97, p<0.01), therefore we used non-parametric statistic methods to analyze the data. For comparison of two independent groups was used Mann-Whitney U test, for comparison of more than two independent groups Kruskal-Wallis ANOVA, for correlations was calculated Spearman correlation coefficient. Reliabilty (see below) was calculated using Cronbach α coefficient. All results are significant at the level of significance α=0.05. The Statistica 12 software was used to analyze the data.

FINDINGS

The table 1 shows results of reliability calculation using Cronbach α coefficient. The results are for whole scale, its three dimensions (consciousness, anxiety and awareness) and then for each nationality (CZ – Czech Republic, TUR – Turkey). In the third column is reliability from original publication (Atabek-Yigit et al. 2014).

Table 1 – Reliability of ELSA scale and its subscales

Subscales	Cronbach α	Cronbach α original
ELSA	.76	.88 (Atabek-Yiğit et al., 2014)
ELSA CZ	.81	
ELSA TUR	.80	
consciousness	.60	.80 (Atabek-Yiğit et al., 2014)
consciousness CZ	.62	
consciousness TUR	.46	
anxiety	.55	.77 (Atabek-Yiğit et al., 2014)
anxiety CZ	.56	
anxiety TUR	.62	
awareness	.74	.71 (Atabek-Yiğit et al., 2014)
awareness CZ	.72	
awareness TUR	.65	

As shown in the table 1, the reliability of ELSA scale is good and the scale as a whole is usable for research among pre-service teachers of primary school. The results of reliability for each nationality are acceptable as well. In

comparison to the original, the subscales reliability is significantly lower and there are some differences between Czech and Turkish versions, especially in the consciousness subscale.

The table 2 shows correlations among ELSA scale and its subscales, all results with $p < 0.05$ are shown in bold.

Table 2 – Correlations among ELSA scale and its subscales

	ELSA	consciousness	anxiety	awareness
ELSA		**.71**	**.72**	**.68**
consciousness	**.71**		**.26**	.09
anxiety	**.72**	**.26**		**.53**
awareness	**.68**	.09	**.53**	

The correlation between each item of scale and the results for the whole scale was calculated. The only item with correlation lower than 0.3 was: *I think we will not find a place to have picnic within a few generation* ($r = 0.28$).

Using the whole ELSA scale, we did not find statistically significant differences between countries ($z = 1.47$, $p = 0.14$), but there is a statistically significant difference in all of the three subscales. Czech students have higher results in subscale consciousness ($z = 9.06$, $p < 0.01$), while Turkish students have higher results in subscales anxiety ($z = -2.8$, $p < 0.01$) and awareness ($z = -6.61$, $p < 0.01$).

There is a statistically significant difference between each year of study, $H_{(4, 248)} = 21.7$, $p < 0.01$. The order of years according achieved score from highest to lowest is: fifth, fourth, third, first and second.

The variable sex shows no statistical difference if the whole scale was used ($z = 0.57$, $p = 0.56$), but females have statistically significant higher results than males in the subscale consciousness ($z = 2.4$, $p = 0.02$).

Quite interesting result is statistically significant moderate correlation of the age of students and the subscale consciousness ($r = 0.54$), while virtually no correlation of the age and the rest two subscales (anxiety $r < 0.01$, awareness $r = -0.09$). The correlation between age and the results for whole scale is statistically significant, but lower ($r = 0.26$).

CONCLUSIONS

The environmental literacy of Czech and Turkish pre-service primary teachers was measured using the ELSA scale (Atabek-Yigit et al. 2014). We found no statistically significant difference among the results of both countries, but there are some very interesting results if the subscales of ELSA are analyzed. The Czech students have statistically higher results in subscale *consciousness*, which consists of 9 items that aims mostly on considered responsible environmental behavior and, from our point of view, is quite close to the third subscale *awareness*. In this subscale, as well as in the second, *anxiety*, the students from Turkey have the better results. The results of the subscales comparison should be handled with caution, mostly because of low levels of reliability of some subscales for every nationality.

The level of environmental literacy rises with the age of students, the strongest correlation is between age and subscale *consciousness*. The reason for this results is, from our point of view, the rising responsibility for the family and children which goes hand in hand with the responsibility for the environment. Among the age, the other important variable could be environmental education courses during university studies, because students in higher years of study achieve higher results in level of environmental literacy.

There are a lots of possibilities of measuring of environmental literacy. The ELSA scale could be one of them and, as results shown, it is (as whole) suitable for measuring of environmental literacy of pre-service teachers of primary school.

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THE COMPARISON OF SELF-EFFICACY BELIEFS OF ANATOMY BETWEEN THE FIRST AND THE SECOND CLASS STUDENTS IN MEDICAL SCHOOL

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ABSTRACT
Anatomy is a basic training in medical education. The first condition of being a good doctor and being able to take a good medical education is proficiency in human anatomy. In medical education anatomy trainings are generally given in the last two committees for first class students and during the full term for the second class students. The purpose of our study is the comparison of self-efficacy beliefs of Anatomy between the first class students who have met with Anatomy training recently in Medical School and the second class students who have completed Anatomy training.

276 first class students (127 boys, 149 girls) and 207 second class students(94 boys, 113 girl) have attended to our study. Surveys for gathering information (gender, age, the region where they came from, the place they have been residing) and self-efficacy belief scale of Anatomy have been applied to the students who have attended to the study.

Eventually, the relation between the data from the surveys for gathering information and the levels of self-efficacy beliefs have been investigated. Furthermore, self-efficacy beliefs of Anatomy of the first class students and the second class students have been compared and a significant difference has been found ($p<0.05$). This difference has shown that levels of self-efficacy beliefs of the students who have taken nearly one year Anatomy theorical and practical training have increased. In the following years of these students' education a good anatomy knowledge and increased levels of self-efficacy beliefs of Anatomy will contribute to being able to be more successful doctors.

INTRODUCTION
In Medical Education, the lessons taken from the Department of Basic Medical Sciences-Anatomy constitute a basis for the lessons in future terms. The first condition for a good medical education and correspondingly, to be a good physician is possible by recognizing and knowing well about the human body and the anatomic structures

which constitute it. The students in the 1st and 2nd terms in medical educations take Anatomy lessons which are qualified as the basics of medicine. Generally and as a method, the Anatomy education is given in medical faculties as Topographic Anatomy or Systematic Anatomy (Moore and Dalley, 2007; Yıldırım, 2013). In Systematic Anatomy education, the systems are taken as the Skeleton System and Respiration-Circulation-Digestion-Urinary-Genital-Endocrinal-Neural-Sense Organs Systems and they are taught this way (Yıldırım, 2013). And in Topographic Anatomy Education, the parts of the body are separated into the head-neck, upper extremities, back-abdomen, pelvis, lower extremities and the perineum, thorax and they are taught this way (Moore and Dalley, 2007).

A student who takes education with both of these two methods shall have a good Anatomy knowledge and while using this Anatomy knowledge in clinical branches in future years of the medical education, they shall be able to understand the clinic better and by this means, their self-confidence shall increase.

The term "self-efficacy" is defined by Bandura (1977) as the one's capability to overcome the challenges encountered in his life or his business. Self-efficacy which is a concept improved in the field of Social Psychology can be implemented according to needs in many different fields (Çolak S., 2013, Akkoyunlu B. and Orhan F., 2003).

There have been many studies which have used the self-efficacy belief in the fields of education (Zimmerman, 1999 Çolak S., 2013). Those studies have shown that the self-efficacy belief scale performs duty as a significant parameter in the field of education.

In our study, the self-confidences of the students who take Anatomy education during a good medical education and their self-efficacy beliefs related to that shall be detected. The objective of our study is to meet the self-efficacy beliefs related to anatomy education of the Medical Faculty students who have just acquainted with the Anatomy in the 1st term and the students who have completed their Anatomy education in the 2nd term.

MATERIAL - METHOD

207 students from the 1st term and 276 students from the 2nd term who attend to Kocaeli University Medical Faculty were included in our study. The general information has been prepared by adapting from the questionnaire improved by Çolak S. (2013). In this questionnaire, the ages and genders of students, the places they dwell during their education and the places they have come from were questioned.

The Anatomy Self-Efficacy Belief scale (ASEB) was prepared by adapting the scale constituted by Akkoyunlu et al., (2005) and Çolak S. (2003) to the Anatomy and by preparing 15-article propositions. The answers were constituted by quintet Likert-type scaling and the degree of agree of the individuals to each instruction were classified as 1) "I strongly disagree", 2) "I disagree", 3) "I am not sure", 4) "I agree" and 5) "I completely agree" (Bozdağan and Öztürk, 2008).

The statistical analysis of the data obtained was made with the SPSS for Windows 13.0 package program.

RESULTS

The percentage of the 1st term students who contributed to the study is 127 male (46%) and 149 female (54%) and the percentage of the 2nd term students is 94 male (45,4%) and 113 female (54,6%) (Table 1).

When we divided the students according to the geographical regions where they had come from, the 1st term students were divided as; 152 from the Marmara Region, 41 from the Black Sea Region, 18 from the East Anatolia Region, 15 from the South-East Anatolia Region, 14 from the Aegean Region, 13 from the Mediterranean Region, 12 from the Inner Anatolia Region and 10 from abroad. And for the 2nd term students; 115 from the Marmara Region, 32 from the Black Sea Region, 14 from the South-East Anatolia Region, 13 from the Aegean and East Anatolia Regions, 8 from the Mediterranean and Inner Anatolia Regions and 4 from abroad (Table 1).

Table 1: The demographic properties of the First and the Second Term students in the School of Medicine

	GENDER		The regions they have come from								Total
	Male	Female	Mediterranean	East .Anatolia	Aegea	South East Anatolia	Central Anatolia	Black Sea	Marmara	Foreign Country	
The 1st Term	127 (%46)	149 (%54)	13 (4,7)	18 (6,5)	14 (5,1)	15 (5,4)	12 (4,3)	41 (14,9)	152 (55,1)	10 (3,6)	276
The 2nd Term	94 (%45.4)	113 (%54.6)	8 (3,9)	13 (6,3)	13 (6,3)	14 (6,8)	8 (3,9)	32 (15,5)	115 (55,6)	4 (1,9)	207

When the ASEB levels of the 1st term and 2nd term students are compared with according to genders, a significant difference was found between genders; for the 1st term students, it is 46,89±5,02 females and 45,10±5,56 males (p<0,05). It was seen that the self-efficacy belief levels of females is higher when compared with the males. And for the 2nd term, no significant difference was found; 88,24±10,96 females and 87,60±10,02 males (p>0,05).

When the statistical results of our study are looked upon, the ASEB level averages of especially the 1st term students of the medical faculty was found as 46,07±5,3; and the ASEB level averages of the 2nd year students was found as 87,95±10,5 and a significant difference was found between them (p<0,05) (Table 2).

Table 2: The Comparison of Self-Efficacy Beliefs of Anatomy Between the First and the Second Class Students

	Mean±Standard Deviation	P Value
The 1st Term	46.07±5.3	
The 2nd Term	87.95±10.5	0.05

in Medical School

DISCUSSION

Many studies have been made on education regarding SEB (Self-Efficacy Belief) levels (Yusuf, 2011; Zimmerman, 2000; Çolak, 2013). According to Albert Bandura, self-efficacy is one of the basic concepts of the theory of social learning (Bozdoğan, 2008). According to Bandura (1977), self-efficacy is defined as the individual's capability to cope with the problems and issues which facing throughout of his life. The way how an individual implements the necessary activities as good as possible when he faces a problem during either his life or his education shows the level of the self-efficacy of that individual about that matter. That is to say, the self-efficacy level means the capability of an individual to realize a work and to succeed (Çolak, 2013). The self-efficacy belief level which has been improved in the field of Sociology can be implemented in very different fields and in many disciplines, education being in the first place (Akkoyunlu, 2003; Lev, 1997; Karsten, 1998). In the field of education, when the studies intended for the self-efficacy belief levels are looked upon; it is seen that Yaman S., on Science Teachers; Bozdoğan A., on Geography Education; Çolak S., on Computer Education; Yusuf M., on Academic Education have carried out studies. Even though no study in medical education on self-efficacy about Anatomy is encountered, we have encountered studies searching the self-efficacy situations intended for Anatomy lessons but for students in departments other than medicine (Lök, 2009). Lök S., in the studies he made, measured the self-efficacy situations aimed for the Anatomy lessons of the students who attended to Physical Education Teaching and Games Master Teaching and Nursing departments and who had taken Anatomy lessons and at the end of the study, he found that the self-efficacy belief levels of the students in the Nursing department was higher than the self-efficacy belief levels of the students in the Physical Education Teaching and the Games Master Teaching departments. He made a connection so that, the reason for the self-efficacy perception of the students in the Nursing department which was higher according to their practices is because these perceptions shall be used in every field of their careers. And this is connected to that the Anatomy

knowledge shall be used more in the Nursing profession than in the Physical Education Teaching and the Games Master Teaching professions.

And, we have found in our study a result that in Anatomy education, the ASEB levels of the 1st term students who have become acquainted with Anatomy lessons for the first time is lower than the ASEB levels of the 2nd term students in the Medical Faculty who have already completed the Anatomy education and there is a significant difference between the two groups. And it has been found that, in relation with the education we give, whether theoretical or practical, the Anatomy education increases the self-efficacy levels of the students intended for the Anatomy knowledge and consequently, from the Anatomy knowledge point of view, they feel themselves more secured in the upper classes in school and in professional fields. When the results of our study are looked upon, we have detected that there is a significant difference between the genders and the ASEB levels of the 1st term girls and boys ($p<0.05$) but we concluded that there is not any significant difference between the genders and the ASEB levels of the 2nd term girls and boys ($p>0.05$). And as the reason for this, we think that, during the Anatomy education we give, the males in the 1st term whose ASEB levels were lower, with the medical education, they have closed this gap and during this period of time, they have taken a better Anatomy education. And the studies carried out have also showed that the self-efficacy perception is an important phenomenon to lay emphasis on in any occupational group (Lök, 2009; Koray, 2003). The individuals whose self-efficacy perceptions related to any situation is at the highest level spend more effort to succeed in the duty they have undertaken and to be better from the professional point of view. And this adds to the capacity to cope of the individuals (Dorman, 2001; Lök, 2009).

CONCLUSIONS

In our study, we think that the Anatomy knowledge which shall be used either in the clinical fields in upper classes or during professions as a physician after their graduation by the students whose self-efficacy levels are high shall add to those individuals. Already, the results of our study have shown that a 1-year Anatomy education has elevated the self-efficacy belief levels intended for the Anatomy education of Medical Faculty students.

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THE CONVENTIONAL ARTS EDUCATION IN TURKEY, Z GENERATION, THE CONFUSIONS IN PERCEPTION AND INABILITIES

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ABSTRACT

Supplies brought by today's information technology and their application are as finds their place in every stage of life. This means that the younger generation uses these tools in everyday life practices extensively and due to the transformation of mental perception, generational perceptions differ significantly. Inter-generational differences in perception are so significant that the scientific world classifies these generations under the descriptions such as 'Y' or 'Z' generation. Although Today's digital Technologies are used in the arts education, they are used as an apparatus into the conventional training. In other words, only small changes in the artistic education programs were being realized and digital technology was applied into existing course contents. Traditional design tools and expression remains as the way they were and digital Technologies are used as the auxiliary tools only. It is necessary to create a new configuration for the Z Generation which has a different perception. Since the generational differences effects the perception and interpretation of arts it could be told that conventional training is no longer sufficient in terms of maintaining the functionality on creativity. For example, the virtual environment emerges with the digital technology offers new tools for artists and makes a heterogeneous practice possible as artist would never have with conventional education methods. In this study, a general assessment was made on the capability of the current program to create a 21 st-century art education. We think the conventional art education system can't be resumed considering the differences of the Z generation which is going to start to the Art Schools in a near future and with this research we refer to the reasons of it.

Keywords: Turkey, Arts education, Traditional education paradigm, Generation Z, New directions in education.

INTRODUCTION

Great changes and transformations are lived in the education area as well as in many things from 1990s when information age started to now. One of basic reasons of this is that the visuality phenomenon, as more powerful than that being written and verbal, makes itself present in every area of life. Communication resources and visual and auditory tools, which have been formed by technological developments, gain different speed and dimension to the information transfer. In this sense the education phenomenon presents an appearance carrying a series of problems requiring thinking over again.

Individuals growing up in this "new society" order established on technologies called information or computer age give life meaning with new view angles and perceptions in consequence of digital tools and new media brought by them. For these generations, who go out of traditional social life perceptions much, to be defined names such as Y generation and Z generation are given.

The generation concept has a strong basis in sociological theory, but academic and empirical proofs of generational differences are complicated. Inconsistencies are possible as well as common grounds. Nevertheless, as a result of the researches, it has been detected that many generational differences are available in terms of personal specialities, behaviours and attitudes. In the literature generations are defined by separating into five groups.

1. Generation of Traditionalists: Those born between 1922 and 1945
2. Generation of Child Explosion: Those born between 1946 and 1964
3. X-Generation: Those born between 1965 and 1980
4. Y-Generation: Those born between 1981 and 2000
5. Z-Generation: Those born in 2001 and later

Z Generation name is given to the generation in that those born after 2000 take place. Since this generation was born in a totally technological age, it is also described as "Generation I", "Internet Generation", "Next Generation" or "iGen". Another name for them is "Instant Online Generation". Z Generation is separated with three factors from other ones.

a) As age and life range (ontological factor)

b) As age and technology in that time (sociological factor)

cAs phenomena and experiences (historical factor)

The present Higher Education System in Turkey, as in all around the world, has the teaching staff composed of the generation of Traditionalists, the generation of Child Explosion and the X-Generation, and the students composed of Y-Generation. In the near future the students of the Z-Generation will start to study in universities. The teaching staff of the generation of Traditionalists, the generation of Child Explosion and the X-Generation try to educate Y-Generation now. There is not a discussion medium for Z generation yet.

Traditional education model has been established on a structure/model composed of placing as much information as possible into the memory of students and remembering this information when needed towards forming information inventory in their brains before they begin to work.

This structure / model includes the elements below:

a)The teaching staff writes something on the blackboard, gives a lesson and wants students to study some pages from the text book,

b) The student listening to the teaching staff in class takes notes at the same time and tries to widen and deepen his/her knowledge by reading books about that subject outside.

When compared to the past generations, that Z Generation has important differences has been determined by many researchers. For example, the cognitive abilities are performed in a different way by Z-Generation. How this generation remembers, comprehends, applies, analyses, synthesizes and assesses the information includes significant differences according to the past generations.

The teaching staff servicing in Turkish University education know quite well what they should teach to students. However, they haven't got enough accumulation of knowledge about how they will transfer this information to the Z-generation students and about how the Z-Generation will take this information. It is seen that this matter will come to the forefront as an important problematic in the near future. Because that the traditionalist education model including passive learning methods won't be adequate in the education of Z-Generation is kind of known reality.

1.Aim

Art education, as a leading and burning matter of education, is always present as a problem continuously occupying the teaching staff. This study has been established to include the general determinations towards how art education would happen for Z generation, and what things new identities and responsibilities of the art educator can be has been dealt.

Depending on special conditions of every country, given the necessity of arranging the curriculum of art education, the art curriculums applied in the education of universities of Turkey should be updated according to changing conditions has been tried to be discussed.

2. Education of future passes from technology

The acceleration and easiness in reaching information and the diversity of communication facilities bring along a process in which freedom and originality are obligatory within contemporary education approaches. That digital technology carries a power relatively shaping every area of life requires fundamental change and restructuring in schools as well as positive effect on education.

Even the present generation's individuals, who perform their education on information networks, come across rich contents and live a situation which doesn't merely depend on (not being passive) the teacher's knowledge. Especially thanks to multimedia and Internet technologies, those, who are not happy with the present education system, can take education from any place of the world in the way they want, and this situation increases its effect day by day.

Predictions towards the future design in education gradually become concrete. For example, it is said that macro-universities will show up as of 2030s and the university education modulations lasting for many years will vanish. Since speed and information flow will come out far beyond that perceived now, more logical result will be that traditional university education lasting for many years will be replaced by short-term micro universities, where specialism will be in very special subjects. It is natural that as an extension of this the paradigmatic change in the art making tradition and depending on that, new values about the nature of art will create changes in learning and teaching processes. Primary change in this area will be that the focus of interest in learning and teaching processes will be established on "learning"; and as a result of all these, it can be said that new formats differentiating teaching and learning will occur. For example, quite impressive ideas about how technology will change classes can be available. The aforesaid things are not simple ideas like one laptop for each student. Virtual schools are modulations such as education without teacher and individual based education through software declaring how students give reactions to lessons or education environment by measuring breathing and mimics of students, being far beyond today.

In other words, it can be said that paradigmatic changes starting from the middle of the twentieth century but intensifying in its last quarter and continuing by increasing its speed in this century make going to transformation in Turkish education system obligatory. Fundamental changes in philosophy, curriculum, method and applications of education are kind of the first steps to be taken for this transformation.

ART EDUCATION

Today art, with its wide view angle, beyond being a deed performed merely with its own peculiar instruments, has transformed into a seeking of plural meaning that is related with different disciplines and feeds on them.

The usage area of digital technologies today becomes widespread in art area as well as every area. Technology has come out as a prominent phenomenon in changing the art education perspective in the last century. In many art works technology takes place as both usage and subject. This causes aesthetical perception and structuring based on conventional context to leave their place to quite different seeking and aims.

Since technological instruments, when compared to other areas of education, start to form new aesthetics in the art creating area and so in new paradigms, artists show the tendency of moving away from the droning works and conventional methods. They feel obliged to tend to use the expression facilities of various areas. And while art educators live the astonishment of this process, they also try to understand the change and to get a new identity. In short, in the present age, when information is consumed fast and technological developments show increase in the same speed, a new education modulation is needed for the change in artistic creation forms and for new manners of telling.

1. Perception of Z Generation and Necessity of New Modulations in Art Education

Technology's use in modern societies has completely entered life of human. Technology is used everywhere from watches to mobile phones or to e-mails. Z generation is individuals of such a world. Technology influences life of Z generation much more day by day and so art educators have to prepare their education curriculums according to perceptions of this generation and accordingly themselves.

There are a series of discussion regarding Z generation members abroad. In turkey the wide scale academic research made towards Z generation is not adequate yet. Nevertheless, it can be said as specialities of Z generation all around Turkey that the age for beginning to use computer is eight, the age for beginning to use the Internet is nine and the age for beginning to use a mobile phone is ten.

That Z generation is always online and lives with technology has developed their ability of taking information fast and establishing bonds between a series of information quickly. These abilities of them actually provide them to establish a very wide network. They are such a generation that they regard different cultures and view angles as natural due to the abundance of communication instruments and are open, more than ever before, to different cultures and to those not resembling themselves at all. Another speciality of them is that they are not team player, but prone to that being individual.

The 21st century has been quickly changing the secular culture from the text based communication to visual pleasure, and reforming cultural codes. These new codes have been established on that being visual. So art transforms into virtuality by means of various technological appearance methods, changes the life areas to art or

changes itself to daily ordinary experience. The mass media such as Internet, TV and mobile phones make every kind of information easily reachable by means of secular networks of visual world in universal basis.

Many technological components such as computer, video, light and sound have taken their places alone or all together in the artists' expression manners. Technology has presented to the artist new expression manners and tools and therefore completely changed the thinking structure, perception and seeking of him and his audience.

That traditional learning and teaching methods and media will remain inadequate in responding to the differentiated perceptions of the Z generation, who was born and grown up in digital age. So that educational institutions innovate their education programs and support them with advanced technologies will become an obligation beyond necessity.

2.Preparing an Art Education Curriculum is an Art too

When new and different channels come out, in art education some subjects will face with the phenomenon of being neglected, dropping to the second plan or being eliminated. In this eclectic and pluralistic platform, where life, culture and art styles continue their presence as hybrid, that strategies, concepts and approaches of art show changes is a natural requirement. So to adequately state today's art by classic art education methods and iconography or iconological thought will not be possible. And as a natural result of this, it is necessary for the art education curriculums to change and to adapt themselves to stylistic, aesthetical and conceptual character of modern art.

In these curriculums the structural flexibility and quick harmony with the developing technology come to the forefront as a determinant factor. Because thanks to this flexibility, to keep up with changes quickly and catch the technology of the age may be possible. Another point necessary to be emphasized significantly here is the reality that the individualized curriculum designs will not conform to conventional testing methods. To put new measuring and assessing systems into operation bears a special importance.

3. Situation in Turkey

The universities are institutions which embody a considerable amount of young population mass of the country. To be able to truly read demands of the Z generation, who can perceive the change very fast and who also pass through a quick process of change, is a prominent property as a significant priority all around the world.

Now Y generation having been born between 1980-1999 forms 35 percent of Turkish population that is 77 million, and Z generation having been born in 2000 and later forms 23 percent of the population. When percentages are transformed into numeric quantity, it is seen that Y generation forms 27 million of the country population and Z generation forms 18 millions of it, and this is a big population ratio. In a short time, this big ratio forming the Z generation will turn up at the gates of universities to take education. When looked at from this perspective, it is seen that curriculums of many public universities now even haven't got properties including differences of the Y generation.

It can be said that the main character of the traditionalist attitude and strength in art education in Turkey exhibits parallelism with the general situation of art. The general tendency of the art education has been established on a model having an academic attitude and method trying to operate values of representation. In this context, the available art education system has a position open to discussion with its various aspects from quantity to qualification. The structuring of the model has been predominantly founded on the given compulsory lessons, grading systems, bureaucratic norms and procedures. Although there is a kind of university education, the measuring and assessing quality is kind of a continuation of high school rather than assessing academic, intellectual and artistic quality of trained students.

While in the art education in today's Turkish universities the teaching staff make studies of the art works, they take students to museums and galleries as many times as possible to be able to keep interest alive, but mostly use the media (photograph etc.) used in the reproduction of images. In other words, they apply to the object-based learning strategies.

When the near future is taken into consideration, it can be seen that the art educators are obligated to gain abilities which can prepare ground to use new expression facilities in shaping infinitely many producible and extensible concepts. Within conventional art education strategies (primarily in the context of mentality and then of curriculum), it cannot be said that today's educators use technology completely. In fact, technology

increasingly exceeds all limitations. Today's art education is structured with the project or web-based distance education models which are interdisciplinary and take the student as centre. In other words, the paradigmatic transformation in education doesn't only affect the teacher and student, but also thrusts itself forward as having a unity including changing the whole education system.

It's a known reality that being a prisoner in the available thought patterns greatly prevents new realities from being perceived. In this sense, it's necessary that new thought patterns enter into the art education modulations of Turkish universities and so new curriculums are formed. Because new realities can never be defined with old patterns of thought.

When looked at from today, most of the education managers taking place in the education system cannot see or don't see the new realities or tendencies, but it's seen that they look forward to evaluate them within old perception moulds. Actually, the results include a series of problems. In other words, it is seen that Turkish education modulations except a few private universities haven't been able to go out from this predicament.

IN LIEU OF CONCLUSION

Since Z generation individuals was born and grown up in digital age, that traditional learning methods won't be adequate for them, who are known to have quite different perceptions from the previous generations, comes out as a given reality.

In a near future the generation called Z generation will start to take education in universities. The first step of arrangements to be made towards perception and learning ways of Z generation is to find new program modulations by changing the education method. The secondary factor is to accomplish changing habits of the teaching staff.

The effect of digital technology, in which unlimited heterogeneous factors unite to each other perennially, on education gradually increases. Digital technology continuously changes learning and teaching styles. For example, researchers of Harvard University state that 50 % of information in the k-12 schools will be given on-line by 2019. We should state that Turkish education system cannot do anything more than equipping students with the available curriculums and abilities required by these means the paralysation of it.

The effect of digital world in the art education field comes to the forefront more specifically; and actually, to realize fundamental changes in the art education of universities and to restructure them is necessary. Also in Turkish universities established on traditional understanding taking teaching as basis, this phenomenon immediately must be open to discussion, the substructure of the art education must be restructured and preparing the art educators, who will apply this structure effectively, is needed. When schools, which are the most strategic part of education system, are restructured suitably with these changing conditions and transformed into learning schools, to reach goals more effectively will be possible.

Turkish university education system exhibits an appearance getting stuck between the modern and traditional education paradigms. The similar phenomenon is also valid for art education. As a result, the necessity of transformations towards the next generations in education system makes itself feel with its all aspects.

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THE CORRELATION BETWEEN LEADERSHIP, CULTURE, AND STUDENT ACHIEVEMENT

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ABSTRACT

Educational institutions across the nation are being unsuccessful at meeting academic goals set by the states and preparing students to be college and career ready. Many schools around the globe are suffering from a shortage of experienced and competent school leaders that can bring about positive change and increase student achievement. Thus, the objective of this study was to determine the correlation between leadership practices, school culture, and student achievement in an effort to build the capacity of principal leaders. A correlational design was used to determine the relationship between principal leadership practices, culture, and achievement in elementary, middle, and high schools. A total of 216 teachers in 31 schools completed the Leadership Practices Inventory and School Culture Survey. A significant correlation was found between (a) leadership practices and school culture and (b) school culture and student achievement. No relationship was established between leadership practices and school culture. The results implied that school leaders who use transformational leadership practices indirectly impact student achievement through creating a positive school culture. It is recommended that principal preparation programs revamp leadership curriculum to develop leaders who can create positive school cultures and manage reform efforts.

Keywords: Education, culture

INTRODUCTION

School leaders are confronted with a number of challenges on a daily basis. For instance, principals contend with staff issues, school improvement, structural changes, instructional matters, budgetary cuts, and parent concerns (Devos & Bouckenooghe, 2009; Johnson, 2008; Watkins & Moak, 2011). Furthermore, educational leaders are faced with improving the academic achievement of all students (Hildebrand, 2012; Hughes & Jones, 2010-2011). The accountability systems of the states and the nation require principals to lead organizations to high levels of academic achievement (Huff, Brockmeier, Leech, Martin, Pate, & Siegrist, 2011).

The No Child Left Behind (NCLB) Act was instituted to increase achievement for all students. However, educational institutions have been unsuccessful at meeting the academic goals set by the states (Dillon, 2010; Huff et al., 2011; Pepper, 2010). According to the National Assessment of Educational Progress, 62% of fourth and eighth grade students in American schools scored at the basic level on math assessments and 65% of fourth and eighth grade students scored at the basic level on reading assessments (Hanushek, Peterson, & Woessman, 2011; Peterson, Woessman, Hanushek, & Lastra-Anadon, 2011). Thus, it is vital that school organizations and leadership programs find approaches to raise achievement for all students.

One method to increase academic achievement is to improve school leadership. Leithwood, Harris, and Hopkins (2008) proposed that principals have a significant impact on student achievement. Successful leaders plan for systemic change and facilitate effective teaching and learning in the didactic organization (Hallinger, 2011; Maulding, Townsend, Leonard, Sparkman, Styron, & Styron, 2010). Transformational leaders create positive and healthy cultures, which motivates staff and improves teacher performance (Crum, Whitney, & Myran, 2009; Tajasom, 2011). Numerous researchers have indicated that effective principal leaders are fundamental to the success

of educational institutions (Hallinger, 2011; Hallinger & Heck, 2010; Knab, 2009; Leithwood & Sun, 2012). However, there is a substantial shortage of qualified and competent educational leaders in schools throughout the nation (Maulding et al., 2010). In addition, principal preparation and certification programs are not preparing school leaders with the skills necessary to improve teaching and student learning (Huff et al., 2011). Thus, additional research is required to advance the leadership practices of principals.

Another approach to improve student achievement is through the creation of a positive school culture. The principal plays a crucial role in the development of a healthy culture (Lindahl, 2011). The culture of an organization impacts every aspect of the schooling process, especially student achievement (Kythreotis, Pashiardis, & Kyriakides, 2010; MacNeil, Prater, & Busch, 2009; Sahin, 2011). Researchers have indicated that school leadership and culture influence academic achievement (Hallinger & Heck, 2010; Kythreotis et al. 2010; Leithwood & Sun, 2012; MacNeil et al., 2010; Sahin, 2011). However, the quantity of impact and the individual leadership and cultural practices required to increase student achievement is debatable (Gumuseli & Eryilmaz, 2011; Kythreotis et al., 2010). Thus, a deeper understanding of the relationship between leadership, culture, and student achievement is needed to assist principal certification programs in preparing school leaders to make positive change in the organization and improve student learning.

PURPOSE

The purpose of this investigation was to determine the relationship between leadership practices, school culture, and student achievement. Another objective of this study was to establish the leadership and cultural practices required to improve student achievement. The following questions guided the study:

RQ1. What is the relationship between leadership practices and school culture?
RQ2. What is the relationship between school culture and student achievement?
RQ3. What is the relationship between leadership practices and student achievement?

METHODOLOGY

Research Design

The study was quantitative in nature and was conducted with the use of an online survey. A correlational design was utilized to conduct the study. Regression techniques were appropriate for this investigation because the parametric test is functional at establishing correlations among variables (Yan, 2009). Multivariate multiple regression was employed to determine the association between the leadership practices and school culture variables. Multiple regression was utilized to establish the relationship among (a) leadership practices with student achievement and (b) school culture with student achievement.

Participants

An a priori power analysis was conducted to determine an appropriate sample size for the study. The sample size was calculated by assuming a power of 0.80, an effect size of 0.15, an alpha level of .05, and six predictors (Andersen, 2008; Coladarci et al., 2011; Yan, 2009). The required sample size was 98 subjects. The minimal sample size was met, since a total of 216 teachers participated in the study.

The participants were chosen with the use of a simple random sampling method. Various performing schools were chosen to participate in the study. A total of 310 participants from 31 elementary, middle, and high schools in Southwest Mississippi schools were selected to participate in the study. Two-hundred and sixteen participants successfully completed the online survey, which resulted in a 69.7% response rate. Approximately 79% of the teachers that participated in the study were Caucasian and 88% of the subjects were female.

Variables

The variables for this study included leadership practices, school culture, and student achievement. Transformational leadership was conceptualized in this study using the five leadership practices as identified by Kouzes and Posner (2007). The five leadership variables included modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. School culture was conceptualized with the use of the six cultural factors as identified by Gruenert and Valentine (1998). The six cultural factors are collaborative leadership, teacher collaboration, professional development, collegial support, unity of purpose, and learning partnership. Leadership practices and school culture variables were independent variables and student achievement was the dependent variable. Student achievement data for the 2011-2012 school year was obtained from the Mississippi Department of Education website.

Instrumentation

The instrument used to measure leadership practices was the Leadership Practices Inventory (LPI) by Kouzes and Posner (2003). The LPI measures the following five transformational leadership practices: modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart. The LPI consists of a total of 30 questions and is based on a 10-point Likert-scale. A maximum score of 60 and a minimum score of 6 can be obtained for each leadership practice. High scores indicate that the leader employs the leadership practice regularly, while low scores signify that the principal rarely utilizes the leadership practice. The internal reliability of the instrument ranges from 0.85 to 0.92.

A definition for each of the leadership practices is provided below:

Modeling the way. Modeling the way is the extent to which the transformational leader sets the example for others to follow (Kouzes & Posner, 2007).

Inspiring a shared vision. Inspiring a shared vision is the degree to which the leader creates a shared vision with the stakeholders and nurtures a promise to fulfill the goals of the institution (Kouzes & Posner, 2007).

Challenging the process. Challenging the process is the extent to which the leader takes risks to make positive change to the organization (Kouzes & Posner, 2007).

Enabling others to act. Enabling others to act is the degree to which the principal empowers the staff to become leaders and includes the faculty in the decision-making process (Kouzes & Posner, 2007).

Encouraging the heart. Encouraging the heart is the extent to which the school leader encourages and recognizes the staff for achieving the goals of the organization (Kouzes & Posner, 2007).

The instrument used to measure the cultural factors was the School Culture Survey (SCS) by Gruenert and Valentine (1998). The SCS assesses the following six school culture factors: collaborative leadership, teacher collaboration, professional development, collegial support, unity of purpose, and learning partnership. The SCS consists of a total of 35 questions and is based on a 5-point Likert-scale. High scores signify that the principal utilizes the cultural practice frequently, while low scores indicate that the leader seldom employs the cultural practice. The internal reliability of the instrument is 0.96.

A definition for each of the school cultural variables is provided below:

Collaborative leadership. Collaborative leadership is the degree to which the principal develops mutual affiliations with the faculty (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Teacher collaboration. Teacher collaboration is the extent to which the teachers work together as a group to improve instructional practices and meet organizational goals (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Professional development. Professional development is the degree to which the educational staff engages in seminars and trainings to stay current with educational issues and improve instructional practices (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Collegial support. Collegial support is the extent to which teachers trust and work together to achieve the objectives of the school (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Unity of purpose. Unity of purpose is the degree to which stakeholders work towards the common mission of the school (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Learning partnership. Learning partnership is the extent to which the principal, teachers, and parents work together to improve the performance and achievement of the child (Gruenert & Valentine, 1998; Gumuseli & Eryilmaz, 2011).

Data Collection

First, permission from the superintendents, principals, and Northcentral University was obtained before collecting data. Second, a random sample of participants was attained with the use of a simple random sampling method. Third, the teachers were invited to participate in the study. Fourth, the online survey was sent to the participants through email. Data was collected for approximately one month.

Data Analysis and Assumptions

The data was analyzed with the use of inferential statistics. Multivariate multiple regression was employed to determine the relationship between leadership practices and school culture. This statistical test was appropriate for measuring the associations among multiple predictor and multiple dependent variables. Multiple regression was

utilized to establish the correlation between leadership practices and student achievement and school culture and student achievement.

The assumption of normality, homoscedasticity, linearity, and multicollinearity were assessed before conducting the regression analyses. The assumption of normality, homoscedasticity, and linearity were evaluated through visual inspections of histograms and scatterplots. Each of the assumptions was met. The assumption of multicollinearity was assessed by calculating variance inflation factors (VIF) for each of the leadership practices and school culture variables. The VIF values were within the acceptable range, which indicated that the assumption of multicollinearity was satisfied.

RESULTS

The purpose of this study was to determine the relationship between leadership practices, school culture, and student achievement. The first question was concerned with determining the relationship between leadership practices and school culture. A multivariate multiple regression analysis was employed to answer Research Question 1. The results of the analysis between leadership practices and school culture are presented in Table 1.

Table 1

Multivariate Test of the Contribution of Independent Variables to the Full Model

Effect	Pillai's Trace[a]	F	p
Intercept	.586	41.17	<.001
Modeling the Way	.053	1.91	.081
Inspiring a Shared Vision	.066	2.41	.029
Challenging the Process	.077	2.84	.011
Enabling Others to Act	.122	4.74	<.001
Encouraging the Heart	.059	2.15	.050

Note. [a]Hypothesis df=6 and Error df=205. Collaborative Leadership: (F(5, 210)=30.12, p<.001, R^2=.363), Teacher Collaboration: (F(5, 210)=15.10, p<.001, R^2=.223), Professional Development: (F(5, 210)=19.95, p<.001, R^2=.274), Unity of Purpose: (F(5, 210)=20.99, p<.001, R^2=.285), Collegial Support: (F(5, 210)=16.46, p<.001, R^2=.238), Learning Partnership: (F(5, 210)=9.50, p<.001, R^2=.153).

Pillai's Trace was the multivariate statistic employed to establish the leadership practices that contributed to the regression model. Inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart were the four leadership practices that contributed to the model at the .05 significance level. The regression model with the four predictor variables accounted for 36% of the variation in collaborative leadership, 22% of the variance in teacher collaboration, 29% of the variation in unity of purpose, 27% of the variance in professional development, 24% of the variance in collegial support, and 15% of the variation in learning partnership. Furthermore, the regression analysis revealed that inspiring a shared vision and enabling others to act were significant predictors of school culture. Inspiring a shared vision was a significant predictor of collaborative leadership (p=.003), unity of purpose (p=.029), and professional development (p=.013). Enabling others to act was a significant predictor of teacher collaboration (p=.041). The findings indicated that a significant relationship existed between leadership practices and school culture.

The objective of Research Question 2 was to determine the correlation between school culture and student achievement. A multiple regression analysis was conducted to answer Research Question 2. Furthermore, multiple regression was employed to establish the relationship between the six cultural factors and student achievement. The results of the regression analysis are presented in Table 2. The analysis revealed a significant correlation between school culture and student achievement, (F(6,209)=3.294, p=.004, R^2=.086). The full model accounted for approximately 9% of the variation in student achievement. As can be seen in Table 2, learning partnership was the

only significant predictor of student achievement (β=.223, p=.027). The results of the regression analysis signified that a statistically significant association existed between school culture, especially learning partnership, and student achievement.

The objective of Research Question 3 was to establish the association between leadership practices and student achievement. A multiple regression analysis was conducted to answer this research question and to determine the relationship between the five leadership practices and student achievement. The results of the regression analysis are presented in Table 3. The regression analysis indicated that no significant correlation existed between the leadership practices and student achievement, (F(5,210)=2.176, p=.058, R^2=.049). The full model revealed that the five leadership practices only accounted for 4.9% of the variation in student achievement. As can be seen in Table 3, no leadership practice was a significant predictor of student achievement. The findings of the multiple regression analysis signified that no relationship existed between leadership practices and student achievement.

Table 2

Multiple Regression Analysis of School Culture and Student Achievement

Variables	B	SE	β	t	p
Collaborative Leadership	.145	3.163	.006	.046	.963
Teacher Collaboration	-3.017	2.879	-.133	-1.048	.296
Professional Development	-.579	3.826	-.022	-.151	.880
Collegial Support	-1.218	2.710	-.051	-.449	.654
Unity of Purpose	6.202	3.626	.232	1.710	.089
Learning Partnership	4.683	2.099	.223	2.231	.027

Note. N=216. Full Model: F(6, 209) = 3.294, p=.004, R^2 = .086; *SE*=Standard Error.

Table 3

Multiple Regression Analysis of Leadership Practices and Student Achievement

Variables	B	SE	β	t	p
Modeling the Way	-4.547	2.395	-.430	-1.899	.059
Inspiring a Shared Vision	.957	2.296	.086	.417	.677
Challenging the Process	1.982	2.534	.185	.782	.435
Enabling Others to Act	1.804	1.816	.158	.993	.322
Encouraging the Heart	1.933	1.848	.194	1.046	.297

Note. N=216. Full Model: F(5, 210) = 2.176, p=.058, R^2 = .049, *SE*=Standard Error

DISCUSSION

The relationship between leadership practices, school culture, and student achievement was investigated in this study. Kouzes and Posner's transformational leadership model and Gruenert and Valentine's cultural model was

utilized to conceptualize the leadership practices and school culture variables. The findings are presented as follows: a) correlation of leadership practices and school culture, b) correlation of school culture and student achievement, and c) correlation of leadership practices and student achievement. The implications of the findings and recommendations for practice will also be presented in this section.

Correlation of Leadership Practices and School Culture
The results of this research indicated that a strong correlation existed between leadership practices and school culture in Southwest Mississippi. The findings of this study are supported by other researchers (Cemaloglu, 2011; Engels, Hotton, Devos, Bouckenooghe, & Aelterman, 2008; Kythreotis et al., 2010; Leithwood & Sun, 2012; MacNeil et al., 2009). This research and other studies have demonstrated that the principal leader plays a significant role in the development of a positive school culture (Hallinger, 2011, Sahin, 2011). A healthy and positive organizational culture improves the morale and motivation of the teaching staff in the school organization. Thus, it is imperative that school leaders improve the school culture in order to improve teacher performance and increase student achievement (Hallinger, 2011; MacNeil et al., 2009).

The findings of this study implied that school leaders who effectively utilize the Kouzes and Posner's leadership practices have a healthier and more positive school culture. However, it was established that inspiring a shared vision and enabling others to act were the only significant predictors of school culture. No literature was discovered that examined the association among the five transformational leadership practices and the six cultural elements of school culture. The results of this study are similar to other studies conducted in the educational arena (Engels et al., 2008; Kythreotis et al., 2010; Sahin, 2011). One research team determined that creating a vision and building the competence of teachers were leadership practices that significantly impacted school culture (Leithwood & Sun, 2012).

Correlation of School Culture and Student Achievement
The findings of the study suggested that school culture significantly impacted student achievement. Learning partnership was the cultural factor that was a significant predictor of academic achievement in Southwest Mississippi Schools. The results of this research are supported by other correlational studies involving school culture and achievement (Demirtas, 2010; MacNeil et al., 2009; Ohlson, 2009). Gruenert (2005) discovered that learning partnership and unity of purpose were the cultural factors that correlated positively with academic achievement. Another researcher found that collaborative leadership and unity of purpose were significant determinants of student attainment (Demirtas, 2010). Based on the results of this study and the literature, it is recommended that school leaders improve their cultural practices, especially learning partnership, in order to increase academic achievement.

Correlation of Leadership Practices and Student Achievement
The results of this study indicated that no significant correlation existed among transformational leadership practices and student achievement. This research is supported by other educational scholars (Gieselmann, 2009; Siegrist et al., 2009). One research team found that the leadership practices of principal leaders had no impact on academic achievement (Siegrist et al., 2009). Another researcher established that principal leadership did not forecast academic achievement on state tests (Gieselmann, 2009).

It was concluded from this study that the leadership practices of school leaders, as identified by Kouzes and Posner, do not directly influence academic achievement. However, the findings suggested that principal leaders directly and positively impacted school culture. It is recommended that principals employ Kouzes and Posner's five transformational leadership practices in order to positively influence school culture. Furthermore, this study advocated that school leaders improve academic achievement indirectly through creating a positive school culture.

Conclusion
Multiple regression analysis was used in this study to ascertain the correlation among leadership practices, school culture, and student achievement. A significant relationship was established among the five leadership practices and six elements of school culture. Furthermore, a correlation was found to exist between school culture and student achievement. The results of this study revealed that no significant association existed between transformational leadership and academic achievement. The findings of this study implied that the impact of leadership practices is mediated through school culture. Therefore, it is imperative that school leaders work diligently to create a healthy school culture.

It is recommended that universities and principal preparation programs utilize the results of this study and other similar studies to improve their leadership programs. It is recommended that certification programs revamp their

curriculum to better prepare principal candidates for the leadership role. Leadership preparation programs need to provide students with internships that are suitable to prospective principal candidates. In addition, school districts are advised to provide mentors to new and struggling principals in order to bring positive change to didactic institutions and increase student achievement.

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THE CORRELATION BETWEEN THE NEW TEST VARIANTS AND STUDENT RESULTS OF FINAL EXAM[1]

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ABSTRACT
The paper discusses analysis of correlation between system of testing and student results of final exam of the obligatory course The Basics of Law at the University of Economics in Prague. We shall describe dependence of these results on the new test variants in the period of 2013-2015 because of perceptible differences in measured values. The research also analyses the impact of new learning tools on student results during the examined period. The obtained results will be used to update system of testing of students in coming years. The aim of the research is to make teaching methods more effective and obtain more objective results within testing of students.

Key words: Statistical Methods, Pearson's Chi-squared Test, Yates's correction, ANOVA

1. INTRODUCTION

The exam of the course The Basics of Law at the University of Economics in Prague (UEP) is obligatory requirement for each student of UEP during first academic year of study. The main aim of this course is to provide students with necessary basic knowledge of law especially in the field of the theory of law, theory of state, civil law and main principals of contract law. Special focus is put on business law at the national and also European level. This knowledge is necessary for further consecutive courses in all study programs at UEP and should be useful for students after finishing their studies at their work and also in a daily life.

This course lasts one semester and is annually attended by more than 2,000 students. About 75% of students pass the course The Basics of Law during exam period of the winter semester (WS). The rest 25% of students pass the course at the end of the following summer semester (SS).

The final exam of the course consists of two parts, 2 tests and final oral examination. The test part includes two different tests, mid-semester and end-semester. First test is focused on basics of law theory and second is focused on basics of business law. In this paper we will discuss the test results of first mentioned test focused on basics of law.

The tests variants consist of 20 multiple choice questions. Each question is for 1 point, therefore the maximum number of points is 20. Questions are independent. They are selected randomly by the system from the database of questions. Wrong answer is not penalized. The students can obtain in the test these numbers of points: 0, 1, 2, 3, 4, 5,…., 18, 19, 20.

The aim of this paper is to analyze correlation between system of testing and student results of final exam in academic years 2013/2014 and 2014/2015. We will compare probability distributions of number of points in the test in 4 semesters. We shall study dependence of number of reached points in the test on test variants.

Tab. 1: The Basics of Law course at UEP summary

WS$_{2013/2014}$	SS$_{2013/2014}$	WS$_{2014/2015}$	SS$_{2014/2015}$

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[1] This paper was created within the project IGS no. F2/130/2014 „New Trends in Private and Public Law of the Czech Republic and the EU in relation to business".

Number of students	1564	583	1780	600
Database of test questions	290	348	374	375
Max number of points	20	20	20	20

The results of this research will be used to improve system of education and student testing in coming years.

2. METHODS

For independence verification of data in a contingency table we shall use Pearson's chi-squared test (x^2) which is a method of mathematical statistics, which allows to verify if the random variable has a predetermined probability distribution. Test is often used for testing hypotheses in the contingency table. The value of x^2 is

$$x^2 = \sum_{i=1}^{r} \sum_{j=1}^{s} \frac{\left(n_{ij} - n_{ij}^o\right)^2}{n_{ij}^o}$$

where

x^2 = the Pearson's cumulative test statistic, which asymptotically approaches a x^2 distribution.
r = the number of rows in contingency table,
s = the number of columns in contingency table,
n_{ij} = the number of observations
n_{ij}^0 = the expected frequency in case of independence.

If

$$x^2 > x_\alpha^2\big((r-1)(s-1)\big),$$

where

$x_\alpha^2\big((r-1)(s-1)\big)$ = the critical value of x^2 distribution, hypothesis of independence is rejected at significance level, which is asymptotically equal to α.

For comparison of test variants we shall use ANOVA method and also Yates's correction for continuity. Yates´s correction is usually used for extremely low expected frequency.

We shall confirm or reject the null hypothesis because the number of points of is the same in each semester. If the test statistic F is

$$F > F_\alpha(s-1, n-s),$$

where

$F_\alpha(s-1, n-s)$ = the critical value of F-distribution (Fisher-Snedecor distribution) with $(s-1)$ and $(n-s)$ degrees of freedom ($s = 4$, number of variants), hypothesis is rejected at significance level α.

3. RESULTS AND DISCUSSION

3.1 Dependence on the test variants

We can see results of tests in Tab. 2 where are complete data for examined period. The table shows frequency of obtained points in the test, for example 13 students in $WS_{2013/2014}$ obtained 5 points – 13 is frequency n_{61} in 6th row and 1st column of contingency table. Based on this table we shall study dependence of number of points in the test on test variants. We shall test null variant hypothesis

H_0: number of points in the test is not dependent on the test variant.

We shall use x^2 test of independence in contingency table. In the first step we calculate (1) statistic x^2 (i.e. $n_{61} = 13$ and expected frequency $n_{61}^0 = \frac{1564}{4527} \times 54 = 18,656$).

Tab. 2: Distribution of number of points in test (contingency table)

Points in test	WS $_{2013/2014}$	SS $_{2013/2014}$	WS $_{2014/2015}$	SS $_{2014/2015}$	Sum
0	0	0	0	0	0
1	0	3	0	0	3
2	5	4	4	2	15
3	6	8	11	0	25
4	18	11	11	3	43
5	13	16	23	2	54
6	21	27	21	5	74
7	34	50	39	7	130
8	57	49	45	15	166
9	62	53	38	10	163
10	91	68	74	19	252
11	133	71	84	34	322
12	185	59	110	39	393
13	174	62	106	52	394
14	196	36	147	64	443
15	186	31	163	68	448
16	176	25	181	71	453
17	116	10	204	92	422
18	61	0	218	67	346
19	24	0	180	34	238
20	6	0	121	16	143
Sum	**1564**	**583**	**1780**	**600**	**4527**

We will eliminate first three rows due to low frequency, because there is no value for 0 points in the test. Therefore we will count first 4 rows of each column[2].

Then expected frequencies are

Tab. 3: Expected frequency in test (contingency table)

Points in test	WS $_{2013/2014}$	SS $_{2013/2014}$	WS $_{2014/2015}$	SS $_{2014/2015}$	Sum
0	0,00	0,00	0,00	0,00	0
1	1,04	0,39	1,18	0,40	3
2	5	2	6	2	15
3	9	3	10	3	25
4	15	6	17	6	43
5	19	7	21	7	54
6	26	10	29	10	74
7	45	17	51	17	130
8	57	21	65	22	166
9	56	21	64	22	163

[2] See Klůfa, J., (2015) *Dependence of the results of entrance examinations on test variants.* International Conference on New Horizons in Education. Volume 374, p. 3565-3571.

10	87	32	99	33	252
11	111	41	127	43	322
12	136	51	155	52	393
13	136	51	155	52	394
14	153	57	174	59	443
15	155	58	176	59	448
16	157	58	178	60	453
17	146	54	166	56	422
18	120	45	136	46	346
19	82	31	94	32	238
20	49	18	56	19	143
Sum	**1564**	**583**	**1780**	**600**	**4527**

After enter the data into the formula we have

$$x^2 = 988{,}07$$

To compare and reduce the error in approximation we shall use Yates correction for continuity. We shall use it for original frequencies. The effect of Yates correction is to prevent overestimation of statistical significance for small data. This formula is used because the most of frequencies in first 3 rows is smaller than 5. We have to reduce first row because of null values.

Statistic x^2_{Yates} is

$$x^2_{Yates} = \sum_{i=1}^{r} \sum_{j=1}^{s} \frac{\left(\left|n_{ij} - n_{ij}^o\right| - 0{,}5\right)^2}{n_{ij}^o}$$

Using the Yates correction formula we have

$$x^2_{Yates} = 958{,}56$$

Critical value of x^2 distribution for 51 degrees of freedom and significance level $\alpha = 0{,}05$ is $x^2_{0,05}(51) = 68{,}67$.

Since the x^2 and x^2_{Yates} is bigger than $x^2_{0,05}(51)$

$$x^2 = 988{,}07 > x^2_{Yates} = 958{,}56 > 68{,}67$$

Null hypothesis H$_0$ is rejected at approximately 5% significance level.

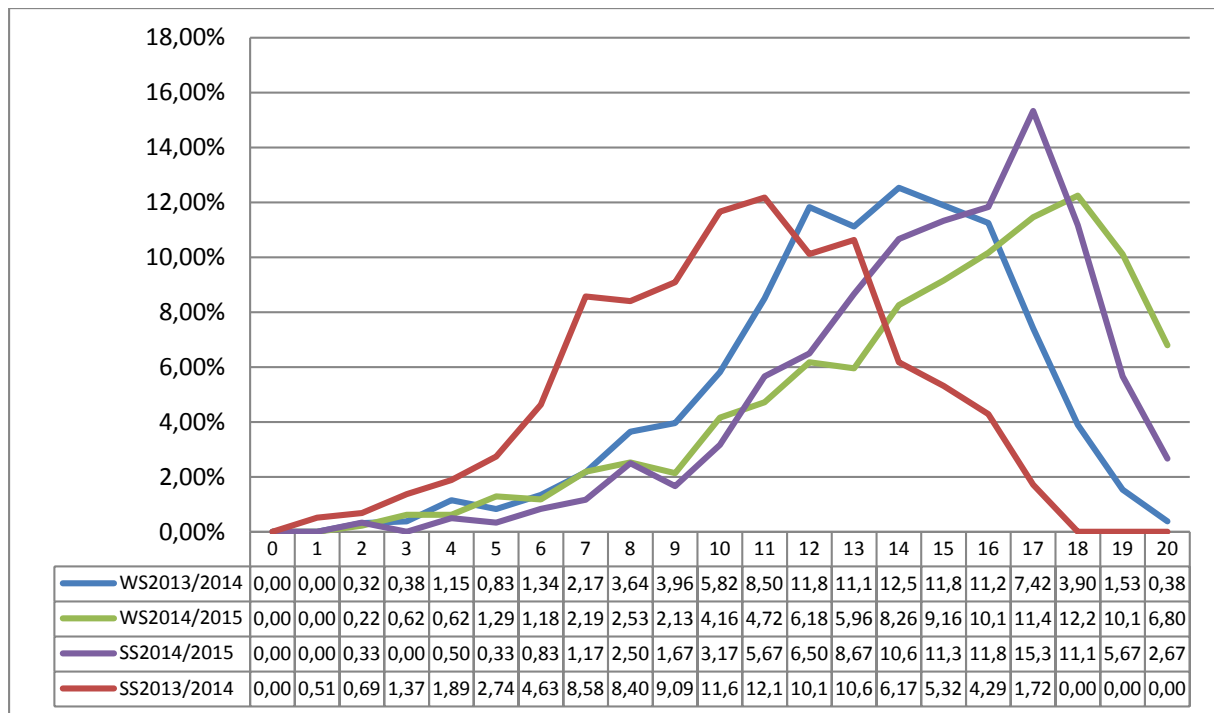If we use Pearson's chi-squared test for calculation of p value in MS Excel the result is equal to null

$$p = 0$$

Therefore we can say that the number of points in the test depend on the test variant.

3.2   Differences between the test variants

Now we can compare analyzed data from contingency table for each semester during examined periods in graph below:

Fig. 1 Distribution of number of points in test

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WS2013/2014	0,00	0,00	0,32	0,38	1,15	0,83	1,34	2,17	3,64	3,96	5,82	8,50	11,8	11,1	12,5	11,8	11,2	7,42	3,90	1,53	0,38
WS2014/2015	0,00	0,00	0,22	0,62	0,62	1,29	1,18	2,19	2,53	2,13	4,16	4,72	6,18	5,96	8,26	9,16	10,1	11,4	12,2	10,1	6,80
SS2014/2015	0,00	0,00	0,33	0,00	0,50	0,33	0,83	1,17	2,50	1,67	3,17	5,67	6,50	8,67	10,6	11,3	11,8	15,3	11,1	5,67	2,67
SS2013/2014	0,00	0,51	0,69	1,37	1,89	2,74	4,63	8,58	8,40	9,09	11,6	12,1	10,1	10,6	6,17	5,32	4,29	1,72	0,00	0,00	0,00

We shall test null hypothesis

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4,$$

where

$\mu_1, \mu_2, \mu_3, \mu_4$ = the number of points in test in $WS_{2013/2014}$, $SS_{2013/2014}$, $WS_{2014/2015}$, $SS_{2014/2015}$. The number of points is the same for each semester.

For confirmation or rejection the null hypothesis we shall use the analysis of variance (ANOVA test) in MS Excel.

Tab. 4: Distribution of number of points in tests in $WS_{2013/2014}$, $SS_{2013/2014}$, $WS_{2014/2015}$, $SS_{2014/2015}$

Period	Frequency n_i	Sum	Average number of points	Variance
$WS_{2013/2014}$	1564	20394	13,03964194	10,72395534
$SS_{2013/2014}$	583	6054	10,38421955	10,88992237
$WS_{2014/2015}$	1780	26294	14,77191011	15,28240332
$SS_{2014/2015}$	600	8811	14,685	10,71363105

Tab. 5: Results of ANOVA test (one factor)

Source of variability	Sum of Squares	Degree of freedom	Fraction	F	P value	F crit
Test variants	9670,93793	3	3223,6460	257,133	$4,4454 \times 10^{-154}$	2,607
Rezidual	56704,3375	4523	12,536887			
Sum	66375,2755	4526				

As we can see

$$F = 257,133 > 2,607$$

The null hypothesis is rejected at 5% significance level. The differences between the average number of points in test (Tab. 4) in examined periods are statistically significant.

4. CONCLUSION

In accordance with the tests we have done is evident the results of the test (points that students obtained) at the final exam of the course The Basics of Law at UEP differ depending on the semester. The analysis helped us to understand and explain the changes of the test methodology we have done recently.

As we can see in the Fig. 2 the curve of the distribution of the number of the test the curve of $WS_{2013/2014}$ is similar as a Gaussian bel curve and these results with average number of points 13,04.

After this semester the recodification of private law was introduced in Czech Republic and due to these changes the question bases of the test was highly modified. Because of this the results of students got considerably worse which mean that the curve $SS_{2013/2014}$ is shifted to the left and the average number of points was decreased to 10,38.

In our previous study[3] we have proved the dependency of modification of the question bases on the student´s results. We have concluded that to archive same results of the test it is necessary to modify 15 % of the question bases each semester.

Because of these unsatisfactorily results of the students we have provided them a new e-learning tool to help them to deal with the impacts of mentioned changes of law. The influence of using these e-learning tools on the results of students at the tests is discussed in our previous paper.[4] As we can see in the Fig. 2 these changes resulted in the fact that the students results got improved significantly, which we did not expected. Therefore the curve of $WS_{2014/2015}$ is shifted to the right. The average number of points was increased to 14,77.

Afterwards new questions were added into the question bases. This fact led to slight worsening of results in $SS_{2014/2015}$ and average number of points was decreased to 14,69.

Fig. 2 Distribution of number of points in test with the expected frequency curve
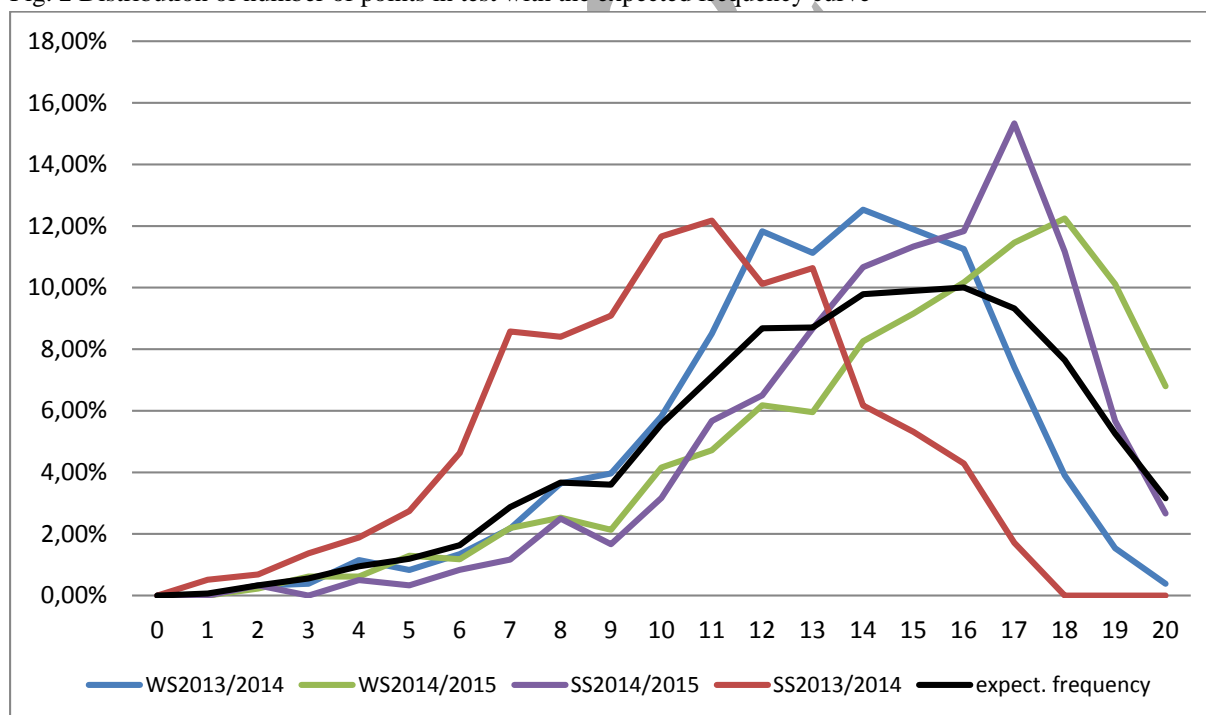
Because the results of students depend on test variant it is necessary to make testing as objective as possible. It is also necessary to update database of questions regularly.

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THE CORRELATIONAL FACTORS IN ATTITUDES REGARDING MARITAL INFIDELITY AMONG MARRIED WOMAN IN IRAN

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ABSTRACT

Infidelity or extra marital affairs is a psychological and complex issue that is not easily explained. Traditionally, males have been known to commit spousal cheating; however, female infidelities are also on the rise (Carr, 2010). An international assessment procedure known as General Social Survey (GSS), which is largely a national representation of united State's population showed that men and women equally confess to have cheated on their spouse. The same study showed that in regards to ethnicity, African American population followed by Hispanics showed to have the highest number of infidelity among their group members (Carr, 2010).

Infidelity is not a new concept in non-western cultures, as previous studies have shown its multicultural prevalence and existence (Atkins, Dimidjian, & Jacobson, 2001). Iranian women in the course of the revolution, which took place in 1979, gradually lost most of their social and legal rights; however, the Islamic Republic of Iran's Regime has not been able to sever its Internet connection to the Western world, which has become an avenue for its female population's social freedom.

This qualitative, empirical, and micro genetic study will use a population assessment model adapted from the General Social Survey (GSS), a sociological survey often used to collect data on demographic information of people, who live in the United States National Opinion Research Center [NORC], 2014). The participants will randomly be assigned using locations such as mental health clinics, doctor's offices of psychologists and gynecologists, where females are being treated for a variety of health and mental issues. Demographically, the study will be conducted in two of the largest cities in Iran, Shiraz and Tehran.

The above study will investigate the correlational factors that have led to an attitude change in how infidelity is regarded among Iranian women living in Iran. The findings will also show that the increased use and the availability of cyber media has diluted the conceptual understanding of fidelity and morality indicating a need for future studies in the areas of cyber morality and its implications.

Keywords – Marital infidelity, married woman, attitudes, cyber media

INTRODUCTION

Infidelity or Extra Marital Affairs (EMAs) is a psychological and complex issue that cannot be easily explained by scientific measures. Traditionally, men have shown higher possibility than women of committing spousal cheating; however, females have been known to cheat on their spouse as well. Conversely, infidelities among married females are on the rise. An international assessment procedure known as General Social Survey (GSS), which is largely a national representation of united State's population showed that men and women equally confess to have cheated on their spouse. The same study showed that in regards to ethnicity, African American population followed by Hispanics showed to have the highest number of infidelity among their group members (Carr, 2010).

Infidelity between married couples is defined as one having sexual, romantic, intimate, or secretive relationship with another other than the spouse outside the marriage (Baucom, Epstein, Rankin, & Burnett, 1996). Furthermore, infidelity is not a new concept in non-western cultures; however, previous studies have shown that multicultural spousal cheating is also prevalent in existence (Atkins et al., 2001). The non-western rise of EMAs has also shown signs of being on the rise and it may be correlated to the rapid growth and emergence of technology and globalization.

The hypothetical assumption of this research study was set on the acceptance and prevalence of extra marital affairs (EMAs) among women in Iran and its correlation to relational dissatisfaction, excitement seeking attitudes, opportunity, and access to satellite TV & Smart phones. Iranian women in the course of the revolution, which took place in 1979, gradually lost most of their social and legal rights; however, the Islamic Republic of Iran's regime has not been able to sever its Internet connection to the Western world, which has become a venue and opportunity for social freedom of its female population. This research study's investigation of the above multi factorial correlations such as relational dissatisfaction, abundant opportunities, access to western satellite programming and internet revealed multi predictors and variables in the rise of EMAs among married couples in Iran, which validated the same findings in previous studies found in western studies (Atkins et al., 2001).

RESEARCH METHODOLOGY
Methodology - This research is based on a qualitative, empirical, and micro genetic methodology using a population sample of female participants, who live in the two largest metropolitan cities in the country of Iran. The study also uses a population assessment model adapted from the General Social Survey (GSS), a sociological survey often used to collect data on demographic information of people (National Opinion Research Center [NORC], 2014). The sample population used randomly assigned female clients at various health clinics, therapist, and gynecologists' offices. The criteria for selection of sample population was that the participants to be married more than five years, have at least a college associate degree, live a middle socioeconomic status (SES) life style, and to be in the 25-40 age group. The demographics were based on two of the largest metropolitan cities in Iran, Shiraz and Tehran, who have a bigger sample population of educated, mid SES females residing. The choice of these two cities enabled the researchers to have access to a higher number of female populations, who are educated thus regularly, seek medial and clinical assistance when needed.

Sample Population – Total pupation chosen was 50 female participants with 31.4 being the average age among them. Average length of marriage in the sample population was 7.73 Yrs. with the youngest 25 and the oldest 40 years old respectively. All participants had been married at least once with 28 women having no children 21 of them having one child or more with an average of 1.4 children per person. Out of 50 participants, 21 did not work, but 29 were working married females with 14 having an average income of under $700 per month and remaining 36 reporting above $1500 per month. It is noteworthy that based on Iranians' living standards, 41 considered their joint family income as mid SES, 4 as low SES, and 5 as high SES. All the participants reported as having smart phone, while 29 participants used their phones for personal messages only, which could mean it is their private cell phone not shared by anyone else in the household.

Data Collection

Category 1 - Date collection revealed that 46% of participants reported having experienced infidelity. The discovery for the infidelities among the participating married females were related to:
- Lack of sexual dissatisfaction,
- Relational incompatibility,
- Partner's shortcomings such as dishonesty or lack of trust,
- High expectation,
- Loveless or lack luster relationships.

In addition to the above reasons for initiating infidelity, all 50 participants also reported knowing females, who have experienced marital infidelity.

Category 2 - Using a Likert scale open and closed ended questionnaire, data collected also revealed that 19 (38%) participants said 'Yes' to whether marital infidelity could be justified, 20 (40%) said 'No', 10 (2%) chose 'Sometimes', and 1 (0.2%) claimed 'Do not know'. The response between the 'Yes' and 'No' is very compatible with the number of participants having experienced infidelity. Overall, 84% of the participants did not find EMAs as a satisfactory way of living; however, 50% of participants did find this method of living exciting.

Category 3 – The course of data collection led to the miscellaneous empirical data findings that 46% of participants have smart phones, 58% have and watch Satellite television regularly, 48% earn a middle class income, 64% of the women in the survey complain of marital sexual dissatisfaction, and 60% are unhappy with their relationship.

LITERATURE REVIEW
The literature review also strongly supported the hypothesis as data from General Social Survey (GSS) between 1991-1996 showed there are multi predictors and variables in the rise of extra marital affairs among married couples in America. The shift in attitudes towards this social behavior has been linked to multi variant factors such as divorce, education, age when first married, and cheating "opportunity". Particularly, working and social engagement have been instrumental in the increase of such social behavior. Studies by Greeley in 1994 and Maykovich (1976), showed variables such as respondent's income and work status significantly affected the likelihood of couples being engaged in infidelity.

In addition, other indicators such as: a) age and gender, b) religious behavior, c) past divorce, and d) educational level were studied as signs of correlations to extra marital affairs. (Greeley, 1994; Maykovich, 1976). The literature review and analysis was instrumental in this study as it provided a foundation for how the study was designed. The participants' age, income, education, opportunity, and other factors previously studied were also highly considered in this study. Therefore, the multi factorial influences and the confounding variable results in this study revealed similar findings which will be further discussed in the analysis section.

RESULTS and FINDINGS
Specific Results - the final analysis showed that despite having strict governmental policy and harsh punishment by law enforcement the Iranian society is still experiencing opportunities, accessibly, prevalence, and sustainability of such illegal and highly dangerous relationships. The empirical data also supports the fact that stringent criminal laws and punishment are not a deterrent to female infidelity in Iran as 46% of participants reported having experienced infidelity. It is noteworthy to mention that punishment for infidelity for females in Iran is being stoned to death. However, the fear of such atrocious punishment has not deterred some women from seeking the thrill of EMAs.

The Accessibility to technology such as prevalence of smart phones, satellite TV, and open relationships despite the extreme restriction and maximum control by government agencies has made it an easier ground for Iranian woman to vent their sexual and relational frustration through extra marital relationships as responds to questions revealed the unilateral commonality of attitudes and/or acceptance of extra marital affairs even among women with or without children.

Unanticipated Results (Justification of EMAs) - The study revealed that 36% of participants justified EMAs as satisfactory in a companionship and relational sense. It is noteworthy that 26% of Participants found EMAs to be totally moral, justifiable, and ethical, which is also surprising as majority of Iranians identify themselves as practicing Muslims. In addition, 24% justified EMAs as grounds for achieving romanticism and romantic relationship. Only 0.06% considered EMAs as a mean of economical satisfaction such as being romantically wined and dined, receiving expensive gifts, and visiting luxurious places. Other unanticipated result found in the study was that 18% of respondents considered having EMAs as a psychological uplift. The unanticipated findings in this study is encouraging as it inspires the researcher to conduct follow up studies in the area of moral attitudes and other social discourse leading to a change of moral reasoning that led to EMAs being so easily accepted by female married Iranians.

Significant Findings – The study found no correlation between type of marriage (Loving, Loveless, Romantic, etc.) and other criteria addressed in the hypothesis. No correlation found between number of children, socioeconomic status, and hypothetical assumptions. Although, all participants had access to satellite TV, only 6 working participants did not watch satellite TV; the remaining population in the study did. In addition, 62% of participants reported satisfying sexual activity with their spouse; however, 42 reported equal sexual desire versus 38% reporting having a higher level of sexual desire creating a contradiction in reporting. Majority of participants stated 'Love' as the reason for their marriage; however, when asked about justification of EMAs, the response was favorable towards committing spousal infidelity.

DISCUSSION

Findings reflect the correlation between acceptance and prevalence of extra marital affairs among women in Iran to relational dissatisfaction, seeking excitement, and access to satellite TV & smart phones. Results also mirror certain facts such as parallel phenomena between prevalence of extra marital affairs among women in the East and Western Cultures. The findings of the study also echo previous studies done in this particular area, as there may be hidden factors involved in the change of attitude in the rise of infidelity such as other confounding factors.

The researcher designed the questions for this study in a such way that participants' responses would be assessed in several different ways to both decreasing the misrepresentation of answers by the researcher to and the misunderstanding of questions by the participants. For example, marital satisfaction assessment was asked in variety of ways such as sexual, relational, and perceptional to lead to more solid results in answers. This types of questions led to a more comprehensive answers and consequently to better understanding of the responses. Overwhelmingly, findings reflect the acceptance, occurrences, and commonality of extra marital affairs among married women living in metropolitan cities in Iran.

Even though majority of respondents believed EMA is not fulfilling way of life, surprisingly the reason given was not religiously oriented, thus showing a shift of ethical and moral justification for the defense of such affairs. This type of reasoning is an indication of possibility of other factors being involved in the prevalence of EMAs. Overall, there are multi-factorial influences in justifying, reasoning, and maintaining of such relationships and not all are common, specific, or predictable.

STUDY LIMITATIONS AND RECOMMENDATIONS

In several of the studies, marital satisfaction was measured through a single item: "Taking all things together, how would you describe your marriage? Would you say that your marriage is very happy, pretty happy, or not too happy?" It would have been preferable to have a multi-item, well-standardized measure of marital adjustment, although, this type of assessment tools is not feasible in large, multipurpose surveys (Goodwin, 1992). Also, the above type of questioning limits accurate testing of all the variables including cofounding measures, thus increasing the risk of unexplored variables. Furthermore, in studies investigating EMAs, infidelity must be clearly defined such as having sex with someone other than one's spouse while married. Different cultures may have different interpretation or understanding of what EMAs is; therefore, a clear definition clarifies the concept for participants in the study.

It is important to set high standards in a marital relationship, which decreases the incidents of infidelity. This deemed to be consistent with the results of Baucom, Epstein, Rankin, and Burnett (1996), who found that couples with very high standards for their marriages were the most satisfied and less likely to cheat. The age of participants in the increased rate or the determination of infidelity may also be instrumental since the longer a couple is married the higher chance of engagement in extra marital affairs; therefore, one of the variables addressed should be the length of marriage and correlation to infidelity (Bell et al., 1975; Glass & Wright, 1977; Spanier & Margolis, 1983).

One of the confounding variables may be whether or not previously the couple has been divorced, and if yes, would the cause have been infidelity or extra marital affair. This may be correlated to avoidance of such behavior in the second marriage. Researchers should take this into consideration, while looking at married couples' occurrence of infidelity (Atkins et al., 2001). The lack of quality in the past research designs makes it impossible to know about the temporal order of predictors and the EMS, or whether the infidelity itself may have influenced some of research predictors (most notably, whether the respondent had

ever been divorced). Furthermore, lack of longitudinal research on infidelity has created a problematic analytical pathology for researchers, who are interested in the causes of infidelity. This area of research shortcoming needs to be addressed (Atkins et al., 2001). The above study investigated the correlational factors that have led to an attitude change in how infidelity is regarded among Iranian women living in Iran. The findings also showed that the increased use and the availability of cyber media has diluted the conceptual understanding of fidelity and morality indicating a need for future studies in the areas of cyber morality and its implications. This reasoning and acceptance of females' attitude towards EMA may be related to the occurrence and commonality of such incidents, thus general public's dismissal of moral standings may also be a contributing factor. Opportunity and/or having easier access to technological communication tools may also be correlational to the increase occurrences of extra marital infidelities. The easier access to meeting the opposite sex may be instrumental in the prevalence of EMAs in married Iranian women.

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THE CURRENT ROLE OF UNIVERSITIES IN THE CIVIL SOCIETY IN CONTINUITY WITH INNOVATIONS IN HIGHER EDUCATION IN THE CZECH REPUBLIC – THEORY AND PRACTICE

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ABSTRACT

One of the major preferences of universities is improving the quality of education relevant for the labour market. The economic development is unthinkable without the civil society where non-profit organizations become significant. The diversity of the non-profit sector relates to increasing problems of the lack of specialists. The current state, reflecting the urgent society's needs, discovers new possibilities in terms of students practical competence and of consequent graduates' job positions. The study presents plausible solutions of the lack of marketing specialists in this sphere and establishing the platform for new approaches in educational curricula based on the essential requirement of interconnecting the theory and practice.

INTRODUCTION

Finding a solution to the problem of youth unemployment, or with the assertion of graduates (especially university graduates) in the labour market has been troubling entire Europe. A number of young Europeans despite the decreasing indicators of different statistics still cannot find employment corresponding to their qualification, or any job in the long term. Young people thus lose their motivation for life, and especially precious years in which they could work on their careers and on further self-development. A slow transition from the educational system into full employment is negativelx reflected in their personal lives. The Labour Office of the Czech Republic in its regional offices and other contact centers registered 519 638 unemployed to 31st October 2014 in total. To the same date, 31 677 graduates of different levels of education had been registered as well as the youth (they participated in the total unemployment by 6,1 %) and in total 58 217 job vacancies – at average 8,9 job seekers for one job vacancy. There were 14 570 job vacancies for the graduates and the youth, with 2,2 job seekers for one job vacancy in this cathegory. (MPSV, 2015) The number of university graduates has increased in the last five years in total by more than 235 %. (iDNES, 2014) Nevertheless, what to do to stop the increasing figures? Very often do the words of employers support the fact that graduates only have theoretical knowledge which, however, often does not stem from the practical experience, which is negatively reflected also in rather ordinary working activities and habits. The National Institute for Education in the Czech Republic surveyed among employers in what extent university graduates are ready to fulfil job positions. The cited disadvantages and insufficiencies pointed out by the research from 2014 were found mainly in: irresponsibility, ability to make decisions, lead, work with figures, understanding to instructions or problem-solving abilities. (NUV, 2014)

THE STUDY

Theoretical Background

Employment x unemployment

The aim of the employment policy, ie. the active part of the working population in the social and economic activities, is aimed at achieving the equilibrium between the labour supply and demand. It is thus a productive utilization of human resources and ensuring the citizens' right to work. The most common indicator to express unemployment is the unemployment rate, which represents the rate of the unemployed in the labour force, ie. the employed plus the unemployed. According to the definition of the Internation Labour Organization (ILO), persons aged 15 and over are deemed as employed who during one week, in which the measurement is taking place, meet one of the following conditions: a) they work for a wage (employees) at least one hour, they work to obtain some profit (entrepreneurs and cooperating family members) for at least one hour; c) they are employed but they are temporarily absent (eg. due to an injury, illness, time off, study leave, maternity or paternal leave, and so on). On the other hand, as unemployed people older than 15 years of age who within a reference period of time (ie. within one week of the ongoing surveys) had no employment (and who did not undertake any business), who did not work one hour for wage or renumeration (ie. neither did they undertake any business) and were actively seeking for a job they would be able to take up within two weeks. Workforce is then understood as the total sum of employed and unemployed persons, while other residents (children, full-time students, the retired, housewives, etc.) are not included among the workforce.
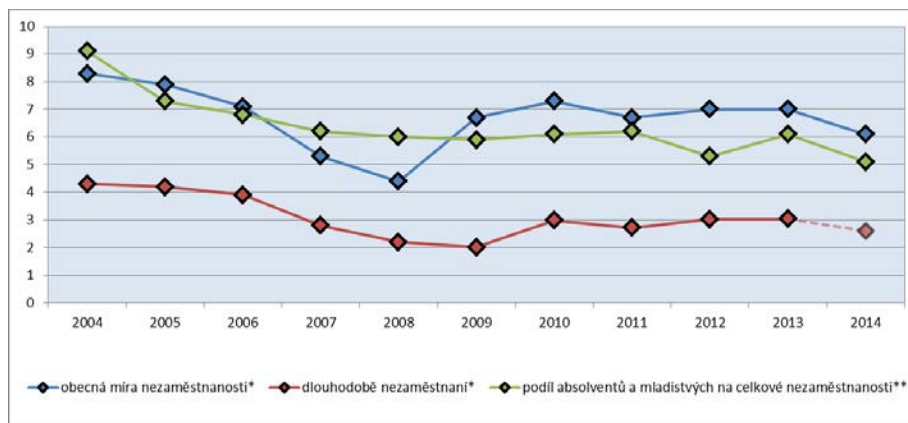
Graph 1: The development of unemployment in the Czech Republic in % (2004-2014).
Source: ČSÚ, NÚV, Eurostat. In: MŠMT, 2015.

(Note: blue – general unemployment rate, red – long-term unemployed, green – the proportion of graduates and young people in the total unemployment; *) the average value for the reference calendar year; the unemployed in the long term – in 2014 the average value for the 3rd quarter; **) the value for April of the monitored calendar year.

The youth unemployment rate
If we focus our attention specifically on the youth unemployment rate, as indicated by EUROSTAT, April 2015 featured the total number of unemployed young people (15-25 years old) of 4,746,000 in the EU-28, of which 3.168 million in the Euro area. If we compare the above data with the data on the state of youth unemployment in April 2014, we would see that there was a decrease in the unemployment rate by 478,000 in the EU-28 and 270 000 young people in the Euro area. For confrontation: the rate of youth unemployment in April 2015 was 20.7% in the EU-28 and 22.3% in the Eurozone, while the data from April 2014 speak of 22.5% and 23.9%. The lowest rate of youth unemployment (April 2015) is represented by Germany (7.2%), Denmark and Austria (both 10.1%), then the highest rate can be observed in Greece (50.1% in February 2015), Spain (49.6%), Croatia (45.5% in the first quarter of 2015) and Italy (40.9%).

The youth unemployment rate is generally much higher, even by double than is the unemployment rate for all other age groups. It is the percentage of unemployed young people compared to the total population of that age group, both active and inactive, such as students. The high unemployment rate among young people, especially among university graduates, reflects the challenges they face in finding employment. (EUROSTAT, 2015)

The current situation of the higher education in the Czech Republic
Although in the Czech Republic there is an exceptionally good overall unemployment rate, the country from the perspective of young people up to 25 years of age already in comparison with other European countries it cannot compete them. The indication of this March as high as 14,5% shows that the Czech labour market, unlike the German one, where the rate is a half of the Czech one, the Czech market is unable to accommodate new graduates. One of the highest risk groups that are vulnerable in the labour market is represented by graduates. A lack of experience among university graduates is considered the priority cause of this fact, representing a serious problem for the future employer. Those often perceive a very uncertain investment in them, especially in terms of their short or no professional history and experience, based on which they cannot adequately assess whether a particular young person is competent enough to carry out their future profession.

The Czech higher education is divided according to the law into public, private and state. Public universities are often confused with the state, despite the fact they are not the same form of higher education institution. Public and private universities fall under the Ministry of Education, Youth and Sports, while state institutions (the University of Defence and the Police Academy) fall within the competence of the Ministry of Defense and the Ministry of the Interior. Public universities (26) can be further divided into the following parts: faculties, university institutes, other workplaces for the education and research, development and innovation, artistic or other creative activities, or for providing information services; specialized facilities for cultural and sports activities, for accommodating and catering mainly of the academics or the operational units. A legal entity is authorized to operate as a private university (44) if the Ministry granted a state approval and currently has a

registered office, central administration or the principal place of business in the territory of a Member State of the European Union, or which has been constituted or established under the laws of a Member State of the European Union. A state higher education institution is a military or police (2), the Military schools provide specialists especially for the armed forces, but students who are not soldiers in the active service may study at the school as well. Police academies provide specialists for the security forces, but even students who are not members of the security forces may study here.

University students in the Czech Republic

To the date of 20th January 2015 – 347,339 students are studying at university in total, of which 264,077 (undergraduate bachelor's studies at 157,739, master's degree study programs 30,666, follow-up master's degree study programs 62,756 and doctoral studies 12,916) are full-time students and 86,170 (undergraduate bachelor's studies at 49,196, master's degree study programs 1,923, follow-up master's degree study programs 23,866 and doctoral studies 11,393) students in distance and combined study programs. The total of 88,146 graduates on the given date were recorded, 63,382 (undergraduate bachelor's studies at 35,034, master's degree study programs 5,086, follow-up master's degree study programs 22,730 and doctoral studies 592) in the full-time study programs and 24,845 ((undergraduate bachelor's studies at 13,254, master's degree study programs 283, follow-up master's degree study programs 9,456 and doctoral studies 1,857) students of distance and combined study programs. Students with the Czech citizenship make the total of 306,188 (with a foreign citizenship they were 41,179), of which 227,966 they were full-time students (36,122) and in distance and combined study programs 80985 (5 196) listeners.

At public universities the total of 308,428 students was registered, out of whom 245,371(undergraduate bachelor's studies at 142,856, master's degree study programs 30,666, follow-up master's degree study programs 58,967 and doctoral studies 12,882) were full-time students and 65,682 (undergraduate bachelor's studies at 36,184, master's degree study programs 1,923, follow-up master's degree study programs 16,467 and doctoral studies 11,327) were distance and combined study program students. On the given date there was the total of 74,391 graduates at public universities, 57,704 (undergraduate bachelor's studies at 30,880, master's degree study programs 5, 086, follow-up master's degree study programs 21,208 and doctoral studies 589) in full-time study programs and 16,764 (undergraduate bachelor's studies at 8,644, master's degree study programs 283, follow-up master's degree study programs 6,000 and doctoral studies 1,842) students in distance and combined study programs. The total number of students at private universities was 39,461, out of which 18,946 (undergraduate bachelor's studies at 15,101, master's degree study programs -, follow-up master's degree study programs 3,823 and doctoral studies 34) full-time students and 20,578 (undergraduate bachelor's studies at 13,047, master's degree study programs -, follow-up master's degree study programs 7,473 and doctoral studies 66) students of distance and combined study programs. Graduates of private universities on the given date made the total of 13,761 students; 5,680 (undergraduate bachelor's studies at 4,154, master's degree study programs -, follow-up master's degree study programs 1,523 and doctoral studies 3) of them in full-time study programs and 8,081 (undergraduate bachelor's studies at 4,610, master's degree study programs -, follow-up master's degree study programs 3,456 and doctoral studies 15) students in distance and combined study programs. Master's degree study programs correspond to 1-3 years and a continuation of undergraduate bachelor's study programs leading to master's study programs which represents the degree programs lasting 4-6 years. (Nebřenský, 2015)

Civil society

Civil society is the area in which the citizens are aware of their common interests and through horizontally working, as opposed to the vertically-acting (ie. on the principle of superiority and inferiority), social institutions (associations, unions, community organizations, churches, trade unions, associations, etc.) – that is they promote these interests independently of the state. "Civil society is a society of responsible, independent and compassionate citizens, self-confident and initiative, who associate freely in pursuit of personal or public interests." (Čepelka, 2003, p. 17) We thus speak about the area which is filled by a number of various interest and self-help organizations and associations through which citizens express their interests and which help them to fulfill their needs. The civil society structure must be independent of the governmental powers and the state does not interfere with its activities – unless they get into a conflict with the law, the government does not determine who will lead or what action they will take. The civil society institutions are independent of the government also economically - they obtain the financial means for their operation mainly through private sources, from sponsors, foundations, etc. Civil society is currently composed especially of non-profit non-governmental organizations that provide the citizens with a platform for expressing their opinions and political positions on one hand, on the other hand they provide a number of other services.

Institutions and civil societies in the Czech Republic

Civic associations as non-profit organizations represent by operation of law so called special-interest autonomy. The most important NGO's included: civic associations, charitable organizations, foundations and endowment funds, churches and religious communities. (Rektořík, 2007) As of 1st January 2014, Act No. 89/2012 Sb., The Civil Code, or the so-called. New Civil Code, which among other things regulates the legal relations of legal entities of private law, which include the NGOs. The fundamental changes brought by the new Civil Code include especially a new definition of private law entities (corporation, foundation, institutes); the need to coordinate internal relations of NGOs with the new legislation (statute, organs, etc.); to define so called public utility; further inability to establish a charitable company (hereinafter referred to as the "o.p.s." meaning a public benefit organization); automatic transformation of the o.p.s. into an alliance, and to discuss further legislative changes (the Act on change of legal form, the law on public benefit status). (Šebesta, 2013)

The current state of non-profit sector in the Czech Republic is demonstrated by the number of non-governmental non-profit organizations since May 2015: when 495 foundations, 1442 endowment funds, 2 912 public benefit organizations, 206 registered institutes, 4 156 religious organizations, 87 698 clubs and 26 225 branch associations. (NEZISKOVKY.cz, 2015)

FINDINGS
Problem formulation
As already indicated the Introduction, although a very small part of Czech companies explicitly rejects to employ young people, the vast majority of employers admits (70%) that they do not prefer graduates. The research also pointed out persisting problems represented by a huge disaffection of the theory from the practical experience, insufficient practical readiness, the lack of knowledge and experience in project management, or the lack of project thinking, ie. the ability to focus on the outcoming goal, to proceed in steps, to finish phases, to meet deadlines, make decisions and defend and back up one`s own approach and procedure, to communicate within a project. Enhancing the quality of higher education thus constitutes a necessary connection not only with the areas of scientific research, but also with economic practice.

The priority to streamline the educational process thus becomes a bridge and interconnection between the theory (universities) and practice (commercial entities) in the corresponding continuity necessary practical preparedness of university students to enter into employment, simultaneously with the development of competencies leading to sufficient orientation in business processes. "The task of universities is to educate future professionals in their chosen field, to give students the maximum knowledge and connect this knowledge with practical skills so that they are prepared for entry into practice." (Jurášková, 2001)

Academic sphere and non-profit sector
"The current economic crisis manifests itself in all aspects of economic life, affecting the economic performance of companies and the prosperity of organizations. Companies, organizations and education areas too, now realize the importance of strategic marketing management." (Jurášková, Juříková, Kocourek, 2013) And why particularly the non-profit sphere? It was the research conducted in 2012 which confirmed the persisting absence of marketing specialists in the non-commercial sphere. However, it is the non-profit organizations playing a significant role in the development of civil society and they represent the area for creation of a necessary platform for new approaches in educational curricula creation based on the essential requirement of interconnecting the theory and practice. Out of the total number or respondents which was 436 NNO in the Zlín Region, only 73 (18%) stated that they manage their promotion on a professional level, only 6 (2%) confirmed that they have a special marketing and promotion department. 49% (215) use for promotion and marketing affairs those, who are currently free for the particular activities. 16% (71) of the NNO stated they had had a qualified person responsible for marketing and promotion of the organization, on the other hand 7% (32) of the organizations do not deal with the issues of marketing and promotion.The cause for this state of things the organizations state the lack of funds and human resources. (Göttlichová, 2013)

The subsequent survey conducted in March 2015 with 175 actively participating NNOs in the Zlín Region showed a persisting unsatisfactory state of things. A special marketing and promotion department was confirmed by only one single organization. Despite the fact that 20% (30) of the NNOs stated they had had a qualified person responsible for their marketing and promotion, in 54% (94) of the organizations it is still "the available" person who has some time to deal with marketing and promotion, and 9% (15) of the NNOs does not deal with marketing and promotion at all. The lack of financial means and human resources is given as the cause for the unsatisfactory situation. (Göttlichová , 2015) However, organizations do not fully realize that even in the non-profit sector it is true that "at present effective marketing reacts to the economic, legislative, demographic and cultural environment of the organization, modulates the structure and intensity of "implementation" of marketing

tools and exerts itself (particularly in the field of services) to balance the swings of the demand and supply". (Juříková, 2014, p. 22)

Problem solution

As was already mentioned, the problem of the Czech higher education persists still in the relatively high rate of separation of the individual partners represented by the academic sphere on the one side and the commercial as well as non-commercial entities on the other side, which in reality means a constant separation of the theory and practice in the university educational processes. However, where to fund a constructive solution reflecting in enhancing higher education?

The possible solutions include especially cooperation with the economic sphere based on the constructive communication of both the parties, which represents an element of sc. *capital of an educational institution* reflecting in a better quality of a created curriculum based on the requirements stemming from the practice and allows students to acquire necessary amount of information and knowledge usable in the educational process. It represents the reflection into the innovation of education and enrichment of the educational program heading to enhancement the quality of vocational training in the form of:

   a) *Controlled professional training placements or internships directly in enterprises (public institutions).*
   b) *Participation of experts in education.*

What is gaining an increasing position is:

   c) *The possibility for students to directly participate in real projects with a comprehensive mastery of the knowledge of project management methods.*

Research objectives and methodology

The aim of the surveys was to obtain a sufficiently reliable insight into the current state of implementation of promotional activities of NNOs in the Zlín Region in continuity with the implementation of professional marketing personnel on the one hand (or the graduates of the Institute of Marketing Communications, Faculty of Multimedia Communications of Tomas Bata University), and at the same time finding how interested the NNOs are in cooperation with universities (specifically with TBU) in connection with the preferred forms of co-operation with reflection on enhancing the quality of teaching. Only the cooperation of NNOs with the academia in the Zlín Region can bring both the significant potential to the NNOs, being it whether in the field of volunteering, employment of graduates, interns helping with various activities, etc., for which the financial means of an NNO are insufficient. Likewise, the non-commercial sphere may provide the graduates of the university with an option of employment after they have finished their university studies.

As mentioned in the previous part of the article, the first survey was conducted for the NNOs in the Zlín Region in 2012 – as a part of the project called *Kooperace vysokého školství, veřejné správy, podnikatelského a neziskového sektoru pro socioekonomický rozvoj regionu (Cooperation of higher education, public administration, commercial and non-commercial sectors for the socio-economic development of the region),* the aim of which was the development of iternational cooperation and experience exchange in development of human resources and employment based on the cooperation and connection between the academic activities, the activities of the non-commercial sector, the public and commercial sector on the basis of partnerships. 436 NNOs in the Zlín Region entered the survey. (Göttlichová, 2013) The follow-up survey in March under the project called *Život není zebra 2015 (Life is not a zebra 2015)* reduced the number of participating NNOs in the Zlín Region to 175. (Göttlichová, 2015)

Cooperation of TBU and the NNOs in the Zlín Region

For the question of the cooperation of the academic sphere and the non-profit sector in the survey in 2012, positive responses prevailed. 207 organizations (47%) showed being interested in cooperation. Even though 167 organizations (38%) did not prefer cooperation and 62 organizations (14%) did not provide any response to this question, 207 organizations (47%) showed being interested in cooperation. The most common reasons for having little interest in cooperation were mainly the following responses: "we have no reason, no need to that", "we are only a small organization", "we have own specialists in promotion". From the perspective of the forms of cooperation, more than a half preferred some assistance with promotion during preparing and realizing a project (173, 58 %), less than a quarter then selected ordering analyses by means of bachelor and master theses (63, 23%) and 13% of the NNOs preferred regular internships with the orientation to the field of promotion. (Göttlichová, 2013) Analyses of marketing communications and projects of communication and fundraising activities are thus a common task and topic of university works and theses at the Institute of Marketing Communications at the Faculty of Multimedia Communications at Tomas Bata University in Zlín.

Responses to the same questions in the survey conducted in 2015 do not significantly differentiate from the results of the previous survey. We can even observe some increasing number of organizations who became interested in cooperation with the TBU students in the area of promotion (106 NNOs, 61%). 69 NNOs in the Zlín Region (39%) do not prefer any cooperation with the university. Among the preferred forms of cooperation are again at the forefront assistance with the promotion during the preparation and realization of projects (66, 62%), followed by ordering analyses in the form of bachelor and master theses (12, 11%) and regular internships with the orientation to promotion (16, 15%). (Göttlichová, 2015)

Connection between the theory and practice (university and an NNO) = solution to the problem
As was already mentioned, one of the crucial steps in the innovation of teaching leading to increase in the quality of vocational education is the form of students' direct active participation on real projects with comprehensive management of project management knowledge. The need for the given competences and abilities was confirmed by the survey conducted for the employers (see NUV, 2014), as well as the given form of innovation of the survey results in the NNOs in the Zlín Region (see Göttlichová, 2013, 2015). The solution then may be observed in one of the established ways at the Institute of Marketing Communications, the Faculty of Multimedia Communications, Tomas Bata University in Zlín, leading to enhancing teaching, and to increasing the quality of the institute itself, of the fakulty, the university. We are speaking about a study subject called *Projects of non-profit organizations.* The priority is not to mechanically acquire the largest amount of information but the ability to orientate within practical life situations, the ability to independently negotiate while accepting responsibility and overcoming potential risks. At the same time also to deepen students` interests in the goings-on in the region and definition of prospective profiling onto non-commercial marketing communications.

Connection between school and life
What is the content of *Projects of non-profit organizations*? It is a special educational course having been realized for 12 years at the Institute of Marketing Communications at the Faculty of Marketing Communications at Tomas Bata University in Zlín. Its objective is the possibility to apply team work in non-profit social projects solutions. The contents of the course is the extension of the reciprocal cooperation with non-profit organizations focusing on conducting projects of non-governmental non-profit organizations in the current social context of the partner environment. The attention is paid to the system theoretical solutions of all phases of a marketing process and the practical implementation. Students can penetrate into the secrets of project management in its full breadth. Attention is paid to methodological and procedural sides of project management and project planning, as well as to the system of controled communication and project documentation management.

Projects of non-profit organizations
It is not possible to introduce all students activities (projects). Some have been ongoing for a year, some for twelve years. Some came and left with their students, with their hobbies and interests, creativity and ideas how to help, should it be even once, to those who need the help. It does not always have to be people, but for example animals shelter (project called *Němá tvář* or A dumb creature). A highly beneficial aspect is the interconnection of students of art with marketing communications students, which allows realization of the project in all spectre of possibilities and prepares students for their future occupation where team work and communication of marketing specialists becomes a necessity. The content of the projects is as diverse as is the non-profit sector.

The objective of the largest non-profit projects called *Percipio* is a fundraising gala event with the auction of works of art (made by students of art studios) to support selected non-profit entities. Each year of *Percipio* is focused on different direction and helps in another sphere, being it a fundraising help to children in homes for orphan children, to paediatric ward of Bata Hospital, to the deaf and hearing impaired children, to the selected non-profit organizations or individuals to who due to their health condition the project can improve their life by some bit.

Among other projects we may mention for instance help to the mentally impaired by preparing a day full of games (the project called *FAJNDEN* (FINEDAY]) with various topics and in various environments. Our students regularly actively participate in preparation of a Czech Red Cross conference, and on promoting a project aimed at young people – Give blood. At the same time they take part in the organization of a Christmas auction for a non-profit organization advancing a long-distance adoption and building of new schools in Africa. For eight years, the students have been the organizers of a fourteen-day exhibition of non-profit organizations of the Zlín Region (the title of the exhibition is *Život není zebra* (Life is not a zebra]) with a rich cultural program as well as a number of workshops aimed at the general as well as professional public, primary and secondary school pupils and students, and at university students. The event also includes a photo contest and a non-profit market called NEJARMARK (No-market). The aim of this is a presentation of the width of activities of the non-profit organizations in Zlín. This year the project expanded into cooperation with the Slovak Republic. The aim

of another project called the Rainbow Marble is a two-day event of International Contest Festival of Advertising which is complemented with a number of workshops, lectures and an accompanying program from the field of film promotion.

Fig. 1-3: Fashion Show the Touch, Percipio, Life is not a zebra.
Source: Göttlichová, 2014.

The last of these projects to be mentioned is the **Fashion Show Dotek** (the Touch) presents a charitable fashion show with the auction of clothes in order to support non-profit organizations ensuring seniors peaceful old age. In the course of one evening, on a professional level four new student collections were introduced and the fifth one, complemented with designer jewellery, created by designers specially for this event, was auctioned and the proceedings helped to those who need it. (Göttlichová, 2014)

CONCLUSION

The list of projects could be taken even further. But let us go back to the beginning. We should recall the shortcomings identified by the survey conducted for employers in 2014 (see NUV, 2014). They were namely: irresponsibility, ability to make decisions, lead, work with figures, understanding to instructions or problem-solving abilities. However, further investigation revealed the persisting problems, which in addition to the huge detachment between the theory and practice and the lack of practical preparedness, it was above all the lack of knowledge and experience in project management, ie. the lack of design thinking, ie. *the ability to focus on the outcoming goal, to proceed in steps, to finish phases, to meet deadlines, make decisions and defend and back up one`s own approach and procedure, to communicate within a project.* All that is included in the content of the subject, all that students acquaint, what they embrace not only for their careers but also for their personal lives.

The students thus may not only test their knowledge of project management in practice (and in the course of realization of an exhibition, fashion show, conference, starting with the proposal to its realization – is not an easy thing to do), but they become familiar with the issue and specifics of the non-profit sector in the real environment – and what is important, when it is necessary to sacrifice their free time for those who need their help. The students are thus encouraged to cope with real situations, to learn quickly and flexibly respond to the real social situation, and are granted the maximum space within the real environment of the non-profit sector, allowing them access to the real conditions of employment, to provide them with comprehensive set of theoretical and practical knowledge and skills. And that is exactly what may become the foundation of their future professional orientation. On the other hand the businesses of a non-commercial character may actually verify the level of knowledge, skills and abilities of university students and to gain awareness of their relation to the work, which can be subsequently reflected in their offer of employment. Mutual cooperation thus may represent the "offered hand" of the academia to the interests of employers, civil society at large and the regions themselves.

To provide such knowledge and skills for graduates to become *employable* and to be able to assert themselves even within the rapidly changing labour market requirements has to become the priority task of the educational system. This requires reconciling the outputs of the tertiary education with the needs and demands of employers. At the same time to enable all students to actively participate in creative work connected with teaching and learning processes that lead to the formation of a stimuli-rich environment, and to provide motivation for further work. Only then the veracity of in the history often cited words that **the school prepares for life** will be realized.

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THE DATE RECALLED THE DAY: THE NATIONAL WAR MEMORIES PUBLISHED IN THE CUMHURIYET NEWSPAPER FROM THE TURKISH PRESS IN 1950 AS AN EXAMPLE FOR THE RELATIONSHIP OF PRESS-HISTORY-EDUCATION

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While the newspapers, as a mass communication device, convey news about current developments, they remind various recalls for their readers by bringing the past on the agenda. It is thought that this practice of publication, which brings various issues raised in the collective memory on the agenda by reviving it, performs an important function in the educational sense and makes educational contributions to the mass.

This study focuses on the relationship of press-history-education, and as an example selected from the Turkish national press in 1950, it is examined "The National War Memories," which was published in the Cumhuriyet Newspaper. It is discussed the educational aspects of the effects that the recent memories of history, which are released in the newspaper in few months of period, have impact on the readers in terms of remaindering the past

Keywords: National War Memories, Cumhuriyet Newspaper, Turkish Press, Relationship of Press-History-Education

THE DEAF LITERACY (DEAFLI): A EUROPEAN PROJECT FOR YOUNG AND ADULT DEAF PEOPLE E-LEARNING

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DEAFLI is a GRUNDTVIG project (538750-LLP-1-2013-1-ES) which will help deaf people to expand their language skills and to prepare for employment. DEAFLI is a 10-lesson course designed to increase the acquisition of key skills in the written language among young deaf people and deaf adults to improve their education and to facilitate their access to the labour market in the participating countries (Spain, Austria, Italy and UK).

The project takes as a reference the Common European Framework of Reference for Languages. DEAFLI incorporates videos with grammar explanations in the Sign Languages of each country of the consortium, to facilitate to the deaf students the comprehension of the contents and the grammar of the lessons.

In most countries, illiteracy rates among the deaf are above 75%. In addition very few prelingually deaf people access higher levels of education. New materials and resources will be developed for this purpose. DEAFLI uses the new technologies in teaching and learning activities, incorporating a learning platform with a forum for participation.

At present the first four lessons regarding how to write a formal and informal letters, how to write a CV, how to write a Cover letter, reading newspaper articles, and job search have been developed. These lessons contain grammatical explanations for e-learning.

So far, four lessons regarding the writing of formal and informal letters, the writing of a CV and a Cover letter, reading newspaper articles, job search have been developed. All the lessons are being adapted to the different languages of the consortium (Catalan, Italian, English and German) , and the four sign languages of the countries taking part in the project:

LSC (Catalan Sign Language), LIS (Italian Sign Language), BSL (British Sign Language)and ÖGS (Austrian Sign Language).

On the website (currently under construction), the students can review all the lessons contents in their own written language and also in their Sign Language.

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Keywords: Deaf litreracy, e-Learning, education of young people and adults

THE EFFECT OF ARGUMENTATION-ORIENTED ASTRONOMY TEACHING ON PRESERVICE TEACHERS' PSEUDOSCIENTIFIC BELIEFS

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ABSTRACT
Pseudoscientific beliefs involve that seem scientific through personal explanations, hypothesis and subjective examples, even though they do not go through a scientific phase and are not verified by scientific researches. According to the researches, the preservice teachers also possess these types of beliefs, which are common in astronomy. The aim of the study is to determine the effect of argumentation-oriented astronomy teaching on preservice elementary science teachers' pseudoscientific beliefs. A total of 98 (N=57 female, N=41 male) preservice elementary science teachers from the Elementary Science Department, in the Faculty of Education, Pamukkale University, Denizli, Turkey. In this research, the Solomon Four-Group Design utilising a Pseudoscience Beliefs Scale is administered to participants for a pre-test and post-test to gather the data. Four activities developed by the first author of this study. In-class activities are designed based on Walton's Dialogue Theory and applied in experimental groups. The results showed that argumentation-oriented astronomy teaching had an effect on participants' pseudoscientific beliefs. Analysing the data, the change of the scores of the participants' pseudo-science beliefs in experimental groups was more than the ones in the control groups.

INTRODUCTION

For thousands of years, in parallel with the scientific works, there have been many fallacies regarding astronomy in every society. Named as pseudoscience, these fallacies acknowledged as the truth consist of the beliefs which people try to corroborate by religious beliefs and which are made up of hypothesis, personal explanations and examples that do not go through the phases of scientific methods or are not promoted by scientific studies (Çetinkaya, 2013). It has been a popular topic for scientists and the philosophers to discuss the distinction between the science and the puseudoscience. As a matter of fact, at the beginning of the 20th century the philosophy academies established in various countries aimed to draw a clear line between the science and the pseudoscience. Vienna Circle established in Austria is the most famous of all. The school embodying the prominant people of the time came to a conclusion that the science should be completely separated from the metaphysic. Further more, the school purposed to define the science once again by creating a scientific language consisting of meaningful thesis (Şahin, 2006).

It is quite possible to encounter the news claiming to be scientifically true on the internet via printed or visual media. People who cannot distinguish the science from the pseudoscience could easily believe in these claims and be mistaken. These fallacies could harm those people financially or emotionally. Recently, the prophecies asserting that the World would go through a fundamental change in 2012 according to Maya Calendar, that probably a meteor hit would bring the end of the World and that only people in particular parts of the World would survive from the disaster affected many people worldwide. Unidentified Flying Objects (UFOs), the traditionalistic news on the visual and printed media nowadays, are another example of infollution with no scientific information source.

The debates have shown that there is still no series of criterion to distinguish the science from the pseudoscience (Turgut, 2009). No matter how hard it is to create certain criterion, it is possible to find definitions of what the pseudoscience is. The pseudoscience is defined as well-organised thoughts, processes and attitudes that seem scientific but are not indeed (Martin, 1994). Pseudoscience aims to solve the mysteries and uses legends as sources (Radner & Radner, 1982, in Oothoudt, 2008). The pseudoscientific claims by analysing the achievements very well when the scientific studies speed up and draw on these scientific data when presenting their claims without any control mechanism. Even in the infancy of the scientific knowledge, those kinds of claims have not get into difficulty in improving themselves and have increased day by day.

People usually tend to believe what they want to. Therefore, they sometimes do not even avoid from abusing the scientific knowledge. Most of the pseudoscientific beliefs seem to have quite reasonable and scientific justifications. For example, although there are not any studies or statistical data promoting the fallacy that the birth and the crime rates increase at full moon, that belief is quite popular in many cultures. It is a threatening fact for a preservice teacher who is to bring the light of the science to his/her students, to have a mentatlity that believe in

whatever it hears without asking "how?" and "why?", instead of reaching the information by going through the scientific phases that requires effort and thinking. In that case, the teachers shaping our future must learn the process of scientific methods.

One of the highly applied approaches in science teaching is the scientific argumentation. Scientific arguamantation is sometimes regarded as a learning process, and sometimes as a process witnessing the construction of a scientific knowledge (Bricker & Bell, 2008). And therefore, scientific argumentation is considered as a teaching approach or an objective for science education (Osborne, Erduran & Simon, 2004). In addition, scientific argumentation helps students to regard science as a social application, to develop an epistemological understanding, to increase study skills and conceptual understanding (Driver, Newton & Osborne, 2000).

In sicence education, there are various views of what an argumentation means and what kind of dialouge could be regarded as an argumentation (Macagno & Walton, 2006). The scientific argumentation is a reasoning strategy including informal logic and critical thinking (Jiménez-Aleixandre, Rodriguez & Duschl, 2000). An argumentation is a social and a verbal activity that is done by means of reasoning in order to make a group of people accept or reject a particular view (van Eemeren, Grootendorst & Henkemas, 1996). Also, argumentation is like a living organism and it has an integrity, in another word; an anatomic structure (Toulmin, 2003). Asserting an argumentation with all details may take lots of pages or time and in that case some significant points of the argument may be overlooked. To solve this problem, the argumentation must be molded. No matter how often the Toulmin's argumentation model is adopted by the pedagogs, recently the criticisms towards the model have started to become intense. For example, Paglieri (2006) stated that the Toulmin's argumenation model is deficient in that it ignores the emotional aspect of the argumentation, it is difficult to the experimental data, it disregards the cultural and the sociopolitical dimensions of the argumentation, it does not have different validity criterion to be applied on different subjects and that it aims to mold the argumentation and ignores the content.

Walton's argumentation model which is more convenient for dialogue argumentation is recommended in classrooms instead of Toulmin's argumentation model (Erduran, Simon & Osborne, 2004; Jiménez-Aleixandre & Erduran, 2008). In the Walton's model which is suggested as an alternative model for analysing the argumentations, 25 common diagrams of reasoning that appeared most frequently are determined by Yeh (1998). The significant difference between these models is that while the Walton's model put the emphasis on the content of the argumentation, the Toulmin's model underlines the componenets of the argumentation (Osborne, Erduran & Simon, 2004). Walton's Theory of Dialogue provides pre-assessment criterion in the argumentation and makes it more conventional for the social dialectical argumentation. Furthermore it enriches the argumentation within the frame of argument and counter-argument. Toulmin's argumentation model, which includes more presumptive reasoning in dialogues; Walton's model also includes many latest philosophical visions (Nussbaum & Edwards, 2011). Duschl (2008) has asserted two reasons why to use Walton's argumentation model for the discourse analysis in Science classes. The first reason is that the model includes five criteria to improve the quality of the argumentation (Sampson & Clark, 2006), that is the agreeble outlook of the argumentation.

1. Examine the nature and the quality of the claim.
2. Examine how the claim is defended.
3. Examine the valid evidences.
4. Examine the different attempts of arguments.
5. Examine how the claims and evidences are used as a scientific knowledge.

The second reason is that the model is more convenient in analysing the dialogical argumentation in small, cooperative groups. Because, the presumptive reasoning is better represented in Science classes, also the evidences are to be defended against the other individuals of the group in that design. These make the Walton's diagrams more convenient for arguing and assessing a claim in a group (Duschl, 2008).

The purpose of this study is to investigate the effect of the argumentation oriented astronomy teaching on the preservice elementary science teachers' pseudoscience beliefs about astronomy.

METHOD

The Participants

During spring semester of 2015, this research is carried out elementary science preservice teachers in different four groups attending the Astronomy course in the Department of Science Teaching in the Faculty of Education in Pamukkale University. Thus the participant sample size (N) is 98. Of the 98 participating preservice teachers, 57 (58%) are female and 41 (42%) are male. Approximately 44% of participants are juniors, and 56% are seniors. With the principle of impartiality there are 24 preservice teachers both in the experimental group-1 (N=14 female; N=10 male) and the control group-1 (N=13 female; N= 11 male); 25 preservice teachers both in the experimental group-2 (N=15 female; N=10 male) and the control group-2 (N=15 female; N=10 male).

The Research Design

The Solomon Four-Group Design is adopted from the experimental factorial designs in this research. This model is a 2x2 factorial design, one of the two factors is taking the pre-test or not, and the second is the performance. The Solomon Four-Group Design, one of the true performance models, is a useful approach especially in revealing the sensitivity effect of the pre-test. That model is accepted as the most powerful performance model to protect the internal and the external validity together (Karasar, 2005). In a factorial performance the differences in groups can be tested by the analysis of variance. MANOVA can be used to test the differences between the evaluations of two dependent variables. Analysis of variance can be applied for each factor individually (Balcı, 2010; Kayış, 2006).

Data Collecting Tool

The science-pseudoscience distinction scale developed by Oothoudt (2008) is translated and adapted to Turkish by Çetinkaya (2013). Within the process of adaptation the scale was reduced to 23 items from 32 items in the original. The items were collected under four different factors. These factors are named as; "pseudoscience", "scientific method", "the distinction of the science-pseudoscience", and "pseudoscience beliefs". As a result of the calculation, the Cronbach alpha reliability coefficient is determined as .75. It is clear that reliability coefficient of the scale is quite good. The scale consists of 10 scientific items and 13 pseudoscientific items. It is in 5 point Likert type scale, and the pseudoscientific answers are given high scores while scientific answers are low. Therefore, the higher scores of the scale represent greater endorsement of pseudoscientific beliefs.

The Procedures of the Study

First of all, the review of the literature has been done to determine the science-pseudoscience distinction scale appropriate for the purpose of the study. Four activities have been developed based on the Walton's Theory of Dialogue considering the opinions of the experts. The pilot study has been done to control of the activities to be used during the application process of the study in summer semester of 2014. Before the instruction process the attendants of the experimental groups had been given information about argumentation based science learning approach, the argumentation model of the Toulmin and Walton's Theory of Dialogue for three weeks. Performance sessions regarding Walton's Theory of Dialogue which is to be underlined in the study were especially carried out. Before the study, only the experimental group-1 and the control group-1 had taken the Pseudoscience Scale as a pre-test in accordance with the research design. While the lessons were conducted with source books, videoes and slide shows in all groups, only the experimental groups carried out the newly developed four activites additionally. Each activity applied in two hours (90 min.). During the first hour, an activity is done, and an argumentation is made regarding the activity in the second hour. To organize the argumentation, the attendants were addressed the critical essential questions for each type of dialogue and this way the argumentations were aimed to be strengthened. At the end of the study all of the groups were applied the Pseudoscience Scale as the post-test. The collected data were compared with the pre-test results to see if there was a statistically meaningful difference between them.

FINDINGS

Because the Pseudoscience Scale has 23 items in total, the score interval is 23-115. The descriptive statistics obtained from the answers of the preservice teachers for the Pseudoscience Scale are represented in Table 1. The ANOVA results according to the control and the experimental groups are given in Table 2.

Table 1: Descriptive statistics of the pre-test and post-test scores according to the groups

	Groups	N	$\overline{X}$	SS
Pre-Test	Experimental Group-1 (EG1)	24	93,42	8,40
	Control Group-1 (CG1)	25	91,84	7,48
Post-Test	Experimental Group-1 (EG1)	24	58,63	9,80
	Control Group-1 (CG1)	25	80,84	6,63
	Experimental Group-2 (EG2)	25	60,52	8,86
	Control Group-2 (CG2)	24	81,25	9,80

According to the results of the analysis (see Table 2), it is clear that there is not a statistically meaningful difference between the pre-test scores of the pseudoscience scale in both experimental and control groups [$F(1,47)=,482$, $p>,05$]. Considering the pre-test results before the instruction, it is also clear that the mean scores of the pseudoscience scale of the control group-1 (=91,84) and the experimental group-1 (=93,42) are quite close to each other.

Table 2: The ANOVA results of the pre-test and post-test scores according to the groups

	The Source of Variance	Sum of Squares	sd	Averages of Squares	F	*p*	Meaningful Difference
Pre-Test	Intergroup	30,439	1	30,439	,482	,491*	---
	Intragroup	2967,193	47	63,132			
	Total	2997,633	48				
Post-Test	Intergroup	11317,469	3	3772,490	48,183	,000**	EG1-CG1, EG1-CG2
	Intragroup	7359,725	94	78,295			EG2-CG1, EG2-CG2
	Total	18677,194	97				

*p>.05; **p<.01

After the instruction (see Table 2), it has been found out that there is a statistically meaningful difference between the groups [F(3,94)=48,183, p<,01]. The Scheffe test is used to understand among which groups are there the differences, and to determine the directions of the differences. The post-test scores of the preservice teachers in experimental groups got from the pseudoscience scale have changed meaningfully after the instruction. The mean post-test scores of the pseudoscience scale of the experimental group-1 (=58,63) and the experimental group-2 (=60,52) are lower than the mean post-test scores of the control group-1 (=80,84) and the control group-2 (=81,25). This finding shows argumentation oriented instruction is more effective than existing teaching method to remove the participants' pseudoscientific beliefs. The preservice teachers' pseudoscientific belief scores who attended the experimental groups where the activities regarding the Walton's Theory of Dialogue had been conducted have gone to a positive change (lower scores) when compared with the preservice teachers in the control groups.

CONCLUSIONS

The discussion about what is scientific information and what is not dates back to the academy of philosophy in ancient Greek civilisations (Nickles, 2006). We can say the contemporary discrimination of science has started under the leadership of the philosophers such as Popper, Kuhn and Lakatos and lasted untill today. In recent years, the increasing communication facilities have also increased the social interactions and that way the discussions of science-literature, science-art, science-religion, science-math and science-pseudoscience discriminations have accelerated. In parallel with these developements the academic studies related to the discrimination of the science and the pseudoscience have started to draw attention.

For instance, in their study in a university in the USA, Eve and Harrold (1986) conducted a research on the college students' tendencies to believe in the pseudoscientific claims. One of the first in the field, the study revealed that the students have many pseudoscientific beliefs in many different categories. In one of his researches, Turgut (2009) examined the preservice science teachers' perceptions of science – pseudoscience discrimination and observed that the preservice teachers remained incapable of discriminating the science from the pseudoscience. Çetinkaya (2013) aimed to evaluate the seventh grade students' perceptions of science and their opinions on scientific method by taking the discussion of science-pseudoscience discrimination to the centre in a public school. The findings of the study, the most of the attendants supported the naive inductive claims regarding scientific information and they regarded the thesis related to the speculations as scientific information. One of the remarkable studies in astronomy was concluded by Güneş (2010). He examined the relationship between the preservice teachers' knowledge level on basic astronomy with their self-efficacy beliefs for astronomi. He found no correlation between the achievement scores with the ideas on nature of scientific information while determining a statistically meaningful relation between the achievement scores and the self-efficacy belief scores in astronomy.

In the science literature, we can clearly see that students have high level of pseudoscientific beliefs either in third, secondary or primary levels of education. In this study, firstly, the students are allowed to think and express themselves freely by creating a student-centered learning environment. The participants of the experimental groups where the developed activities used in asronomy instruction were found to make a positive progress in discriminating the science from the pseudoscience when compared to the participants of the control groups who took the lessons in accordance with existing teaching system. It is important for the science preservice teachers to discriminate the basic knowledge of astronomy from the pseudoscientific beliefs as they are supposed to convey scientific knowledge throughout their career. Teaching students to distinguish scientific from pseudoscientific claims is an important, also to preservice teachers.

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THE EFFECT OF ARGUMENTATION-BASED SCIENCE LEARNING IN SOLUTIONS SUBJECT ON PRE-SERVICE TEACHERS' ACHIEVEMENT AND THEIR CRITICAL THINKING DISPOSITIONS

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THE EFFECT OF ARGUMENTATION-BASED SCIENCE LEARNING ON PRE-SERVICE TEACHERS' ACHIEVEMENT IN SOLUTIONS SUBJECT AND THEIR CRITICAL THINKING DISPOSITIONS

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ABSTRACT

The aim is to of this study to examine the impact of Argumentation-Based Science Learning (ABSL) approach on pre-service teachers' achievement and critical thinking dispositions. This study was conducted with 45 pre-service teachers who are registered for both 'General / Basic Chemistry' and 'General / Basic Chemistry Laboratory' offered 2012-2013 Academic year fall term at Divisions of Biology Education and Chemistry Education at Faculty of Education at Hacettepe University. This study was conducted by an experimental design with unequal control group sizes. The data was gathered via Solutions Achievement Test (SAT) and California Critical Thinking Disposition Inventory (CCTI). In order to analyse this data, dependent and independent samples T-test were implemented. The findings indicated that ABSL-based laboratory applications have an impact on pre-service teachers' achievement.

Regarding critical thinking dispositions, however, they were found to have no statistically significant impact.

INTRODUCTION

In societies which do not want to drop behind from technological developments, education of individuals with scientific literacy and scientific process skills and thus student-oriented approaches in the education system have come into prominence. ABSL has been one of the outstanding educational approaches as in our country. In recent years importance of argumentation in educating individuals with scientific literacy and scientific process and critical thinking skills in terms of obtaining and structuring scientific knowledge for science education and improving mental activities have been underlined in the literature (Newton, Driver and Osborne, 1999; Driver, Newton and Osborne, 2000; Jimenez-Aleixandre, Rodriguez and Duschl, 2000; Duschl and Osborne, 2002; Zohar and Nemet, 2002; Bricker and Bell, 2008; Kaya and Kılıç, 2008). Argumentation made in an environment in which arguments are developed is defined as the process in which suggestions are correlated with and validated by relevant data by introducing its reasons (Toulmin, 1958).

Toulmin (1958), in his book "The Uses of Argument" in order to explain how argument is developed in its natural process, introduced a model showing the essential elements of an argument and relationships between them (Figure 1.1). Toulmin Argument Model, offering significant advantages to science education, was employed to determine effects of the approach "Argumentation-Based Science Learning (ABSL)" on achievement of individuals and their critical thinking dispositions. According to the ABSL approach students restructure knowledge when they ask questions, generate arguments, use research-questioning strategies in which they support arguments with evidence, use reading, writing and speaking elements of language efficiently and study in a learning environment which promotes cooperative group studies.

ABSL enables an environment in classrooms in which students generate questions, support their arguments with evidence, assess accuracy of such evidence together with other students, are active and cooperative and students can discuss, sometimes resulting in disprove of an argument. In other words, ABSL provides a foundation for critical thinking because classes experiencing the critical thinking process have the opportunity to enjoy numerous questions, increasing tension, attractiveness of unexpected results and active learning (Browne and Freeman, 2000; Akt. Aslan, 2010). In addition, writing activities also offer important opportunities in terms of supporting and assessing thinking skills (Doğanay and Ünal, 2006).

On the other hand, argumentation process enables use of language skills. However, ıt is not enough for critical thinking just to have skills. The disposition to use them is also necessary. Therefore, in this study, effects of ABSL-based applications on the critical thinking dispositions were assessed.

Accordingly, aim of this study is to examine the effect of laboratory applications developed based on ABSL approach on achievement and critical thinking dispositions of pre-service Biology and Chemistry teachers studying at university first class. This study carried out together with the pre-service teachers will contribute in educating qualified pre-service teachers who are aware of approaches effective in educating science-literate individuals.

1. **METHOD**

Sampling of this study is composed of 45 pre-service teachers being educated in Hacettepe University, Faculty of Education, Division of Biology Education and Chemistry Education in fall semester of 2012-2013 academic year. 24 of the pre-service teachers participated in the test group while remaining 21 were included in the control group. The Solutions Achievement Test (SAT) which is composed of 20 multiple-choice questions and developed by the researcher as the data collection tool for determination of effect of ABSL on achievement was employed. Validity and reliability studies of the achievement test have been completed and its Alpha reliability factor was calculated to be 0.76. For determining the effect of ABSL on critical thinking dispositions short Turkish version of the California Critical Thinking Disposition Inventory (CCTI) was employed. The CCTI was developed as 75-item Likert-type scale in 1998 by Facione, Facione and Giancarlo. Validity and reliability studies for its Turkish version were carried out by Kökdemir (2003). Accordingly, internal consistency reliability coefficient of the inventory composed of 51 items and 6 sub-aspects is 0.88.

After SAT and CCTI are applied to both groups as a pre-test, activities explaining the argumentation process were used for the test group. While developing activities suitable for ABSL approach strategies developed by Osborne, Erduran and Simon (2004) in order to facilitate science learning in argumentation-based classroom environment.

Applications for the test group:

1. **Description of Toulmin Argument Elements and Argumentation**

Two activities were held to describe and explain argumentation and Toulmin Argument elements. In the first one, the study sheet developed according to "argument structuring" strategy in which examples from daily life take place was used. In the second one, a sociological subject in which "theories competing with stories" strategy is used was employed.

Development of Argument and Counter Argument

At this point, it was aimed to improve argument and counter argument development skills of the pre-service teachers. Accordingly, two activities, one verbal and one experimental, on gases were carried out. In such activities "theories, competing with evidence and idea" and "test design" strategies were employed. At the same time, it was allowed for the pre-service teachers to gain experience on laboratory class developed according to ABSL before the application; which also provided the researcher with the opportunity to realize before the actual application starts deficiencies that may occur during the real application

Laboratory Applications for Solutions according to ABSL

For the last stage three different activities were designed for solutions which are the main subject of the study. The strategies "Theories, competing with caricatures", "argument restructuring" and "test design" were employed, respectively. Activities included in this stage are as follows:

- **Activity "What do I know about solutions?":**

In this activity in which caricatured descriptions concerning solutions took place the pre-service teachers have written down their arguments on the views provided in the caricatures, discussed and decided on solutions by working in small groups. After developing arguments and counter arguments the groups carried out several discussions in the classroom and reached a common decision. Therefore, this study assisted those with different opinions to persuade others.

- **Activity "There are lots of concentration units":**

In this study in which evidencing statements concerning the concentration units took place the pre-service teachers were provided with time for internal discussions. The pre-service teachers developed arguments on concentration units by using evidencing statements. During discussion it was found that there were counter arguments. After the groups declared their reasons a common decision was developed under the guidance of the class teacher.

After verbal activities a laboratory application was carried out concerning the same matters.

- **Activity "Magic Mixture":**

The aim of this study was to determine the ability of the participants to prepare solutions and to re-prepare new solutions from existing ones. By use of the scenario called "Magic Mixture" developed by the researcher, the pre-service teachers were made think that they were the main characters that would solve the problem in that story. Various clues concerning the experiment to be designed by the pre-service teachers were provided in the scenario: "… from which the molarity of the magic mixture can be found…", "mole and volume words … in the codes", "If we correlate mole, volume and molarity values…", and "experimental arrangement for the magic mixture is prepared …". The pre-service teachers, after developing arguments and sharing them with their classmates designed and realized the experiments by following the instructions provided in the study sheet. After the groups completed their experiments they prepared reports containing their arguments in accordance with ABSL.

For the control group two different experiment sheets (Preparation of Solutions from Solid Materials" and "Preparation of Solution with Desired Concentration from a Concentrated Solution" concerning the subject were distributed to the pre-service teachers before the class and they were asked to come prepared to the class. The pre-service teachers subjected to a quiz before the laboratory session carried out the experiment individually by following the steps provided in the experiment sheet. Then they delivered the reports prepared by following the conventional method to the instructor. Finally, SAT and CCTI were applied to both working groups as the final test.

2.RESULT

SAT and CCTI pre- and post-test data obtained from the pre-service teachers before and after the applications were analyzed by use of appropriate statistical methods. According to SAT pre-test scores it was found that the test and control groups were similar to each other in terms of preparedness. According to dependent sample t-tests it was concluded that both groups were improved in terms of solution achievements. When independent sample t-test results were

assessed it was found that final test scores of the test group were more significant in comparison with those of the control group. Accordingly, ABSL-based laboratory applications were more efficient in terms of achievement.

According to CCTI pre-test scores, no statistically significant difference were observed between the test and control group pre-service teachers, with no significant difference concerning critical thinking disposition, after the applications in terms of critical thinking dispositions

3.DISCUSSION

In this study significant increase in SAT pre-test and final test scores for both the test and the control group was observed. Since knowledge on solutions of the pre-service teachers before the application was limited to those learned from previous applications and they received education on the same subject during the semester and the General/Basic Chemistry lesson such increase is not an unexpected result. In addition, laboratory applications have had a great role in education method with the purpose to increase achievement in science education and strengthen teaching. The important element which is important at this point is that the difference between the scores of the final test concerning solutions is in the favor of the test group in comparison with the control group. Accordingly, ABSL-based laboratory applications are more effective in enhancing achievement of pre-service teachers. Such result of the study conforms to conclusions of other studies in the literature, carried out for ABSL-based laboratory applications (Hand, Wallace and Yang, 2004; Burke et al., 2005; Ceylan, 2010; Demircioğlu, 2011). In addition, there are lots of studies in the literature concerning the effect of the ABSL approach on student achievement other than the laboratory applications (Zohar and Nemet, 2002; Yeşiloğlu, 2007; Uluçınar-Sağır, 2008; Özer, 2009; Altun, 2010; Erdoğan, 2010; Kabataş-Memiş, 2011; Demircioğlu, 2011; Özkara, 2011; Okumuş and Ünal, 2012; Uluay, 2012; Yeşildağ-Hasançebi and Günel, 2013). Results of such studies also Show that ABSL approach is effective in terms of student achievement/academic achievement.

CCTI pre-test and final test results showed that ABSL-based laboratory applications have not statistically significant effect on the critical thinking dispositions of the pre-service teachers. Term of this study was limited to six weeks. The most potential reason of non-existence of a significant effect on critical thinking dispositions of the pre-service teachers was found to be the limited time allocated for argumentation.

Since argumentation process was explained to the participants of the study carried out based on ABSL it was found that the pre-service teachers did not encounter significant problems in correlating arguments with data and strengthening their reasons during the applications. As a positive outcome of such preliminary studies it was observed that the pre-service teachers get adapted to the argumentation process during the activities concerning main theme of the study. Kuhn (1991), in order to underline importance of the preparation activities prior to the applications, stated that practice was essential in terms of developing arguments. Accordingly, while examining effects of the ABSL-based applications it is very important to give place to activities describing the argumentation process prior to applications in addition to prepare activities appropriate to the process.

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1. **METHOD**

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For the last stage three different activities were designed for solutions which are the main subject of the study. The strategies "Theories, competing with caricatures", "argument restructuring" and "test design" were employed, respectively. Activities included in this stage are as follows:

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2.RESULT

SAT and CCTI pre- and post-test data obtained from the pre-service teachers before and after the applications were analyzed by use of appropriate statistical methods. According to SAT pre-test scores it was found that the test and control groups were similar to each other in terms of preparedness. According to dependent sample t-tests it was concluded that both groups were improved in terms of solution achievements. When independent sample t-test results were assessed it was found that final test scores of the test group were more significant in comparison with those of the control group. Accordingly, ABSL-based laboratory applications were more efficient in terms of achievement.

According to CCTI pre-test scores, no statistically significant difference were observed between the test and control group pre-service teachers, with no significant difference concerning critical thinking disposition, after the applications in terms of critical thinking dispositions

3.DISCUSSION

In this study significant increase in SAT pre-test and final test scores for both the test and the control group was observed. Since knowledge on solutions of the pre-service teachers before the application was limited to those learned from previous applications and they received education on the same subject during the semester and the General/Basic Chemistry lesson such increase is not an unexpected result. In addition, laboratory applications have had a great role in education method with the purpose to increase achievement in science education and strengthen teaching. The important element which is important at this point is that the difference between the scores of the final test concerning solutions is in the favor of the test group in comparison with the control group. Accordingly, ABSL-based laboratory applications are more effective in enhancing achievement of pre-service teachers. Such result of the study conforms to conclusions of other studies in the literature, carried out for ABSL-based laboratory applications (Hand, Wallace and Yang, 2004; Burke et al., 2005; Ceylan, 2010; Demircioğlu, 2011). In addition, there are lots of studies in the literature concerning the effect of the ABSL

Keywords: Argumentation-based science learning approach, solutions,

THE EFFECT OF DYNAMIC GEOMETRY SOFTWARE ON PROSPECTIVE TEACHERS' ACHIEVEMENT ABOUT LOCUS PROBLEMS

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ABSTRACT

Geometric locus problems are topics that students find difficult to understand. To solve these problems, students must obtain the ability to think abstractly. Nevertheless, in the courses carried out with pen and paper, these skills are not enough to understand the geometric locus problems. The lack of moving structures and monitoring in traditional environment requires the need for alternative learning environment. Dynamic geometry software constitutes different learning environments for teachers and students. This software has features such as dynamic free dragging, dynamic measurements, transformations, animation and locus (Gao, 1998). The aim of this study is to determine the effect of dynamic geometric software on prospective mathematics' teachers' achievement on locus problems. For this aim, quasi experimental design was used. The study took place during the 2014–2015 spring semester at Bülent Ecevit University in Zonguldak city of Turkey. Of the 65 prospective teachers who participated in the study, 32 were in the control group. The remaining 33 prospective teachers were in the experimental group. Locus problems were solved in experimental group with dynamic software (Cabri and Geogebra). In the control group classes were conducted in traditional learning environment. A data collection tool has been developed which consists of 10 open-ended questions. This tool was applied before and after the implementation in both group. The findings showed that the dynamic geometry software has a positive effect on prospective teachers' achievement on locus problems.

INTRODUCTION

Development of technology has led the educators to take step towards the integration of computer into learning environment (Akkaya, Tatar, & Kağızmanlı, 2011). Computers have changed the way we teach mathematics. The use of computers in the teaching of mathematics is receiving increasing attention from teachers and researchers. Computers are the most preferred and utilized tools in education among the available technologies, and they have many properties. Computer-aided teaching helps students develop high level of cognitive skills and allow students to live experiences of a mathematician and construct their own mathematics (Baki, Güven & Karataş, 2002). The aim of using computer in mathematics instruction is to increase students' interest towards the subject and to help them understand the concepts visually easier where they have difficulty to imagine via traditional instruction (Yıldız, Güven & Koparan, 2010).

Since geometry is founded on abstract structures, some difficulties may be encountered in understanding some geometrical concepts such as locus (Açıkgül & Aslaner, 2012; Güven, & Karataş, 2009). The concept of locus; defined as a cluster of points with the same characteristics (Sarıgül, 2001). Most students will not move the point in a structure and even it is almost impossible to imagine for students. Because of the difficulty in visualizing geometric problems they are often not included in textbooks (Cha & Moss, 2004). Locus problems are different from each other and thus it is very difficult for them to develop materials in traditional media. At the same time, locus problems in the traditional learning environment where work carried out using pencil and paper are quite difficult (Güven & Karataş, 2009). The majority of the studies in the literature for solving the locus problems are to emphasize the dynamic geometry software (Antohe, 2009; Baki, Çekmez, & Kösa, 2009; Botana & Valcarce, 2003; Botana, Aba´ Nades & Escribano, 2011; De Villiers, 2008 Gorghiu et al., 2009). Dynamic geometry software is a highly effective tool to solve these problems related to locus (Güven, 2008; Güven & Karatas, 2009; Jahn, 2002; Real & Leung, 2006). They have features such as track and locus. These properties offer new possibilities for locus problems (Cha & Moss, 2004; Jahn, 2002). Thanks to these features, locus of a point can be easily visualized. Thus, students can determine the locus of a point relative to another point in the structure. Dynamic geometry software interactively offers students the opportunity to explore how the locus occurred.

There is different qualitative research on the use of dynamic geometry software in the process of solving locus problems in the literature. However, the effect of dynamic geometry software on student or prospective teachers' achievement about locus problems has not been studied so much up to now.

The purpose of this study is to investigate the effect of dynamic geometry software on prospective mathematics' teachers achievement related to locus problems and it is also evaluating opportunities offered by the dynamic geometry software.

THE STUDY

Quasi experimental design was used in this study. All participant solved problems by using paper-pencil approach before the implementation. At the beginning of the study, technical features of Cabri II and Geogebra software was introduced to experimental group. Emphasis was given on how to give computer-assisted instruction in geometry courses using this software; after then, they used software for making their solutions. During the study, the prospective teachers were observed in their natural environment. In the control group, classes were conducted in traditional learning environment.

The study took place at Bülent Ecevit University in Zonguldak city of Turkey. It was carried out in the spring semester of 2014-2015 academic year on 65 prospective teachers who are third-year university students in a department of elementary school mathematics teaching. Of the 65 prospective mathematics teachers who participated in the study, 32 were in the control group. The remaining 33 prospective teachers were in the experimental group. The prospective teachers in the sample group volunteered for the study.

The data in this study were collected using a test developed related to geometry. The test was developed by two researchers working in the field of geometry education. This test consists of ten open ended questions related to locus problems and concept. These ten open-ended questions are shapeless. A pilot study was conducted before the actual implementation. Thus probable deficiencies were sought related to the questions. In this way, the appropriateness of the questions was tested. Participants are asked the following questions;

What is the circle? Please define.
What is the parabola? Please define.
What is an ellipse? Please define.
What is the hyperbola? Please define.
What is the locus of the intersection of the central pillar of the beams in a circle?
What is the locus of the intersection of the edge of the central pillar of a triangle?
What is the geometric point of equal distance from two fixed points in the plane?
What is the locus of the intersection of the internal bisector of a triangle?
Draw a triangle on the circle. What is the locus according to a corner of the triangle's center of gravity?
Draw an angle of 120 degrees. Draw an equilateral triangle with two corners on the arm angles. What is the locus of the third corner?

The study has completed a total four weeks. First and last week pre-test and post-test are conducted. The application process was carried out in the computer lab for six hours. Quasi-experimental design was used in this study and activities lasted 4 weeks. In the pre-test all prospective teachers were asked to solve locus problems with paper and pencil. Then half of the class was defined as experimental group and the rest as control group. Subjects in the experimental group were held in computerized environments (3 hours per week for 2 weeks). Cabri II and Geogebra software was used as the software and various applications about locus subject were carried out. In the control group, the same procedure was followed without using dynamic geometry software. These problems are solved sometimes by students, sometimes by the instructor. A majority of the solutions showed an algebraic characteristic

Prospective teachers' answers to questions about locus before and after application were examined. The obtained data were used for statistical analysis with SPSS. At the same time, the differences between answers of experimental and control group were qualitatively examined.

FINDINGS

The findings from the questions related to locus problems are given in this section. The results were presented as findings from quantitative data and the findings from qualitative data.

The findings from quantitative data

The data obtained from the quantitative were analyzed using SPSS programme (t test and covariance analysis). Independent t-test was performed to determine whether a significant difference exists between the pre-test scores of the prospective teacher in experimental and control groups and the results were given in Table 1.

Table 1. Independent two sample t test results

	Group	N	Mean	SD	SD Error Mean	sd	t	p
Pre-test	Exp.	33	34,54	12,01	2,09	63	0,635	0,528
	Cont.	32	32,50	13,91	2,45			

Looking at the measures of the two groups pre-test averages are very close to each other (34,54 and 32,50). The

result of the experimental and control groups compared to pretest before the implementation by the t test results, there is no difference between groups t(63) = 0,635, p > 0,05. Experimental group t test result was given in Table 2.

Table 2. Experimental group pre-test and post-test t test results

Exp. Group	N	Mean	SD	SD Error Mean	sd	t	p
Pre-test	33	34,54	12,01	2,09	32	-11,898	0,000
Post-test	33	65,15	13,94	2,42			

Looking at the results of the experimental groups the average score of prospective teachers at the pre-test was 34,54 (SD = 12,01), while the average score at post was 65,15 (SD = 2,42). Results from a dependent t-test indicate that this difference was significant, t(32) = -11,898, p < 0,05. Supported with dynamic geometry software learning approach may be regarded as a positive effect on prospective teachers' achievement. Control group t test result was given in Table 3.

Table 3. Control group pre-test and post-test t test results

Control Group	N	Mean	SD	SD Error Mean	sd	t	p
Pre-test	32	32,50	13,91	2,45	31	-5,536	0,000
Post-test	32	43,43	11,53	2,03			

Looking at the result of the control groups, the average score of prospective teachers at the pre-test was 32,50 (SD = 13,91), while the average score at post-test was 43,43 (SD = 11,53). Results from a dependent t-test indicate that this difference was significant, t(31) = -5,536, p <0,05. Traditional teaching method may be regarded as if it has a positive effect on prospective teachers.

Table 4. Analysis of Covariance Results

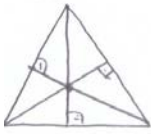| Source	SS	df	MS	F	p
Pretest	2403,939	1	2403,939	18,766	0,000
Method	6944,303	1	6944,303	54,210	0,000
Error	7942,179	62	7942,179		

A one-way analysis of covariance was conducted in this study. ANCOVA results were given in Table 4. The independent variable supported with dynamic geometry software learning environment was the prospective teachers' success and the covariate was the prospective teachers' score on the pre-test. The ANCOVA was significant, $F(1, 62) = 54,210$, $p < .05$ and $\omega^2 = 0,47$. According to the results of ANCOVA, the experimental group's and control group's pre-test scores are under control, a statistically significant difference was found between post-test scores.

The findings from qualitative data

When qualitative data obtained from the study analyzed, it was seen that the teachers in the control group did not define conic sections (parabola, ellipse and hyperbola) with locus. Many of the definitions were found to be as follows; the shape that occured after cutting the cone, graphs of quadratic equations or quadratic function. However, it was seen that the prospective teachers in the experimental group used geometric locus in the majority of the responses.

The majority of the prospective teachers in the control group were observed that they confused some locus such as locus of the intersection of the edge of the central pillar of a triangle, locus of the intersection of the internal bisector of a triangle. In the experimental group, it was observed that this situation is much less. Table 5 shows examples of sections of experimental and control groups response.

Table 5. Examples of sections of experimental and control groups response

Question	Control Group	Experimental Group
2		
3		
5		
6		
8		

It is believed that the differences between the groups emerged from the created learning environment. Because prospective teachers in the experimental group have established various structures through dynamic geometry software and they have made observation and generalization by moving these structures. So they could be able to visualize the situation which is never dreamed with paper and pencil. This situation has contributed to prospective teachers to learn more permanently about locus.

CONCLUSIONS

In this study, the effect of dynamic geometry software on locus problems was explored. The results and the recommendations based on these results were presented as follows:

It was determined that there are some difficulties in understanding the locus problems using pencil and paper. These difficulties are; inability to move the points on the paper, the lack of proper shape to be drawn, it is not enough to form a mathematical description. This finding is consistent with the results of studies in the literature (Açıkgül & Aslaner, 2012; Güven & Karataş, 2009). In contrast to traditional learning in the process of using dynamic software, prospective teachers got opportunities such as to make hypothesis, to move the structure to test hypotheses, to show trace and to make generalization. During these activities, prospective teachers experienced some difficulties about using t geometry knowledge and using software. Nevertheless, they could use their geometry knowledge in the solution of locus problems and using dynamic software allowed them to use different thinking skills. Dynamic geometry software completes and enriches them rather than the replace of the traditional tools. There are several studies that comply with these findings in the literature (Baki, Güven & Karataş, 2002; Camargo, Samper & Perry, 2007; Ceylan, 2012; Filiz, 2009; Kokol-Voljc, 2007).

As a result dynamic geometry software (Cabri II and Geogebra) was found effective in solving locus problems. This result reveals that a computer assisted environment prepared by using Cabri 2d and Geogebra enabled the prospective teachers in this study to make their knowledge more meaningful. In other words, dynamic software was found to positively contribute to prospective teachers in geometry learning. Based on these results, the following recommendations were made:

Dynamic geometry software assisted practices may be extended to other subjects of geometry as shown in this study. This will facilitate instruction of abstract concepts of geometry. Considering the difficulties in solving locus problems and contributions of dynamic software, we recommend the use of this software in the classroom. This study focuses on the locus problem. The effects of dynamic geometry software can be analyzed by considering different issues. Cabri 2d and Geogebra are used in this study. Outstanding and weaknesses are designed studies comparing the use of different software. Comparing high and weaknesses using different software is recommended. There is general consensus in the mathematics education community that students need a deep and meaningful understanding of any mathematical content. Consequently, dynamic geometry software would be useful for teachers to consider the appropriate formative experiences that will foster the

students' capacity for ongoing geometry learning, help them reflect on the nature of geometry, and help them value mathematical knowledge in classroom.

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THE EFFECT OF PAPER BASED CONCEPT MAPPING ON STUDENTS' ACADEMIC ACHIEVEMENT AND ATTITUDE IN SCIENCE EDUCATION

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Concept map is known to be a powerful tool to organize the ideas and concepts of an individuals' mind. This tool is a kind of visual map that illustrates the relationships between the concepts of a certain subject. The effect of concept mapping on cognitive and affective qualities is one of the research topics among educational researchers for last decades. We educators want to utilize it both as an instructional tool or an assessment tool in classes. For that reason, this study aimed to determine the effect of concept mapping as a learning strategy in science classes on students' academic achievement and attitude. The research employed a randomized pre-test post-test control group design. Data collected from 60 sixth grade students participated in the study from a randomly selected primary school in Turkey. Sixth grade classes of the school were analyzed according to students' academic achievement, science attitude, gender, mathematics, science courses grades and their GPAs before the implementation. Two of the classes found to be equivalent (t=0,983, p>0,05) and one of them was defined as experimental and the other one control group randomly. During a 5-weeks period, the experimental group students (N=30) used the paper based concept mapping method while the control group students (N=30) were taught with the traditional approach according to the science and technology education curriculum for light and sound subject. Both groups were taught by the same teacher who is experienced using concept mapping in science classes. Before the implementation, the teacher explained the theory of the concept maps and showed how to create paper based concept mapping individually to the experimental group students for two hours. Then for two following hours she asked them to create some concept maps related to their former science subjects and gave them feedback by reviewing their concept maps to be sure that they can create during the implementation. The data were collected by science achievement test, science attitude scale and personal information form. Science achievement test and science attitude scale were implemented as pre-test and post-test while personal information form was implemented just as once. The reliability coefficient of the achievement test was KR20=0,76 and Cronbach's Alpha of the attitude scale was 0,89. SPSS statistical software was used to analyze the data. According to the results, there was a statistically significant difference between the experimental and control group for academic achievement but not for attitude. The experimental group had significantly greater gains from academic achievement test than the control group (t=0,02, p<0,05). The findings showed that the paper-and-pencil concept mapping can be used as an effective method for students' academic achievement in science classes. The results have implications for further researches.

Keywords: Academic achievement, concept mapping, constructivism, science education.

THE EFFECT OF THE COMPUTER GAME DEVELOPED FOR THE 7TH GRADE SCİENCE LESSON, ON STUDENT'S SELF-EFFİCACY TOWARD SCİENCE

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ABSTRACT

Human being starts learning about life via games. Therefore games have always maintained their importance and have always been interesting since the beginning of the human life. Games are being moved from streets to virtual platforms today as information Technologies are considerably progressing. And because of that, computer games are one of the entertainments for people today, especially for the children of school age. Analysing the literature, we find the computer games to have many positive effects on children's performance at school.

In this research, the effect of the computer game developed for the 7th grade science lesson, on student's self-efficacy toward science is studied. Quasi-experimental design is used as the quantitative research method. The study group consists of 444 7th grade students in total attending to 7 different schools chosen from 7 different regions in Turkey. In this context, while there has not been any interference to the students attending to one of the 7th grade classrooms chosen from each school, the other students are provided with the computer game which is developed in the context of the application as an additional exercise. Seven experimental groups and seven control groups were chosen from each region in total one of which is the control group and the other is experimental group. "Science Self- Efficacy Scale" was drawn on as the data collection tool. The scale was applied two times in total, the first of which was before the application and the second after the application.

As the result of the study, the developed computer game is determined to be an effective material in increasing the students' self-efficacy toward Science. In addition, It is concluded that there are regional differences regarding the students' self efficacy.

Keywords: Computer Game, Science Education, Self-Efficacy

INTRODUCTION

Human beings start learning about life via games. For this reason, games have always been interesting and maintained their importance throughout the history. In addition to being entertaining, games, at the same time, allow the player to learn new things (Gungormus, 2007)

Accomplishing productive reasults in education is closely related to the teaching's being planned and carried out in a way to get the maximum performance from the students. J. Locke lays emphasis on making use of the games for a more productive lesson teaching. And Fenelon states that promoting the teaching with games spirits away the boring, monotonic and theoretical form of teaching while making it become an entertaining and amusing process (Ergun, 1980). Furthermore, taking the games with the purpose of teaching makes it possible to have a productive lesson and gives the students the opportunity to engage actively and construct the knowledge by themselves in the teacing process (Hagbood, Ainsworth and Benford; 2005).

In today's world where the information technologies have considerably developed, games have been moved from streets to virtual platform and have become one of the entertainments of people, especially of the children of school-age. And the reason of this lies behind the real-like virtual platforms with audio, image and the ascribed roles for the players (Brand, Knight and Majevski; 2003). The computer games' becoming considerably popular among people has increasingly led to the developement of computer games sector. The effect of computer games and its popularity have extremely increased with the applications enabling tens of thousands of people simultaneously to play games at the same virtual platform (Tuzun et. al, 2009)

Since 1970's when the first computers games were designed, the developments in computer sector have yielded the developement of the game sector correspondingly. Since 2000's multi – user (online) computer games have become highly popular. Sharing the same game's enthusiasm at the same virtual platform with the users from the different parts of the world has drawn the attention of computer users (Emekli, 2002; Akkemik, 2007). In a reasearch he has done, Yagız (2007) stated that the computer games took up the most of the time of today's

children with the developement of technology. In his same research again, he expressed that while in 1980's children spent 4 hours in average at home or in an arcade, today, as the children of school – age, girls spend 5,5 hours and boys 13 hours in average and that this time was increasing day by day (Yagız, 2007). As a consequence of that, the time students saved for their education has decreased and they do not have enough time for their homework. Students' acting this way causes a decline in their achievements at school and their declining achievements and interests in the lessons distresses their parents.

That unfavourable situation and the computer games' being a considerable part of students' life day by day were noticed by the teachers as well, and they came up with the idea of integrating the highly welcomed computer games with the teaching. And thanks to that idea, the computer games, today, are being used for various purposes in almost all fields, from social to historical, health to military. This way, it is thought that the deficiencies of the traditional learning environment can be perfected by educational computer games, making it become more entertaining and interesting but boring (Dogusoy and Unal, 2006).

Garris, Ahlers and Driskell explain how to use computer games in teaching as follows:
- Today, we move from traditional teaching method of presentation to student-centered teaching method where the learner is more active. Consequently, the students must be provided with a learning environment where they can learn by experience, not only by listening to the lessons.
- Some of the experimental studies in literature indicated that the computer games could be used as an effective tool when teaching the complicated subjects.
- According to the educators, this voluntary active engagement could be drawn on as a motivation tool to accomplish educational goals considering the great number of students playing computer games and the interest people have in playing games (Garris et al., 2002, p.441-442).

And Papestrergiou (2009) attributes the computer games' being effective learning environments to those;
- Games make learning become a multi-sensory, active, experimental and problem-focused one.
- And the obligation of the students to use the prior knowledge to proceed in the game supports the effective memorability of the rudiments.
- Games ensure that the learning is organised, and offer instantenous feedbacks that help learning.
- The scores and the different levels in games offer self-assessments for students.
- Games are increasingly becoming social environments with the community of players they involve.

When the body of literature is analyzed, the computer games were found to have many positive effects on children's performance. The computer games which are played just for fun can make children obtain the information necessary for them during the game (Pillay, 2002; Prensky, 2001; Tuzun et al., 2009; Ural, 2009; Vos, var der Meijden and Denessen, 2011). Moreover the experts underline the fact that computer games can create a new type of learning culture and that it can meet the demands of the stuedents all the better. This way, it would be possible to turn the disadvantages resulting from the harmful effects of the computer games that parents and educators complain about into advantages (Gros, 2007). Considering the potential that the computer games have, today's experts recommend using the computer games in the classrooms on the intent of providing students a better learning environment and promoting their learning capacities (Prensky, 2001; Gros, 2007; Papestrergiou, 2009).

Prensky (2001), attributed the computer games' being that interesting to those 12 reasons;
A computer game;
1. is in the form of entertainment and gives us pleasure.
2. is a format of playing and enables interest and attendance.
3. has rules and that ensures we make a plan.
4. 's targets motivate us.
5. requires us to do something because it is interactive.
6. is in a flow and can be adapted.
7. provides an opportunity to learn by the outputs and feedbacks.
8. achievements facilitates the ego satisfaction.
9. brings us adrenalin because it has conflict, difficulty, competition and contrast.
10. developes creativity because it requires problem solving.
11. makes it possible to establish social groups because it is interactive.
12. brings us emotions because it has demonstraton and story.
The 6 of those (rules, targets, outputs and feedabcks, conflict/difficulty/competition/contrast, interaction and story) are named as the items that make it a game (Prensky, 2001).

Science teaching must bring in required customs and understandings to make students think about their own purposes and have responsibilities and challenge with problems in the future. In addition science teaching must contribute students to grow up as citizens constituting open society which, among the developed World countries, has an important place (Koseoglu, et al., 2003). The skills the students gain by the science teaching are aimed to be used throughout their life. The level the students could reach the determined goals is affected by many factors. The features of the learning environment, the charastics of the teacher and the students affect the students achievements. The students' confidence in science affects their performance and engagements in activities. And one of the qualities affecting the performance in science lesson is the students' self – sufficiency.

Bandura (1986) defined the confidence as "the judgements people make about their organizing the actions and performing their skills that could help them accomplish a certain performance"(As cited in Kotaman, 2008). According to tihs definition, the self – sufficiency is one's belief in doing any skill or performing any behaviour. The idea that emerges in mind before doing an activity causes a positive or a negative attitude towards the activity that is to be done in accordance with one's prior knowledge. Bandura's theory states that the human behaviour is directed by a type of self – control mechanism that derives its source from one's beliefs regarding himself and his environment, and brings a perspective that makes an individual both a producer and a product in their environment and social system (Senemoglu, 2004). According to the social learning theory there is an ego system in individuals enabling them to control their emotions, thoughts, motivations and actions. This system provides an individual a self – regulatory mechanism to understand, regulate and assess his/her behaviour. The results of the individual's actions, levels of achievements and the judgements regarding the environment have a determinant effect on his/her subsequent behaviours (Henson, 2001 – As cited in Ozerkan, 2007).

The sense of self-sufficiency is the basic determinant of the individual's motivation for an activity. The self-sufficiency is one's judgement on his abilities during a period of accomplishing a specific goal (Aydıner, 2011). These judgements are significant especially when they have negative aspects. When this is the case, the people who have a sense of high self-sufficiency will probably achieve their goal by working with will and patience and with confidence on a certain target. On the other hand, people who doubt they have enough capacity or skill are quite likely to fail. In Social Learning Theory, the sense of self-sufficiency is also adressed when explaining the concepts of teaching and learning and human behaviour. The self-sufficiency of an individual can clearly be observed from his/her behaviour. Because a person with a hıgh sense of self-sufficiency does something with an intrinsic motivation without a need of extrinsic motivation (Erden, 2007).

It is analyzed from the literature that the computer games are not employed sufficiently (Prensky, 2001; Squire, 2005; Kiili, 2005; Gungormus 2007) and new methods are needed to increase students' self – sufficiency in Science. Therefore, a computer game for the 7th grade is designed to be employed in science lesson and its effect on students' self-sufficiency towards scince is examined in this study. In this context, it is thought that this study could meet the shortages determined in literature and could also reveal the effect of using computer games on learning.

METHOD
We drew on quasi – experimental method in this study. This method involves an experimental and a control group but the groups are not assigned randomly. If there is not a meaningful difference in groups' pre-test results, then we can talk about the equality of the groups. The changing scores of both groups from pre-test to post-test are compared and analyzed to see if there is a meaningful difference between the groups (Christensen, 2004).

According to Sonmez (2005), the population and sample must not be an option in experimental researches. Therefore the population generalizability is ignored, and then the study group is determined accordingly. The study group involves 7th graders from seven different schools chosen from each region of Turkey. In this content, while there is no interference to the teaching process in one of the two classes in each school, the other is promoted by the new designed computer game as an additional material. This application proceeded during 2014 – 2015 academic year.

Within the context of the study, the current teaching process was not intervened. The control group's and the experimental group's lessons in each school, are conducted by the same teacher. The computer game designed in parallel with the teaching process was additionaly played by the experimental group students. The game is played by three players on-line. 3 players are randomly matched up in login. The game takes place in a laboratory. The main goal of the game is to hunt down the stuffs in the lab. The stuff choice questions come first In the interface of the lab and those consist of multiple-choice questions. The game involves 6 circuits in total. One of the multiple choice questions in active categories in each circuit is chosen by the system randomly and

shown to the players simultaneously. The question is to be answered in a limited time. When all the players answer the questions or the time is up, the "interface of the answer" is shown to the players. Here, the question, options, the right answer, players' answers and the time of answering the question is displayed. The ones who give the right answer will be able to choose a stuff, from the fastest to give the answer to the last, respectively. The ones that cannot give the right answer will not be able to make a choice, but will be the watchers. They can only see that the player(s) made their choice. Each circuit is completed this way. When the circuits are all completed but there is still a stuff that is not chosen, then comes another step "additional stuff choice" and that will be conducted by the two most successful students. The success rating is determined with the players scores. The actual game starts in this phase. The players make moves one by one to take possession of another's stuff. 3 questions are asked to the two players, one of whom is the attacker and the other is the owner of the stuff. Here, there may be multiple – choice questions or answers to be guessed by the players. Each question directed in this pace is answered in a limited time. When the questions are answered or the time is up the interface of the answers is displayed to all the players. After answering each question in this way, if the winner (the one to get more points than the other) is the attacker, he/she gets hold of the opponent's stuff. If the winner is the one who is attacked, his/her stuff stays with him/her and another player takes turn. The game is over when one of the three players captures all the stuffs. The sample scenes from the game are shown in figure 1.
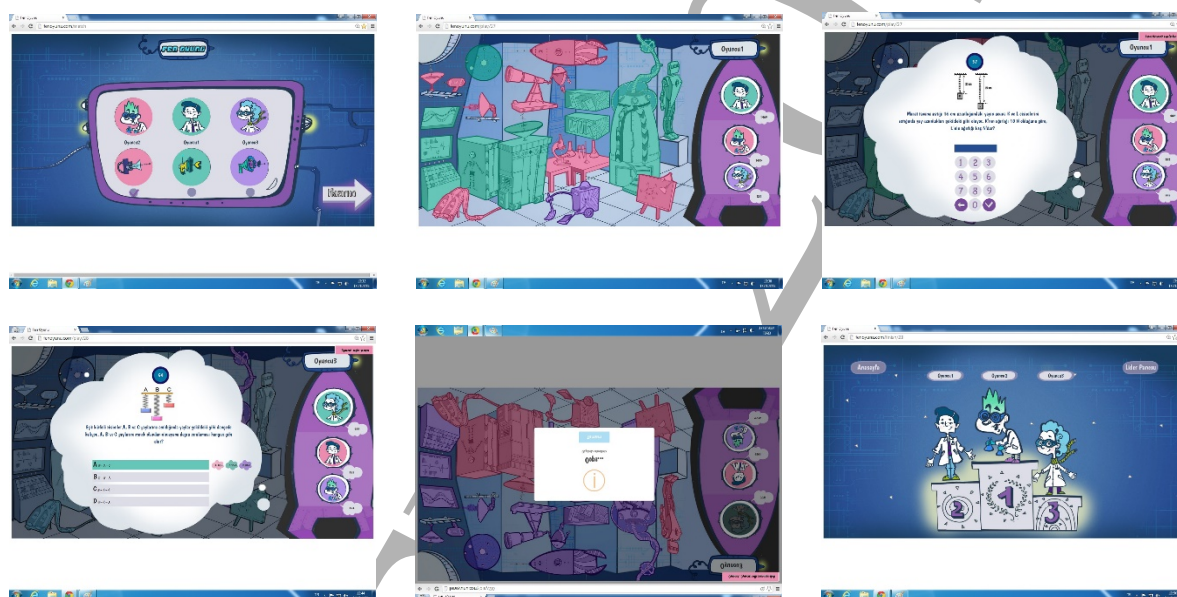

Figure 1. Sample scenes from the science game.

Science lesson self-sufficiency scale developed by Tatar et al. (2009)is used in this study to determine the students' levels of self-sufficiency in Science and the changes in these levels. The scale is applied to the students two times in total, at the beginning of the first term as a pre-test and at the end of the second term as a post-test. 36 questions in total are prepared in five point likert form in the process of developing the scale. And these questions are asked to 400 students of the 6th, 7th and the 8th grades in 10 primary schools. The scale is dropped to 27 questions as a result of analyzing the data obtained from this investigation and the coefficient of the Croanbach alpha is determined as .93.

FINDINGS

The self-sufficiency scale is applied to all of the groups as a pre-test before and as a post-test after the application and it is checked with the independent t-test if there is a statistically meaningful difference between the groups pre-test and post-test results. The result of the application is demonstrated below;

Table 1: The statistical pre-test and post-test results between the control and the experimental groups of each region

Regions	Application	Group	N	$\overline{X}$	ss	Sd	t	p
Marmara	Ön Test	Experimental	30	89,87	6,48	58	,391	,698*
		Control	30	90,50	6,07			
	Son Test	Experimental	30	115,07	6,77	58	12,076	,000**
		Control	30	92,47	7,70			
Aegean	Ön Test	Experimental	30	87,83	8,56	59	,487	,628*
		Control	31	86,81	7,90			
	Son Test	Experimental	30	114,80	4,66	59	19,910	,000**
		Control	31	86,32	6,35			
Mediterranean	Ön Test	Experimental	33	84,39	10,81	65	,648	,519*
		Control	34	85,91	8,21			
	Son Test	Experimental	33	113,97	7,48	65	15,750	,000**
		Control	34	84,88	7,63			
Central Anatolia	Ön Test	Experimental	31	86,74	8,54	61	,142	,888*
		Control	32	86,44	8,48			
	Son Test	Experimental	31	116,03	5,42	61	17,935	,000**
		Control	32	85,59	7,80			
Black Sea	Ön Test	Experimental	30	87,13	7,21	59	,476	,636*
		Control	31	88,03	7,52			
	Son Test	Experimental	30	117,40	4,81	59	24,252	,000**
		Control	31	85,84	5,32			
Eastern Anatolia	Ön Test	Experimental	32	75,03	7,57	60	,052	,959*
		Control	30	74,93	7,21			
	Son Test	Experimental	32	103,50	6,39	60	14,593	,000**
		Control	30	76,63	8,06			
Southeaastern Anatolia	Ön Test	Experimental	34	71,82	6,62	68	,960	,341*
		Control	36	73,19	5,30			
	Son Test	Experimental	34	105,12	5,59	68	22,737	,000**
		Control	36	75,03	5,49			

*p>.05; **p<.01

When the analysis results are examined, the experimental and the control groups' - chosen from seven regions - pre-test scores of the self-sufficiency scale regarding Science are found to have no meaningful difference. $t_{Marmara}(58)= 0,391$, $t_{Aegean}(59)=0,487$, $t_{Mediterranean}(65)= 0,648$, $t_{Central\ Anatolia}(61)= 0,142$, $t_{Black\ Sea}(59)= 0,476$, $t_{Eastern\ Anatolia}(60)= 0,052$, $t_{Southeastern\ Anatolia}(68)= 0,960$, p>,05). When we examine the avarage scores of pre-tests on the basis of regions, it can clearly be seen that the avarage scores of the experimental and control groups students in each region are close to eachother. That is, we can say that the the levels of the control and the experimental groups' students' self – sufficiency in Science before the application is quite close to each other.

And, when we examine the post-test results after the application, we can talk about a meaningful difference between the experimental and the control groups' students' avarage scores of self- sufficiency scale regarding Science. ($t_{Maramara}(58)= 12,076$, $t_{Aegean}(59)= 19,910$, $t_{Mediterranean}(65)= 15,750$, $t_{Central\ Anatolia}(61)=17,935$, $t_{Blacksea}(59)= 24,252$, $t_{Eastern\ Anatolia}(60)= 14,593$, $t_{Southeastern\ Anatolia}(68)=22,737$, p<,05). Once again, we see a considerable difference between the experimental and the control group students when we examine the post-test results on the basis of the regions. The experimental groups' students' scores are determined to be higher in comparison to the other groups. In this context, we come to the conclusion that a computer game designed for Science lesson increased the students' levels of self-sufficiency.

DISCUSSION

The recent researches have shown that the primary and the secondary school students have increased the time they spare for the computer games and that the computer games take place on the top among the purposes of using computers (Christakis et al., 2004; Inal and Cagiltay, 2005; Chen et al., 2010). The disadvantageous conditions of the students who are interested in computer games and spend too much time playing computer games can be turned into an advantage by the educational computer games. In this context, the effect of the computer game designed for the 7th grade Science lesson as an additional material for the current teaching

process on students' self-sufficiency was examined to see if there was a meaningful difference between the socres of the students who play the game and who do not.

The post-test results are based on to evaluate the students' self-sufficiency levels regarding Science. We see a meaningful difference between the post-tests of the control and the experimental groups in the same region. That difference can be interpreted in a way that the computer game designed for Science lesson and used as an additional material in experimental groups affects the students' self-sufficiency level in a positive way.

Offering an opportunity to learn by experience, computer games are tools that students can fool around with and carry on their activites individually. They also offer feedbacks directly and make evaluations of right and the wrong answers and make it possible for the students to see their mistakes immediately visually, audibly etc.

When we examine the literature, we find out that the researches in which the computer games have been applied in different ways have come to good results:
The study conducted by Avcı et al. (2009) has shown that the teachers and the students who attended the study liked the computer game promoted lessons very much and that it contributed a lot on students' learning. Tuzun et al.(2009) conducted a research to observe effectiveness of learning some concepts and contents of Math in a 3D multiple-player computer game setting, and came to a conclusion that the newly designed educational computer game could be used as an effective tool in learning the subject "function" and its varieties. They also stated that the significant factors in that effectiveness are the setting's including experimental and inquiry based activities, the high motivation of the sutednts during the application, their having the opportunity to learn at their own speed and the atmosphere that encourages student cooperation.

Donmus (2002) and Kebritchi, Hirumi and Bai (2010) examined the effect of educational computer games on students' motivation in their research. As a result of their study, the computer games are found to have a positive effect on students' motivation, memorability of the subjects and promoting students' achievements. They additionaly stated that the computer games must be popularized because they are regarded as tools enriching the teaching in Primary school level.

Many similar researches in literature have shown that the educational computer games have many positive effects on the teaching process of different disciplines. This study which is carried out on students' self-sufficiency towards science share similarity with other studies in the literature. The study fills a gap about the effect of educational computer games on students' self-sufficiency towards science in the literature and shows that along with the other favourable effects, the educational computer game has a positive influence on students' self-sufficiency toward science. Considering the potential of them, computer games are recommended in teaching process to increase the learning capacity of the students and to offer them a better learning environment.

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THE EFFECT OF PLAY SUPPORTED PROGRAM ON THE SCHOOL READINESS OF 60-72 MONTH-OLD DISADVANTAGED CHILDREN

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ABSTRACT
The aim of this research is to examine the effect of The Play supported Program designed for 60-72 month-old disadvantaged children on their readiness levels. The sample of the research has consisted of an experimental group and a control group, each having twenty 60-72 months old children (10 girls and 10 boys) at Göztepe Semiha Şakir Children's Home, an institution under the Turkish Republic Social Services and Society for the Protection of Children in Kadıköy Istanbul during 2010-2011 Academic Year. Research was designed according to pretest-posttest control group model. The Play Supported Program was prepared for the 60-72 month-old disadvantaged children and the training program has been carried out with the experimental group. The control group was not given an extra program. The development and application forms of "Marmara Primary School Education Readiness Scale", which was developed and standardized by Polat Unutkan in 2003, have been used to gather data in the research. The results of the research show that there are significant differences in the favor of experiment group on the aspects of Mathematics, Science, Audio Capabilities, Cognitive and Language Development, Social and Emotional Development, Physical Development, and Self-Care Skills.

Keywords: School Readiness, Disadvantaged Children, Play Supported Program of School Readiness, Social Services and Society for the Protection of Children.

INTRODUCTION

There is a high number of children that need protection in Turkey. According to the data given by the Directorate General of Children's Services under the Ministry of Family and Social Policies in December 2014, the number of children in Turkey are 101.607 (http://cocukhizmetleri.aile.gov.tr). The sufficiency of services provided is debatable (Şimşek, Erol, Öztop, and Özcan, 2008). Due to the factors such as lack of family and negative environmental conditions, children growing up under institutional care, suffer from cognitive, physical, emotional, and social developmental regression and deterioration. Problems for such disadvantaged children are more than just finding accommodation or meeting their clothing or nourishment needs (Fidan, 2005; Şimşek et. al., 2008). According to the results of comparative studies conducted on children who grow up in institutions versus those that grow up with their families, the former frequently suffer from problems with agreement, cooperating, and empathizing (Sloutsky, 1997) that play a major role in social life and family environment; they demonstrate behavioral problems that may continue during their schooling such as attention problems, hyperactivity, and impulsivity (MacLean, 2003); stereotypical behavioral problems such as rocking, and thumb sucking (Yörükoğlu, 1968); have problems with success at school, talent developing, and extracurricular activities (Tuzcuoğlu, 1989) in addition to low cognitive performance, inability to participate in social or emotional transactions, failure to think in correct concepts and terms, getting stuck in details, inability to pass from material world to abstract world with reason and imagination. Children that grow up in institutions fall behind development even though they are well taken care of under good health conditions (Çörüş & Arık, 1999; Kırpınar & Ceyhun, 2013).

Özdemir, Sefer, and Türkdoğan (2008) emphasize the significance of individuals to take social responsibility in the current system to prepare and apply additional programs that would support emotional, social, cognitive, language, and psychomotor development of such disadvantaged children who live in children's homes and need protection. Disadvantaged children need Primary School Readiness Support Programs to make an equal start to primary school with other children. A number of studies concluded that children at low socio-economical level have low literacy (Oktay, 1983) and primary school readiness levels (Baldwin, 2011; Gonca, 2004; Isaacs and Magnuson, 2011; Polat Unutkan, 2006a; Polat Unutkan, 2006b; Polat Unutkan, 2007; Telegdy, 1974). This is very important for 'Children that Need Protection' who suffer many losses in their lives and who are devoid of maternal love and care.

Preparing effective support programs along with qualified staff and rich and stimulant environmental are required to ensure disadvantaged children who are taken care of at institutions so for them to have equal primary school readiness skills as their counterparts and this is the most important obligation of 'accepting right to education of the children and granting this right on equality of opportunity basis' principle emphasized at that Article 28 of Convention on the Rights of the Children (http://www.unicef.org/turkey). In the light of results of current research, it can be argued that disadvantaged children need programs prepared with different methods and techniques especially to compliment preschool education. In this context, the aim of this study is to examine the impact of 'Preschool Play supported Program Prepared for 60-72 Month-Old Disadvantageous Children' on primary school readiness levels of such children.

THE STUDY

Design of the study is pretest-posttest control group model. Participants are a total of 40 socially disadvantaged 60-72 months old children getting education at two classes of Göztepe Semiha Şakir Children's Home in Kadıköy district of Istanbul, in 2010-2011 Academic Year. 20 children (10 boys and 10 girls) were randomly assigned to test group and 20 children (10 boys and 10 girls) were randomly assigned to control group.

DATA COLLECTION TOOLS

Two data collection tools were used in the study. The first one is personal information form. The other tool is "Marmara Primary Education Readiness Scale" (MPERS) which was developed and standardized by Polat Unutkan in 2003 for 60-78 month-old Turkish children. The scale is composed of two parts as Development and Application forms. Development Form of MPERS has a total of 153 items, which consists of 4 sub-scales as cognitive and language (74 items), socio-emotional (40 items), physical development (23 items), and self-care skills (16 items) and is filled out by teachers or parents. In this study, teachers filled out development forms. Test-retest reliability (continuity coefficient) of development form was determined as $r= .99$. Internal consistency coefficient (cronbach alpha) was determined as $r= .98$. As validity study, its factor structure was established with factor analysis. Internal consistency-cronbach alphas of sub-scales of the development form used in this research were determined as; cognitive and language $r= .97$, socio-emotional $r= .94$, physical development $r= .89$, and self-care skills $r= .80$.

Application Form of Marmara Primary Education Readiness Scale used in this study has 5 sub-scales as mathematics (46 questions), science (14 questions), sound (8 questions), drawing (3 questions), and labyrinth (2 questions). Application Form is composed of 73 questions with pictures. Application form is individually applied to children. In this study application form was applied to each child by the researcher. Test-retest reliability (continuity coefficient) of application form was determined as $r= .93$, $p< 0.01$. Internal consistency coefficient (cronbach alpha) is $r= .93$ $p<.01$. As validity study, its factor structure is established with factor analysis. Internal consistency-cronbach alphas of sub-scales of the application form used in this research were determined as mathematic studies $r= .96$ $p<.01$, sound studies $r= .88$ $p<.01$, science studies $r= .86$ $p<.01$, drawing studies $r= .81$ $p<.01$, and labyrinth studies $r= .95$ $p<.01$.

THE PLAY SUPPORTED PROGRAM

In the study, 'Play Supported Program for Primary School Readiness of 60-72 Month-Old Disadvantaged Children was developed by the researcher to increase primary school readiness levels of children. Education program was prepared in accordance with children's developmental characteristics and in the scope of goals and objectives in preschool education program developed in 2006 for 36-72 month-old children. Goals and objectives were selected from cognitive and language development, socio-emotional development, physical development, and self-care skills and then developmentally appropriate activities were prepared for each development areas. Application of education program was planned to last for eight months during 2010-2011 education year on school days between September and May and as three play activities per day. The target of the games prepared in 'Primary School Readiness Play supported Program for 60-72 Month-Old Disadvantaged Children' was to make sure that children learn by having fun; thus, all activity types are presented with games. The draft of the program was carefully analyzed and altered by 5 experts according to the goals, objectives and study. The experts incorporated incorporating a primary school readiness program with play activities. Following revisions on the education program was made and the program was given its final shape. The duration of the education program is planned to be eight months during 2010-2011 education year during school days in between September and May by three play activities per day.

FINDINGS

According to pretest results of children in test and control groups, no significant difference was found between MPERS Mathematics (U=184,500 - p>0,05), Science (U=193,000 - p>0,05), Sound (U=200,000 - p>0,05),

Labyrinth (U=137,500 - p>0,05) sub-scale scores and Application total score (U=151,000 - p>0,05). Contrary to these findings, there was a significant difference in total Drawing sub-scale scores between children in test and control groups (U=122,000 - p<0,05). This difference was found to be in favor of experiment group. Again according to pretest results of children in experiment and control groups, no significant difference was found between Socio-Emotional Development (U=198,500 -p>0,05), Physical Development (U=169,500 - p>0,05), Self-Care Skills (U=166,000 - p>0,05) sub-scale scores and Development total score (U=144,000 - p>0,05). Contrary to these findings, a significant difference was found between Cognitive-Language Development sub-scale scores (U=126,500 - p<0,05) and this difference was found to be in favor of experiment group.

A significant difference was found between MPERS Application Form Mathematics (z=-3,925 – p<0,05), Science (z=-3,933 – p<0,05), Sound (z=-3,948 – p<0,05), Drawing (z=-3,825 – p<0,05), Labyrinth (z=-3,666 – p<0,05) sub-scale scores and Application total (z=-3,930 – p<0,05) scores of children in experiment group. This difference was found to be in favor of posttest scores of experiment group. In addition to this finding, a significant difference was found between MPERS Development Form Cognitive-Language Development (z=-3,921 – p<0,05), Socio-Emotional Development (z=-3,925 –p<0,05), Physical Development (z=-3,925 – p<0,05), Self-Care Skills (z=-3,927 – p<0,05) sub-scale scores and Development total (z=-3,921 – p<0,05) scores of children in experiment group. This difference was found to be in favor of posttest scores of test group.

A significant difference was found between MPERS Application Form Mathematics (z=-3,926 – p<0,05), Science (z=3,949 – p<0,05), Sound (z=-3,407 – p<0,05), Drawing (z=3,919 – p<0,05), Labyrinth (z=-3,592 – p<0,05) sub-scale scores and Application total (z=-3,927 – p<0,05) scores of children in control group. This difference was found to be in favor of posttest scores of control group. Similarly, a significant difference was found between MPERS Development Form Cognitive-Language Development (z=-3,921 - p<0,05), Socio-Emotional Development (z=-3,922 –p<0,05), Physical Development (z=-3,931 – p<0,05), Self-Care Skills (z=-3,924 – p<0,05) sub-scale scores and Development total (z=-3,921 – p<0,05) scores of children in control group. This difference was found to be in favor of posttest scores of control group.

A significant difference was found between MPERS Mathematic (U=1,500 – p<0,05), Science (U=26,000 – p<0,05), Sound (U=3,000 – p<0,05), Drawing (U=99,500 – p<0,05) sub-scale scores and Application total scores (U=2,000 – p<0,05) of children in experiment and control groups. Contrary to these findings, no statistically significant difference was found between MPERS Labyrinth sub-scale scores of children in experiment and control groups (U=150,000 – p>0,05). Statistically significant differences were also found between MPERS Development Form Cognitive-Language Development (U=,000 – p<0,05), Socio-Emotional Development (U=,000 –p<0,05), Physical Development (U=,000 – p<0,05), Self-Care Skills (U=6,000 – p<0,05) sub-scale scores and Development total scores (U=,000 – p<0,05) of children in experiment and control groups. This difference was found to be in favor of posttest scores of experiment group.

CONCLUSIONS
In conclusion, socially disadvantaged children who participated in this study in the experimental group were found to have higher primary school readiness skills than those children in the control group. When the relevant literature is studied, it can be found that play supported programs have a positive influence on developing children's language (Ahioğlu, 1999; Kavsaoğlu, 1990; Lyytinen, Poikkeus & Laakso, 1997), psychomotor skills (Özdenk, 2007), and social skills (Durualp and Aral, 2010); in fact, play supports all development areas in children (Ömeroğlu, 1992) and children themselves ascribe great importance to it (Santo, 2006). According to the study carried out by Taylor, Gibbs and Slate (2000), children under risk from low socio-economic and diverse ethnic backgrounds participating in Georgia Preschool Education Program are positively influenced from their preschool experiences in terms of school maturity skills. These findings were also supported by a number of studies that revealed benefits of preschool education on academic and intellectual development of children under risk.

When we consider that the 'Play supported Program for Primary School Readiness of 60-72 Month-Old Disadvantaged Children' used in this study was prepared using play method, the positive development in primary school readiness skills of children in the experiment group proved the program's effectiveness. Also when results of studies that test the effectiveness of programs prepared with different methods and techniques, it can be noted that programs that supplement the Ministry of Education Preschool Education Program currently in use lead to positive developments on children's writing awareness (Aktan Kerem, 2001; Breit-Smith et. al., 2009; Edmonds et. al., 2009; Mol, Bus, and Jong, 2009), language development (Yayla, 2003) and sentence and

number maturity skills (Turhan, 2004). It can be argued that play as the basis of the program applied in this study and the fact that play enables children to learn by having fun, gaining first-hand experiences, and playing an active role in their learning lead to an increase in primary school readiness scores of children in experiment group. If we look at the results of the study conducted by Dilli (2013), the total scores of children in experimental group in the areas such as mathematics, science, sound, cognitive-language, socio-emotional, physical, self-care skills development and application and development, were all found to be higher than the scores of children in the control group of 'Play supported Program for Primary School Readiness of 60-72 Month-Old Disadvantageous Children'.

The reasons why primary school readiness scores of children in the control group differ significantly in favor of their posttest scores can be the positive impact preschool education on children's development (Atılgan, 2001; Bilecen, 1995; Ekinci, 2001; Damarlıoçak, 2007; Dinç, 2003; Gonca, 2004; Kılıç, 2008; Özbek, 2003; Öztürk, 1995; Uğur, 1998; Smith, Simmons, and Kameenui, 1995; as cited in Fitzsimmons, 1998; Seçilmiş, 1996; Taner, 2003; Tamkavas, 2003; Yangın, 2007) and the nature of development itself. In addition, the previous research demonstrated that children who receive preschool education have a higher level of primary school readiness compared to children who do not receive such education even when they have disadvantaged backgrounds (Erkan & Kırca, 2010; Pehlivan, 2006; Polat Unutkan, 2003; Polat Unutkan & Oktay 2004; Yeşil, 2008; Yılmaz & Dikici-Sığırtmaç, 2008) and have a higher level of cognitive thinking skills (Polat Unutkan, 2006b). Also, preschool education increases primary school readiness cognitively and supports children to achieve an easier socio-emotional adjustment to school (Turaşlı, 2006). Mathematical skills and academic success of children who receive preschool education such as attention-memory, number recognition, adding-subtracting (Polat Unutkan, 2007; Dursun, 2009); are also higher than those who do not receive such education (Anderson, 1994; Arı, Üstün and Akman, 1994; Arı, Üstün, Akman, and Etikan, 2000; Başer, 1996; Dağlı, 2007; Ergün, 2003; Tuğrul, 1992). The study conducted by Kmak (2010) proved that as years of preschool attendance increased, literacy skills in preschool also improved. In addition to all these studies, Uyanık Balat (2003) aimed to bring forward basic conceptual information of children in need of protection and children who live with their families. In this study, there was a significant difference in conceptual scores between children who could not attend preschool and children who could attend preschool for one year, two, and more years. As the duration of preschool education increases, the mean scores of children also increase. This result is in parallel to relevant studies and it brings forward the importance of preschool education.

This study conducted by the researcher revealed results that are relevant for researchers and educators, and the following suggestions are developed under the light of these findings:

- Effectiveness of this program prepared by the researcher should be tested with various samples and results of those studies should be compared with results of this study.
- The overall development of children in experiment group whose first grade readiness levels were supported with this study should be tracked throughout primary school to investigate the sustainability of the program.
- New studies that investigate the joint effect of support programs prepared for disadvantaged children should be conducted and diverse variables (gender, age, time spent at institution) on the first grade readiness levels of children should be regarded.
- Research that compares the impact of first grade readiness support programs on disadvantaged children and their non-disadvantaged counterparts can be planned.
- Results of this study and other relevant studies should be investigated by the relevant institutions so that necessary precautions can be taken to support an equal start to the first grade by disadvantaged children with their counterparts.

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EFFECTIVENESS OF ISLAMIC EDUCATION ON INDIAN *MUALAF* (CONVERTS) IN SELANGOR, MALAYSIA

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ABSTRACT

Protection and support for converts is the responsibility of the authorities and the whole Muslim *Ummah* (Community). However this effort has to be ongoing due to the still unsettled issue related to the ability of *mualaf* to properly understand and practise Islamic teachings. Therefore, this study has been conducted to identify available measurement indicators of the status of knowledge, understanding and practice of Islamic teachings among Indian *mualaf* (converts) in the state of Selangor, and to analyse these measurements. A qualitative method is used by collection of data through published materials, survey and observation, interview and focus group discussions. A quantitative method is also implemented using the instrument of questionnaire distributed to 161 respondents from nine districts in Selangor. Data obtained is processed and analysed using PASW 18.0 (Predictive Analysis Software 18.0). Research finds that Islamic knowledge, understanding and practice of *mualaf* (converts) are at a satisfactory level. In this research, the mean value is divided into 3 categories: low (2.0 – 2.99), medium (3.0 – 3.99) and high (4.0 – 5.0). The highest mean value for Islamic knowledge and understanding of *mualaf* (converts) is 4.66 for the item "*Salam (Peace) greetings may foster closer brotherhood bonds between Muslims*" and the lowest mean mean is 2.25 for the item "*I don't particularly mind eating and drinking in non-Muslims' houses*". Overall, findings on knowledge and understanding are good except the question relating to *aqidah* (creed) concerning *kitab samawi* (heavenly books) such as *Zabur* (Psalms), *Taurat* (Torah) and *Injil* (Bible) which obtained a mean value of 3.91. Measurement for level of Islamic practice after conversion shows the highest mean value is 4.84 for the item "*I am grateful to God for embracing Islam*" and the lowest mean value is 3.51 for the item "*I frequently contact my parents*". Overall, findings for Islamic practice among respondents are very good, at mean value of 4.31. These findings are based on an analysis of answers to 15 questions submitted, out of which 12 scored a high mean value and percentage. The other 3 scored a medium mean value and percentage. NONE of them are at low mean value and percentage. In addition, findings for management of guidance class show a medium level.

INTRODUCTION

Knowledge of Islamic teachings is one of the pulling factors for non-Muslims to Islam. This knowledge is obtained through various means, among them through formal or informal classes, participation in activities of Muslim

societies (NGOs), reading of academic and non-academic materials, and not least through looking at the lifestyle of Muslims themselves and reading and studying of al-Quran itself. This was what actually happened to a number of *mualaf* (converts) who were attracted to Islam and directly converted. They aspired to be 'a better person' (http://www.onislam.net/english/reading-islam/my-journey-to-islam.html; http://www.thenational.ae/uae/heritage/more-than-500-convert-to-islam-in-dubai-since-start-of2015; http://www.moroccoworldnews.com/2015/01/149537/french-director-converts-to-islam-after-charlie-hebdo-attacks; http://amaerica.aljazera.com/opinions/2015/3/why-i-convert-to islam.html)

Likewise, Islamic knowledge and education are very important for Muslim converts. Thus, protection and support for them becomes the responsibility of the authorities and the whole Muslim *Ummah.* However, management of new converts is perceived as problematic and ineffective. This state of affairs may be seen in various issues arising relating to converts, which have become controversial at the national level.

An example the issue of application to apostasize among converts is a big issue which should receive due attention from the authorities and the Muslim Ummah in Malaysia. Applications to apostasize among new converts are caused by various factors such as continuous pressure and threats from family and relatives, inheritance entitlements, disappointment from marriage breakdown and so on. What is clear in this problem is that new converts need protection and support from earlier converts, and in fact, from the authorities and the Muslim Ummah to ensure that their *aqidah* are safeguarded and they do not fall into apostasy. Hence, the urgent problem of apostasy among converts need to be given serious attention so that this problem may be resolved in the best possible manner (Anuar Puteh 2008).

In the state of Selangor, affairs of converts are managed by the Islamic Religious Council of Selangor, namely Majlis Agama Islam Selangor (MAIS). A section of MAIS, namely Section of Management and Development of Convert is responsible for the registration procedure as well as the welfare and education of converts. Nevertheless, Islamic Religious Council of Selangor does not as yet keep a perfect and good profiling on converts in order to deal with such problems. Thus, it would be difficult to accurately identify the real cause and solution to a convert's problem in Selangor. In fact, efforts to develop converts cannot take place due to the absence of systematic profiling and organized records on them (Amar Sidque 2010).

Management of *mualaf* (converts) not only relates to their welfare, but is very much concerned with mangaement of guidance given to them. It is for the purpose of enhancing their knowledge, understanding and practice. This is important to avoid issues which may arise such as apostasy or going back to the former religion, practising the same lifestyle before conversion to Islam, and not practising true Islamic teachings. The issue of apostasy occurs increasingly every year in the state of Selangor (Anon: 2012). This is proven by data: in the year 2007 there were 27 cases; in 2008, there were 42 cases; in the year 2009 there was a slight decline with 40 registered cases; and up to January 2010, there were 3 cases (Nurul Ain: 2010). In addition, a study by Anuar Puteh (2008) finds that many among Chinese converts cannot read al-Quran. Some even among them do not recognise the *hijaiyah* letters which form the system of writing and reading al-Quran. For this reason, conducting research concerning converts' status of knowledge, understanding and Islamic practice is important. Its also happen to the Indian convert. Therefore, this study has been conducted to identify available measurement indicators of the status of knowledge, understanding and practice of Islamic teachings among Indian *mualaf* (converts) in the state of Selangor, and to analyse these measurements.

RESEARCH METHODOLOGY

This research is both qualitative and quantitative. The qualitative approach is very suitable for obtaining in-depth theoretical information concerning an object. The quantitative approach uses questionnaire as instrument which is distributed to 161 respondents from nine districts in Selangor. This approach is suitable for obtaining empirical data concerning a phenomena which occurs in society. The resulting information from the empirical data enables the researcher to resolve the research issue. In addition, the technique of in-depth interview is used to obtain research information which requires detailed explanation by the respondents.

Interview is one of the methods to be used. It is conducted on individuals and focus groups.The researchers has conducted five target groups which involve parties who are stakeholders and experts in the subject of converts:
   i.   *Mualaf* Development Round Table Conference
   ii. Expert Validation of *Mualaf* Questionnaire Instrument Workshop
   iii. Petaling Jaya District *Mualaf* Dakwah Panel Round Table Conference
   iv. Hulu Langat District *Mualaf* Dakwah Panel Round Table Conference
   v.   Selangor *Mualaf* Development Executive Round Table Conference

Questionnaire is the research instrument used and distributed to each respondent for the purpose of obtaining actual data related to respondents. The questionnaire has four parts; part A on self profile, part B related to background of parents, part C related to measurement of knowledge, and part D related to measurement of practice. Sample selection is based on random sampling. Research sample is comprised of 161 persons from among Indian converts in the state of Selangor.

RESULT AND DISCUSSION

Islamic Shariah encompasses the components of *aqidah* (belief), *ibadah* (forms of worship) and *akhlaq* (moral character). Questions are contructed based on one component, except for one question which covers two or more components. The answers to questions are in the form of Likert scale: Strongly Agree (SA,) Agree (A), Not Sure (NS), Disagree (DA) and Strongly Disagree (SDA) equivalent to 5, 4, 3, 2 and 1 respectively. Findings on knowledge and understanding are divided into 3 levels of mean value: i. Mean value 4.0 – 5.0 (high), ii.Mean value 3.0 – 3.99 (medium), iii.Mean value 2.0 – 2.99 (low).

Measurement Of Knowledge And Understanding Islam. Knowledge in this research is refer to the three aspects of creed *(aqidah),* worship *(ibadah)* and character or attitude *(akhlaq).* Table 1 show the result of this three aspects:

Table 1: Measurement of Knowledge and Undersatanding Islam:

NO	ITEM	SDA %	DA %	NS %	A %	SA %	Mean %
C01	Every believer is certain to go to heaven.	0.6	0	5.0	29.8	64.6	4.58
C02	Only the Holy Book al-Quran was sent down by Allah.	8.7	11.8	9.3	19.9	50.3	3.91
C03	Allah appoints certain angels to record man's good and bad deeds.	1.2	3.1	1.2	37.3	57.1	4.46
C04	Believers are certain to easily obtain abundant wealth.	6.8	10.6	33.5	28.0	21.1	3.46
C05	Believers are not likely to be tested by God	23.0	24.2	25.	13.7	13.7	2.71
C06	I do not particularly mind eating and drinking in non-Muslim houses.	36.6	23.0	21.7	15.5	3.1	2.25
C07	I always check the *halal* (permissible) logo when buying food.	1.9	0.6	8.1	29.8	59.6	4.45
C08	Prayers (*Solat*) may be performed anywhere provided the place is free of impurities.	1.2	1.9	6.2	26.1	64.6	4.51
C09	Ill health is a legal excuse to not fast (in Ramadan).	3.7	11.2	13.7	47.8	23.6	3.76
C10	*Zakat fitrah* (Obligatory charity tax) is only obligatory on the rich.	31.7	27.3	18.6	12.4	9.9	2.42
C11	Patience will reduce stress.	1.9	3.1	11.2	42.2	41.6	4.19
C12	*Salam* greetings may strengthen the bonds of Muslim brotherhood.	0%	0%	3.1	28.0	68.9	4.66
C13	Sincerity is a prerequisite in worship.	-	0%	7.5	36.6	55.9	4.48
C14	Sincere acceptance or pleasure with destiny *(Redha)* will dispel sadness in facing trials in life.	1.2	4.3	13.7	44.1	36.6	4.11
C15	Only believers feel gratitude.	2.5	9.9	21.1	26.7	39.8	3.91

Measurement Of Practice Islamic Teaching. Islamic practice after embracing Islam is an indicator of respondent's practice status. Practice refers also to the three aspects of creed *(aqidah),* worship *(ibadah)* and character or attitude *(akhlaq).* Findings on this practice are also based on the 3 levels of mean value. Table 2 show the result of the Islamic practice of converts:

Table 2: Measurement of Practice Islamic Teaching.

No	ITEM	SDA	DA	NS%	A	SA	Mea

		%	%		%	%	n
A01	My relationship with my parents is still good.	4.3	5.6	19.3	28.6	42.2	3.99
A02	I frequently contact my parent.	10.6	15.5	18.0	24.2	31.7	3.51
A03	I always help people in difficulty.	0.6	5.6	3.7	44.1	46.0	4.29
A04	I pray 5 times a day.	-	1.2	9.3	26.1	63.4	4.52
A05	I choose halal food.	1.2	1.9	2.5	29.	65.	4.55
A06	I strive to improve reading of al Quran.	0.6	1.9	5.6	37.3	54.7	4.43
A07	I fast in the month of Ramadan.	0.6	--	7.5	37.3	54.7	4.45
A08	I wear aaccording to Islamic reqquirements.	0%	.6%	5.6	38.5	55.3	4.48
A09	I do not ask help from ancestors' souls in times of difficulty.	21.1	5.0	7.5	21.1	45.3	3.65
A10	I do not take anything that does not belong to me.	9.9	2.5	3.7	29.2	54.7	4.16
A11	I do not drink alcohol even if others do not see me.	12.4	2.5	4.3	21.1	59.6	4.13
A12	I always do good because it is Allah's command to do so.	0.6	0	1.9	28.0	69.6	4.66
A13	I always distance myself from bad or evil because it is prohibited by Allah.	1.2	0.6	3.1	34.8	60.2	4.52
A14	I accept whatever is decreed by Allah.	1.2%	-	4.3	32.3	62.1	4.54
A15	I am grateful for conversion to Islam.	-	-	0.6	14.3	85.1	4.84

Research finds that Islamic knowledge, understanding and practice of *mualaf* are at a satisfactory level. However, MAIS needs to further empower the *mualaf* class so as to enhance their knowledge, understanding and practice to a higher level, particularly in matters concerning *aqidah*. This is based on findings in Table 1 which show an overall high level of knowledge and understanding. Item C12 "*Salam* (peace) greetings may strengthen the bond of Muslim brotherhood" which obtained the highest mean value of 4.66 shows the Indian *mualaf*'s understanding of the importance of strengthening relations between Muslims. Question C06 " I do not mind eating and drinking in a non-Muslim house" which in spite of having obtained the lowest mean value of 2.25, nevertheless shows a positive side that after conversion, *mualaf* do not cut off relations with their non-Muslim families or society and still partake food and drink in their houses. As for the question related to *aqidah*, the findings show that the majority of respondents did not know that Allah had sent the heavenly books (*kitab samawi*) of Torah *(Taurat),* Psalms *(Zabur)* and Bible *(Injil)* other than al-Quran. In Table 2, all the questions are in the range of medium and good with a mean value of 3.0 and above. The highest mean value is for the question A15 " I am grateful for conversion to Islam". Finding shows that the Indian converts are not only pleased with their decision to convert, they also do not have reservations about their decision. The lowest item in Table 2 is for the question A02 " I frequently contact my parents." which obtained a mean value of 3.51. Even though it obtained the lowest mean value, the finding is still positive because the question is similar to question A01 "My relationship with my parents is still good" which scored a higher mean value of 3.99. Overall, the findings show that practice of Islamic teachings among respondents is very good. Based on an analysis of 15 questions submitted, 12 questions are at highest mean value and percentage while the other 3 questions are at medium mean value and percentage. NONE of the findings are at low mean value and percentage. This shows that the indicator level of Islamic practice among 161 Indian *mualaf* (respondents) after conversion is very good.

CONCLUSION
Research findings, based on the situation at the time it was conducted, show that on the whole, Islamic education of Indian *mualaf* (converts) in Selangor is good and satisfactory. It covers knowledge, understanding and practice. This helps them to apply Islamic teachings in their everday life after embracing Islam. However, aspects of infrastructure and welfare require improvement in order to ensure their education and life are protected and appreciated.

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THE EFFECTIVENESS OF USING CORPORA ON LEXICAL REVISION IN L2 WRITING

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ABSTRACT

This study reports on the results of classroom research investigating the effects of using data-driven learning methods by students in revising their writing errors. The main purpose of the study is to examine to what extent is consulting a corpus effective in correcting lexical errors in their writing. It has been found in previous research that data-driven learning can benefit students in the revision process and that it works better for certain error types (Tono et al, 2014). The targeted error category was lexical errors including formal errors or semantic errors. For the study, a small corpus of 44 student paragraphs written in a timed writing task was used. The corpus of student paragraphs was analyzed for the common lexical errors. The error classification used in the study was drawn from the lexical error taxonomy of James (1998). All lexical errors were hand tagged according to the taxonomy. From among the common errors, certain errors were chosen for revision activities. Students were given hand-on instruction on using an online corpus and its concordancing tools and were asked to revise the selected errors by referring to the corpus. The effectiveness of consulting a corpus while revising errors was compared for different lexical error types.

INTRODUCTION

A corpus is a systematize collection of language data. Generally corpora serve descriptive purposes that is to provide a picture of the subjected language in a selected time frame. Modern computerized corpora consist of large databases of language systematically divided into subgenres. Corpora such as the BNC (British National Corpus) and COCA (Corpus of Contemporary American English) have user friendly interfaces which can be used freely by both researchers and language learners. These corpora have their own built-in concordancing tools which make it easy to conduct searches on various language items. Originally developed for linguistics research purposes, corpora and their concordancing tools have started to attract the attention of language practitioners who have started to use them for teaching purposes. After a short period of training, language learners can become users of these tools and make their own discoveries about the language they are learning. It is believed that corpora provide valuable information about the appropriate and up-to-date use of vocabulary for language learners. Therefore students can benefit from consulting a corpus while revising their writing. Additionally this process could increase their self-confidence as learners and increase their autonomy in learning.

Studies on the effects of corpus use in error correction point to the fact that certain error types are more suitable against checking against a corpus. For example in a recent study with Japanese learners, Tono, Satake, Miura (2014) classified a total of 188 errors into three major categories: 'omission', 'addition' and 'misinformation'. Their study revealed significant differences in correction accuracy rates between these three error types. Whereas omission and addition errors were easily identified by learners, misinformation errors were low in correction accuracy.

There is a recent interest in the use of corpora tools, for example the use of learner corpora to facilitate L2 writing. For example Creswell (2007) has evaluated the effectiveness of Data-Driven Learning (DDL) (Johns 1994; Hadley, 2002) on writing achievement. Creswell's conclusion is that:

> DDL…applied in the context of the communicative teaching of writing skills, is moderately effective, and that there is potential both for the further development of learner corpora in an evaluative role, and for use of a wider range of instrumentation. (p. 267)

Additionally, Lee, Shin and Chon (2009) have investigated the effect of corpus consultation on the writing

performance of L2 writers. They utilized Concord Writer 2 to help for the lexical revision. Their results point to the positive impact of corpus consultation on L2 writing improvement as well as the ability to notice errors.

THE STUDY

In the light of previous research on the use of corpora as a tool for developing L2 writing, the present study investigated the following questions:

1. Which lexical error types are more frequent in L2 writing by Turkish non-native students?
2. How does the use of BNC as a reference tool affect students' lexical revision process in L2 writing compared to un-aided revision?
3. Is the use of BNC as a reference tool more effective on revision in certain lexical error types than others?

The participants of the study were 44 prep class students at KTU Department of English Language and Literature. The context was a preparatory class writing course where students are trained to write paragraphs and essays following a process approach. The students' English level ranges from intermediate to advanced. All participating students were native Turkish speakers.

A corpus based approach was followed in the study to determine the frequency of lexical errors to be targeted for revision activities. For this purpose, a small scale corpus of student paragraphs was compiled. This paragraph corpus consisted of opinion paragraphs written in a timed-writing task on the following topic: "Discuss the advantages and disadvantages of using a credit card." The resulting paragraph corpus consisted of 44 paragraphs which had 919 word types and 5655 word tokens. The paragraph corpus was hand tagged for lexical errors using an adapted version of James' (1998) error taxonomy. The frequency of errors in different categories were determined by using AntConc 3.2.4. Concordancing software. Figure 1 shows the concordance lines with error tagging displayed by AntConc.
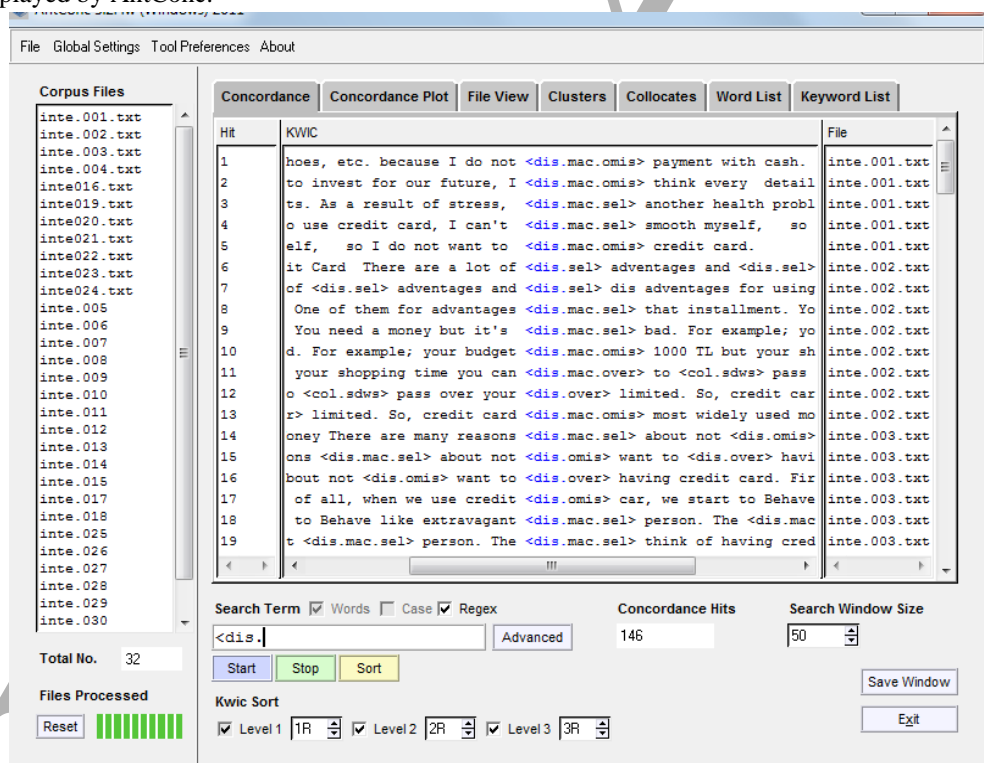

Figure 1. Hand-tagged concordance lines from the paragraph corpus

The BNC was used as a reference tool to aid students' revision process. The BNC website allows you to quickly and easily search the 100 million word British National Corpus (1970s-1993). The BNC was originally created

by Oxford University Press in the 1980s - early 1990s, and now exists in various versions on the web. The BNC has its own built in tool which allows users to do searched and analyses. (see Figure 2)

Figure 2. The BNC Corpus User Interface

The error taxonomy used in the study was developed by James (1998) and consists of two main lexical error categories of 'formal errors' and 'semantic errors' . (see Figure 3.)   Formal errors category includes 'misselection', 'misformation' and 'distortion' errors. Semantic errors category includes 'confusion of sense relations', 'collocation', 'connotation' and 'stylistic' errors.

A   Formal errors
  I   Formal misselection
    I.I   Suffix type
    I.2   Prefix type
    I.3   Vowel-based type
    I.4   Consonant-based type
    I.5   False friends
  2   Misformations
    2.I   Borrowing (LI words)
    2.2   Coinage (inventing based on LI)
    2.3   Calque (translation from LI)
  3   Distortions
    3.I   Omission
    3.2   Overinclusion
    3.3   Misselection
    3.4   Misordering
    3.5   Blending
B   Semantic errors
  I   Confusion of sense relations
    I.I   General term for specific one
    I.2   Overly specific term
    I.3   Inappropriate co-hyponyms
    I.4   Near synonyms
  2   Collocation errors
    2.I   Semantic word selection
    2.2   Statistically weighted preferences
    2.3   Arbitrary combinations
    2.4   Preposition partners
  3   Connotation errors
  4   Stylistic errors
    4.I   Verbosity
    4.2   Underspecification

Figure 3. Lexical Error Taxonomy (James 1998)

As a data collection procedure, a revision task was prepared based on the erroneous sentences chosen from the paragraph corpus. The participating students were randomly divided into an experimental group and control group. Each groups consisted of 10 students. The students in the control group were given a free revision task and were asked to correct the lexical errors depending on their intuitions. The students in the experimental group were given training on using the BNC online concordancing tool and were asked to make revisions after consulting the BNC corpus. In order to determine the correct revision of the incorrect student sentences an answer key was prepared with the help of a native speaker university teacher with 10 years of teaching experience. The revision task was scored by using the answer key.

FINDINGS
Formal Errors
All lexical error types were hand tagged in the paragraph corpus. After the hand tagging, the frequency of lexical errors were determined by using AntConc. The frequency of lexical errors in different error categories are presented below.

In the formal error category there are three subdivisions: formal misselection, misformation and distortion. Sentence 1.(a) shows an example of a formal misselection mistake, specifically a suffix type error as the adverbial suffix '-ly' has been omitted.

1. (a) All in all, all these disadvantages are the most common examples and if you do not want to come across the bad result of credit cards, you should use it more **<for.suf> cautious**.

Table 1. Frequency of formal misselection errors.

FORMAL MISSELECTION	24
suffix.type	0
prefix type	0
vowel-based type	0
consonant-based type	24
total	

Table 1 shows the frequency of formal misselection errors in the paragraph corpus (n=24). As can be seen from the table, all errors in this category relate to the suffix; either omission of the required suffix or selection of wrong suffix.

Table 2. Frequency of misformation errors.

MISFORMATIONS	0
borrowing	0
coinage	13
calque	13
total	

As the second subdivision of formal errors misformations were determined in the paragraph corpus. The frequency of misformations is presented in Table 2. There are a total of 13 misformations which are categorized as calque (translation from L1). Sentence 1.(b) shows an example of calque error. Here the learner has translated from L1 since in Turkish a password can be 'solved', but in English instead of 'solve a password', 'break a password' is used.

1. (b) A computer hacker could easily **<mis.calq> solve its password** and they could use my credit card more than my limit.

The third subdivision of formal errors is distortion. At the distortion category, the James taxonomy was not found adequate as it only included letter level distortions but not word level distortions. Therefore, distortions were divided into two types: micro-level (those involving letter level distortions) and macro-level (those involving word level distortions). Table 3 shows the frequency of distortion errors both at the micro-level and macro-level. Most frequent type of distortion was found to be omission for both micro-level (n=18) and macro-level (n=38) distortion errors. The second most frequent error type is misselection and at both microlevel (n=12) and macro-level (n=37), however the frequency of macro level errors are higher for all error types.

Table 3. Frequency of distortions

DISTORTIONS	MICRO-LEVEL	MACRO-LEVEL
omission	18	38
overinclusion	10	16
misselection	12	37
misordering	1	14
blending	0	0
total	41	105

Sentence 1.(c) below shows an example of a distortion error at the micro-level, specifically an omission since a letter has been omitted when writing 'because' by the learner.

1.   (c) To sum up, people should not use credit cards **<dis.omis> becuse** of these reasons.

Sentence 1. (d) below shows an example of a macro-level distortion, specifically a macro-level omission. Here the word 'become' has been omitted from the phrase 'become addicted to'.

1.   (d) Moreover they **<dis.mac.omis> addict to** <for.suf> use credit cards.

Semantic Errors
In the semantic errors category there are only 8 errors in the confusion of sense relations error subdivision. 5 of these errors relate to using a general word for a restricted meaning. And 3 of the errors relate to using two near synonyms redundantly in the same sentence.

Table 4. Frequency of confusion of sense relations

CONFUSION OF SENSE RELATIONS	
superonym for hyponym	5
hyponym for superonym	0
inapproporiate co-hyponym	0
near synonym	3
total	8

Sentence 2. (a) below shows an example of near synonym error. I the sentence both unnecessary and extra have been used redundantly because both have very similar meanings.

2.   (a) Secondly, when I use credit card, I have to pay its interest and what I say is that I pay **<sem.near> unnecessary extra** money.

When we consider collocation errors, we can see that the most frequent error type is semantically determined word selection. There are a total of 17 errors in this category. In terms of collocations learners also seem to have some difficulty in selecting the correct preposition partner for words, therefore fore there are 14 errors in the preposition partners category. In terms of arbitrary combinations there are only 3 errors detected.

Table 5. Frequency of collocation errors

COLLOCATION ERRORS	
semantically determined word selection	17
statistically weighed preferences	0
arbitrary combinations	3
preposition partners	14
total	34

Sentence 2. (b) shows an example of a semantically determined word selection error. Here the learner has used the word suicide as if it were a verb, however this word has a verb which closely collocates with it. This word is 'commit' but the learner has omitted the collocation.

2.   (b) Meanwhile, there are a lot of <dis.mac.sel> person **who <col.sdws> suicide .**

Figure 3 shows the overall distribution of the error frequencies in the paragraph corpus. According to this distribution the most common error type is macro-level distortion errors, and the least frequent error type is confusion of sense relations. Overall formal errors are much higher in frequency compared to semantic errors.
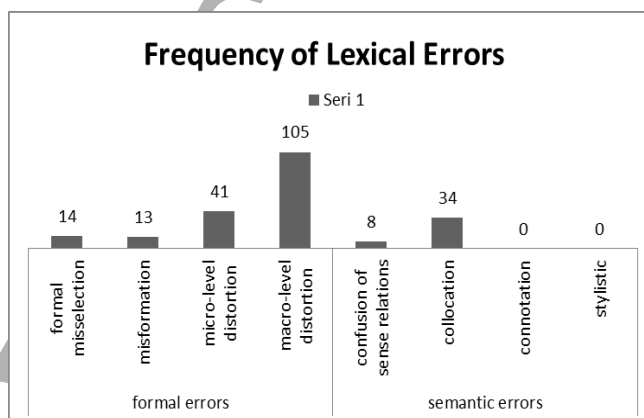

Figure 3. Frequency of all lexical error types

Comparison of Revision Accuracy Between Experimental and Control Group

At the last step of the study, the accuracy of revision were compared between the experimental and control groups through the completion of a revision task. Table 6 shows the accurate correction rates of distortion errors under the category of formal errors. According to the results, in this error category the corpus aided group (M: 80) performed better than the free correction group (M=52). The experimental group correctly revised 4 errors out of 5 errors; whereas the control group correctly revised 2,6 errors out of 5.

Table 6. Comparison of experimental and control group in terms of
revision accuracy of formal misselection errors

Part A	Corpus aided correction	%	Free correction	%
	3	60	1	20
	3	60	3	60
	4	80	3	60
	3	60	2	40
	4	80	4	80
	5	100	3	60
	4	80	3	60
	5	100	2	40
	5	100	4	80
	4	80	1	20
average	4	80	2,6	52

Table 7 shows the revision accuracy rates of the experimental and control groups in different error categories. According to the overall results, in all lexical error categories, the learners scored higher in terms of revision accuracy. Among these, learners in the experimental groups were most successful in revising the formal misselection errors, followed by distortions and semantic errors.

Table 7. Overall comparison of revision accuracy between
experimental and control group

Success in correction rates	CAC*	FC**
	%	%
Formal misselection	80	52
Misformations	46,67	22
Distortions	73,33	52
Semantic errors	46,67	26
Collocation errors	60	44
Total	61,33	39,2
*Corpus aided correction ** Free correction		

CONCLUSION

This study served to two main purposes: first determining the frequent lexical errors in student writing and second determining which error types are more suitable for revising with the help of a corpus tool. As a result of the study, it was found that L2 writers make most frequent lexical errors in the formal error category and most frequent of these errors are micro-level and macro-level distortions. In the semantic error category, the most frequent error type is collocation errors. These results show that Turkish L2 writers have most difficulty in selecting appropriate words contextually and also they have a lack of knowledge about collocation use.

The second research question investigated was the effect of BNC corpus as a reference tool in revising lexical errors in L2 writing. The results of the study shows that the BNC corpus serves as an effective tool which helps L2 writers greatly in revising their lexical errors compared to intuitive judgements. Although they can make accurate revisions to some extent depending on their intuitions, the level of accuracy is very low compared to corpus aided revision.

The third research question specifically enquired which error types are most suitable for revising with the use of a reference corpus. As an answer to this question, the revision accuracy rates show that most accurate revisions were done for formal misselection errors, distortions and collocations. On the other hand, the L2 writers have not benefited from reference corpus in revising misformation errors and semantic errors. Overall, these results point to the importance of corpus use and concordancing as an effective tool in helping L2 writers in revising their lexical errors, specifically related to contextual vocabulary selection and collocations. As an implication, the researchers greatly recommend the use of corpus tools and reference corpora as an aid in second language writing classes.

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THE EFFECTS OF MEDIA AND ADVERTISEMENTS ON FOOD PURCHASING AND CONSUMPTION IN PHYSICAL EDUCATION AND SPORTS SCHOOL STUDENTS
(TURKEY-THE AKDENIZ UNIVERSITY CASE)

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ABSTRACT

The study investigates the effects of media and advertisements on food purchasing and consumption in physical education and sports school students. 160 woman (mean age=21,52±1,9) and 248 man (mean age=22,14±2,2) totally 408 students of Turkey, Antalya Akdeniz University School of Physical education and sport, participate to the study. Research is aimed at case identifying and used questionnaire was prepared for the purpose of the study. % 79,4 of individuals follow the news, information and developments about 'healthy nutrition, sport nutrition, adequate and balanced nutrition, supplements, and new products' which are located in media and advertisements. The mass media which are mostly used and causing individuals to modify the nutrition habits are respectively internet, television and newspaper. % 60,5 of individuals finding reliable, information in the media and advertising and % 51,6 of them reports that they modify their nutrition habits influenced by these information. Milk and milk products, meat, chicken, fish, vegetables and fruits are most purchased food groups and fast food, chips, confectionaries are given up food groups, affected by these information. Studies show that, media and advertisements have effect on nutrition habits and product purchase. All occupational groups have to work for information which contained in advertisements and mass media to be reliable, scientific, real and clear. Also, inter-professional cooperation should be carried out.

INTRODUCTION

Nowadays, the use of the media in searching for and communicating information on health and nutrition has increased, as in many other fields. An increase has been experienced in the number of published news/information/developments related to nutrition and health, and this increase has brought with it information pollution and confusion. While some information is shared correctly and reliably by experts on the subject, others are unscientific and based solely on commercial concerns, and may mislead people. The media and advertisements are one of the most important environmental influences affecting the health and eating behaviors of individuals (Aktaş, Arnas, 2006; Harris et al., 2009; Scully et al., 2009; Mink et al., 2010; Cebirbay and Aktaş, 2011). Bad dietary habits associated with many health problems such as coronary heart disease, some types of cancer, diabetes, hypertension, obesity, etc., threaten particularly children and adolescents, the adults of the future. Studies show that especially television advertisements change the dietary habits of children and direct them to products with higher fat, sugar and salt content (Aktaş, Arnas, 2006). In contrast to their negative aspect, mass media also have a positive aspect that directs people to positive health behaviors (Çobaner, Ardıç and Köksoy, 2013). It is of prime importance for the development of positive health behavior in individuals that news articles/information/developments related to health and nutrition and published or broadcast on mass media, should be trustworthy and based on scientific facts, and monitored beforehand. The aim of this study is to investigate the influence of the media and advertisements on the food purchase and consumption habits of the students of Akdeniz University, School of Physical Education and Sports.

THE STUDY

This study was conducted between the dates of January 2015 – May 2015, with the voluntary participation of 160 women (mean age=21.52±1.9) and 248 men (mean age=22.14±2.2), making up a total of 408 students studying at the School of Physical Education and Sports of the Akdeniz University in Turkey, during the 2014-2015 education year. The investigation was aimed at determining the facts, and a goal-oriented questionnaire prepared for the study was used. Definitive statistical methods such as frequency (f), percentage (%), etc., were used in the evaluation of data, and a chi-square test was applied to determine the relation between the genders.

FINDINGS

A total of 408 students, of whom 160 were female (39.22 %) and 248 were male (60.78 %), participated voluntarily in the study. Table 1 shows the frequency of the participating individuals in following the news on "healthy eating, sports diets, sufficient and balanced diets, dietary supplements, new products" published on media and advertisements. 79.4 % of the participants follow the news, information and developments on "healthy eating, sports diets, sufficient and balanced diets, dietary supplements, new products" published on media and advertisements. There is no statistically significant difference in following frequency between men

and women (χ^2=5.96, p>0.05). (Table 1)

Table 1. The frequency of the participating individuals in following the news on "healthy eating, sports diets, sufficient and balanced diets, dietary supplements, new products" published on media and advertisements

	Female (n=160)		Male (n=248)		Total (n=408)		χ^2
	f	%	f	%	f	%	5,96
Yes	53	33,1	89	35,9	142	34,8	
No	25	15,6	59	23,8	84	20,6	
Sometimes	82	51,3	100	40,3	182	44,6	

p>0,05

The mass medium most frequently used by both male and female participants in following news/information/developments in nutrition is the internet, with television in second and the press in third place. 58.5 % of the women and 61.9 % of the men find the news/information given on the media trustworthy, and according to both groups, the most reliable mass medium is the internet.

34.0% of the women and 35.8% of the men follow the developments related to nutrition included in the media for healthy living, while 17.4% of the women and 30.5% of the men do so to increase sports performance, 17.0% of the women and 7.1% of the men, to lose weight, 4.1% of the women and 11.7% of the men, to gain weight, 12.0% of the women and 3.7% of the men, to learn new recipes, and 15.5% of the women and 11.2% of the men, because it is interesting. There is statistically significant differences between the genders in the answers on increasing sports performance (χ^2=28.385, p<0.05), losing weight (χ^2=22.661, p<0.05), gaining weight (χ^2=14.963, p<0.05), learning new recipes (χ^2=21.966, p<0.05), and because it is interesting (χ^2=4.014, p<0.05) (Table 2).

Table 2. The reason of the participating individuals in following the news on nutrition published on media and advertisements

	Female (n=135)		Male (n=189)		Total (n=324)		χ^2
	f	%[a]	f	%	f	%	
Healthy living	108	34,0	156	35,8	264	35,1	0,337
Increase sports performance	55	17,4	133	30,5	188	25,0	28,385*
Lose weight	54	17,0	31	7,1	85	11,3	22,661*
Gain weight	13	4,1	51	11,7	64	8,5	14,963*
Learn new recipes	38	12,0	16	3,7	54	7,2	21,966*
To be interesting	49	15,5	49	11,2	98	13,0	4,014*
Total**	**317**	**100**	**436**	**100**	**753**	**100**	

[a]: The percentage column
**A total of more than one answer
*p<0,01

By answering 'yes' or 'maybe', 51.8% of the women and 51.3% of the men have indicated that they have changed their eating habits through following news/information/developments included in the media and advertisements. There is no statistically significant difference between men and women in changing eating habits or trying a new product (χ^2=0.06, p>0.05) **(Table 3)**.

Table 3. The changing of eating habits of the participating individuals in following the news on nutrition published on media and advertisements

	Female (n=135)		Male (n=189)		Total (n=324)		χ^2
	f	%	f	%	f	%	
Yes	32	23,7	46	24,3	78	24,1	
No	65	48,1	92	48,7	157	48,5	0,06
Sometimes	38	28,1	51	27,0	89	27,5	

p>0,05

The ranking of mass media tools most effective in triggering eating habit changes again puts the internet in first, television in second and the press in third place. Food groups purchased under the influence of the media and advertisements were respectively herbal teas, yoghurt and similar products, vegetables, fruit and milk and milk products in women, and meat, poultry, fish, milk and milk products, dietary supplements, vegetables and fruit in men. Food groups the consumption of which was stopped under the influence of the media and advertisements were respectively fast food, crisps, candies, ketchup-mayonnaise, fats and margarines in women, and crisps, fast food, ketchup-mayonnaise and candies in men.

CONCLUSIONS

According to the results of the investigation, a large percentage of the participants follow news/information/developments related to nutrition through the mass media. The most commonly used mass medium is the internet, with television in second and the press in third place. In previous studies, television has been found to be the most commonly used medium (McKay et al., 2006; Yılmaz et al., 2007; Aksoydan et al., 2010; Cebirbay and Aktaş, 2011). With the development and prevalence of internet technologies, new media and social media concepts have gained importance in the communication of information in the fields of health and nutrition. In Turkey, the number of people using the internet to search for information on health is increasing at a remarkable rate (Çobaner, Ardıç and Köksoy, 2013).

58.5 % of the women and 61.9 % of the men find the news/information given on the media trustworthy, and the most reliable mass medium according to both groups is the.

A large proportion of the participants have indicated that they have changed their eating habits under the influence of the media and advertisements. In the ranking of mass media that influence change the most, internet is again in the first place, with television ranking second and the press, third. In this study, it has been observed that the participants were positively influenced by the media and advertisements, and men and women have specified that they have purchased healthy foods such as milk, yoghurt, meat, vegetables and fruit more under the influence of the media and advertisements, and have stopped using products that are considered unhealthy, such as fast food, crisps, candies, ketchup-mayonnaise, etc..

It is of prime importance that media and advertisements that influence individuals and trigger behavior changes should be reliable, scientific and comprehensible. The media and advertisements create an environment that, on one hand, provides significant opportunities for protecting and improving the health and increasing the health related knowledge of individuals, while on the other hand, also provides the chance of providing uncontrolled, false information (Çobaner, Ardıç and Köksoy, 2013). The media may be used to communicate with a large number of people, but its strengths and weaknesses should be well investigated (Güler, 2006). In order to provide correct information to people on subjects related to nutrition, there must be media – scientist collaboration, support must be obtained from experts on the subject, risks must be minimized and information must be provided in simple terms that can be understood by the layman (Fernandez-Celemin and Jung, 2006). Furthermore, in order to avoid confusion, a consensus must be reached among scientists before information is disclosed to the public. The supervision of the media and advertisements is important for accessing reliable information. However, emphasis should be placed on dietetics in formal and non-formal education, thereby providing individuals with the opportunity to reach correct decisions by making informed choices (Aktaş, Arnas, 2006; Sabbağ and Akın, 2012).

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THE EFFECTS OF MOVEMENT EDUCATION ON SELF-ESTEEM IN PRIMARY SCHOOL

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The purpose of this research is to determine the effects of the movement education exercises to improve creativity, which are given in addition to elementary level physical education lessons on the development of self-esteem.

In all 68 students ,33 female, 35 male, were included in the study as test subjects to determine the effects of the movement education exercises which are given in addition to physical education lessons for this purpose. 35 students (18 male 17 female) were included in the experimental group and 33 students (17 male,16 female) were included in the control group randomly. While the students in the experimental gruop were given the movement education to develop creativity, in addition to physical education lessons, during eight weeks, twice a week ,the students in the control group were not included in these studies. But during the study the students in the control group attended their physical education lessons.

At the begining of the study, Coopersmith self-esteem inventory was used as pretest to measure all students' level of self-esteem. After eight weeks of study, Coopersmith self-esteem inventory was applied again as posttest. The correlation and t test were used for statistical analysis.

After eight weeks of movement education program the students in the experimental group statistically ($p<0,01$) provided more development of self-esteem than the students in the control group. The female students in the experimental group made more progress than the female students in the control group and the male students in the experimental group in terms of the development of self-esteem. As a result it was detected that there was statistically a high correlation between the movement education exercises to improve creativity and the development of self-esteem.

Keywords: Movement Education, Creativity, Self-Esteem, Physical EducationBeden eğitimi

THE EFFECTS OF PLYOMETRIC EDUCATION TRAININGS ON BALANCE AND SOME PSYCHOMOTOR CHARACTERISTICS OF SCHOOL HANDBALL TEAM

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ABSTRACT

This study aims to search the effects of plyometric education trainings which was applied for 10 week on static-dynamic balance and some psychomotor characteristics of students who were been handball team of school. The girl students-players (N=16) who are in age 14,57±0,92 years. All student have got 3,66±0,63 years sport experience. Plyometric education trainings were performed twice a week for 10 weeks in the trainings of school handball team. Parameters such as body weight, height, vertical jump, standing long jump, 30m speed, agility, flexibility, and static-dynamic balance were measured and anaerobic power was calculated by Lewis formula. The SPSS 15.0 program was preferred for the statistics. Descriptive statistics were used for the analysis of psychomotor characteristics and paired sample t test was used for the differences between the pre-test and post-test of plyometric education training of the players. The significance level was set at 0.05. The differences were observed between the pre-test and post-test of plyometric education training of flexibility t(51)=-4,518 , p=0,00, standing long jump t(12)=-8,129 , p=0,00, anaerobic power t(01)=-3,018 , p=0,05 and left leg ellipse area at unipedal static balance t(39)= 2,399 , p= 0,04 were found to be statistically significant (p<0.05).

Keywords: Plyometric, Handball, Balance, Flexibility, Anaerobic power

INTRODUCTION

Motor ability, sprinting, jumping, flexibility and throwing velocity represent physical activities are more important for team handball. Handball players are a jumper, thrower, sprinter all in one and must execute these skills with precision and speed. They often perform upper extremity passing, shooting and dribbling skills while wearing shoes on flat, stiff surfaces. Their skills require great joint accelerations from jump landings and cutting maneuvers (Rannou et al., 2001; Zapartidis, 2009; Goran et al., 2010).

Plyometric exercises constitute a natural part of most sport movements because they involve jumping, hopping, and skipping (i.e., such as high jumping, throwing, or kicking). Plyometric training has been advocated as an appropriate approach for sports that require explosiveness and vertical jumping ability enhancement. Generally, plyometric trainings are the best way, which is accepted to provide power / speed to react immediately during the game and also to provide the player to jump higher and to improve the jumping ability of the leg muscles. It provides the opportunity to train specific movement patterns in a biomechanically correct manner at a more functionally appropriate speed. This provides functional strengthening of the muscle, tendon, and ligaments specific to the demands of everyday activities and sports (Wilkerson et al., 2004). Plyometric training does provide such training stimuli and has shown evidence to improve explosive actions in young and pubertal populations (Vissing et al., 2008).

Balance is generally defined as the ability to maintain the body's center of gravity within its base of support and can be categorized as either static or dynamic balance. Static balance is the ability to sustain the body in static equilibrium or within its base of support. Dynamic balance is supported to be more challenging because it requires the ability to maintain equilibrium during a transition from a dynamic to a static state. (Ross & Guskiewicz, 2004). Dynamic balance is necessary and effective in the fundamental technical movements of the handball sports such as dribbling, throwing, kicking and faking. The dynamic balance on one leg is also very important for doing the basic movements on handball (Rannou et al.,2001). Lower limb joint proprioception is known to play a key role in maintaining normal body posture (Gardner et al., 2000).

Sport training can improve sensorimotor performance and postural control (Anderson & Behm 2005; Vuillerme et al., 2001) and may cause different balance abilities and these differences could be objectively measured using Center of Pressure Measurements (C.o.P) (Gerbino et al., 2007). It is stated that using a combinational plan (plyometric, technical, balance and strenght) can improve antrerior-posterior balance (Paterno, 2004). Strenght, plyometric and combinational trainings improve dynamic balance among athlete students (Sadeqi et al. 1988). It is stated the expertise on gymnastic has an effect on postural control during changing postural situation from two leg standing to one leg standing. In addition, this effect is a result of the ability education and trainings

(Vuillerme et al. 2001; Vuillerime & Nougier 2004). On the contary, Seiler et al.(2008) stated that one leg balance was not significantly improved after the intervention training.

A lot of factors effect to static and dynamic balance such as motoric and anthropometric characteristics (Salehzadeh et al. 2011), proprioseptive balance and visual clues (Carolyn et al. 2005; Gioftsidou et al., 2012) explosive power (Atılgan Erkut 2013), training programs (Salehzadeh et al. 2011), asymmetries in muscle strenght (Rahmana et al. 2005; Schuepfer et al. 2006), experince and training year (Vuillerme & Nougier 2004; Paillard 2006).

This study aims to search the effects of plyometric education trainings which was applied for 10 week on static-dynamic balance and some psychomotor characteristics of students who were been handball team of school.

METHOD
Participants
The girl students-players (N=16) who are in age 14,57±0,92 years. All student have got 3,66±0,63 years sport experience. Sixteen adolescent volunteer students without any sports injuries in the last year and visual-sensory disorders were enrolled in the study. The study was approved by the local ethical committee of the Marmara University.
Procedures of pyschomotor and balance tests

The players were informed about the pyschomotor and balance tests. After the 15 minutes warming up activity, the pyschomotor tests were applied at the same day. Before the plyometric education training program, the players were evaluated with speed (30 m sprint), vertical jump (for anaerobic power), horizontal jump (standing long jump), agility (illionis test), flexibility (sit and reach) static and dynamic balance tests. Following 10 weeks training the tests were repeated. Pre test and post test results were compared. The players did this tests 2 times to evaluate them. Between the repetitions 2 minutes, and between the tests 3 minutes rest intervals were given. The best rates were recorded as the test result. After 2 hours resting time static and dynamic balance tests were measured by Prokin (Prokin System 5.0 Pk-Manop-05-en-01 Bergamo, Italy). Anaerobic power was calculated by Lewis formula ($\sqrt{4.9}$ x (Body weight) x $\sqrt{D}$ (D=jumping distance).

Body weight and height measurements: The measurements of the body weight and height were done with Desis weighting expert digital weighting scale and linear measurement scale.

Speed – 30m sprint test: 30 m sprint tests measurements were done with Sport Expert MPS 501 photocell device.

Agility – Illionis test: Illionis agility test were done by the photo celled doors at the starting and finish points.

Vertical jump – Counter movement jump test: The vertical jumping tests were measured with New Test 2000 device.

Horizontal Jump- Standing long jump test: Standing Jump tests were done with metric measurement method.

Flexibility – Sit and reach test: Flexibility measurement test was done with sit-reach test (Zorba and Saygın, 2009).

Static Balance Tests: After explaining the tests to the subjects, data were entered (height, weight, age) and the device was calibrated. The feet of the subjects were placed on the balance platform nakedly (in a fashion that the distance between feet was 10 centimeters and the projection of the maximum point of the medial arcs was on the x-axis). The subjects were asked to look at the screen in front of them with 10 cm distance between their feet while their arms were at sides, and to keep them fixed at (0) point. After completion of each test, when the device was being recalibrated, the subject was asked to sit down and rest. At the time of the measurements, no verbal feedback was given to the subjects other than what was necessary. a*) Bipedal (double leg) static balance test:* Bipedal static balance were performed for 30 seconds with eyes open (EO) and eyes closed (EC). The data obtained were evaluated in terms of average center of pressure X (C.o.P. X), average center of pressure Y (C.o.P. Y), average forward-backward velocity, average medium-lateral velocity, perimeter error, ellipse area, Romberg test perimeter ratio (RTPR) and Romberg test area ratio (RTAR). b) *Unipedal (left / right leg) static balance test:*

In this test, subject tries to stand up with one legged (left and right) within 30 second without hold. The data obtained were evaluated in terms of average center of pressure X (C.o.P. X), average center of pressure Y (C.o.P. Y), average forward-backward velocity, average medium-lateral velocity, perimeter error, ellipse area (Figure 1).

Dynamic Balance - Slalom Test: Dynamic Slalom test was used as monoaxial dynamic-time test Medio-Lateral (M-L) to one axis a time and to assess the subject's skill to complete the exercise. In this test, the subject tries to see some balls-objectives that come against. The subject's scope is to hit objectives and follow ideal line within 60 sn duration hold with two hand. Subject load was selected 5 hard degree (according to soft (0) to hard (10) degree system). At the end of the test the software provides two results: caught up objectives and the perimeter error. The caught up objectives shows the objectives hit by the subject regarding the total objectives of the test. The perimeter error shows the subject's ability to stay on the blue ideal line. The error is calculated on how much perimeter in more has been store clerk regarding the ideal perimeter (in percentage) (Figure 2). http://www.tecnobody.it).
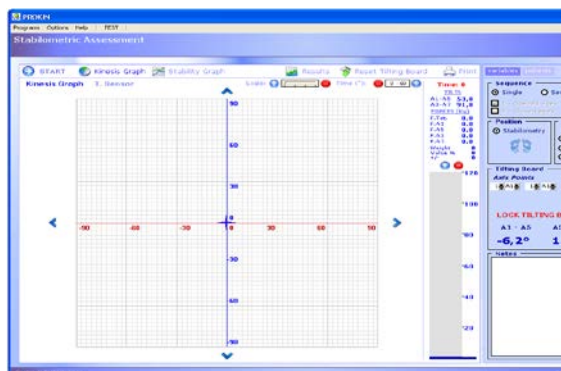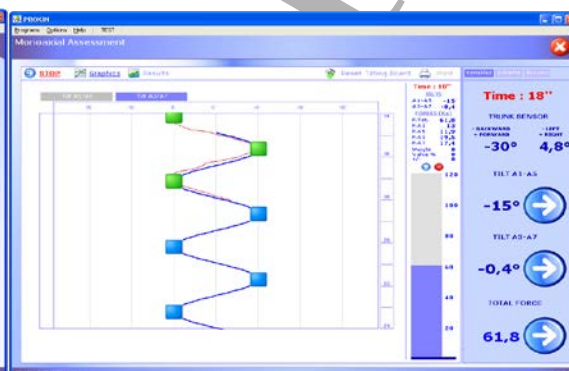

Figure 1. Static Balance test

Figure 2. Dynamic Balance-Slalom test

Procedures of Plyometric Education Program

Plyometric education trainings were performed twice a week for 10 weeks in the trainings of school handball team. This program was applied at least 2 days before the match day and with 2 days apart. The protocol of plyometric education training program was applied with 5 drill, twice in a week. Applying was started after the warming up. First 5 weeks; the exercises were performed in 3 sets. Each set the loading time was 30 seconds. Resting time between the drills was 30 seconds and between the sets 4 minutes. The last 5 weeks; 4 sets were done. Each drill loading time was 40 seconds. Resting time between the drill was 40 seconds and between the sets 5 minutes.

Model of Plyometric Education Training Program

1. Drill: Jumping with two legs from right to left side over 40 cm bar. **2. Drill:** Doing pull-up with 1kg health balls. While doing pull-up the player gives the ball to her standing partner. **3. Drill:** Jumping forward over 5 bars of 40 cm with two legs and then 15 m sprint. After the determined distance, coming back by jogging and repetition the exercise. **4. Drill:** Arm-over standing passes with 1 kg health ball with the partner. **5. Drill:** 2 parallel 15 m lines, which have 80 cm between them. The player jumps with left foot to left then right foot to the right. After the determined distance, coming back and repetition the exercise.

Statistical Analysis

Descriptive statistics were used for the analysis of psychomotor characteristics and paired sample t test was used for the differences between the pre-test and post-test of plyometric education training of the groups. The SPSS 15.0 program was preferred for the statistics. The significance level was set at 0.05.

RESULT

Sixteen female school handball team's students 14,57± ,92 years of age and 3,66± ,63 training years were included to the study.

Table 1. Descriptive datas

N = 16	Sport age (year)	Age (year)	Height (cm)	Weight (kg)
M±SD	3,66 ± ,63	14,57 ± ,92	161,44 ± 54,41	56,95 ± 4,45

Table 2. Psychomotor and balance characteristics which were improved after 10 week-plyometric education training program

		M±SD	t	p
Flexibility (cm)	Pre test	24,92 ± 6,49	-4,518	,000**
	Post test	30,23 ± 8,22		
Standing long jump (cm)	Pre test	154,63 ± 14,61	-8,129	,000**
	Post test	178,38 ± 15,89		
Anaerobic power (kg-m/sn)	Pre test	591,63 ± 83,81	-3,018	,005**
	Post test	631,87 ± 87,79		
Left leg elipse area at unipedal static balance (mm²)	Pre test	1683,33 ± 597,97	2,399	,043*
	Post test	1082,00 ± 518,91		

*p< 0.05 , ** p< 0.01   M: mean, S.D: standart deviation

The differences were found between pre-test and post-test values which were been flexibility, standing long jump, anaerobic power and left leg elipse area at unipedal static balance tests. The differences observed between the pre-test and post-test of plyometric education training of flexibility t(51)=-4,518 , p=0,000, standing long jump t(12)=-8,129 , p=0,000, anaerobic power t(01)=-3,018 , p=0,005 and left leg ellipse area at unipedal static balance t(39)= 2,399 , p= 0,043 were found to be statistically significant (p<0.05). It shows that values of flexibility, standing long jump and anaerobic power increase from pre-test to post-test. Value of left leg ellipse area at unipedal static balance decreases from pre-test to post-test. No statistically significant difference was found between the pre-test and post-test of plyometric education training for vertical jump, 30m speed, agility, dynamic balance, Romberg test and the other measurments about static balance test (p>0.05)

DISCUSSION

It was shown that plyometric education training positively effects flexibility, standing long jump, anaerobic power and left leg ellipse area at unipedal static balance performances (p<0.05). No statistically significant difference was found between the pre-test and post-test of plyometric education training for vertical jump, 30m speed, agility, dynamic balance, Romberg test and the other measurements about static balance test (p>0.05).

Flexibility

The result of current study is shown that plyometric education training positively effects flexibility (p<0.05). Iri et al (2009) conducted a study on 12-14 year-old kids concerning the effects of football ability trainings on basic motoric characteristics. Statistical significant differences on flexibility were measured. On the contrary, Aktas et al. (2011) conducted a study on 12-14 aged male tennis players. After 8 weeks of power training (including plyometric exercises), they stated that there is an insignificant difference between the test and the control group. Hewett et al. (1996) applied the plyometric training program on female athletes and found no significant difference on flexibility measurements.

Standing long jump

The result of current study is shown that plyometric education training positively effects standing long jump (p<0.05). Diallo et al. (2001) studied the effects of plyometric training on jump performance. They noted

significant longer standing jump values for the study group. It is stated that standing long jump improved on plyometric group (Arazi & Asadi, 2012).

Anaerobic power

The result of current study is shown that plyometric education training positively effects anaerobic power (p<0.05). Rahimi and Behpur (2005) stated that plyometric training together with traditional weight-lifting power training supports vertical jump and explosive power performance positively. Balance is not only important for the execution of complex technical gestures, but it is also connected to the overall athlete's strenght, as reported by (Cowley et al. 2006). Another research states that findings proved that the effect of 8-week combinational training (strenght and plyometric) on dynamic balance of teenage handball players. The highest effect in three groups (strenght, plyometric and combinational) were in three directions of posterior-internal, internal and posterior. In addition, it was indicated that as during achievement action in these directions we need Hamstring muscle activity (Salahzadeh et al. 2011) .

Static and Dynamic Balance

A certain tendency to better balance in the nonpreferred leg was observed, some authors did not demonstrated differences between dominant and nondominant extremities in athletes (Karadenizli et al. 2014; Gribble et al. 2001; Seiler et al. 2008). It is stated that there is a significant correspondence between given training programs and static and dynamic balance (Schneiders et al 2012). It is stated that using a combinational plan (plyometric, technical, balance and strenght) can improve antrerior-posterior balance (Paterno et al 2004).

In the current study, it was shown that plyometric education training positively effects left leg ellipse area at unipedal static balance performances (p<0.05). This finding supports studies showing improvements on balance after a plyometric program (Arazi and Asadi 2011; Asadi 2013; Myer et al. 2006; Twist et al. 2008). In the current study, handball players's dominant legs were right but their jumping legs were left. Because handball players who use right hands usually jump their left leg. It is estimated that this result of study may be affected by this reason apart from training effects. Another result of the current study is that no statistically significant difference was found between the pre-test and post-test of plyometric education training for dynamic balance, Romberg test and the other measurements about static balance test (p>0.05). Arazi & Asadi, (2012), stated that plyometric group made improved their dynamic balance, but this change was not statistically significantly. This finding supports to current study. On the contrary Karadenizli et al. (2014), stated that it was found significant difference on unipedal (Forward-Backward) dynamic balance tests. Significant difference was found between right and left leg belongs to soccer players, but, there is no significant differences for handball players. It is mean that right leg's dynamic balance of soccer players is better than for left leg's. It was stated better stability of the nonpreferred leg because soccer players have to stabilize their stance leg in different positions for kicking the ball. Barone et al. (2001), stated the soccer players have a better standing balance on the nondominant leg because of soccer activity. In addition, it was stated that the soccer group showed better standing balance on the left leg than the sedentary group.

Vertical jump

No statistically significant difference was found between the pre-test and post-test of plyometric education training for vertical jump (p>0.05). Nicole et al. (2004) stated that plyometric training studies for 6 weeks, twice a week caused an insignificant increase on vertical jump values. Turner et al. (2003) also showed no significance difference on vertical jump performance after 6 weeks plyometric training. On the contrary, Diallo et al. (2001) stated significant differences between vertical jump performances of young football players before and after ten weeks plyometric exercises in addition to usual training programs. It is stated that compared to pre-intervention measures, the plyometric group made significantly greater improvements than control group in vertical jump (Arazi & Asadi, 2012).

<u>30m Speed, Agility</u>

Despite the fact that there were an increase in agility and speed values due to the training, no statistically significant difference was found between pre and post test values (p>0.05). This results may indicate that 10 week plyometric education trainings are not sufficient to increase agility and speed. On the contrary, it is stated that in season plyometric training can positively affect sprint and agility performance (Asadi & Arazi, 2012; Asadi 2013).

CONCLUSION

In the current study, it is shown that plyometric education training (of school team handball players for 10 weeks) positively effects flexibility, standing long jump, anaerobic power and left leg ellipse area at static balance performances. It is estimated that if the plyometric education trainings add to physical education curriculum program, all students can take profit from this positive result.

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