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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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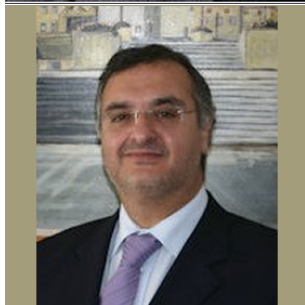
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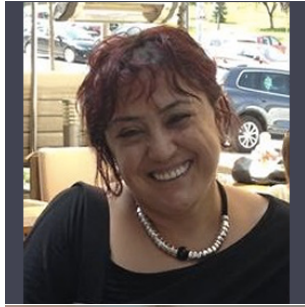
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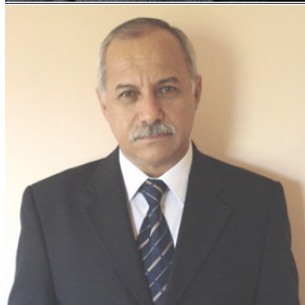
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THE EFFECT OF 6-STAGE EVALUATION QUESTIONS AND SUPPORTIVE ACTIVITIES APPLIED AT THE END OF DRAMA PLAYS ON LEARNING EMOTION CONCEPTS IN 60-72 MONTH-OLD CHILDREN

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SUMMARY

The purpose of this study is to prove the effect of 6-stage evaluation questions and supportive activities applied at the end of drama plays on learning emotion concepts by 60-72 month-old children. The study group was divided to three with 14 children in Experimental1, 13 children in Experimental2 and 14 children in control groups. The data collection tool used in the study was Emotion Concepts subscale of Concept Development Scale. A program was developed by the researchers to teach emotion concepts of happy, sad, angry, confused, and afraid. The program was applied as activities of 45-minute duration once a week for 8 weeks. Results of the study demonstrated that applying evaluation and supportive activities through 6-stage evaluation/discussion questions and supportive activities as suggested by Önder (1995) following drama plays ensures emotion concepts are learned in the ultimate way compared to other approaches (using drama only or not applying drama at all).

INTRODUCTION

Preschool is the most significant period of life. A comprehensive education policy must be applied during this period to support child development in every dimension. Educative drama applications that can support children's physical, cognitive, linguistic, social, and emotional development simultaneously, that can present a holistic education opportunity are suggested strongly to have an important place in preschool education.

According to Önder (2003, p.49); bringing up healthy, happy, empathizing, sensitive, creative, problem solving, confident, assertive, free, innovator individuals who can establish positive and effective communication with people around them are amongst general purposes of preschool education. These purposes can be achieved with educational drama applications. According to Önder (2007 participating in drama plays is not enough on its own for children to conceptualize and mentally acquire knowledge. Acting drama plays only does not guarantee learning. Making physical movements is only the beginning of gaining concepts kinesthetically through the body. There is need for an evaluation stage where the movements of body are named, coded, comprehended, differentiated or generalized (Önder, 2007). Önder's argument was also emphasized by many educative drama experts (Fullford et. al., 2011; Heinig, 1981; O'Neill and Lambert, 1988; Siks, 1983). For instance according to Siks (1983), evaluations following each drama play give students the chance to make generalizations about their own developments and reflect upon their experiences. Fullford et. al. (2001) noted that educative drama activity cannot reach its education targets without discussion session. The six-stage evaluation based on asking questions that Önder proposed (2007) is practiced by directing six questions at various levels about drama play to children following drama play.

These questions are as follows:

1. Envisioning: Children are asked to envision the drama play with their eyes closed for 30-40 seconds.
2. Definitional Level: Children are asked to describe the drama play.
3. Emotional Level: At this level children are asked to talk about how they felt while acting in the drama play or guess emotions of how others in the play.
4. Cognitional Level: Information oriented questions about concepts, issues or skills dealt with at drama play are asked.
5. Experience Level: Children are asked to find and describe examples of events expressed in drama play from their lives.
6. Developmental Level: At this question level children are asked questions based on concepts and relations not discussed in the play that would stimulate their creativity and encourage them to think such as how the play could have ended differently.

According to Ülgen (2001), concept learning is the key to other learning and "basically, concepts exist with people and the experiences they gain with their emotions, thoughts, and actions. These concepts that people

produce are a kind of information form that enables coalescing with and understanding the world, ensures communication amongst people and finally establishes the basis for developing principles.

Educative drama play and evaluation session that follows are amongst techniques and methods that can be used to teach concepts (Önder, 2007). According to Önder (2007), application of one or more of other teaching methods (such as painting, cutting and pasting, playing finger plays or with play dough, singing children's songs, working on study page) in line with the concept or issue discussed in the drama after asking 6-stage evaluation questions following drama play can also contribute to learning of the concept or issue in question. This study aims to underline evaluation studies conducted following drama plays and their supportive impact. Especially examining effectiveness of applying 6-stage evaluation session of educational drama play method together with supportive studies while teaching basic emotion concepts (happy, sad, angry, confused, afraid) is determined as an area that has not been explored in previous studies.

With this in mind, purpose of this study is to determine whether children who participated in 6-stage evaluation and support studies following drama play in educational drama applications perform better in learning emotion concepts (happy, sad, angry, confused, afraid) compared to children who participated in drama play but not in evaluation and support studies and to children who never received an education based on drama play.

In order to achieve the said purpose, the study tried to find the answers of the following questions:

In learning emotion concepts;

1. Are children in Experimental1 group who participated in an education program based on evaluation and support activities following drama play more successful than children in Control group who did not participate in drama play or following activities?
2. Are children in Experimental2 group who participated in an education program that did not include evaluation and support activities following drama play more successful than children in Control group who did not participate in drama play or following activities?
3. Are children in Experimental1 group who participated in an education program based on evaluation and support activities following drama play more successful than children in Experimental2 group who participated in an education program that was based on drama play not followed by evaluation and support activities?
4. Are there any differences between results of retention test conducted to evaluate persistency of results of education given to three different groups (E1, E2, and C) and results of posttest?

METHOD
Model of the Study
The study used pretest-posttest, two test groups and one control group test design. Dependent variable of this design was children's learning emotion concepts (happy, sad, confused, scared, angry) and independent variable is educational drama program that includes evaluative questions and supportive activities.

Experimental and Control Groups
Forty-one 60-72 month-old children participated in the study who attended preschool on 2012-2013 education year at Istanbul, Esenler district public school, named 50. Yıl Tuna Primary School. The level of income that children's families belong to was at middle socio-economical level. Information on this was received from class teachers and school managers.

Forty-one children in the same age group that attended 2 different preschool classes of the same primary school were randomly assigned to Experimental1, Experimental2, and Control groups.

Children in Experimental1 group have a mean age of $\overline{x}$ =62.0 months according to their birthdays while children in Experimental2 group have a mean age of $\overline{x}$ =62.6 months according to their birthdays and children in Control group have a mean age of $\overline{x}$ =61.2 months according to their birthdays. Experimental1, Experimental2, and Control groups have close age distribution according to children's birthdays.

Data Collection
Data collection took place as establishment of Experimental1, Experimental2, and Control groups; filling out of Demographic Information Form and making Emotion Concepts Scale pretest; its application on the groups; making posttest and follow-up test.

Children in test groups were applied the program about emotion concepts that was prepared by the researcher. All children in test and control groups were applied Concept Development Scale as pretest in advance of the study. A total of 41 children took part in the study 14 of which were placed in Experimental1 group, 13 in Experimental 2 group, and 14 in Control group. An education program including six-stage evaluative questions and supportive activities (Önder, 2012) were applied in Experimental1 group while Experimental 2 group was applied the same drama plays that were applied in Experimental1 group without the six-stage evaluation and support activities and Control group was not applied any emotion activities but only some game and drama activities. This process continued for 8 weeks. Following this application Emotion Concepts Scale was applied to all 3 groups as posttest. Two weeks after posttest Emotion Concepts Scale was applied once more as retention test in order to measure the level of concept recognition.

Data Collection Tools
The study used 'Demographic Information Form' that collected demographic information about children in Experimental and Control groups and Emotion Concepts Subscale from 'Concept Development Scale (Avşalak, 2007)' that was used in pretest, posttest, and retention measurements as data collection tools.

Demographic Information Form
This form encompasses gender, date of birth, and socioeconomic status information of children in study group. Class teachers and school principals assisted collection of the information on this form.

Concept Development Scale
Validity-reliability studies of the scale developed by Avşalak (2008) were conducted in the beginning of 2006-2007 education year with a total of 136 children at 60-72 months of age (5-6 years) 100 of which was from Küçükçekmece Municipality Preschool and 36 from Marmara University Göztepe and Haydarpaşa Practice Preschools (Avşalak, 2007). However these studies were directed towards the whole scale. In the study by Avşalak (2007) validity and reliability data of Emotion Concepts Scale under Concept Development Subscale used in this study were not given separately. Thus internal reliability and test-retest reliability analyses were conducted for the said Emotion Concepts Subscale in this research and the subscale was determined to have sufficient internal reliability and test-retest reliability.

Educational Drama Program for Developing Emotion Concepts
While preparing educational drama programs for developing emotion concepts, content validity of the program was tested first. In order to provide this expert opinions were taken to evaluate if activities in this program were suitable for fulfilling the purpose. While expert opinions were being taken, suitability of each and every one of the 8 drama applications in the program to teach children emotion concepts was questioned and the data collected were analyzed using Lawshe (1975) method to achieve sufficient statistical proof on expediency of the activities.

FINDINGS
The results of the research were presented below.
Pretest Findings of Experimental1, Experimental 2, and Control Group

Table1 . Pretest Findings of Experimental1, Experimental 2, and Control Group

Group	N	AR	SR	U	Z	p
Exp.1	14	12.65	177.50			
Control	14	12.21	171.00	72.50	-1.18	.23
Exp.2	13	16.79	235.00			
Control	14	16.32	228.50	66.00	-.1.48	.13
Exp.1	14	14.25	199.50			
Exp.2	13	14.75	206.50	94.50	-.16	.87

Mann Whitney-U test was conducted to compare Emotion Concepts Scale pretest scores of children at Experimental1, Experimental2, and Control groups. According to data collected, it is possible to argue that groups have no difference amongst each other before application in terms of emotion concepts that would be taught.

Posttest Findings of Experimental1, Experimental2, and Control Groups

Table 2. Posttest Findings of Experimental1, Experimental2, and Control Groups

Group	N	AR	SR	U	Z	p
Exp.1	14	21.50	301.00			
Control	14	7.50	105.00	.00	-4.53	.00*
Exp.2	13	20.54	267.00			
Control	14	7.93	111.00	6.00	-4.15	.00*
Exp.1	14	18.86	264.00			
Exp.2	13	8.77	114.00	23.00	-3.34	.00*

*p<.05

In order to test the effect of education programs used at both test groups, the Emotion Concepts Scale used at pretest was used at posttest measurement following applications at every 3 groups.

When posttest scores of Experimental 1 and Control groups were compared, a statistically significant difference was found between the two groups (U= .00, p<.05). This difference is in favor of Experimental1 group (Mean rank for Experimental1 D1 x= 21.50, for Control group Kx=7.50).

When posttest scores of Experimental2 and Control groups were compared, a statistically significant difference was found between the two groups (U=6.00, p<.05). This difference is in favor of Experimental2 group (Mean rank for Experimental 2 D2 x= 20,54, for Control group Kx=7.93).

When posttest scores of Experimental1 and Experimental 2 groups were compared, a statistically significant difference was found (U=23.00, p<.05). This difference is in favor of Experimental1 group (Mean rank for Experimental1 D1 $\bar{x}$ = 18,86, for Experimental2 group D2 $\bar{x}$ =8.77).

Findings from Comparison of Pretest and Posttest Scores of Experimental 1, Experimental 2, and Control Groups

Table 3. Findings from Comparison of Pretest and Posttest Scores of Experimental 1, Experimental 2, and Control Groups

Groups	Tests	N	AR	SR	sd	z	p
Exp.1	Pretest	14	.00	.00	.14		
	Postest	14	7.00	91.00	.06	-3.19	.00*
Exp.2	Pretest	13	1.00	1.00			
	Postest	13	6.50	65.00	6.00	-2.85	.00*

*p<.05

Control	**Pretest**	14	7.29	51.00	.09		
	Postest	14	6.67	40.00	.08	-.38	.69

Wilcoxon Signed Ranks Test was applied in order to compare level of knowledge Experimental1, Experimental2, and Control groups had about emotion concepts before and after the application and the following findings were discovered.

When pretest and posttest scores of Experimental1 group were compared, a statistically significant difference was found between the two applications (z=-3.63, p<.05). This difference was in favor of posttest (Mean ranks for Experimental 1 group pretest $\overline{x} = 0.00$, for posttest $\overline{x} = 7.00$).

When pretest and posttest scores of Experimental2 group were compared, a statistically significant difference was found between the two applications (z=-2.85, p<.05). This difference was in favor of posttest (Mean ranks for Test2 group pretest $\overline{x} = 1.00$, for posttest $\overline{x} = 6.00$)

When pretest and posttest scores of Control group were compared, no statistically significant difference was found between the two applications (z=-.38, p<.05). (Mean ranks for Control group pretest $\overline{x} = 7.29$, for posttest $\overline{x} = 6.67$).

Findings from Comparison of Posttest and Follow-Up Test Scores of Experimental 1, Experimental 2, and Control Groups

Table 4. Findings from Comparison of Posttest and Follow-Up Test Scores of Experimental 1, Experimental 2, and Control Groups

Groups	Tests	N	AR	SR	sd	z	p
Exp.1	**Postest**	14	7.50	22.50	.05		
	Follow-up Test	14	6.85	68.50	.08	-1.63	.10
Exp.2	**Postest**	13	6.50	13.00	.25		
	Follow-up Test	13	5.25	42.00	.06	-1.5	.13
Control	**Postest**	14	7.07	49.50	.18		
	Follow-up Test	14	5.70	28.50	.16	-.84	.40

When posttest and follow-up test scores of Experimental1 group were compared, no statistically significant difference was found between the two applications (z=-1.63, p>.05).

When posttest and follow-up test scores of Experimental 2 group were compared, no statistically significant difference was found between the two applications (z=-1.5, p>.05).

When posttest and follow-up test scores of Control group were compared, no statistically significant difference was found between the two applications (z=-.84, p>.05).

All three groups were applied follow-up tests 2 weeks after posttests. According to the results of follow-up test no difference could be found between posttest and follow-up test. Thus, it can be concluded that level of learning in all three groups remained unchanged after 2 weeks.

RESULTS AND DISCUSSION

Pretests applied to all 3 groups demonstrated that there were no differences amongst the groups in terms of emotion concepts that would be taught.. Thus, regarding the main research questions of this study the relevant program could be applied, analyses made and results presented as follows.

According to the results of posttests Experimental1 group was found to be more successful in learning emotion concepts compared to control group.

According to the results of posttests Experimental2 group was also found to be more successful in learning emotion concepts compared to control group.

When Experimental1 and Experimental2 groups were compared, findings of posttests revealed that Experimental1 group was more successful in learning emotion concepts than Experimental2 group. In addition, when pretest and posttest results of Experimental1 were compared, level of learning at posttest was found to be higher. Thus it can be concluded that learning was achieved at the highest level in Experimental1 group.

According to the comparison of results from posttest and follow-up test made 2 weeks later for Experimental1, Experimental 2, and Control groups no statistically significant difference was found at any of the groups. On the basis of these results it can be argued that level of learning did not decrease at Experimental1 group in which evaluation questions and supportive activities applied following drama play. As a result it can be said that acquired learning was permanent up to 2 weeks.

When the results cited above are generally evaluated, two sets of basic information can be deduced. One of them demonstrates that educational drama, even when it is applied only as drama play, has a positive effect on preschool children as they learn emotion concepts. There are a number of studies that point at positive effect of drama plays on learning of preschool children on any topic whether such drama plays are defined as educative drama or creative drama (Aral et. al., 2003; Dalkılıç and Gönen, 1998; Üstandağ, 1998).

A significant and unique result of this study is that conducting the 6-stage evaluation/discussion questions and supportive activities as suggested by Önder (1995), leads to learning of emotion concepts at the highest level compared to other approaches, contending with drama plays only or never applying drama plays at all. As a general idea of this research it can be mentioned that especially teachers and other practitioners working with preschool children should use drama activities in education not only in the form of plays but they also use some evaluative questions and some other teaching activities at the end of the dramatic plays.

* This study was produced by the support of Marmara University, BAPKO Department.

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THE EFFECTS OF USING GEOMETRIC AND CIRCULAR PANELS IN TEACHING THE PLANE GEOMETRY UNIT ON THE COMPREHENSION OF FIRST GRADE SECONDARY SCHOOL STUDENTS.

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The aim of the research was to study the effect of using geometric and circular panels in teaching plane geometry in comparison with the traditional method on First Grade Secondary School students, as far as the levels of memory and comprehension together, and each one alone, are concerned.

The researcher used the semi-experimental method and applied the study to a sample of 54 First Grade students at Prince Megren Bin Abdel Aziz Al Saoud Secondary School in Al Madina Al Monawara. They were divided into two groups: the first was a control group taught using the traditional method, and the other was an study were tests administered before and after the experiment. The tests were of the essay-type, and were prepared by the researcher. The data of the study were experimental group taught using the experimental method of the geometric and circular panels. Each group had 27 students.

The tools of the analyzed through the analysis of the resulting differences. The study reached the following conclusions:

v There were no significant statistical differences in the area of post-comprehension and knowledge between the experimental group average and that of the control group as far as memory is concerned, when using the geometric panel after testing pre-comprehension in teaching the lesson of the polygons.

v There were significant statistical differences in the area of post-comprehension and knowledge when using the geometric panel between the experimental group average and that of the control group as far as comprehension is concerned, after testing pre-comprehension in teaching the lesson of the polygons.

v There were significant statistical differences in the area of post-comprehension and knowledge when using the geometric panel between the experimental group average and that of the control group as far as both memory and comprehension are concerned after testing pre-comprehension in teaching the lesson of the polygons.

v There were significant statistical differences in the area of post-comprehension and knowledge when using the circular panel between the experimental group average and that of the control group as far as comprehension is concerned after testing pre-comprehension in teaching the lessons of the polygons and the measurement of angles.

v There were significant statistical differences in the area of post-comprehension and knowledge when using the circular panel between the experimental group average and that of the control group as far as comprehension is concerned after testing pre-comprehension in teaching the lessons of the polygons and the measurement of angles.

v There were significant statistical differences in the area of post-comprehension and knowledge when using the circular panel between the average of the experimental group

and that of the control group as far as both memory and comprehension are concerned after testing pre-comprehension in teaching the lessons of the polygons and the measurement of angles.

v There were significant statistical differences in the area of post-comprehension and knowledge when using the geometric and circular panels between the experimental group average and that of the control group as far as both memory and comprehension are concerned after testing pre-comprehension in the plane geometry unit.

In view of the findings of this study, the researcher made some recommendations, the most important of which were as follows:

· It is highly recommended that the educational training sections of the Educational Departments, the Faculties of Education and the Teachers' Training Colleges should coordinate their efforts to hold in-service training courses for teachers, in order to familiarize them with the methods of teaching using educational manual aids.

· The invitation of specialists in the field of educational manual aids to offer workshops for teaching and managing lessons that use educational manual aids.

· The development of the teacher books in such a way as to encourage teachers to carry out lessons using educational manual aids and demonstrate to them the way to implement this method. Samples should also be offered on how to use educational manual aids while teaching some of the lessons of the text book.

The researcher also recommended that further studies be undertaken to gauge the views of teachers about educational manual aids after they have been exposed to them. He also suggested further investigations into the effects of educational manual aids on the higher levels of comprehension throughout the different educational stages.

Keywords: Mathemathics

THE EFFECTS OF USING NARRATIVE AND INFORMATIVE TEXTS IN TURKISH LESSONS ON WRITING SKILLS AND ATTITUDE TO TREE AND ENVIRONMENT

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ABSTRACT

In this research it is aimed to determine the effects of using narrative and informative texts in Turkish lessons on students' writing skills and attitude to tree and environment. The universe of the study consists of 4th grade students attending to primary schools in the city of Kütahya in 2014-2015 school year. The sample of the study is formed a total of 84 primary school fourth grade students who have been selected randomly among the schools that show similar characteristics in terms of socio-economic level. Semi-experimental design was used in this study. Two of the groups have been identified as the experimental and one of them is identified as the control group. The process of experiment is organized according to the Turkish language teaching program for Health and Environment theme. Four texts were used in both experimental group and control group. The texts used in the experimental groups were selected in terms of suitability of the level and the themes in accordance with expert opinion. In experiment-1 group only narrative texts and in experiment-2 group only informative texts were used. Activities of experimental groups were organized similar to the activities of control group in accordance with expert opinion. In the lessons of the control group, texts located in the Turkish textbooks are used. In the research as a data collection tool an Attitude Scale towards Tree and Environment developed by Kunt (2013); and a Scoring Scale Key for Writing Assessment developed by Uygun (2012) were used. As in the scope of research all groups wrote a composition about the environmental pollution and an Attitude Scale Towards Tree and Environment was applied as a pre-test and post-test. As the data don't show a normal distribution, in the analysis of data it is benefited from Mann-Whitney U and Kruskal Wallis tests. Besides Experiment-1 group in which only the narrative texts were used in the lessons scored statistically high in the Scoring Scale Key for Writing Assessment than the other groups. There wasn't a significant difference between the scores of experiment-2 group in which only the informative texts were used during the lessons and the control group in the Scoring Scale Key for Writing Assessment. According to the findings of the research it is suggested to include much more narrative texts in 4th grade Turkish lessons.

Key words: Narrative text, Informative text, Composition writing skills, Attitude to tree and environment

1. INTRODUCTION

One of the four main language skills, writing is among the most important types of expression. Writing is a means of expressing emotions, thoughts and experiences within certain linguistic rules in an original manner. Therefore, writing requires the use of higher mental skills and interpretation of the information to be written (Güleryüz, 2006). Writing enables the individual to interact with others, to express himself/herself, to seek for information, to develop imagination, to define thoughts and phenomena, to record past events, to change others' behaviors, to communicate and to imagine (Smith, 2005). According to Sharples (2003), writing entails not only expressing ideas but also establishing communication or expressing these ideas so properly that people can be aroused and excited. With developing writing skill, students can produce higher level writings. They get away from writing format based on the transfer of information, that is a kind of copying and they generate their own writing style by interpreting their acquired information (Akyol, 2006).

During primary school period, students usually encounter narrative, informative and poetic texts. In narrative texts, the writer narrates interrelated incidences from a specific point of view by indicating space and time in a fictional manner (Coşkun, 2007). There are two main types of narration. In one of them real events are told and in the other one, imaginary events are told. On the other hand, these two types of narration can be used in combination. For instance, historical novel is a fictional narration but it may also include historical information and documents from real life. Narration can be seen in different types of texts. Narration can be used in a letter, a play or a poem (Akbayır, 2010). Children's stories affect children as they address the issues from the real lives of children, are built on lively, colorful and poetic expression and responsive to their expectations and realities (Gökçe ve Sis, 2011: 1927). The most prominent characteristic of narration is the existence of an event. This event lays the basis of the narration. By means of the event, ideas are expressed and the reader is informed. Another important

characteristic of narration is space and time. The better the setting and time of the event is expressed, the more effective the narration will be. Setting and time of the event may alter during the narration (Karadağ, 2011; Kolaç, 2009; Güleryüz, 2006).

Informative text is a writing in which a real event, situation or process is explained or defined (Fox, 2009). It is written to give information (Dodson, 2000). Informative texts have a different structure from narrative texts. Though they do not have one agreed structure, researchers determined five main characteristics of it. These are definition, problem solving, chronological ordering, comparison and contrast and cause and effect relationship (Akyol, 2010). Due to their structure, comprehension of information texts is more difficult than narrative texts (Akyol, 2010; Williams, 2005).

In the current study, the purpose was to determine the effect of the use of narrative and informative texts in Turkish language course on students' composition writing skills and attitudes towards the consciousness of tree and environment. As the research process was structured according to the theme of *Health and Environment* and the selected texts heavily included topics related to the consciousness of tree and environment, the study investigated whether the students' attitudes towards the consciousness of tree and environment changed or not.

2. METHOD

2.1. Model of the study

The current research employed a quasi-experimental pretest-posttest control group design. The quasi-experimental design is used in situations where experimental group participants and control group participants are not assigned randomly (Fraenkel and Wallen, 2003). In some situations, it might be impossible to randomly assign the participants into experimental and control groups or this may not be desired. In such situations, the quasi-experimental design can be used. In this design, random distribution is not used and effort is not made to construct groups through random assignment. Instead, one or more of the groups previously constructed through a method different from random assignment are selected as control and experimental groups. However, great care is taken for the members of the groups to be as much similar as possible (Gay, 1996; McMillan and Schumacher, 2006).

2.2. Study Group

The study group of the current research consists of 84 elementary school 4th graders random selected from three different elementary schools located in the city of Kütahya. Experimental-1 Group is comprised of 14 girls and 15 boys, totally 29 students; Experimental-2 Group is comprised of 12 girls and 16 boys, totally 28 students and the control group consists of 13 girls and 14 boys, totally 27 students. It can be told that the distribution of the experimental and control groups students according to total number of students and gender is similar.

In order to make the groups equal to each other, their marks from Turkish language course were compared. For this purpose, Kruskal-Wallis test was run. Findings obtained from Kruskal-Wallis test are given in Table 1.

Table 1: Comparison of the Groups' Marks from Turkish Language Course

Group	N	Mean Rank	Sd	χ^2	p
Experimental-1 Group	29	38,71			
Experimental-2 Group	28	47,25	2	1,803	,406
Control Group	27	41,65			

As can be seen from Table 1, there is no significant difference between the students' marks from Turkish Language course [$\chi^2_{(2)}$= 1,803; p> ,05]. This shows that the groups are equal to each other in terms of their marks from Turkish language course.

2.3. Data Collection Instruments

In the present study, a personal information form and two data collection instruments were used. With the personal information form, information about the gender of the students and their marks from Turkish language course was gathered. In order to elicit the students' attitudes towards tree and environment before and after the application, the 29-item *Tree and Environment Attitude Scale* developed by Kunt (2013) was used. The scale is in the form of five-point Likert type ranging from *Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree*. All the items in the scale are positive statements. The possible lowest score to be taken from the scale is 29 and the highest score is 145. Cronbach alpha value of the scale calculated during its development is .81. The scale is a 6-factor scale explaining 60% of the total variance. Its Cronbach alpha value calculated in the current study is .81.

For the evaluation of the compositions written by the students before and after the application, *Graded Scoring Key for Evaluating Written Composition* developed by Uygun (2012) was employed. In this scoring key there are

12 items and these items are scored as *1, 2, 3*. The possible lowest score to be taken from the scoring key is 12 and the highest score is 36. During the process of developing the graded scoring key, opinions of the five field experts and three classroom teachers were sought to establish the validity of the scoring key. The items in the graded scoring key were linguistically rearranged under the supervision of two linguistic experts. For the reliability study for the graded scoring key, 48 elementary school five graders were made to write narrative and informative texts. These texts were scored separately by three field experts. Then inter-rater reliability was calculated. To establish the inter-rater reliability Kendall fit coefficient was calculated as the number of raters is higher than two and it was found to be W=.83. This shows that there is a high level of agreement between the raters.

2.4. Application Process
Before the application, the experimental and control groups students were asked to write compositions with the topic of *Tree and Environment* as a pretest. Moreover, they were administered *Tree and Environment Attitude Scale*. During the application process, the texts to be used with the experimental groups were determined through expert opinions in terms of their compliance with the theme of Health and Environment and grade level. After the determination of the texts, the activities to be used in the experimental groups were prepared in a similar manner to the activities in the Turkish Language text book that would be used with the control group. Based on the expert opinions, some changes were made.

In the classes where the experimental groups were taught, only narrative texts were used in the Experimental -1 Group and only informative texts were used in the Experimental-2 Group. The lessons in the experimental groups were conducted by the researcher. In the control group, there was no intervention. The lessons in the experimental groups were planned as 2 class hours per week and thus totally 16 class hours. Pretest and posttest administrations were not included in this time period. At the end of the application period, all the groups were made to write compositions with the topic of *Tree and Environment* and administered *Tree and Environment Attitude Scale*.

2.5. Data Analysis
The compositions written by the students as pretest and posttest were separately scored by the researchers by using the *Graded Scoring Key for Evaluating Written Composition*. The inter-rater agreement was calculated through Pearson correlation coefficient and found to be .96. The obtained correlation coefficient was found to be quite high. A computer-assisted statistics program was used in the analysis of the scores taken from the compositions written by the students and *Tree and Environment Attitude Scale* administered as pretest and posttest. As the scores taken by the students from the scales did not exhibit a normal distribution, non-parametric statistic tests were used in the analysis.

3. FINDINGS
Kruskal-Wallis test was used to investigate whether there is a significant difference between the scores taken by the groups from the compositions written before the application. The obtained findings are presented in Table 2.

Table 2: Comparison of the Groups' Composition Pretest Scores

Group	N	Mean Rank	Sd	χ^2	p
Experimental-1 Group	29	42,34			
Experimental-2 Group	28	42,25	2	,013	,994
Control Group	27	42,93			

As can be seen in Table 2, there is no significant difference between the pretest scores of the groups taken from the compositions [$\chi^2_{(2)}$= ,013; p> ,05]. The results show that the groups were equal to each other in terms of their composition writing skills.

Kruskal-Wallis test was used in order to investigate whether there is a significant difference between the groups' attitudes towards tree and environment before the application. The obtained findings are presented in Table 3.

Table 3: Comparison of the Groups' Tree and Environment Attitude Pretest Scores

Group	N	Mean Rank	Sd	χ^2	p
Experimental-1 Group	29	48,34			
Experimental-2 Group	28	41,57	2	2,996	,224
Control Group	27	37,19			

The results presented in Table 3 show that there is no significant difference between the groups' pretest attitude scores [$\chi^2_{(2)}$= 2,296; p> ,05]. Thus, it can be told that the groups had similar attitudes towards tree and environment before the application.

Kruskal-Wallis test was used to investigate whether there is a significant difference between the scores taken by the groups from the compositions written after the application. The obtained findings are presented in Table 4.

Table 4: Comparison of the Groups' Composition Posttest Scores

Group	N	Mean Rank	Sd	χ^2	p
Experimental-1 Group	29	53,14			
Experimental-2 Group	28	36,05	2	8,559	,014*
Control Group	27	37,76			

As can be seen in Table 4, there is a significant difference between the groups' composition posttest scores [$\chi^2_{(2)}$= 8,559; p< ,05]. In order to determine the source of this significant difference, pair-wise comparisons were made with Mann-Whitney U test. This analysis revealed that the difference is between the Experimental-1 Group and the others. Thus, it can be claimed that composition writing skills of the students using narrative texts in Turkish language classes develop more effectively.

Kruskal-Wallis test was used in order to investigate whether there is a significant difference between the groups' attitudes towards tree and environment after the application. The obtained findings are presented in Table 5.

Table 5: Comparison of the Groups' Tree and Environment Attitude Posttest Scores

Group	N	Mean Rank	Sd	χ^2	p
Experimental-1 Group	29	49,12			
Experimental-2 Group	28	42,66	2	4,553	,103
Control Group	27	35,22			

When the data presented in Table 5 are examined, it is seen that there is no significant difference between the posttest attitude scores of the groups [$\chi^2_{(2)}$= 4,553; p> ,05]. This may be because of the shortness of the application period. This might not have been long enough to change students' attitudes.

Composition pretest and posttest comparison of the groups was performed through Wilcoxon signed ranks test. The obtained results are presented in Table 6.

Table 6: Groups' Composition Pretest-Posttest Wilcoxon Signed Ranks Test

Group	Pretest-Posttest	N	Mean Rank	Sum Rank	Z	p
Experimental -1 Group	Negative Rank	2	12,00	24,00		
	Positive Rank	25	14,16	354,00	-3,983	,000*
	Equal	2				
Experimental-2 Group	Negative Rank	8	12,69	101,50		
	Positive Rank	14	10,82	151,50	-,832	,405
	Equal	6				
Control Group	Negative Rank	7	12,07	84,50		
	Positive Rank	14	10,46	146,50	-1,117	,264
	Equal	6				

When the data presented in Table 6 are examined, it is seen that there is a significant difference between the pretest composition scores and posttest composition scores of the Experimental-1 Group. There is no significant difference between the pretest and posttest composition scores of the Experimental-2 Group and Control Group. Thus, it can be claimed that narrative texts are more influential on the development of students' composition writing skills.

The comparison of the groups' pretest and posttest tree and environment attitude scores was carried out with Wilcoxon signed ranks test. The obtained data are presented in Table 7.

Table 7: Groups' Tree and Environment Attitude Pretest-Posttest Wilcoxon Signed Ranks Test Results

Group	Pretest-Posttest	N	Mean Rank	Sum Rank	Z	p
Experimental -1 Group	Negative Rank	7	13,71	96,00		
	Positive Rank	16	11,25	180,00	-1,290	,197

	Equal	6				
Experimental-2 Group	**Negative Rank**	8	9,19	73,50		
	Positive Rank	13	12,12	157,50	-1,461	,144
	Equal	7				
Control Group	**Negative Rank**	7	7,00	49,00		
	Positive Rank	11	11,09	122,00	-1,663	,096
	Equal	9				

The results of the Wilcoxon signed ranks test presented in Table 7 show that there is no significant difference between the groups' pretest and posttest attitude scores. This may be because the application period was not long enough to change the students' attitudes.

4. CONCLUSION

It was found that there is no significant difference between the scores taken by the groups from the compositions written before the application but there is a significant difference between the scores taken from the compositions written after the application. This difference is seen to be favoring the experimental group using narrative texts. This indicates that the use of narrative texts in Turkish language courses is more effective in terms of enhancing students' composition writing skills. According to Hall, Sabey and Mcclellan (2005), students experience some difficulties in connection with informative texts in early years of their schooling. Especially during elementary school years, due to their lack of cognitive experience and cognitive developmental level they experience some problems in understanding informative texts. Yıldırım, Yıldız, Ateş and Rasinski (2010) reported that elementary school fifth graders demonstrate better reading and listening comprehension in narrative texts than informative texts. Başaran and Akyol (2009) found that there is no significant difference between elementary school fifth graders' attitudes towards narrative and informative texts. Moreover, it was found that the students understood the narrative texts better than the informative texts. Similar results have been obtained for different grade levels (Yıldız, 2008; Temizyürek, 2008). In light of the findings reported in the literature, it can be claimed that the improvement seen in the composition writing skill of students stems from their better comprehension of narrative texts.

One of the variables investigated within the context of the current study is students' attitudes towards tree and environment. Pretest and posttest scores revealed that there is no significant difference between the students' attitudes towards tree and environment. The application was found to be ineffective in changing the attitudes of both the experimental groups and the control group. This may be because the application period was not long enough to change the students' attitudes.

In light of the findings of the current study, following suggestions can be made:
- The effect of text types on students' composition writing skills can be determined by similar studies that can be conducted at different grade levels and within a longer time period.
- The effect of text types on students' attitudes towards any issue can be determined in longitudinal studies.
- More emphasis can be given narrative texts in Turkish language classes especially at elementary school level.

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THE EMPOWERMENT OF PALESTINIAN SCHOOL TEACHERS AS REFLECTIVE PRACTITIONERS- ALQUDS BARD MASTER OF ARTS IN TEACHING PROGRAM

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The Master of Arts in Teaching Program at AlQuds Bard College in Palestine is unique in its kind in the Middle East. Unique to the program at Al-Quds is the fact that the graduate students are all experienced practicing teachers and supervisors: this means that the program has an immediate impact on the educational environment in the West Bank. We are able to connect studies directly to the students' daily work as teachers in ways that leverage change efficiently as these teachers move between theory and practice, learning about current research and a wide array of practices that they can apply directly to their work at school, sharing results, reflecting on, and evolving their practices with peers as an integral part of the graduate program. This theory of change drives all our program's activities and objectives.

The program's strategic objective is the promotion of *"In-service school teachers utilizing student-centered approaches that emphasize forms of disciplinary understanding in their teaching at schools."* In turn, MAT students and graduates will have a broader community impact to:

· *graduate better educated students with stronger critical thinking and reasoning skills;*

· *encourage students to stay in school and to thrive;*

· *increase employability opportunities;*

· *catalyze a core cadre of teachers who will continue to effect change from within their schools, among their peers and within the Ministry of Education.*

These objectives are reached via the following activities:

· *advanced studies in the disciplines with a key goal of helping teachers become practitioners who understand the construction of knowledge in their respective fields;*

· *completion of an academic research project (ARP) in the subject area that serves as a model for learning designs in school classrooms;*

· *advanced studies in critical areas of education, like recent cognitive research on instruction and learning, connected directly to the daily practice of teaching;*

· *completion of a classroom research project (CRP) that engages teachers in the use of student work as data to drive instructional design and practices;*

· *working in a community of practice that reinforces learning, building a model of collaboration that sustains professional growth and reflective practice beyond the life of the graduate program.*

Graduates and current students are working in over 200 schools spread out in 10 districts directly teaching an estimated 65,000 students. Observations of classrooms taught by MAT students/graduates have shown a high degree of adoption of new classroom practices in classroom organization and management, teaching and assessment methods and modes of teacher-student interaction. Of a randomly selected sample of classrooms, almost all exhibited teaching strategies that promote active learning.

Keywords: Reflective Practice, Teacher Empowerment, student-centered learning, Teacher Education

THE ENGLISH FEVER IN SOUTH KOREA: FOCUSING ON THE PROBLEM OF EARLY ENGLISH EDUCATION

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The English language craze in South Korea has made people obsessed with English, but the significant differences between Korean and English, particularly in sentence structure and morphology, make it hard for most Koreans to learn English. Nevertheless, Korean society has driven all to learn English, on the simple and naive assumption that anybody can master English, if they study long and hard. From preschoolers to college students, all students are busy studying English. Parents also make a great effort to improve their children's English, as early as possible. Language training abroad is a must, and studying abroad at an early age is an option. The English frenzy saw the coining of the term "goose father," referring to a father who lives alone in Korea having sent his spouse and children to a foreign country to study English or some other form of advanced study. The goose fathers are estimated to be about 200,000 goose daddies nationwide. Even office workers tend to take the equation: English is equal to their social promotion or success. Some upper class people are making an "English class society" by forming their own exclusive circles with English as a status symbol. As the whole nation is stick to learning English, the opportunity costs with that don't come cheap. By taking advantage of this overheating phenomenon called "English craze' in Korean peninsula, English-related business men only are growing rich. According to a report by the Samsung Economic Research Institute (SERI), Koreans spend about 15 trillion won ($15.8 billion) on English learning per year. Thus, Korean universities are absorbed in giving a lecture in English by emphasizing globalization, but the level of satisfaction between professors and students are not so high.

Studying English hard does not mean you will be good at English. Furthermore, there is no necessity for everybody to speak English well like a native speaker. In fact, the frenzy of English education in Korean hyper-competitive society is not simply derived from the area of education itself. So, it is necessary to consider it from all angles: historical relation between US and Korea, English as a cultural capital, Korean educational culture, conflicts of Korean public and private education, class mobility, and US hegemony and globalization, etc. Ultimately, the problem of English education is a problem of "constructed reality" into which the success psychology of each Korean is condensed; therefore, it must be viewed from the historical, structural, institutional, hierarchical, and cultural perspectives of Korean society. This paper presents a critical review of the English language craze in South Korea from multi-perspectives. It consists of three major sections. The first section briefly discusses English fever in Korea in relation to the early English education. The second section examines some of the major driving forces behind the expansion of English education or English as a cultural capital. The final section analyses the problem of early English education and plans for its solution.

Keywords: English education

THE EXPEDITION OF FRENCH KING CHARLEMAGNE IN SPAIN IN 778, HISTORICAL SOURCES   AND ANACHRONIC REFLECTIONS ON THE SONG OF ROLAND

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ABSTRACT

Frank King Charlemagne organizes an expedition in Spain in 778 upon the invitation of some Muslim governors. The Arab and Latin historical sources agree that Frank Army had been defeated before Zaragoza. Charlemagne and his army were ambushed by Christian Basks at Roncevaux Pass by marching across the Pyrenees. The rear-guard of Charlemagne's army was defeated and all of soldiers were almost killed in this battle. For this reason, the most famous Frank epopee *Song of Roland* was written after four centuries. *The Song of Roland* had been written in order to give a historical support to the Crusades. These historical events occurred during the expedition of Charlemagne survive in *The Song of Roland*, but they had been altered: the history had been transformed into legend. In this epopee the Spanish aggressors in the Battle of Roncevaux Pass in the mountains of the Pyrenees became Muslim Saracens whereas they were Christian Basks; the Muslims were considered as pagans who adore the idols.

Keywords: Charlemagne, Song of Roland, Saracen, Roncevaux Pass, Epopee, Anachronism.

1. INTRODUCTION

On 15 August 778, the rear-guard troop of the army of Franks King Charlemagne going back from Spain after expedition was surprised and completely destroyed in the Pyrenees by the Basks to whom the Franks were not in an open war. In his *Vita Karoli* the histograph Einhard mentions the names of the most important paladins killed among many others: Eggihard, Mayor of the Palace, Anselmus, Palatine Count and Roland, Prefect of the March of Bretagne. The king, who had already crossed the ports of the Pyrenees hastily returned at Roncevaux Pass; unfortunately it was night when he reached to the disaster scene: the mountaineers had dispersed, and even they could not know where to track them. Because of Saxons' revolt, Charles had gone back to France without avenging his exterminated rear-guard.

This is the version given by the *Royal Annals* and the *Life of Charlemagne/Vita Caroli* written by the histograph Einhard; they constitute the Latin histography. The Arabic version is quite different: According to the Arab histograph Ibn Al-Athir who wrote at the beginning of the thirteenth century, but drew from old sources, the Muslims of Zaragoza had invited Charlemagne in Spain and they also exposed Frank army to this serious defeat in question, when it was out of Arab territory and was feeling in full safety. It should probably combine this story of Arab historians with that of the Frank historians, and admit that Muslims incited and helped the Basks against Frank Army at Roncevaux Battle. On the one hand, Arab Historians didn't mention in their story the help that Muslims had given to Basks; on the other hand the official historians of the Frank empire presented the expedition of Charlemagne in Spain as much happier than it was. They did not want to admit that the authors of the disaster were at least in part, the "Saracens" - supposed allies of the Franks. The Frank king could not even try to avenge their treachery. They preferred to mention a simple surprise of the Basks. Their impunity was arising from their dispersion in their mountains. This case was a sensitive humiliation for the franc honour.

2. THE EXPEDITION OF FRANK KING CHARLEMAGNE IN MUSLIM SPAIN.

In 777, for the holidays Easter Charlemagne was in Westphalia where he celebrated the great diet of Paderborn during which thousands of defeated Saxons were baptized. In Paderborn Suleiman Al-Arabi accompanied by other Muslims of Spain came to present to Charlemagne; he wanted to be under the protection of the Frankish king againts I. Abdurrahman, Emir of Cordoba. *Royal Annals until 801's* don't say why Al-Arabi went to Paderborn; but *Royal Annals until 829's* say that he would deliver to Charlemagne the cities he governed in the name of Saracen king. At the meeting in Paderborn Al Arabi promised particularly in Charlemagne the city of Zaragoza (Ramon Menendez Pidal, 1960). In 778, when Charlemagne was a relatively young king, his army was enlisted to help the Muslim governors of Barcelona and Zaragoza against the Umayyad caliph in Cordoba; he was functioning, essentially, as a mercenary within an Islamic factional struggle (Ann Hoeppner Moran Cruz , 1999).

The Abbasid dynasty was attempting to annex or destroy the Andalusian Umayyad State in Eastern Europe which was the remaining part of the Umayyad. At that time the situation of Abdurrahman I, Emir of Cordoba was worsening. Indeed, an Abbaside army had just landed on the coasts of Todmir (Murcia); it was commanded by al-Siqlabi, Abbaside commander who had just restored the authority of the caliph of Baghdad against Abdurrahman I. Al-Siqlabi wrote to Al-Arabi, thinking that the latter, since it was in a state of rebellion against Abdurrahman I, would rally to the cause of Baghdad. But the rebel Al-Arabi did not want to depend neither on Baghdad nor on Cordoba. For this reason, Al-Siqlabi had to retreat to Todmir where Abdurrahman I forced him to fight. This war was long and severe. He was killed in Valencia by Abdurrahman's soldiers(Ramon Menendez Pidal, 1960 ; İhsan Süreyya Sırma 2007).

The situation in Muslim Spain was so complicated that Abdurrahman I had difficulty to assure the political unity. In the northern regions of Andalusia, every emir almost wanting to benefit from the chaotic situation and possessing a little power was declaring his independence. Even, there are those who want to seal an alliance with the Frank king Charlemagne (İhsan Süreyya Sırma, 2007). Seeing an opportunity to extend Christendom and his imperial power and believing the Saxons to be a fully baptized, Charlemagne decided to make an expedition to Spain. Suleiman Ibn Al-Arabi, emir of Barcelona induced Charlemagne to invade Andalusia by promising him an easy surrender of its Upper March of which Zaragoza was the capital. Charlemagne didn't make up his mind until the winter, but he finally decided to launch an expedition into the Iberian peninsula the next year. Taking into consideration the alliance of Suleiman Ibn Al-Arabi, Charlemagne passed across the Pyrenees in 778. His troops were welcomed in Barcelona and Girona by Suleiman Ibn Al-Arabi. As he moved towards Zaragoza, his troops were joined by troops led by Suleiman Ibn Al-Arabi. The emir of Cordoba Abdurrahman I sent his most trusted general, Thalaba Ibn Obeid, to take control of the rebellious city and to prevent the Frank invasion. Husayn Al Ansari and Thalaba Ibn Obeid clashed repeatedly; eventually Husayn Al Ansari managed to defeat and to imprison Thalaba Ibn Obeid. Reinforced in his autonomous position, Husayn Al Ansari became reluctant to yield his new privileged status to the Frank king and refused to surrender the city to Charlemagne, claiming that he had never promised Charlemagne his allegiance. He seems to have tried to appease Charlemagne by giving him the prisoner General Ibn Obeid and a large tribute of gold, but Charlemagne was not easily satisfied, putting Suleiman Al-Arabi in chains. After a month of siege at Zaragoza, Charlemagne decided to return to his kingdom (İhsan Süreyya Sırma, 2007).

2.1. The Battle of Roncevaux Pass in Pyrenees Mountains

The battle occurred in the evening of Saturday 15 August 778, causing numerous soldiers among the Frank Army including several most important soldiers and the sack of the baggage, probably with all the gold given by the Muslims at Zaragoza. After their success, the attackers took advantage of the night to flee. According to E Lévi Provençal, after the defeat of Zaragoza, Charlemagne and his army were ambushed by the Basks at Roncevaux pass by marching across the Pyrenees in 778. Frank army was defeated and all of soldiers were almost killed in this battle (E. Lévi Provençal, 1932). In his *Vita Karoli* the histograph Einhard mentions the names of the most important paladins killed among many others: Eggihard, Mayor of the Palace, Anselmus, Palatine Count and Roland, Prefect of the March of Bretagne (Lewis Thorpe, 1969).

The Frank army failed in capturing Zaragoza and was exposed to significant losses at the hands of the Basks. They would only be able to establish the Marca Hispanica a decade later, when Barcelona was finally captured. Zaragoza remained an important Muslim city, capital of the Upper March and later of an independent emirate, until the 11th century. Defenceless Pamplona was captured by the Muslims soon after and held by them for some years, until in 798-801 a rebellion expelled them as well and helped to consolidate the Banu Qasi realm and eventually the constitution of the independent Kingdom of Pamplona in 824.

During Charlemagne's lifetime, none of the Latin sources mentions the Franc defeat at Roncevaux Pass to be an inspiration to the writing of *Song of Roland* which would emerge about four hundred years after this dramatic event. Ann Hoeppner Moran Cruz says:

"Charlemagne appears to have refused to allow anyone, during his lifetime, to mention it. It was, in fact, the only military defeat of his career. The dramatic, unavenged (and unutterable) defeat then entered in the epic song, where the vengeance of the Roncevaux Defeat has been fictively taken. The Christians have their vengeance in the *Song of Roland*, where Charlemagne is described as the conquerant of all of Spain with the exception of Zaragoza." (Ann Hoeppner Moran Cruz, 1999).

However, *Royal Annals until 829's* mention this serious disaster after the death of the emperor:

"At the summit of these mountains Bask guerrillas lay an ambuscade. They attacked against the rear-guard troops of the Frank army by causing a great disorder and noise among them. Although the Franks were more powerful and superior than the Basks from point of view of military equipments, they were unable to fight sufficiently against the Basks because they didn't know the geographical structure of the land and they weren't accustomed to such a collision. Most of notables peers to whom the Frank king entrusted military equipment and supplies were massacred by Bask guerrillas. The food supply was pillaged and the enemy knowing very well the land fled in all directions." (Ramon Menendez Pidal, 1960).

Arab historical sources also mention this Roncevaux Defeat of Frank army. Ibn Athir reports the following historical information: "By seeing that Hussein Al Ansari didn't open the doors of Zaragoza the king Charlemagne became suspicious of Suleiman Ibn Al Arabi. For this reason he captured and took him to France. At the time when Charlemagne feels in safety after receding Muslim lands, Ibn Al-Arabiya's sons Matruh and Aysun attacked the Frank army and they set free their father. They went back to Zaragoza." (Ramon Menendez Pidal, 1960; Paul Aebischer,1957).

Among Latin sources there is a single narrating realistically the Battle of Roncevaux. This is *Vita Caroli* of Eginhard which glorifies King Charlemagne. Other resources will be based on all Latin and Arab resources. The sole *Royal Annals* having not the desire to alleviate the defeat exposed to Frank army is *Royal Annals until 829's* (Ramon Menendez Pidal, 1960).

According to *Brief Annals of Lorsch* and *Arab Histography* there was undoubtedly Ibn Al-Arabi taken as a prisoner in France at the rear-guard troops of Frank army among which there were also hostages given by Abu Sevr, governor of

Huesca and other hostages taken at Pamplona (Ramon Menendez Pidal, 1960). The Basks of Pamplona and their Muslim allies especially the guerrillas of Matruh and Ayshun sons of Ibn Al Arabi were waiting in ambush. For this attack it was necessary to make collaboration between Christian Basks and Muslims of northern Spain: Muslims were in need of logistic information of Basks knowing very well these steep slope lands; respectively Basks were in need of the military organizational structures of Muslims. According to *Mettens Annals* this complementary and mutual cooperation caused that Frank rear-guard troop was defeated(Ramon Menendez Pidal, 1960).

3. **LATIN AND ARAB SOURCES CONCERNING THE EXPEDITION OF FRANK KING CHARLEMAGNE**

The oldest historical sources describing the expedition of Frank King Charlemagne in Spain and Roncevaux Defeat of his rear-guard troop are Latin and Arab sources.

3.1. Latin historiography

Latin historic resources concerning Frank King Charlemagne's expedition in Spain in 778 can be divided into two groups consisting of a series of short Annals. These Latin Annals mention in sum this historical event concerning Charlemagne's expedition in Spain:" Charlemagne enters in Pamplona, arrives before Zaragoza; after having destructed the walls of Pamplona and subjugated Spanish Basks he goes back to France by taking some Arab/Saracen commandants as hostages".

This summary information is mentionned in *Metz Annals until 805's* in the form of the most archaic and original. The clausula texts have been rewritten and augmented in *Metz Annals until 903's* and in *Chronique* of Abbé Region. The most recent form deprived of both clausula texts in question is kept in *Royal Annals until 801's* and rehashed in *Royal Annals until 829's* to which is annexed the story of the defeat of the rear-guard troop of the army of Franks King Charlemagne. This defeat is ignored by all the other Annals (Ramon Menendez Pidal, 1960). The modern historians use only *Royal Annals* but *Metz Annals* offer a real interest.

The short abstract of annual describes that Charlemagne conquested Pamplona, took Saracens hostage, arrived to Zaragoza where he captured and took Suleiman Ibn Al-Arabi to France. This historical information exists in *Lauresheim Annals until 803's, Laurissenses Annals until 817's, Petaviani Annals until 799's* and *Moissiacences Annals until 818's* (Ramon Menendez Pidal, 1960).

It is said that *Short Annals* was reproduced from the *Royal Annals*. They are more different than *Large Annals*. All these *Large Annals* annexed a sentence explaining that Basks and Navarre's obeyed to Frank King Charlemagne. Thus, the reader has the conviction that Pamplona had been seized from Basks, on the contrary *Short Annals* don't mention the name of Basks at all. As *Lorch Annals* stated clearly, they give the conclusion that Pamplona had been seized from Saracens. It is deduced from this statement that that the main hostile target of Frank King wasn't Basks but Muslims named Saracens.

3.2. Arab historiography

Arabic texts concerning Charlemagne's expedition in Spain express this historical event in two manners. The first is related to the delivery of Thalaba bin Ubayd, general of Abdurrahman I, emir of Cordoba, to King Charlemagne. This historical event is told in *Ahbarul Mecmua* (XI. Century), Ibn Al-Athir's (XIII Century), Ibn Khaldun (XIV century) and other Arabic texts. The second is the story of the capture of Ibn Al Arabi and his rescue by his sons. This story take place only in a text mentioned by Ibn Al-Athir before giving a short information related to Thalaba bin Ubayd.

Most of the contemporary historians don't want to use Arab historiography with Latin historiography in order to handle Charlemagne's expedition in Spain. In his *History of Muslims* (*Histoire des Musulmans*, 1861) R. Dozy benefits only from *Ahbarul Macmua*. In his *Discourse before History Academy* (*Discurso ante la Academia de la Historia / 1879)* F. Codera use Ibn Al-Athir and other Arab texts by annexing the information concerning the attack of the sons of Ibn Al Arabi to Charlemagne's army (Ramon Menendez Pidal, 1960).

3.3. Confrontation of Latin and Arabic historiography

Latin and Arabic texts don't contradict each other when reporting historical data. Any work of historiography is a ruthless selection made by the historian in the confused mass of events; we set aside countless accidental facts to highlight a few significant facts which will be able to put in light the overall conception to be criterion to the historian. Latin historians and Arab historians also highlight important events in terms of their history and their own perspective.

Arab and Latin historical sources, although they have different perspectives, agree to the following four points: 1-Ibn Al-Arabi invites Frank King Charlemagne in Zaragoza to take support for the revolt against Abdurrahman I; 2-King Charlemagne comes in Spain; Suleiman Ibn Al Arabi delivers hostages to him as a guarantee of loyalty; 3-King Charlemagne comes before Zaragoza and takes Suleiman Ibn Al Arabi as prisoner because of his infidelity; 4-Frank King Charlemagne's rear-guard troop ambushed in Basque Region was attacked by the military coalition of Basks and Muslims (Ramon Menendez Pidal, 1960).

4. THE TRANSFORMATION OF THE HISTORICAL REALITY INTO LEGEND IN SONG OF ROLAND

The historical events occurred at Roncevaux Pass survive legendarily in *The Song of Roland*, in which the historical reality had been transformed into legend. Kléber Haedens says:"as in all the chansons de geste, the historical truth seems very ill-treated"(Haedens, Kléber, 1970). Two centuries after, Charlemagne, combatting against Muslims in Spain, appears as initiator and hero of the Crusades. Frank king and his peers were considered as the prototypes of Christian

Chivalry. Since therefore, the anachronism takes place in this Frank poem: the young king who was 36 old years in 778's became an old king of 200 years old "the white-bearded emperor". He was considered as a living king and an organiser of the Crusades. In his work named *Histoire de la Littérature française*, Gustave Lanson says : "we are far from the history with Saracens who had taken the place of the Basque mountainers, and these pagans, idolators, Saracens, moreover valiant and accomplished "barons", if they were christians: with this white-bearded and two hundered years old Charlemagne, majestic symbol of the christian kingdom. In the period of Charlemagne, France became a religion state. He declared himself that he was the representative of God on the Earth. During his sovereignty, the religion and the State were nested. Thus, the political power became the religious power. Hereinafter, Charlemagne would make war for the Christendom(Charles Benamon, 2000). André Cordier states in this point: "A priori, the constant alteration of the history allows to reject the redaction of the poem longtime after the the event: the distancing in the time explains only this deformation of the historical reality"(André Cordier,1935). The aggressors weren't any more the Christian Basks but Muslim Saracens. The expedition of Charlemagne in Spain became a crusade against Muslims in Spain. Over the years, this battle was mythologized by oral tradition into a great conflict between Christians and Muslims.

The Frank epic - which had begun in the Merovingian period - was in full life until the end of the tenth century. The epic song devoted to Roland - born probably in the Frank Bretagne and then spread through the whole of France - and went through all the Carolingian period. In the XIth century. *The Song of Roland* was translated or adapted everywhere: in Spain, where it aroused the national epic (Cantares Degesta); in Italy, it was popular from the eleventh century, in England, it was adapted in English and even in Welsh; in Germany it had been translated since 1133; in Netherlands it was adapted in prose and in verse; in Scandinavia, it was translated in Norwegian in the thirteenth century; it had been the subject of popular books in Denmark and in Iceland. For Philippe Walter, this epic story is woven with anachronisms and invented characters, artificial or marvellous situations like the miracle of the sun which stops his running.

5. CONCLUSION

In 778 when Charlemagne was a relatively young king, his army was enlisted to help the Muslim governors of Barcelona and Zaragoza against the Umayyad caliph in Cordoba; he was functioning, essentially, as a mercenary within an Islamic factional struggle. For a variety of reasons, the campaign was unsuccessful. On the return home, Charlemagne's men sacked the town of Pamplona, killing and looting. In retaliation the Basks ambushed Charlemagne's rear-guard in the Pyrenees, killing everyone and making away with the booty from Pamplona. The Franks never revenged for themselves this massacre, and Charlemagne appears to have refused to allow anyone, during his lifetime, to mention it. It was, in fact, the only military defeat of his career. The dramatic, unavenged defeat then entered the realm of the legendary, where vengeance is extracted in legend if not in reality. The Christians have their vengeance in *The Song of Roland* in which the enemies become Muslims rather than Basks.

The Song of Roland illustrates extravagantly and exaggeratedly an ordinary historical event. As it has been read from generation to generation, it seems to cause the historical and cultural hostilities and prejudices between Christians and Muslims. The Saracens became the scapegoat in Europe throughout all the Middle Age. *The Song of Roland* being an epic poem had been written in order to give a historical support to the Crusades and to transform a territorial war in to a holy war. This anachronic poem encouraged and incited to write other works to commove internationally the hostility feelings.

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THE FIVE-YEAR INDUSTRIAL PLANS OF ATATURK'S PERIOD AND EDUCATION

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ABSTRACT

In the process from the proclamation of the Republic until the 1930s, it was accepted the liberal policies of economy as the national development model. The lack of economic infrastructure and such international pressures as particularly the 1929 Economic Crisis led to the adaptation of statist policies by these policies were abandoned.

Under the example of the successful planned development model of the Soviet Union, the first and the second five-year industrial plans were prepared. These planning having great effects on the development of the Turkish industry also affected the educational policies of the period.

This study tries to reveal the relationship of the planning with the educational policies.

Keywords: Five-Year Industrial Plan, Ataturk's Period, Education, Development

The Turkish Nation, as a result of its honorable struggle, was able to establish a new Turkish State by winning its war against the imperialist forces. However, the winning of war did not finish the fight. Because the Entente Powers, which are accustomed to winning at the table, showed that they would not abandon their expansionist policies by the attitude that they demonstrated during the Lausanne negotiations. In this way, the purpose of the new Turkish State's founders, who saw independence to always be under threat without a strong Turkey, was to establish a fully independent and strong economy.

Since the early years of the Republic, it has been made the effort to find a rapid development model. It was adapted to liberal policies in accordance with the decisions taken at the 1923 Economic Congress of Izmir and assigned the task of establishing a strong economy to the private enterprises. Because the private capital was insufficient and inexperienced, it failed to be achieved the desired development in no way. Additionally, the devastation that was brought by the Economic Crisis in 1929 caused the state to take a more active role in the economy. This also led to the adaptation of statist policies in the 1930s.

Although there have been various discussions on how statism can be implemented, the common point has been the planned implementation of statism. (Tekeli, İlkin: 1982, p. 134). The main objective of the statist model has been "*planned industrialization under the state leadership.*" (Tokgöz:1992, p. 6). It was provided the Soviet model in the planned industrialization to be taken example in this process because the Soviet Union was not affected from the economic crisis in the world and because the industrial policies that it implemented were very successful. The visit of Prime Minister Ismet Pasha to the Soviets in 1932 was one of the most important developments in the transition to statism. After this visitation, some important steps were taken in order to take the Soviets as example in the planning, and so the industrial plan was formed by the reports that were prepared by the Soviet experts. As a result of these studies, BBYSP, which covered 1934-1938, and IBYSP, which was prepared in 1936, were the most significant work that guided the industrial policies of Ataturk's period.

The then economy was built on a bankrupted structure. Thus, it was faced with very important infrastructural and technical problems also in the industry. The most important one of these problems was the need of technology and technical staff. It was focused on these problems also before the planning and even prepared some programmes by experts who were brought from abroad. According to the report that was prepared by the American Committee just before the planning, it was mentioned that the art schools had great tasks to fulfill the economic needs and showed as a necessity to train masters by the opening of schools in the factories that were ready to complete with foreign goods. (Maarif İşleri:1939, p.23).

In order to put BBYSP into practice, it needed to train adequate technical staff and have necessary technology. Therefore, it was attached importance to the education of industry also in the planning to actualize the industrial implementation.

For the factories that would be established under BBYSP, it would need approximately 12 or 15 thousand workers during the first five years. It revealed the importance of education for the success of plans because there was no adequate workforce to meet the need in the country. As a first step in this regard, 70 students were sent to

Russia for the factories of cotton textiles. This was not enough, of course. In order to meet the need of adequate technical staff of all industries according to the plan, it had to be attached importance to training and the education had to be divided into 4 main elements:

1. Training of Certificated Engineer
2. Training of Technician
3. Training of Masters
4. Training of Skilled Worker

In the plan, it was focused that students had to be sent abroad without delaying to ensure the administration of our national factories by national hands after mentioned about the lack of certificated engineer and technicians. In this manner, it was decided to send 30 students abroad by the State's own possibilities and seen fit that Sumerbank, Is Bank, Alpullu Sugar Factory and Mining Companies also sent the students abroad for training.

According to the plan, it was necessary for taking the industrial schools, primarily the Industrial Schools of Istanbul and Izmir, under the order of the Ministry to train adequate and qualified masters. It was expected that these schools would fulfill the need for master in the industry. By the schools, it was aimed at training fitter, turner, caster, machinist, electrician, and carpenter for industrial establishments. It was considered measurements for the students receiving in these schools to gain experience and planned that they would work in the factories during studying or after the school.

Because it was not possible to open separate schools for every sector to meet the need of trained worker, it was planned to overcome this deficiency by the courses that would be opened in the industrial schools and the state's factories.

In order to implement all these planning made to fulfill the need of technical element, it was seen as essential to open the professional education branch in the organization of the Ministry. Additionally, it was seen as vital to assign a budget and staff in the Ministry for all these work (İnan:1972, p.134-136).

In the plan, it is observed to attach importance to the business training. It is extremely important for the future of the country to meet the need of staff that is trained according to new educational methods and suitable to the conditions of the period to make progress in the economic sphere.

In order to achieve this objective, it should be primarily provided these schools to be managed from a single center by gotten under the body of the Ministry of Economy and to be provided the education within a joint programme by unions are established among them. This allows the schools to be programmed and arranged in suitable for the needs of the country.

It is extremely significant to open the schools that provide business education in the trade centers and especially in the cities where have great contributions to foreign trade.

Under the plan, it is emphasized on the necessary of equipping the students who receive education with knowledge that they can use in the real life as the most important issue for the business education. Moreover, the compulsory internship is considerably underlined to gain practices for the students.

It is also expressed within the plan that it becomes extremely important in terms of our foreign trade that the students who study in these schools learn at least one language in a good way (İnan:1972, p.136-137).

The first step was taken by the Prime Minister's order to meet the need of technical staff for implementing BBYSP. In 1935, a commission was constituted that was tasked with preparing a report in the field of technical education under the presidency of Mr. Rustu Uzel, General Director of Technical Education of the Ministry of Education; with the representatives of the Ministries of Agriculture, Industry, Public Works, and Education and with the participation of an official who represented the General Staff (Başgöz:1995, p.212).

As a result of the studies of this commission, it was prepared a report called "The Improvement Plan of Vocational Education" in 1936.

According to the report, the following issues were showed as primal tasks which need to be done to meet the need of technical staff of the Turkish industry:

- to open apprenticeship schools to fulfill the needs,
- to open the evening art schools to ensure the professional advancement of masters who are educated since the former apprentice,
- to open mobile and temporary to help the development of these arts by providing training to those performing local arts,
- to open high technical schools to meet the need of engineer,
- to open technical schools to fulfill the need of intermediate staff. (Turan:1972, p.86).

Mr. Rustu Uzel, who was authorized in the preparation of the reports in the first degree, mentions about the report in the First Education Council of the Ministry as follows: "These essentials and this plan calculate and determine what the various professional institutions are, and to which places these should be opened, and which branches they should include, and even how much they can be calculated" (Maarif Vekilliği: 1991, p.477). As Mr. Uzel mentions, the report revealed the measures to be taken for meeting the need of technical staff of the Turkish industry in detail and it also pioneered innovations to be made later.

Based on the results obtained in the Improvement Plan of Vocational Education, it was established a more programme by the Office of Vocational and Technical Education in 1941. According to this programme, it was agreed;

- to upgrade the art and business schools,
- to reopen several vocational schools in each grade,
- to establish the internship/training workshops for the graduate of art school (Özalp:1956, p.35).

It was taken an important decision also in a sense of administration, and by the issuing of the Law No. 4304 in 1941, it was established the Undersecretariat of Vocational and Technical Education under the Ministry (Sakaoğlu:2003, 219).

In order to strengthen the Turkish economy, the necessary sensitivity was showed to the industrial training since the first years. The need of technical staff was one of the most important issues emphasized. Especially in the implementation process of the planned industrialization policy, this need increased. It was made important studies to fulfill this need in line with the reports that were prepared by both local and foreign experts. These studies started to show itself in the 1940s. In 1940, the number of teacher and student in the Vocational and Technical Education Institution increased almost 100% according to 1935 (**Cumhuriyetin 50. Yılında Rakam ve Grafiklerle Milli Eğitimimiz**, İst., 1973).

The industrial sector, which had a small share up to almost negligible in the Turkish economy in the early years of the Republic, gained a significant momentum at the end of the planned period. In parallel, it was observed a rapid development also in the vocational and technical education.

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THE GAME AND SOCIOCULTURAL ANIMATION – A STRATEGY OF INCLUSION AND PREVENTION

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ABSTRACT

According to UNESCO (1977) the Sociocultural Animation is defined as the set of social and cultural practices that aim to stimulate the initiative, as well as the participation of individuals in the process of their own development and global dynamics of socio-political life in which they are integrated.

The Portuguese reality, as well as the other European demographic realities, demonstrate a growing weight of the elderly population. Many of these individuals, by choice or by lack of family support, are turning to institutions where they remain until old age. In this context, the socio-cultural Animation, in the figure of the animator, is very important, by creating dynamic conducive to the promotion of active ageing. As a first step, the goal of the strategies implemented passes through the integration of individuals of the new group to which they will belong, enabling socialization and reciprocal knowledge. In a second phase the strategies should enable the enhancement of institutional integration in the community, promoting empowerment, individual and collective.

The game over time plays a role of primary importance in the creation of these dynamics necessary for the proper functioning in a group and in society. Also here in the context of socio-cultural Animation can use this methodology to the inclusion of adult individual around the maintenance of a healthy experience in society in the period of retirement. Many studies referred to the need for enriching activities after the passage of an active stage within society to a less active position. All groups, young and old, need to co-exist in a healthy existence. However it is necessary to create conditions for this contact. The animator, usually young, makes the bridge. On the other hand there are exploratory studies that investigate the relationship between the use of board games and the decrease in the risk of developing certain psychiatric diseases.

We will try to expose in this article a pilot project to be developed in the context of socio-cultural Animation that will attempt to determine if there is relationship between the use of board games and certain abilities such as attention and learning in institutionalized adults.

Keywords: Socio-Cultural Animation, Game, Inclusion, Adults

INTRODUCTION

When we think of play comes to our mind always a group of children or young people, rare are the times that we think in adults. And if you look at institutionalized people, what are the odds? Too low not to say none. However there is evidence that reported that this activity was carried out in a natural way, by children but also by adults in the middle ages and even earlier (Figure 1).

Figure 1: Pieter Bruegel painting- *Children's games* – 1560

However changes in our society dictated changes in behavior, and clearly lost something in this transition. Despite the changes continues to feel the need to play there all the time, and the activities related to the act of play remain constantly studied these days.

One of the authors who investigated for a long time this activity and its repercussions was the American psychiatrist Stuart Brown, founder of The National Institute of Play (http://www.nifplay.org/institute/about-us/). In the course of their work of writing psychological profiles of murderers faced with the absence of behaviors of *play* in the lives of many of those prisoners who interviewed. This research enabled him to determine the extreme importance of *play* from the young to the elderly. Part of this investigation focused in the prisons of the State of Texas in the United States of America, and this work does not focus solely on preparation of profiles, having accomplished an immense number of interviews among the general population. The analysis performed has allowed the comparison of numerous cases, having found people who had been successful in their professional life in various professions and directing the act of *play* as having an important part of all their growth and even during their active adult life.

The fact that *play*, and by extension the use of board games as a tool to induce the act of *play*, acquires great importance in social relationships as well as in your own personal satisfaction of people inserted in a society with rights and duties. The play through a board game can help in the prevention of situations of stress and loneliness, but can also act on improving the capacity of attention and memorization preventing progression of certain psychiatric diseases. Studies as *Leisure Activities and the Risk of Dementia in the Elderly*, led by Joe Verghese et al. (2003) or *Late-Life Engagement in Social and Leisure Activities Is Associated with a Decreased Risk of Dementia: A Longitudinal Study from the Kungsholmen Project*, directed by Hui-Xin Wang et al. (2002), support this pilot project.

We built the foundation for the launch of an interdisciplinary project in the area of socio-cultural Animation that wants to use the board game as a strategy for preventing situations arising out of biological aging in a needy population that needs support.

Relying on studies of Stuart Brown or Joe Verghese et all we want to develop a pilot project in a nursing home. The main objectives undergo review the behaviors of its population before and after playing and sharing board Games. The aim is to check, if the board game will be a process or method of work that can help in preventing or decreasing the possibility of acquiring psychiatric illness, but also to assess their potential as a catalyst for positive attitudes with reflection on learning and attention of the institutionalized elderly, through the dynamic created around the game itself, among other aspects.

As the elderly population is the preferred audience for the implementation of this pilot project, it makes sense to consider us a quick analysis of this and existing social responses.

Demographic ageing and social responses to Elderly
Following Serafim (2007), population aging refers to the gradual increase of individuals with advanced ages in relation to the total Group.

According to the same author, Portugal presents demographic change of wide scale and with important social, economic and cultural repercussions. Demographic change in Portugal, in the recent past, is characterized by a gradual increase in the weight of the senior age groups and a weight reduction of the youth population. Official projections available indicate an unprecedented population dynamics in Portuguese history, with a growing senior populations weight and a reduction in weight of the secular population active. According to the INE (Portuguese National Institute of Statistic), the demographic characteristics of the population show that worsened the ageing population in the last decade. In 2011, Portugal about 19% of the population presented 65 or more years of age, having an ageing index of 127.8%. Most of the time lived by the elderly in daily life is free. The term *free time* can be referred to as a dynamic and complex set of occupations, voluntarily used to relax and have fun, or to develop the social participation, the tastes, the knowledge or abilities after seeing themselves freed from the professional obligations, family, social and cultural rights (Geis, 2003).

Due to the gradual ageing of the population, there has been a constant and progressive concern to create, over the past centuries, social responses to the elderly. Hence the emergence of two types of institutionalized social responses and differentiated in the services provided: Home Service (food, hygiene,

health, treatment and others) and institutions (nursing homes, hospitals, residences, day-care centres, recreation centres, and universities seniors).

In the 15th century, the first equipment intended to support seniors, called "nursing homes". It is from this date that old age begins to be seen differently, that is, as "social disease", in which the elderly no longer known for their experience and happens to be seen as weak, useless and unproductive. This was due to the fact that Western societies were giving very importance to productivity and development (belt, 2007).
After five centuries, Society and the State saw the needed to improve the equipment recently created, having appeared the nursing homes. In the late 20TH century appeared the first day centers and recreation centers. The day centres differ from nursing homes, as they are more "open", being a mix of home and hospital stay. In turn, the recreation centers are more geared to the animation. From 1976, began to appear in home support services, where it seeks to take the existing services in the day care center. In the late ' 90, the support system at home (SAD), starts to accommodate the health domain. Yet at the end of these years arose the night centers and the senior universities (Jacob, 2008).

The cessation of professional activity, the absence of relatives and the loss or reduction of social relations, leading elderly people to social isolation, feeding on feelings of loneliness, pessimism, boredom, and frustration-induced passivity "do nothing", by "not feel useful," leading to social exclusion.
One of the changes that comes with the third age is the excess of free time. According to several authors, through programmes and projects related to the animation in the third Age, the elderly can achieve well-being and satisfaction (Osório, 2007).

The role of socio-cultural Animation in the face of the problem of ageing population
Given the changes that arise in the lives of individuals when it comes to the elderly, the elderly can choose to participate in activities directed towards him and, thus, become agent of its own development, dialogue with the society and interacting with the other generations. The animation of the elderly has a cultural, psychosocial, socio-educational function, among others, providing a more dignified old age and value of the elderly, and can contribute to the prevention of diseases, greater mobility for the elderly, sensation of physical and psychological well-being (Correia, 2007).

Socio-cultural animation in the context of the third age comes in response to a lack or reduction of your activity and social relations. To fill this void, the Sociocultural Animation (SCA) comes to encourage the emergence of a life centered around the individual or group, conceiving the idea of older people progress through their integration and voluntary participation in collective tasks in which culture plays a stimulating role (Lopes, 2007).

In the particular case of the third age, the SCA is an intervention process starting from a concrete reality in an attempt to modify and/or improve at all levels. It can be seen as a style of work, an active pedagogy to promote participation of individuals (Limón and Crespo, 2002).
For this intervention to be implemented should act in two dimensions: the General dimension and circumscribed in social policy "(social protection, the social needs), and the decrease in specific socio-educational intervention" "(in this field are programs and activities aimed at senior citizens, in a perspective of permanent education, in order to adapt the elderly the social and cultural contexts). Only is considered a complete intervention in these two fields when you take into account all the factors that determine the aging: personal characteristics, society, family, friends, institutions and demographic trends (Lopes, 2007).

Each of these factors can be evaluated differently, because the effects vary from elder to elder, hence the aspect to respond effectively to the needs, desires and expectations. Animation programs must be tailored to each individual or group situations.

The various SCA purposes in old age or Elderly animation can have no place in multiple institutional programs, such as: promoting personal well-being, and community group of individuals; try to improve the quality of life and integral health (physical, mental and social); cause the aging process to be "normal" without trauma, pain, etc.; provide the development of skills, abilities and skills of the elderly; promote the fulfilment of the elderly; motivate the elderly in a way that makes them more active participants, critical, creative, supportive and useful in society; stimulate the permanent education and training; develop critical attitudes towards life, through the animation of tanks and debate (Limón and Crespo, 2002).

By this characterization on the aging problem and the important role that SCA holds, it should now realize the method that will be used in this pilot project as well as the location and population of the study.

Characterization of the target population of the pilot project (Parish Center of Culture and service in Benespera)

Located in Benespera village, municipality and district of Guarda, the centre is a Private Institution of Social Solidarity (PISS), constitutes a first step in 1997 in the institutions of the Parish Council, with home support service and day care. In 1998, it opened its headquarters (parish house), where he also have the home assistance. The mission of the Centre is to support and guarantee the rights and the needs of the elderly and the surrounding community of integral form and customized. The institution has about 18 users whose range of ages are between 65 and 85 years.

PLANNING

We intend to carry out an analysis of the activities to be developed through the application of the scale GDS (Geriatric Depression Scale) well known in the field of Geriatrics. This was adapted and validated for Portugal by John the Apostle in 2011 (http://web.stanford.edu/~yesavage/Portuguese3.html).

The GDS with 15 items (GDS-15) is a shortened version of the original scale and was drafted by Sheikh & Yesavage (1986), from the items that most strongly are correlated with the diagnosis of depression. This reduced version is quite attractive to track depressive states in community context, as well as in other non-specialized environments, because the time required for their administration is inferior (Paradela, Lourenço & Veras, 2005). Official page of GDS, the authors consider that it is in the public domain. It is a hetero-assessment scale with two alternatives (Yes – 1 point and No-0 points) (items 1, 5, 7, 11 and 13 one point to No), depending on how the elderly feeling lately, especially in the previously week. Use before the activity, and after this, will serve to assess the influence of the use of the tool board game in the evolution of loneliness and depression. There is at present a choice of several board games according to their characteristics, however its effective use will depend on the study to make about the characterization of the population under study of the nursing home. Only after this characterization could we could state the board games to use from our initial choices.

They use should be divided in time and for each activity, game used, it will be developed in 3 different periods:
- 1st phase: knowledge of the game, discussion of the rules, global understanding of the goals-2 sessions (2 x 30 m);
- 2nd phase: play the game with peers and facilitators of the project – 4 sessions (4 x 30 m);
- 3rd phase: play the game among peers – initial 5 sessions (5 x 30 m, 1 full week).

The evaluation shall include a pre and post test phase with the application of the scale already referenced.

CONCLUSION

Being a pilot project, we have done here the previous study analysing the state of the art, we define the ages of the target group of our research, the procedures and methods to be used and the time periods. The goal after implementation is to assessing whether the results obtained allow us to have a statistical validation to move on the next step, which means to extend the study to a larger population with the formalization of a script in a descriptive set of activities that can help in the prevention of situations considered deviant in the context of the animation.

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THE IBSE IN CHEMISTRY TEACHING – IMPLEMENTATION AND EVALUATION

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ABSTRACT

The Inquiry-based Science Education is currently one of the major trends in science teaching. It is a teaching method which may help to reverse the decline of student´s abilities to understand and explain phenomena, to carry on experiments, to make conclusions and to substantiate them. This approach is very promising not only in chemistry teaching but also in other exact sciences. The article presents particular tasks meeting the IBSE criteria, discusses experience from their practical use and submits possible methods of evaluation of student´s knowledge and skills.

INTRODUCTION

Inquiry-based Science education is one of the current educational trends which are very intensely discussed among the expert public. Several professional works with this theme were published recently, and it is also a theme of many professional conferences (Mayer, 2004). However, the inductive approach is nothing new – we know of many teaching methods that did and do use it in chemical education (Čtrnáctová, Banýr, 1997). Why, then, is IBSE one of the new educational trends?

In the recent years, a large number of international studies monitoring the students' knowledge, skills and interest in science was implemented. These studies show that our students have very good level of scientific knowledge, however, there was a significant decrease in the areas of explaining phenomena, understanding the laws of nature and grasping the abstract concepts and explanations of the students' own claims (Tomášek, 2007). Students' main difficulties lie in the area of creation and formulation of hypotheses and using research methods; they also have problems with experimental activities and the interpretation of data.

For example, the TIMSS 2007 survey studied four knowledge levels in science, characterized as follows: The Level 1 students (the lowest) have some basic knowledge of animate and inanimate nature. The Level 2 students are able to apply basic scientific findings on specific situations in real life. The Level 3 students can use the acquired knowledge to explain natural phenomena they observe in daily life and they show understanding of certain laws. The Level 4 students (the highest) show understanding of complex systems and abstract terms and they are able to explain their claims.

The survey shows that the representation of Czech students of 4th and 8th grade in the top two levels significantly decreased during the period of 1995-2007. This decrease mainly happened in 1995-1999, the situation did not change much afterwards.

Other countries of the European Union are in similar situation to the Czech Republic. Because of that, a report of the European Research Commission recommends (Rocard et al., 2007) the application of new teaching methods, especially those that use the inquiry-based approach.

IBSE

The basic principle of Inquiry-based Science Education is the independent research by the students, the acquiring of knowledge, information and skills through solving problems. This method helps the students to independently form research and scientific problems and hypotheses and to suggest their solutions. It also supports the students in their attempts to gain information from professional texts, to process them and to connect them into a meaningful whole. The students exercise their teamwork skills and acquire the scientific methodology (i.e. collection and comparison of data, working with control samples etc.) and the ability to discuss the results and form the conclusions.

This way of teaching is a simulation of scientific procedure, from stating a hypothesis to its verification and evaluation. The teacher's role here is not to be a lecturer, but more like a coordinator and advisor for the students as he/she helps them to achieve the required goal. He/she guides the students so they would learn how to search for information, how to gauge whether it's relevant or not, how to pick out the information necessary for solving the problem and how use the information so acquired to solve it.

How, then, do the individual phases of the teaching look?

We start by motivating the students – with some problem, some mystery. It is useful to include a motivational experiment or video.

We start with a motivation - give a problem, a riddle. A motivation experiment or video may be useful.

During the lesson, the students follow the following steps:

I don't understand something, I'm interested in it, I'm solving a problem

I ask myself how I should understand this.

I try to find out whether there's someone else who'd understand it.

I state a hypothesis

I verify whether the hypothesis hold – I inquire and experiment

I confirm the hypothesis
I refute the hypothesis

Figure 1 shows the principle of the IBSE method (simplified).
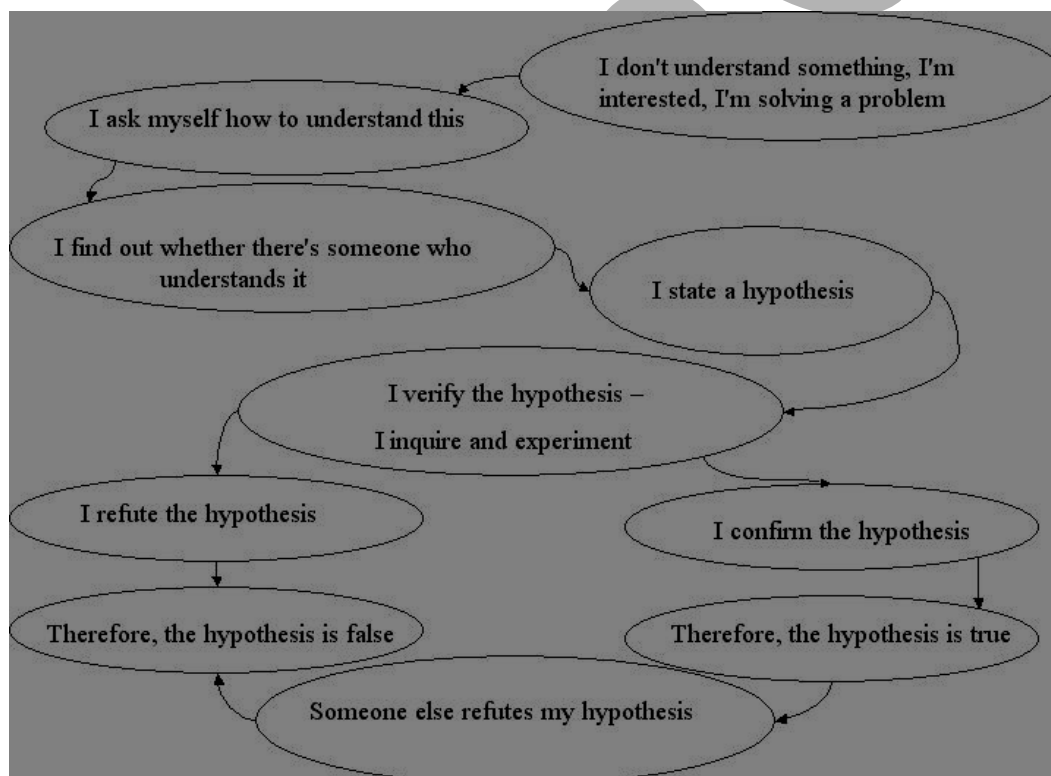
Figure 1: Circle of inquiry-based education

IMPLEMENTATION OF INQUIRY-BASED APPROACH IN CHEMISTRY TEACHING

If we want to research how does the use of IBSE influence the students' approach to chemistry and scientific subjects in general, we need sufficient amount of materials that would allow implementing the inquiry-based approach in the chemistry lessons. Table 1 shows some examples of themes and problems created for them.

Table 1: An overview of themes and problems from general and inorganic chemistry

Chemistry curriculum themes	Problem

Density of Substances	Floating Egg
Mixtures and Their Separation	Help Cinderella!
Oxygen and its Compounds	Liver and Oxygen
Carbon Dioxide and its Properties	Spewing Volcano
Calcium Carbonate and its Reaction with Acid	Indecent Egg
Active Charcoal and its Properties	Underwater Volcano
Speed of Chemical Reactions	Fast and Faster

Let's have a look at the theme "Carbon Dioxide and its Properties":

The "Carbon Dioxide" theme will be introduced by the experiment "Spewing Volcano". We shall use baking soda, vinegar, detergent and food coloring for this experiment. In the following experiment, the students are asked to suggest how to prove the presence of carbon dioxide and verify its properties. There are many properties of carbon dioxide they can verify experimentally – that it forms acids, how dense it is, that it's a gas, that it doesn't support combustion, etc. The chemicals students use are vinegar and sodium bicarbonate, so this experiment as well uses student-safe chemicals.

The lesson starts by the teacher asking the students: "What do you know about the carbon dioxide?" The students write whatever they come up with. They usually mention the following knowledge about carbon dioxide: it's a gas, people breathe it out, it's formed during combustion, it plays a part in photosynthesis, it doesn't support burning, it forms acids, it's heavier than air, it's colorless, etc. Following this, each group of students – after discussing this with the teacher – chooses one of these characteristics, as long as it can be verified in the conditions of the school lab. When the students select a characteristics of carbon dioxide to be verified, they also get hints from the tools the teacher puts in front of them. This could be for example a candle or a wooden skewer, which could lead the students to an experiment to verify that carbon dioxide does not support burning.
The students have to suggest an experimental procedure to verify this particular property or characteristic of the gas, based on the tools they get. The results of the student experiments are recorded on a sheet. The conclusions on the student sheets show that the most appreciated part is the ability to work in a completely unconstrained way, to use their existing chemistry knowledge and to suggest their own experiments. There are some problems with deriving general conclusions and dividing the work among the group, but the students improve with time.

We'll give a short description of other problems as well.

In the first problem, "Floating Egg", the students put an egg in two solutions which don't seem to differ in any way. In one solution (water), the egg sinks, in the other (saturated salt solution), it floats. Afterwards, the students solve several problems on the worksheet which should bring them to the basic hypothesis: that the solution densities are the key to the solution. Afterwards, they will suggest an experiment that would prove their conjecture right. The problem can be made more attractive through the use of food coloring.

"Help Cinderella!" is a problem which concerns itself with methods of separating mixtures. The students are given a mixture of salt and pepper and their goal is to separate these components. The advantage of this problem is that the students are absolutely free to suggest various experiments. If they don't succeed at first, they will evaluate their results and determine how to improve the procedure for next time. The problem can be expanded by adding oil as an additional mixture component.

The preparation of oxygen using liver has a very interesting motivational part. It makes use of the catalytic dissociation of hydrogen peroxide, but instead of using the usual manganese heptoxide as a catalyst, it uses the enzyme catalase that is present in blood and liver. The liver is mixed with some water, and hydrogen peroxide is added. The reaction is extremely rapid, creating foam of precipitated proteins. After the foam is removed, we can prove that oxygen was produced by igniting a smoldering wooden skewer. The students are supposed to suggest which substances are produced and perform an experiment that would verify their hypothesis. During the experiment, the students will discover the importance of the enzyme catalase as a catalyst. As we know, the spontaneous dissociation of hydrogen peroxide takes more time and wouldn't achieve concentration of oxygen necessary for the skewer to ignite. In the end, the students repeat the experiment using manganese heptoxide as a practical verification of the fact that various substances may be used as catalysts, without affecting the resulting products.

The problem "Indecent Egg" is based on the fact that carbonates react with acids. After the egg is pickled in vinegar, its solid carbonate shell dissolves, so the egg is now protected only by the elastic membranes. During the pre-lab preparation, the students will get acquainted with components of the egg shell and with the reactions

of carbonates. The subject of their experiment should be the "dissolving" of the eggshell and possibly the proof of the gas produced by the reaction.

The "Underwater Volcano" is a motivational experiment based on different miscibility of cold and hot water. Hot water with food coloring is prepared in an Erlenmeyer flask, which is suspended on a string into a larger vessel filled with cold water. The students' goal is to get clean water through filtrating the mixture of colored water and active charcoal.

The problem "Fast and Faster" concerns itself with the course and speed of chemical reactions. The students gather information while working with the text and, in cooperation with the teacher, discuss various factors that can affect the speed of chemical reactions. Such factors are, for example, the temperature of the reaction mixture, reactant concentration, or the surface of the reacting substances. The students will select a factor they are going to verify and suggest an experiment to support their hypothesis. The students use zinc and hydrochloric acid during this activity.

With the standard approach, the students are more passive: the teacher gives them precise procedure for the experiment and they complete it, step by step. IBSE forces the student to have much more active approach to finding the answers. This type of teaching is more demanding for the students and not all of them are able to deal with it from the beginning, but they will interactively absorb the knowledge and connect it to other sensations. This will improve the memorization of facts. However, at the same time this approach leads not to memorization learning but to understanding of problems. The students' own experiences with experiment and practical presentation of a specific characteristic teaches the students to connect the acquired facts and move from understanding the individual steps to understanding the whole.

EVALUATION

We use the self-contained evaluation material *Diagnostické nástroje na podporu výskumne ladenej koncepcie v prírodovednom vzdelávaní* (Bergman, 2013) which supports the effective implementation of research-oriented approach to the education in scientific disciplines. Bergman prepared, among other things, evaluation sheets which track the teacher's role, the students' activities and their records, and simultaneously enable him to determine how much do the lessons correspond to the IBSE requirements. The various sheets are focused on the role of the teacher or they evaluate the students' activities and records.

Table 2 shows a part of the evaluation sheet "Student Activities"

Item	Explanation and examples	Evaluation		
Did the students see solving of the research question as their own, even though you might introduce the question to them?	The students consider the question their own if they are able to explain what they want to do or find out in their own words.	Yes	No	Inapplicable
Were the students' assumptions based on their previous experiences?	The students were able to explain their assumption, even when it was imprecise or incorrect, thus showing that it wasn't a mere guess.	Yes	No	Inapplicable
Did the students participate in the planning of the research?	The students themselves suggested how to resolve the problem and how to answer the question, although they sometimes needed help to resolve the details.	Yes	No	Inapplicable
Do the students suggest correct research procedures that include variable control?	The students suggest, during their research activity, which variables need to be manipulated and which should be kept unchanged.	Yes	No	Inapplicable
Did the students realise the research on their own?	The students gathered data on their own (through direct observation of the objects, measurement or from secondary sources) and used them during arguments – they were not merely watching other students gathering data.	Yes	No	Inapplicable

CONCLUSIONS

In my research work, I observe the influence of IBSE on students and its effect on their knowledge and their ability to understand the principles of chemical processes. At the same time, however, I'm trying to verify that the application of IBSE is able to motivate the students to study chemistry and have positive effect on their

perception of the subject. I.e.: will this arouse interest in science and phenomena encountered in their everyday life? Use of simple experiments will also support the students' ability to work metodologically when solving problems, their critical and logical thinking will be developed, and they will also get into habit of verifying information and its sources.

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THE IMMERSION PROGRAM:A CASE STUDY OF INTERNATIONALIZATION PRACTICE AT SICHUAN UNIVERISTY

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ABSTRACT

To build itself into a world class university, Sichuan University (SCU) has gone all out to promote internationalization on campus. Its effort has been positively rewarded by the increased number of international teachers, more exchange among students, more joint research programs and better understanding of different cultures. The University Immersion Program (UIP) is a good example of facilitating internationalization on campus.

The Immersion Program, starting from 2012, is an annual summer program that lasts two to three weeks. The University invested about $1 million each year to invite about 150 professors and 500 students from all over the world. Each professor teaches one or two courses for students on campus. At the same time, the invited international students will also join SCU students to complete some on-site practice projects involving trans-culture studies, lab research or socio-economic investigation. Up until now, over 60, 000 students have benefited from the UIP program.

This essay focuses on the case study on the international practice of SCU. UIP has been an influential event in SCU and proved efficient and effective in promoting internationalization on the campus. Through analyse the results of the questionnaires from the 140 foreign teachers and randomly selected 1,000 Chinese students covered all the disciplines of SCU as research subjects at 2014. we attempted to explore the outcomes results of the Immersion Program and its influencing factors. we hope these findings will contribute to the 4th Immersion Program at SCU.

Key words: Internationalization of higher education; Sichuan University (SCU);The immersion program;

INTRODUCTION

Internationalization of higher education has become prominent worldwide. Sichuan University (SCU) is a first-class comprehensive research-oriented university in Western China. SCU targets cultivating students into social elites with profound cultural knowledge, solid specialized foundation, strong sense of innovation, and broad global vision"(The Twelfth Five-Year Guideline of SCU). To achieve this goal, the he University Immersion Program (UIP) was launched, which served as a prime example in promoting internationalization on campus.

Starting in 2012,the UIP was develop from 45 invited foreign professors,54 English courses increased almost three times at 2014 to 140 foreign teachers,183 English courses. The UIP has aroused highly attention from the faculties, students, and the society. The program of 2014, in particular, the Academic Affair Office cooperated with the International Office and colleges singled out 183 professional and general courses taught in English

ranging from politics, economy, culture, history, philosophy to a wide variety of professional courses. All the courses were held at Sichuan University campus, and the students could receive official transcript and earn academic credits from Sichuan University upon the completion of the program. Since the scale of the UIP has increased rapidly during the past three years, the UIP of 2014 was the biggest massive mobility of faculties program in current Chinese Universities. The benefit of the UIP should be discussed seriously and scientifically. The 2014 University Immersion program offered two types of courses: professional courses and general courses. The professional courses brought to the students the latest research in the field; and the general courses were mainly taught by the invited experts in different disciplines on hot global issues.

THE DEFINITIONS

There are multiple definitions of internationalization which manifest the variety of approaches and changes towards the internationalization. In this study, internationalization is defined as the "process of integrating an international and intercultural dimension into the teaching (learning), research and service functions of the institution (Knight, 2004). The complex definition of internationalization suggests that many elements are present in the internationalization process that can either hinder or promote internationalization. Knight (1994) described the curriculum as "the backbone of the internationalization process" (Knight, 1994, p6). The internationalized curriculum can provide a student-centered learning experience for all students and prepare students to be successful in today's increasingly interdependent global society.

International curriculum is a strategy which will assist learners to become more aware of their own and others cultures. Because only a limited number of students can enjoy the opportunity of studying overseas or benefit from the university's exchange programs during their university life, it is the responsibility of the university to broaden students' horizons and improve their understanding of the connection between local and the global issues. This could be done by internationalizing the curriculum and promoting interdisciplinary study to provide international perspectives. To serve this purpose, the annual UIP has been developed to arouse the internationalization awareness among students and faculties of SCU.

THE STUDY
Methodology

Students are the main part of the UIP, In order to understand how students and teachers evaluated their learning and teaching experiences in the UIP and assess students' overall satisfaction level, we conducted a study based upon an opinion survey in SCU. During the 3th UIP at 2014, We distributed 1,090 questionnaires among the students, and 947 valid questionnaires were returned, with a response rate of 87%. We distributed 139 questionnaires among the foreign teachers, and 124 valid questionnaires were returned, with a response rate of 89%. In addition to questionnaires, we also conducted interview with some participants of the UIP to learn more details about their experiences with regard to managing the UIP.

Findings
General satisfaction towards UIP's arrangement

The interviewer's opinion and questionnaire data showed that the students held positive attitudes toward internationalization on the whole. When asked how they evaluated the course arrangement of the UIP, more than half of the students (54.7%) considered the arrangement of UIP was relatively appropriate and the curriculum could meet their needs for study and interests. Only about 3% of the students were not satisfied with the arrangements. This was probably because they chose the inappropriate professional course that not suitable for them. The majority feedback showed the UIP promoted cultural awareness, improved open mindedness, and capacity of critical thinking.

The evaluation of teaching method and content

With regard to teaching methods and teaching strategies, we found that multi-disciplinary and group coorperation were the main feature of the teaching especially the general courses. That encouraged students to learn with multiple perspectives—not only from the point of few of the discipline itself, but from a cross cultural point of view as well. The general courses encouraged collaboration among students of different disciplines and students from other countries with an international focus. Such collaboration built capacity of critical thinking that shaped learning, making assumptions and options of gaining knowledge. Many students found the teaching method is suitable for them, but there also has some students find they can't adapt to the method of foreign professors due to the lack of their language ability.

With regard to the compilation of teaching contents, we found that the students were generally satisfied with the teaching contents adopted by the invited professors. Nevertheless, students whose English was not sufficient suggested the presence of a professional Chinese teachers to translate and explain the course if it was taught in English.

Table 1   Satisfaction level of students towards the University Immersion Program 2014 in Sichuan University (n=947)

	Very Satisfied	Satisfied	Neutral	Unsatisfied	Very Unsatisfied	Total	Missing	Total
Teaching Attitude	545	323	26	2	0	896	51	947
	60.80%	36%	2.90%	0.20%	0	100%		
Teaching Method	375	466	52	2	0	895	52	947
	41.90%	52.10%	5.80%	0.20%	0	100%		
Teaching Content	88	384	276	132	16	896	51	947
	9.80%	42.90%	30.80%	14.70%	1.80%	100%		
General Satisfaction	161	490	217	21	7	896	51	947
	18%	54.70%	24.20%	2.30%	0.80%	100		

As we can see from the table1,the percentage of the general satisfaction of the 3th UIP is more than 70% of all the participants. Teaching attitude, teaching method, teaching content are closely related to the satisfaction of UIP. Except these three elements ,there are some other support factors contribute to the success of the UIP.

Powerful support from the president for promoting internationalization

The leadership from the top is an essential factor in making internationalization sustainable (Green and Olson,2003; Knight,2004).The current leader of SCU has made explicit commitment to internationalization which is crucial to advancing the UIP. In particular, the president of SCU once promised that "every student of Sichuan University would have, at least, one opportunity of international exposure". The implementation of the UIP has demonstrated that university internationalization can be effectively advanced when an international strategy is established on campus and its program is run under the leadership of the university president. This will keep the internationalization efforts sustainable and allow for incremental modifications in terms of values, beliefs, practices, and secure financial assistance where needed.

Financial guarantees for internationalization

The SCU invested about $1 million each year to invite 150 professors and 500 students from all over the world

to participate in the UIP. Each professor teaches one or two courses on campus, will be compensated financially for their two-week stay in SCU. To support the development of the UIP ,it need a stable funding base to ensure the continuous, organic operation. SCU set up dedicated budget and policy document to ensure the finance support from the university. The Colleges in SCU are also committed to the UIP by holding a diversity of activities or lectures with an international flavor. In this sense, the whole university is involved at the individual, college and university levels.

DISCUSSIONS

The impact of the UIP is very broad and deep. Except the benefits for students, the UIP also influenced the other aspects of SCU. The primary purpose of this survey was through gathering comments and suggestions from a sufficient number of students and professors to analysis and understand UIP's effectiveness. During the interview with faculties, we got more information than we expected

Strengthening internationalization of faculty in SCU

According to the research, faculties and students demonstrated a positive view towards UIP as a means to educating global citizens. In contrast to the limited international exchange programs aboard, the UIP of SCU expands opportunities for faculties and researchers to learn and communicate with foreign professors without going aboard. The domestic faculties in SCU will also be influenced on the teaching and learning activities in much more profound ways through take part in the UIP. The UIP can certainly be one of the most significant instruments for developing a more internationalized faculty and students as well as promoting an internationalized campus ethos. The 4th UIP at 2015 will make more endeavors to encourage involvement of SCU faculty in the internationalization of curriculum.

Attracting more foreigners and international cooperation

The ratio of foreign faculty members and the international students are important indicators for evaluating the development of the internationalization of university. The UIP is an excellent chance for the foreign professors and students to know more about SCU and it also helps future policy-making by evaluating the university's international status. Nearly half of the professors(48%) thought that the UIP was organized well and the atmosphere, the accommodation etc. met their needs. Moreover, 38.5% of them would like to be full-time teachers in SCU. All the professors and teachers are the potential candidates for the future talents acquisition program.

At the same time the UIP is one of the best opportunities to share information of this good practice, thus promoting the profound influence of SCU in the world. It contributes to fostering friendship and to enhancing the cooperation among the educators and students and building up the confidence of further cooperation.

Comprehensive international strategies have been devised at the university level, and an effective system needs to be established at the college level to evaluate faculty involvement in international program administration. Therefore, it is necessary for the faculty to share their understanding of the goals and objectives of the internationalization programs. The policy-makers should make adjustment based on current practice.

Changes in these two areas will certainly further SCU's internationalization efforts and position in the Internationalization. It is desired that these suggestions will serve as a starting-point for conversations among the different stakeholders within the university.

CONCLUSIONS

The UIP is an ongoing, multifaceted process that requires the collaboration and support of faculty members, students, departments of the university. One of the greatest challenges is bringing together large numbers of

faculty from diverse disciplines to collaborate towards the same goal. The UIP that started in 2012 is still in the initial stage and needs continuous improvement and development.

Given that the Office of International Affairs has taken on the main task of UIP's organization, it seems effective and efficient to emphasize the role of colleges. The colleges have the potential to become the core for internationalization through targeted measures to accelerate the internationalization of each discipline. Furthermore, the colleges involved are responsible for monitoring of the internationalization process and making sure the internationalization efforts are sustained. The summer of 2015, which marks the 4th Immersion Program at SCU, will achieve better outcomes.

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THE IMPACT OF E-LEARNING ON ENHANCING THE SKILLS OF INFERENCE AND INTERPRETATION OF SECONDARY SCHOOL STUDENTS

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This study aimed at identify E-learning and its impact on enhancing the skills of inference and interpretation of secondary school students in ksa . To achieve this goal, a computer-based unit is prepared by using some E-learning tools. A critical thinking test is applied to evaluate Two critical thinking skills: Inference and Interpretation. this test was applied to a sample of students who were classified into two groups: experimental and controlling. The study results in finding out some statistical differences (0.05) in favour of the experimental group in both critical thinking skills before and after the treatment. The results of applying the test to both groups (controlling and experimental) indicate that the electronic unit supported by E-learning has assisted students practice various activities that develop their ability for Inference and Interpretation.

التعليم الإلكتروني وأثره في تنمية مهارات الاستنتاج والتفسير للطلاب
المحركة الثانوية على التعرف على التعليم الإلكتروني وأثره على تنمية مهارات الاستنتاج والتفسير لدى عينة من الدراسة التي تشمل بالطلاب المرحلة الثانوية في استخدام بعض مهارات الاستنتاج والتفسير باستخدام وحدة إلكترونية تجريبية ، ولتحقيق هذا الهدف ، تم إعداد وحدة إلكترونية تجريبية المملكة العربية السعودية. وتم تطبيق الناقد التفكير أدوات من أدوات التعليم الإلكتروني ، وتم اختبار التفكير الناقد على عينة من الدراسة لقياس مدى تنمية مهارتين من مهارات التفكير الناقد وهما الاستنتاج والتفسير. وتم تطبيق اختبار التفكير الناقد تطبيقا قبليا وبعديا على عينة الدراسة، حيث تم تقسيمها إلى مجموعتين (تجريبية وضابطة) . ونتج عن الدراسة وجود فروق ذات دلالة إحصائية عند مستوى دلالة (0.05) لصالح المجموعة التجريبية، في مهارتي التفكير الناقد قبل وبعده. وقد أشارت نتائج تطبيق الاختبار على المجموعتين (التجريبية والضابطة) أن الوحدة الإلكترونية المعدة باستخدام وسائل التعليم الإلكتروني يتضمن: قيام الطلاب بأنشطة مختلفة تنمي قدراتهم على الاستنتاج والتفسير.

Keywords: E-Learning, Critical Thinking, Inference ,Interpretation

THE IMPORTANCE OF CREATING A STUDENT-CENTERED CLASSROOM ATMOSPHERE

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ABSTRACT

This paper reports on a study which investigated *how to create a student-centered classroom and how it influences student to student interaction in L2 (second language) classes.* During the history of English Language Teaching and Learning according to the needs of using the language in a daily life or specific needs such as exams; different kinds of methods has been used so far. Grammar Translation, Audio-lingual, Communicative Language Teaching, Total Physical Response, Silent Way, Community Language Learning, Natural Approach, Suggestopedia, Coopertive Language Learning, Task-based Learning, Content-based learning... e.c. Some of these methods are mainly teacher-centered. For instance, Grammar Translation Method which was started to use in the Middle Ages by church for teaching the language via translating the bible. This method discourages the creativity and speaking skills of the students. Nowadays this kind of methods aren't preferred. On the contrary, student-centered classroom atmosphere is tried to be created to increase student to student interaction. So, teachers' roles are changed. The result of the questionnaires which are applied to the English Preparatory School students and teachers shows that learning in a student-centred classroom atmosphere is one of the main effective factors for being successful at second language learning.

INTRODUCTION

Speaking is one of the most essential skill for using the language effectively. But also it is one of the hardest skills for lots of students. 'As anyone who has tried to communicate in an L2 knows, learners frequently experience problems in saying what they want to say because of their inadequate knowledge. In order to overcome these problems they resort to various kinds of communication strategies. For example, they may avoid problematic items such as the verb 'make' (which, … is exceptional in taking a base form of the verb, as its complement), by substituting an item like 'ask' (which is regular in that it takes to+infinitive and is therefore easier to use correctly). If learners do not know a word in the target language, they may 'borrow' a word from their L1 or use another target language word that is approximate in meaning (for example, 'worm' for 'silkworm'), or try to paraphrase the meaning of the word, or even construct an entirely new word (for example, 'picture place' for 'art gallery' (Ellis, 1997, p.60).

This subject is chosen because after the twelve years of experience in English Language Teaching, it is witnessed that especially Turkish students can not speak and use the language appropriately. During the Erasmus Staff Mobility in Lithuania the same situation is recognized among Turkish students in Vilnius Educational Science University. Even if Turkish students are quite good at grammar rules, they can not express their feelings in English. So, there should be a reason or reasons for this speaking problem. It is inevitably true that teachers teach the foreign language how they learn. For these reasons to understand the teachers' and students' point of views, it has been prepared two questionnaires which have parallel questions. One of the questionnaire is for the students and the other one is for the teachers. Today teaching has changed from lecturer-student to student to teacher and student to student interaction. Now teacher is a facilitator, monitor and a link in the chain in a team work. The role of the teacher is that of facilitator and guide, not an all-knowing bestower of knowledge. Students are therefore encouraged to construct meaning through genuine linguistic interaction with others. (Brown, 2001, p. 43)

After the comparison of teachers and students' answers and correlation of each questions show the inner side of the iceberg which are the real beliefs of the teachers and students in a classroom atmosphere. Nowadays, communicative teaching approach is one of the most popular method all over the world. 'From the mid-seventies the key concept that has epitomized the practical, theoretical, and research preoccupations in educational linguistics and language pedagogy is that of communication or communicative competence. The term 'communicative competence', first used by Hymes in deliberate contrast to Chomsky's 'linguistic competence', reflects the social view of language which has found increasing acceptance since the middle of the sixties.' (Stern, 1983, p.111) This method is based on improving communicative competence. One of the major factors of communicative language teaching is creating a student-centered classroom atmosphere. In order to encourage the students to use the speaking skills, teachers should limit teacher talking time (TTT) and increase student talking time (STT). This gives an opportunity to students to practice the language more. 'Active learning is anything course-related that all students in a class session are called upon to do other than simply watching, listening and

taking notes.' (Felder & Brent, 2009, p. 2). Another way of creating a student-centered classroom atmosphere is eliciting the answers from students. Otherwise teachers may spoon-feed the students unconsciously. The importance of creating a student-centered classroom atmosphere has been recognized as the key point for communicative success. When the students feel the joy of learning and be the captain of their learning process, they also start to learn and question outside the classroom. So, never ending process, life-long learning starts. 'Student-centered learning environments evolved as a result of shifting beliefs and assumptions about the role of the individual in learning.' (Hannafin&Land, 1997, p.170).

THE STUDY

This study aims to find out the importance of creating a student-centered classroom atmosphere and the ways of creating it. In order to identify students' and teachers' beliefs on creating a student-centered classroom atmosphere, two different questionnaires were designed and used. The study was carried out with 80 participants. 40 Istanbul Aydin University Preparatory School students which were randomly chosen and 40 colleagues who are teaching at Istanbul Aydin University Preparatory School. 40 students answered the student questionnaire and 40 teachers answered questionnaire for the teacher. The obtained data was analyzed by utilizing quantitative analysis to investigate whether there is a relationship between students' and teachers' thoughts. This study also aims to investigate the following research questions:

1. How can a teacher create a student-centered classroom atmosphere?
2. Is there a significant difference between students' and teachers' beliefs?
3. Why is it important to create a student-centered classroom atmosphere?

FINDINGS

In this study, according to quantitative data collection and analysis, in some points some significant differences recognized between students' and teachers' point of view about the classroom atmosphere. Percentages were taken for every item and interpretations are written under the every question.

Table 1. Correlation of Students' and Teachers' Questionnaires (Questions 1 to 7)
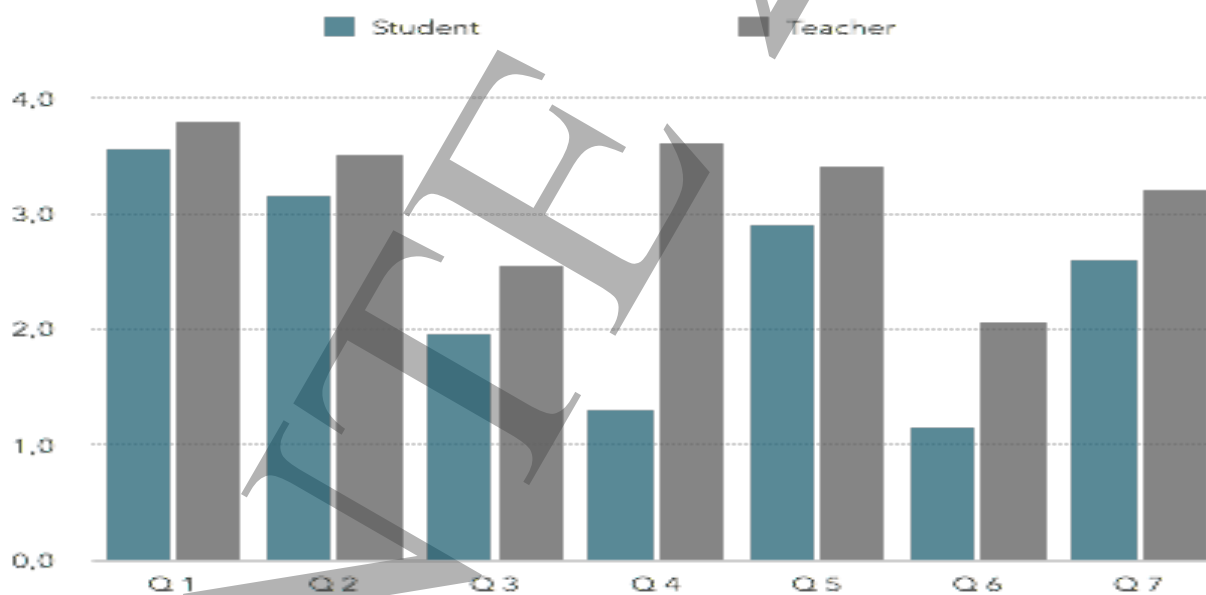
Question 1- Sts Questionnaire: I can learn better when I join the lesson actively. / T Questionnaire: Students learn better when they join the lesson actively. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. They both agree that sts should join the lesson actively.

Question 2- Sts Questionnaire: When I make a project with my classmates, I feel that I can learn new things. / T Questionnaire: When students make a project with their classmates, they can learn new things from each other. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. They both agree that team work and participation is important.

Question 3- Sts Questionnaire: I prefer peer correction instead of teacher's correction because I feel more

comfortable. / T Questionnaire: Peer correction is better than teacher correction because the students feel more comfortable. →As it is shown on the graphic students aim to be corrected by the teachers rather than their peers. The students may feel that they are going to be humiliated by their classmates when they make a mistake. This increaces teacher talking time which is opposite to the learner-centered classroom atmosphere.

Question 4- Sts Questionnaire: I feel bored when the teacher talks too much during the lesson. / T Questionnaire: Students feel bored when the teacher talks too much during the lesson. →As it is shown on the graphic students aim to listen to the teacher instead of expressing themselves via speaking. There is a significant difference between students and teachers thoughts about this question.

Question 5- Sts Questionnaire: When we create dialogues with role-plays I enjoy and use my English effectively. / T Questionnaire: When the students create dialogues with role-plays they enjoy and use their English more effectively. →As it is shown on the graphic there is no significant difference.

Question 6- Sts Questionnaire: I do not understand anything when the teacher writes the grammar rules directly on the board. Ex: Present Continuous Tense: am/is/are +Ving / T Questionnaire: Students do not understand anything when the teacher writes the grammar rules directly on the board. Ex: **Present Continuous Tense: am/is/are +Ving**→ As it is shown on the graphic Turkish students aim to see the grammar rules instead of trying to learn it indirectly by using it orally.

Question 7- Sts Questionnaire: I should speak more than the teacher during the leson to improve my language./ T Questionnaire: Students should speak more than the teacher during the lesson to improve their language.→ As it is shown on the graphic Turkish students do not want to speak more than their teacher during the lesson which decreases the student talking time.

Table 2. Correlation of Students' and Teachers' Questionnaires (Questions 8 to 17)
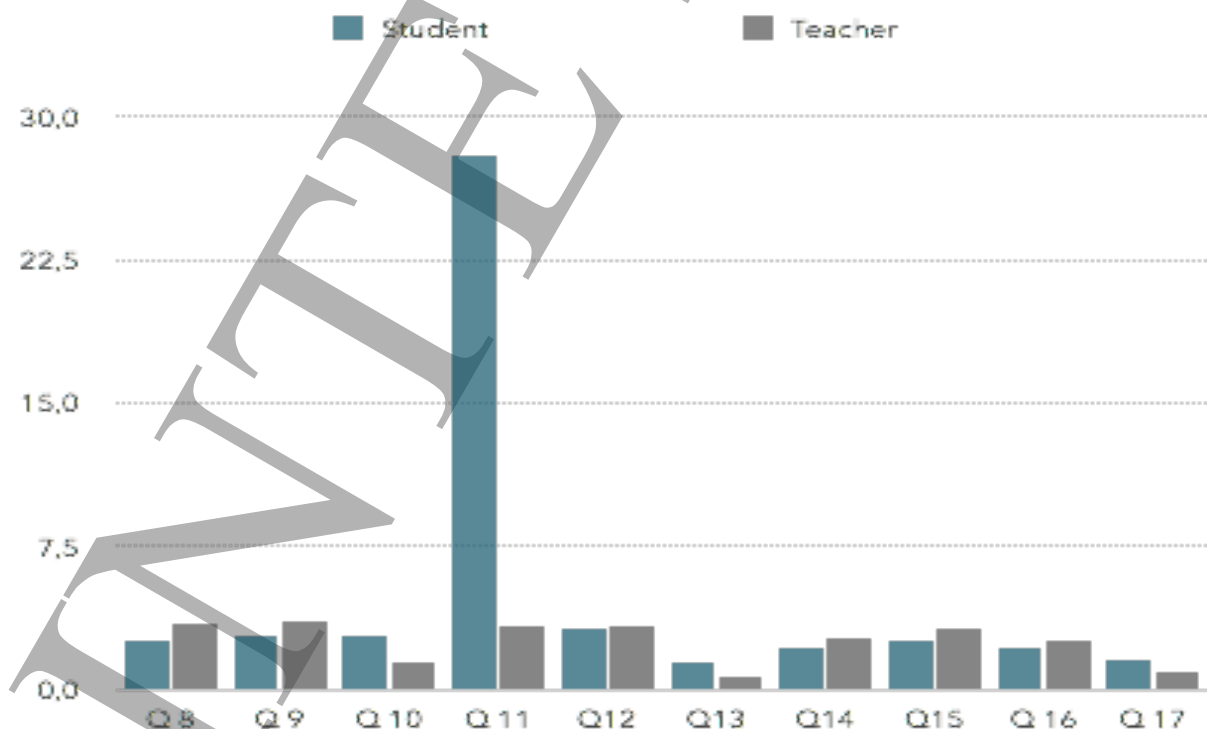
Question 8- Sts Questionnaire: I feel unprepared when the teacher starts the lesson directly. It is better to do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game./ T Questionnaire: Students feel unprepared when the teacher starts the lesson directly. It is better to do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game. →As it is shown on the graphic there is no significant difference between students' and teachers' answers.

Even if lead-in activities can be used as an ice-breaker, neither the students nor the teachers are not interested in lead-in activities.

Question 9- Sts Questionnaire: Before we start an exercise teacher should give clear instructions and should monitor us instead of involving directly. / T Questionnaire: Before an exercise teacher should give clear instructions and should monitor the students' participation instead of involving directly. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. In a student-centered classroom atmosphere and communicative language teaching teacher should be a facilitator during the lesson. But according to the data from the analyse nobody wants to see the teacher as a monitor. Both students and teachers want to see the teacher as a lecturer in the class.

Question 10- Sts Questionnaire: Teacher should give the Turkish meaning(s) of new vocabulary. / T Questionnaire: Teacher should give the Turkish meaning(s) of the new vocabulary. →As it is shown on the graphic students do not aim to learn the Turkish meanings of the vocabulary more. Instead of giving the Turkish meaning of a word which is a kind of Grammar Translation Method, teacher should use synonyms, antonyms, flashcards…e.c to elicit the meanig of a word from the students.

Question 11- Sts Questionnaire: I can remember my prior knowledge when the teacher elicits answers from us. / T Questionnaire: Teachers should elicit the answers from students to encourage them to use their prior knowledge. →As it is shown on the graphic there is a significant difference between students' and teachers' answers about eliciting. In fact, eliciting the answers from students is one of the key points of creating a learner-centered classroom enviroment. It is a kind of brainstorming for students which forces them to use the language and their prior knowledge. The reason why teachers are well-prepared before the lesson and want to share their knowledge with their students; the lesson may change into answering all the questions by teachers and a kind of showing off like a performer on the stage. Weimer have referred to this situation as 'Learner-centered teachers are guides, facilitators, and designers of learning experiences. They are no longer the main performer…'(Weimer, 2002, p.18)

Question 12- Sts Questionnaire: When my teacher encourages me to speak I feel more self-confidence. / T Questionnaire: When a teacher encourages the students to speak English, students feel more self-confident. →As it is shown on the graphic sts and teachers have both the same answers. Teachers' support, encourages students self-confidence.

Question 13- Sts Questionnaire: Without speaking and just listening to the teacher I can learn more. / T Questionnaire: Without speaking and just listening to the teacher, students can learn more. → As it is shown on the graphic neither the students nor the teachers do not accept this point of view.

Question 14- Sts Questionnaire: When the teacher points me and asks question(s) directly I may feel nervous. T Questionnaire: When the teacher points at the student and asks question(s) directly, the student may feel nervous .→ As it is shown on the graphic students does not feel nervous about this situation.

Question 15- Sts Questionnaire: When I interact and ask questions to my classmates, I feel more comfortable. / T Questionnaire: When students interact and ask questions to each other, they feel more comfortable. →As it is shown on the graphie Turkish students prefer teacher-student interaction instead of student-student interraction which causes less speaking between each other.

Question 16- Sts Questionnaire: I like doing presentation because this boots up my self-confidence and I see that I can use the language. / T Questionnaire: Students like doing presentations because this boots up their self-confidence and they see that they can use the language.→As it is shown on the graphic Turkish students do not prefer productive activities such as presentations. Students generally fear public speaking.

Question 17- Sts Questionnaire: Grammar is more important than speaking. T Questionnaire: Grammar is more important than speaking.→As it is shown on the graphic both the teachers and students are aware of the importance of the speaking competence.

CONCLUSIONS

The result of the study revealed that teachers and students have the same idea about some points such as joining the lesson actively, making a project with classmates provides learning new things, creating dialogues and role-plays...e.t.c. But there are some points that teachers and students totally disagree such as eliciting the answers from students, TTT (teacher talking time), writing the grammar rules directly on the board.

To create a student-centered classroom atmosphere, communicative language teaching method and materials should be used to raise students' participation and speaking. In communicative language teaching, communicative competence is the main goal. So, during the lesson task-based, text-based and especially authentic materials should be used. In a communicative exercise there should be a subject which allows students to speak more. Otherwise artificial lesson structures will not fit the real life situations. For instance:

Exercise 1 Question: Fill in the blanks with the correct usage of 'to be'.
          She _____ (am/is/are) an accountant.
This is a quite mechanical, based on grammar structure repetition and not a real life exercise.

Exercise 2 Question: Fill in the dialogue with the appropriate word.
Jurgita: I have a toothache.
Zeynep: You should see a _____ immediately.
This exercise might have been seen more logical but it is not quite communicative.

Exercise 3 Question: Ask your classmate about three things he/she takes into consideration when buying a new clothes. This exercise can be considered as an example of an authentic material and a real life situation.

'The aim of a communicative activity in class is to get learners to use the language they are to interact in a realistic and meaningful ways, usually involving exchanges of information or opinion. (Scrivener, 1994, p. 152)

Not only exercises during the lesson but also assignments should be creative. Projects can be given to encourage students to brainstorm and have team work activities. At the end of the assignment students can use their speaking ability while presenting their work.

SUGGESTIONS FOR FURTHER RESEARCH

To sum up, on the basis of the data, not only students but also teachers should consider and renew their teaching and learning beliefs. To solve the Turkish students speaking problem, English teachers can be educated in a communicative way during their university education. The present study was carried out with a limited number of participants with a quantitative data collection. In the further studies, more participants from different universities can be involved and not only quantitative but also qualitative data can be used to analyse the subject in more detail.

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Appendix A

The Student's Questionnaire

Overview

This questionnaire is prepared to analyse the students' learning needs and the effects of student-centered classroom atmosphere. Please fill in the information below about you and tick the most suitable answer for you.

Name-Surname:
Class:
Degree/Non degree:
Level:

0= Totally disagree	1=Disagree	2=Maybe	3=Agree	4=Absolutely agree

STATEMENTS	Totally Disagree	Disagree	Maybe	Agree	Absolutely Agree
	0	1	2	3	4
I can learn better when I join the lesson actively.					
When I make a project with my classmates, I feel that I can learn new things.					
I prefer peer correction instead of teacher's correction because I feel more comfortable.					
I feel bored when the teacher talks too much during the lesson.					
When we create dialogues with role-plays I enjoy and use my English effectively.					
I do not understand anything when the teacher writes the grammar rules directly on the board. Ex: **Present Continuous Tense: am/is/are +Ving**					
I should speak more than the teacher during the leson to improve my language.					
I feel unprepared when the teacher starts the lesson directly. It is better do do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game.					
Before we start an exercise teacher should give clear instructions and should monitor us instead of involving directly.					

Teacher should give the Turkish meaning(s) of new vocabulary.					
I can remember my prior knowledge when the teacher elicits answers from us.					
When my teacher encourages me to speak, I feel more self-confidence.					
Without speaking and just listening to the teacher I can learn more.					
When the teacher points me and asks question(s) directly I may feel nervous.					
When I interact and ask questions to my classmates, I feel more comfortable.					
I like doing presentation because this boots up my self-confidence and I see that I can use the language.					
Grammar is more important than speaking.					

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

The Teacher's Questionnaire

Overview

This questionnaire is prepared to analyse the teachers' thougts about student-centered classroom atmosphere. Please fill in the information below about you and tick the most suitable answer for you.

Name-Surname:

0= Totally disagree	1=Disagree	2=Maybe	3=Agree	4=Absolutely agree

STATEMENTS	Totally Disagree	Disagree	Maybe	Agree	Absolutely Agree
	0	1	2	3	4
Students learn better when they join the lesson actively.					
When students make a project with their classmates, they can learn new things from each other.					
Peer correction is better than teacher correction because the students feel more comfortable.					
Students feel bored when the teacher talks too much during the lesson.					
When the students create dialogues with role-plays they enjoy and use their English more effectively.					
Students do not understand anything when the teacher writes the grammar rules directly on the board. Ex: **Present Continuous Tense: am/is/are +Ving**					
Students should speak more than the teacher during the lesson to improve their language.					
Students feel unprepared when the teacher starts the lesson directly. It is better to do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game.					
Before an exercise teacher should give clear instructions and should monitor the students' participation instead of involving directly.					

Teacher should give the Turkish meaning(s) of the new vocabulary.					
Teachers should elicit the answers from students to encourage them to use their prior knowledge.					
When a teacher encourages the students to speak English, students feel more self-confident.					
Without speaking and just listening to the teacher, students can learn more.					
When the teacher points at the student and asks question(s) directly, the student may feel nervous.					
When students interact and ask questions to each other, they feel more comfortable.					
Students like doing presentations because this boots up their self-confidence and they see that they can use the language.					
Grammar is more important than speaking.					

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

THE IMPORTANCE OF ENVIRONMENTAL EDUCATION IN THE IMPLEMENTATION OF REVERSE LOGISTICS RETAIL

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ABSTRACT

The adoption of environmental practices is growing in the retail supermarket. Thus, demonstrate the environmental advantages and the importance of environmental education in the implementation of reverse logistics practices in the retail supermarket was the objective of this research. In order to achieve a field research with participatory observation was carried out for 6 months at a supermarket in the state of São Paulo/Brazil to follow environmental education incorporated into daily life and their results generated by each department. Using the method Wuppertal, was quantified the volume of waste which ceases to be generated in each department after implementation. By participant observation, a new routine was noted part of daily life and a new attitude that has generated benefits in the workplace and contributing to the sustainability of the business by reducing the disposal of influencers materials on global warming and the depletion of the ozone layer.

Keywords: Education, environmental

INTRODUCTION

Environmental preservation is a frequent theme in the current business scenario. The awareness of the companies towards the conservation of natural resources involves more than the possibility of branding and customer loyalty. Environmental sensitivity is present in several countries, and in Germany and the Netherlands, this perception on the part of the agents (companies and individuals) is quite high. In other countries such as the USA, the largest force linked to reverse logistics is associated with the potential value that can be recovered from the reuse of products, parts or recycled materials (Kokkinaki; Dekker; Koster & Pappis, 2001).

In this context, the retail began to take on new tasks, such as the commitment to reduce the waste generated, recycling and reuse of what was being generated with the purpose of increasing their responsibility to the final consumer (Braga Junior & Rizzo, 2010).

One of the ways was adopted the practice of reverse logistics which is recognized as the area of logistics business that plans, operates and controls the flow and logistic information corresponding to the return of after-sales and post-consumer goods to the production cycle through reverse distribution channels, adding value to them of different nature: economic, ecological, cool, logistics, corporate image, among others (Leite, 2002).

This care is due to the fact that the incorrect disposal of waste strongly reach the environment. Currently, supermarket retailers are paying more attention to the practice of reverse logistics, due to great public concern for the environment and also the influence of the establishment of laws, such as the National Solid Waste Policy (NSWP) Brazilian.

The use of reverse logistics allows the recycling of support resources used by retailers, ensuring the return of these materials to the production process and reducing the environmental impact. Thus, the problem of research that guides the present study may be expressed by the following question: How Reverse Logistics practices deployed by a supermarket of Alta Paulista region contributes to sustainability? In this sense the objective of the research was to analyze the reverse logistics practices carried out by a supermarket and quantify the volume of waste generated by department.

As a result, it was observed that the supermarket failed to produce 20 tons of biotic and abiotic materials per month (using the method Wuppertal), and these influencers materials on global warming and the depletion of the ozone layer.

Another result observed with the implementation of reverse logistics was that the grocery department is what most uses cardboard and plastic packaging and that the grocery and meat departments are increasingly using less plastic packaging and cardboard and increasing the use of returnable packaging and durable thus promoting sustainability.

REVERSE LOGISTIC

Among the environmentally correct actions, carried out between the companies in the retail supermarket, follow-up, are included the use of recyclable packaging, encouraging the practice of selective waste collection, the prevention of waste of natural resources such as water and electricity, among others (Parente & Gelman, 2006). In fact, the retail supermarket is increasing its accountability to the consumer and the environment. Companies that adopt the environmentally friendly practices are recognized by the consumer, thus creating a competitive advantage in the marketplace. Another result from actions for these factors, the retailers that operate in the supermarket area, is increased business profitability, thus generating economic benefits.Companies are the main users of natural resources and also the responsible for global economic development (Junior & Rizzo, 2010). With the changes over time, especially since the industrial revolution, organizations began to produce consumer items on a large scale, greatly increasing the amount and diversity of waste generated in urban areas (Motta, 2011). Thus, there was the need to create an alternative to process these waste.

The scarcity of raw materials and increasing public awareness regarding the preservation of the environment, along with the idea of being against waste, are some of the factors behind the development of reverse logistics (Rodrigues, 2002). International companies are adopting reverse logistics techniques and evaluating inventory organizational methods, so that the demand is met by manufactured materials, meeting the needs of consumers and effective way of contributing to the environment (Reyes & Meade, 2006).

According to Braga Junior, Merlo & Nagano (2009), in the supermarket retail reverse logistics can emerge as a new possibility of gain, and generate a great image for the company, assuming the role of environmentally friendly company. In addition, reverse logistics also assists in the performance of the organization, leading to recovery than was generated and would be discarded, helping to reduce the environmental and social impacts of waste generated by this sector also incorporating the social and economic aspects (Santos et al, 2014).

Braga Junior & Rizzo (2010) also explain the importance of reverse logistics in the supermarket sector, from the perspective of contributing to the reduction of social and environmental impacts, providing the opportunity to recycle paper, plastic, cardboard, pallets, and other products coming from suppliers to supermarkets, allowing the emergence of a secondary market that generates direct and indirect jobs.

According to Rossi and Cullen (2011), reverse logistics, when applied, can bring economic advantages due to the values of the products with original costs before the values of the returned products, and recycled products have a significantly lower value compared to the cost of the original item . In this respect, some German companies use reverse logistics model to maximize your profits, arising from the sale of materials that can be recycled, thus generating a financial return for the organization (Reyes & Meade, 2006).

According to Horvath, Autry & Wilcox (2005), the amount, timing and uncertainty of retailers in cash flows from operations affect the size and dynamics of its liquidity position. Since the returned products can represent a significant percentage of sales, even during periods of low peak return, the reverse logistics activities play an important role in the calculation of expected cash flows, both directly and indirectly.

Leite (2003) analyzes the reverse logistics in the supermarket sector is made up of four main elements: industry; retail; and the final consumer; the secondary market (represented by the recycling companies). These elements interact with each other making the purchase and sale transactions, where the retail purchase the finished products industry and resell it to the final consumer. The reverse flow is given from the consumer, who reviews the packaging for retail and it sells to the secondary market, which, in turn, sell the recycled material for the industry, thus restarting the cycle.

Over time, the Reverse Logistic concept has had some modifications. However one of the main settings is given by Rogers & Tibben-Lembke (1999) where the reverse logistics encompasses all logistical procedures of a company, but in the opposite direction, belonging to the two only the concepts of recycling and removal of waste and the administration of returns.
Authors such as Daher, Silva & Fonseca (2006); Rossi and Cullen (2011) cite the reverse logistics definition given by Tibben-Lembke (1999), as "the process of planning, implementing and controlling the efficient flow and cost of raw materials, work in process, product finished and information related from the point of consumption to the point of origin, relating the operations by reusing products and materials ", and this definition

is considered one of the most effective as regards the concept of reverse logistics. Being the most complete existing definition, you can find it in several studies with approaches under the theme.

According Horvath, Autry & Wilcox (2005) reverse logistics is not optional, but mandatory. Nevertheless, many companies still do not deploy due to difficulties or even disinterest (Daher, Silva & Fonseca, 2006).
For the implementation of reverse logistics is efficient and generate expected returns UPS Consulting (2004) states that in the first place, we must develop strong reverse logistics strategies, secondly, clearly outline the financial goals, corporate, marketing and others.

The main factors that lead organizations to act in reverse logistics, presented by a group of researchers in universities worldwide, known as RevLog, quoted by Daher, Silva & Fonseca (2006), are: 1) environmental laws; 2) economic benefits and obtained; 3) the growing environmental awareness of consumers. In addition to these, Rogers & Tibben-Lembke (1999) also point to other reasons, which are: 1) competitive reasons; 2) cleaning of the distribution channel; 3) profit margin of protection and; 4) recapture value and asset recovery.
Reverse logistics has been recognized as the area of logistics business that plans, operates and controls the flow and logistic information corresponding to the return of after-sales and post-consumer goods to the production cycle, through reverse distribution channels, adding Them value of various kinds: economic, ecological, cool, logistics, corporate image, among others (Leite, 2002).

The concept also gets a new feature, the also be part of a strategic planning that should be treated as an independent activity, turning their attention to their individual management (Daher, Silva & Fonseca, 2006). UPS Consulting (2004), also has reverse logistics as other business, with goals, objectives, IT resources, individual, and specific staff and responsible for the implementation and development of the business.

For some authors as: Hazen et. al. (2014), Rossi & Cullen (2011) reverse logistics is also recognized as a key issue in the context of management of the supply chain, leading to gaining a competitive advantage in the marketplace.

Internationally, Kokkinaki, Dekker, Koster & Pappis (2001), dealing with the reverse logistics as a factor that has become popular over the years due to environmental sensitivity, which is constantly growing and also to economic factors linked to it . These authors also address legal issues related to reverse logistics, strong, especially in some European countries such as Germany and the Netherlands. The laws present in these countries requires the manufacturer to develop a product reuse policy at the end of their life cycle. In the US, reverse logistics has its greatest strength linked to economic issues. The potential value that can be recovered from the reuse and recycling of products is significant (Kokkinaki; Dekker; Koster & Pappis, 2001).

Nationally and internationally, reverse logistics has been present for years in the concepts and business practices, updating itself as the conditions imposed by the macro and micro environment in which they operate.

RECYCLING AND SOLID WASTE REUSE
Most of the products used are thrown or incinerated, causing considerable damage to the environment. Currently, more stringent legislation and the growing support of actions in environmental education, are driving companies to think on their responsibility for their products after use (Rogers & Tibben-Lembke, 1999).

According to Motta (2011) the word recycling was introduced to the international vocabulary when it was found that the sources of oil and other non-renewable raw materials were (and are) running out. Still to this author, recycling it is a reverse channel revaluation, where members of materials post-consumer product discarded are extracted industrially, turning into secondary raw materials, ie not directly taken from nature, or recycled, and which are then incorporated into the manufacture of new products. Recycling is save energy, save natural resources, bringing back the productive cycle which was thrown out/discarded.

Gonçalves (2003) classifies three-step processes of the production chain of recycling: recovery, encompassing the residue separation processes at source, selective collection, pressing, baling; revaluation, comprising the processes of processing materials such as milling and extrusion and, finally, the processing; that is recycling itself, transforming the materials recovered and reclaimed in a new product.

For Mano, Pacheco & Bonelli (2005), the recycling constitutes in the disintegration products particles incorporated into the soil. The potential benefits of recycling include: a) "Reduction in the consumption of non-

renewable natural resources, when replaced by recycled waste; b) Reduction of energy consumption during the production process c) Reduction of pollution "(John, 2000) and d)" Reduction of areas required to landfill as waste is used again as consumer goods "(Pinto, 1999) .

The issue of recycling and reuse of products that would be discarded and the remains that arise over the activities of the retail supermarket, shall create a reverse flow (Braga Junior, Merlo & Nagano, 2009). The reverse flow of goods, which were not consumed, it becomes an important tool for the sustainability of organizations (Braga Junior & Rizzo, 2010).

Authors such as Gonçalves (2003) and Mano, Pacheco & Bonelli (2005) explain that reduce the generation of waste, reusing and recycling, is part of the clean production targets and cleaner production initially employed by the industry and today has been disseminated by various sectors for business. Meet the demands imposed by the National Solid Waste Policy - PNRS, Law No. 12,305 / 2010, it increased investment in technology is needed in education and knowledge management. According to Nonaka and Takeuchi (1997) cited Marchi (2011) is great the importance of generating beliefs, commitments, situations and appropriate interactions, so that the information is converted into knowledge, and can move enhancing behaviors and attitudes.

The PNRS sets standards requiring major market players to provide a suitable destination for solid waste, which is generated in the manufacturing and after consumption of various goods. Thus, one must have a means that enables the return of products and post-consumer packaging for the industry to adopt the processes and the most suitable procedures to recover the waste with the lowest environmental impact.

METHODOLOGICAL PROCEDURES

Whereas the objective of the research was to demonstrate the environmental benefits and the importance of environmental education in the implementation of reverse logistics in the retail supermarket, a study was conducted in the city of Tupã / SP - Brazil, using a supermarket to measure volumes and types of waste that are collected by means of reverse logistics.

To measure and achieve this purpose, the method of analysis of the environmental advantages developed by the Wuppertal Institute, allows the assessment of environmental changes associated with the extraction of resources from their natural ecosystems. Thus, to supply the material flow to a system, a greater amount of material previously processed in various environmental compartments. The compartments are classified as: abiotic, biotic, water and air (Ritthoff, Rohn & Liedtke, 2002).

For conversion of the volumes of data through the Wuppertal method, the table 1 is the means by which the results were obtained and exposed in the survey, where the monthly volume of solid waste generated in kilograms (kg) are multiplied by the corresponding value in the table by so the data for analysis.

Table 1. Conversion table.

	Abiotic Material	Biotic Material	Water	Air
Plastic (g/g) [a]	6,45		294,20	3,72
Paperboard (g/g)[b]	1,86	0,75	93,60	0,33

Source: Ritthoff, Rohn & Liedtke (2002)

The abiotic and biotic material which fields are left the organization of generating the environment in kg and the water and air fields, representing how much longer polluted the environment with the practice of Reverse Logistic (kg).

It is important to note that studies of intensity material developed at the Wuppertal Institute are based on the energy mix in Germany, Europe and World. But that fact does not preclude the implementation of this methodological tool in Brazil, according to the institute quantitative data are very close.

Based on the research problem and the overall goal, the theoretical review of the issues the survey was conducted. Continuing, a field research was done to learn about the process implemented by the research supermarket object and made the collected data from your reverse logistics process research was conducted over the period of six months was made through weekly monitoring and with the aid of a spreadsheet to record the data. With the collected data, they were analyzed qualitatively and quantitatively measuring the environmental benefits generated by the process.

The quantitative nature, measured the environmental advantage of the implementation of reverse logistics in the research object supermarket, allowing develop the case study. Qualitative research, characterized as an attempt to detailed understanding of the meanings and situational characteristics presented by the interviewees and the cases analyzed, (Yin, 2003), allowed the research observed with depth the deployment process of reverse logistics and the environmental education process that became part of the staff of the supermarket everyday.

ANALYSIS AND SEARCH RESULTS
The supermarket object of research covers an area of 1,300m² with 12 checkouts and records an average monthly flow 45,000-47,000 thousand people. The consumer audience focuses mainly on consumers of classes A and B. However, we also meet the needs of consumers of classes C and D, generating a doctor ticket of approximately R$ 53.00. Having a favorable layout for the purchase decision, is the only city that offers services and differentiated products, such as telephone shopping service and a wide range of imported products.

Through environmental education process and waste separation, reverse logistics was established less than a year and became part of the local management. With the beginning of the study, began the separation of waste generated, and a more focused management in this process, where waste such as plastic and cardboard are separated into bags and sector (grocery/replacement; cold cuts; butcher; and vegetable garden and fruit).
As previously stated, the retailer makes the separation of different waste bags of plastic and cardboard that is collected by the matrix of the network that is responsible for collecting these waste all branches to only after pressing and sell. This type of process can allow greater efficiency to the retailer therefore focuses volume and processing cost (Braga Junior, Merlo & Nagano, 2009).

Throughout the data collection, we could perceive the influence of seasonality on the waste generated, and in the months of November and December, there was a large increase, mainly in the replacement and crafts fair sector, due to the year-end shopping, where the use of general products is significantly higher.
With the implementation of reverse logistic within six months, it was noted that overall, the object of research failed to generate supermarket 56,829.00 kg abiotic material, in other words, it is not transformed into the environment over time, and 18,161.00 kg biotic materials (which can be transformed into the environment) as shown in Table 2.

Table 2. Overall amount of material generated by the research object supermarket.

	Abiotic Material	Biotic Material	Water	Air
Plastic (g/g)[a]	11,789.35		537,740.50	6,804.92
Paperboard (g/g)[b]	45,039.90	18,161.25	2,266,524.00	7,869.88
Total	56,829.25	18,161.25	2,804,264.50	14,674.80

Also in table 2 shows that the practice of reverse logistics the company no longer pollute 2,788,434.80 liters of water and 14474.49 kg of air, and this relation is the time of manufacture of the materials, quantity water and air are polluted to its making.
To observe more precisely the generation of plastic and cardboard of each sector in the supermarket, individual volumes will be presented. Table 3 you can check the amount of waste generated by the replacement sector. This sector accounts for all dry area encompassing the supermarket grocery departments, bakery, bazaar, textiles and electronics (Parente, 2000).
The replacement sector accounts for approximately 60% of production abiotic material, 58% of production biotic material, 60% by non-pollution of water and 62% by not polluting the air.
The sheer volume of material generated by this sector is due to large amount of consumed products, due to environmental awareness by industries, are being provided increasingly environmentally friendly packaging, cardboard and plastic.

Table 3. Amount of material generated by the replacement sector

	Abiotic Material	Biotic Material	Water	Air
Plastic (g/g)[a]	7,572.30		345,390.80	4,370.80
Paperboard (g/g)[b]	26,209.26	10,568.25	1,318,917.60	4,579.58
Total	33,781.56	10,568.25	1,664,308.40	8,950.38

The involvement of this sector do not stop there. Most employees involved in separation and loading the bags in the trucks are in this sector. This involvement by staff results in environmental education, since in practice, with the separation and loading of waste, learn the importance and necessity of proper management of these materials, which contribute to the preservation of the environment.

Table 4. Amount of material generated by the cold cuts sector

	Abiotic Material	Biotic Material	Water	Air
Plastic (g/g) [a]	1,935.00		88,260.00	1,116.90
Paperboard (g/g) [b]	4,603.50	1,856.25	231,660.00	804.38
Total	6,538.50	1,856.25	319,920.00	1,921.28

Among all sectors, the cold cuts sector is the least generate waste (Table 4). Once you arrive, the cartons are separated and discarded. The products are cooled only in the plastic packaging, or are arranged on the shelves chilled for consumption. All chilled products such as yoghurts and embedded, are provided in cardboard and plastic-coated packaging. The type of material is more resistant to the character of the product and often, the very light supplier packaging to be reused. This does not happen when the packaging is damaged and ends up in the retailer to be discarded. As there is direct involvement of employees to separate packaging, the issue of environmental education is also present in this sector, as well as in others.

Table 5. Amount of material generated by the sector Butcher

	Abiotic Material	Biotic Material	Water	Air
Plastic (g/g) [a]	1,612.50		73,550.00	930.75
Paperboard (g/g) [b]	7,354.44	2,965.50	370,094.40	1,285.05
Total	8,966.94	2,965.50	443,644.40	2,215.80

The butcher takes second place in the matter of amount of waste generated (Table 5). This is due to packaging of goods, not necessarily referring only to the consumption factor. The products come packaged in thicker cardboard boxes, and plastic-coated. Thus, due to the cold camera, which humidifies the package in the thaw, and the thickness of the container, the weight of the bags are superior when compared to other sectors, which are thinner and without moisture packaging.

The Farmer's Market (Table 6) is a sector that deals with grocery products in general, and due to seasonality of these products, there was some consumption peaks during the research. The increase in consumption was significant in December, which doubled due to end of year festivities.

Table 6. Amount of material generated by the sector of Farmer's Market

	Abiotic Material	Biotic Material	Water	Air
Plastic (g/g) [a]	683.70		31,185.20	394.64
Paperboard (g/g) [b]	6,872.70	2,771.25	345,852.00	1,200.88
Total	7,556.40	2,771.25	377,037.20	1,595.51

Another relevant fact is that the packaging of fruits and vegetables are being gradually replaced. What was wood, now come in plastic boxes and return to the suppliers to be reused. However, this type of supply still occurs with some of the products such as carrots, oranges, lettuce, cabbage, potatoes, bananas, onions and that

can be loaded in large quantities. The average weight per box is 25 kg. More sensitive products such as apple, pear and grape, are provided in smaller cartons, in small amounts, coated plastic.

With this sector analysis, you can identify the importance of each sector within the supermarket, measuring their contribution to the generation of waste that are reflected in the amount of material that fail to generate the environment.

CONCLUSIONS

Reverse logistics is an organizational practice of paramount importance to the environment, contributing to the preservation, failing to generate pollution to soil, water and air.

With the implementation and good management, the results are significantly positive, generating profit for the company, with the sale of materials, environmental awareness of everyone involved in the process and reducing the environmental impact generated by the disposal of materials in landfills.

Due to the high turnover products that occurs in the retail supermarket, the amount of solid waste generated is significant, therefore, adopt this practice is essential and influence the company's image as an environmentally friendly organization.

It was observed that in a short period examined (one half) the supermarket studied failed to generate significant amounts of waste into the environment. For each kg of plastic and recycled cardboard, allowed to generate environmental 2.18 kg of abiotic materials and 0.75 kg of biotic material, and allowed to pollute 107.68 kg of water and 0.56 kg air.

The management identified by industry and presented helps everyone are directly involved in the separation process thus become more aware about the importance of this practice and its impact on the environment, adopting new practices in day-to-day, which generates impact positive in their families and living circles, adopting new behaviors as well.

It can be concluded that reverse logistics as well as a great ally in the preservation of the environment in general, is also a strong influential for environmental education of everyone involved in the process, from the manager, to those who deal directly with the separation of residues.

ACKNOWLEDGEMENTS

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THE IMPORTANCE OF MUSIC EDUCATION IN PEOPLE'S LIVES

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ABSTRACT

Music is unique in each person's life. It is a means of relaxation for some, while for others, it is a hobby, and is pleasurable. In all levels of education, music has immense value. Students learn many important and necessary values for life as music enhances their mind, and their expressive ability. One can also learn a lot from studying and analysing music, composing, reading about music, understanding the history of music. Students of music learn self-discipline, expression through sound, enhance technical motor skills, develop problem solving skills, learn how to cooperate and collaborate with others, and learn to develop a creative and critical mind. Anyone who is educated in music learns these skills. People who have studied it, will take these skills and apply it to their everyday lives and career.

Research has shown that music, and in particular the singing and playing of music, helps the brain develop much more fully and extensively, especially in our early years. Music makes people brighter, more intelligent, more logical, more rational, and more capable. It improves study habits and test scores. It builds a better sense of self and community. It improves our quality of life. A recent study even suggests that the act of singing improves the immune system. Ancient Greek philosopher and teacher Plato said it best: *"Music gives a soul to the universe, wings to the mind, flight to imagination, and life to everything."*

This study aims to explain the importance of music education on human life especially in social, cultural and educational terms.

Keywords: Music, Music Education, Singing, Listening, Composing, Rhythm

INTRODUCTION

Music is part of our lives whether we realize it or not, whether we actively participate in it or not. Since antiquity, music has occupied a major place in the life of humanity. People have mostly relied upon music to express their grief, joy, heroism, excitement and love (Somakcı, 2003, s:131). Music education helps people to be healthier, more social, more positive, self-confident. There are many benefits of music education in human's live. Some benefits of music Education can be examined under different fields such as academic, psychological, neurological, social, personal, and economic.

1.   Academic Benefits of Music Education

Music education motivates children to stay in school.   According to a study by NAMM and MENC: The National Association for Music Education in America, high school teachers strongly believe that music education promotes the academic success of their students. A key finding of the study, conducted by Harris Interactive[1], shows that the vast majority of school administrators interviewed believe that music education has a powerful and lasting impact upon their students. In fact, 96 percent of public school principals interviewed believe that participating in music education encourages and motivates students to stay in school longer, and 89 percent agree that music education contributes to higher graduation rates.

Joe Lamond, president and CEO of NAMM states that they have seen "first-hand how music education provides a solid foundation for children to become productive, successful adults, and so have school administrators from across the nation. Music benefits every generation, but it is particularly important to the development of children, providing them with more opportunities for success early in life." (www.spiritofharmony.org/music.html).

 Another research shows that learning the do-re-mi's can help children excel in ways beyond the basic ABCs[2]

The researcher and director Mary Luehrisen says: "When you look at children ages two to nine, one of the breakthroughs in that area is music's benefit for language development, which is so important at that age"[3]

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[1] https://www.namm.org/news/press-releases/music-programs-public-high-schools-contribute-high

[2] Brown, Laura www.pbs.org/parents/education/music-artsthe benefits-of-music education

[3] http://www.pbs.org/mparents/education/music-arts/the-benefits-of-music-education/

While children come into the world ready to decode sounds and words, music education helps enhance those natural abilities.

2. Psychological and Neurological Benefits of Music Education

The use of music in healing began in extremely ancient times within Central Asian Turkish Culture, was practiced by people with a variety of duties, and examples of it have survived to this day. It is notable that in music therapy, countries' authentic national music is effective, and different makams and instruments are useful according to the type of psychological disease.

In the Turkish Islamic world, music therapy activities and especially the use of music in hospitals first began in the 9th century, and exhibited great advancements up until the 18th century. The great Turkish Islamic scientists and doctors Zekeriya Er-Razi (854-932), Farabi (870-950) and İbn Sina (980-1037) established scientific principles concerning musical treatment, especially of psychological disorders.

In his book, "Musiki-ul-kebir," Farabi attempted to set forth the relationship between music and physics and astronomy. According to Farabi, the effects of the makams (mods) of Turkish music on the soul were classified as follows:

1. **Rast makam:** brings a person happiness and comfort.
2. **Rehavi makam:** brings a person the idea of eternity.
3. **Kuçek makam:** brings a person sadness and anguish.
4. **Büzürk makam:** brings a person fear.
5. **Isfahan makam:** brings a person the capacity of action, the sense of security.
6. **Neva makam:** brings a person pleasure and contentment.
7. **Uşşak makam:** brings a person the feeling of laughter.
8. **Zirgüle makam:** brings a person sleep.
9. **Saba makam:** brings a person courage and strength.
10. **Buselik makam:** brings a person strength.
11. **Hüseyni makam:** brings a person serenity, ease.
12. **Hicaz makam:** brings a person humility.

The great Islamic thinker and philosopher Ibn Sina (980-1037) wrote that he gained much from Farabi's works, and even learned music from him and applied it in his practice. He said, "One of the best and most effective of treatments is to strengthen the mental and spiritual strengths of the patient, to give him more courage to fight illness, create a loving, pleasant environment for the patient, play the best music for him and surround him with people that he loves."

According to Ibn Sina, "sound" was essential to our existence. Sounds arranged within a musical order, and in a particular fashion, would have a deep reaching effect on one's soul. The effect of sound was enriched by man's art. Ibn Sina also believed that changes of pitch would determine a person's mood. What allows us to appreciate a musical composition is not our sense of hearing, but our sense of perception, which allows us to derive various inspirations from that composition. For this reason, well-attuned, harmonious tones, and the adherence of compositions and rhythms to principles, can have a captivating effect on people. Their methods were later applied by both Selçuk and Ottoman doctors and were cultivated up until the 18th century (Somakcı,P, www.turkishmusicportal/article)

Research indicates that the brain of a musician, even a young one, works differently than that of a non-musician. Dr. Eric Rasmussen, chair of the Early Childhood Music Department at the Peabody Preparatory of The Johns Hopkins University says that "there is some good neuroscience research that children involved in music have larger growth of neural activity than people not in music training. When you're a musician and you're playing an instrument, you have to be using more of your brain" (Brown,L, www.the benefits of music education/article).

In fact, a study led by Ellen Winner, professor of psychology at Boston College, and Gottfried Schlaug, professor of neurology at Beth Israel Deaconess Medical Center and Harvard Medical School, found changes in

the brain images of children who underwent 15 months of weekly music instruction and practice. The students in the study who received music instruction had improved sound discrimination and fine motor tasks, and brain imaging showed changes to the networks in the brain associated with those abilities, according to the Dana Foundation, a private philanthropic organization that supports brain research (Brown, L, www.the benefits of music education/article).

There is in ever-increasing body of study on the benefits of music therapy in people with alzheimers, hemiplegia, dementia, dyslexia, autism and other conditions-- both listening to music and playing music. For some individuals, music involvement could potentially mitigate behavioral patterns that might otherwise be treated as discipline problems or pharmaceutical issues. A music therapist writes: "Music is fun and it's motivating, and people don't realize they are working when they are doing it." (www.spiritofharmony.org/music.html)

A study by E. Glenn Schellenberg[4] at the University of Toronto at Mississauga, as published in a 2004 issue of Psychological Science, found a small increase in the IQs of six-year-olds who were given weekly voice and piano lessons. Schellenberg provided nine months of piano and voice lessons to a dozen six-year-olds, drama lessons to see if exposure to arts in general versus just music had an effect, to a second group of six-year-olds, and no lessons to a third group. The children's IQs were tested before entering the first grade, then again before entering the second grade. According to the results of the study,surprisingly, the children who were given music lessons over the school year tested on average three IQ points higher than the other groups. The drama group didn't have the same increase in IQ, but did experience increased social behavior benefits not seen in the music-only group.

3. Social Benefits of Music Education

Music boasts social benefits for students. Music is a way to make friends. Dimitra Kokotsaki and Susan Hallam completed a study dealing with the perceived benefits of music; in their findings they wrote, "Participating in ensembles was also perceived as an opportunity to socialize with like-minded people, make new friends and meet interesting people, who without the musical engagement they would not have had the opportunity to meet" Every time a student is involved in music, they have the chance to meet new people, and form lasting friendships (Kalivretenos, 2015).

Whether an orchestra, marching band, small ensemble, or rock band, young people involved in music programs develop the skills required to work with others, embracing teamwork and fostering socialization. Engagement in positive activities such as music increases student's resilience to the negative influences they encounter in life, and increases the likelihood they will make positive life choices. Music programs give young people an opportunity to interact closely and consistently with teachers and other musicians, who become mentors and role models over time (www.spiritofharmony.org/music.html).

Likewise, in a study by Columbia University, it was revealed that students who participate in the arts are often more cooperative with teachers and peers, have more self-confidence, and are better able to express themselves (Judson,2013). Through one activity, a student can reap all of these benefits, as well as numerous others. Moreover, the social benefits of music education can continue throughout a student's life in ways one would never suspect. An example of this would be that "students who participate in school band or orchestra have the lowest levels of current and lifelong use of alcohol, tobacco, and illicit drugs among any other group in our society" (Judson, 2013:2). By just participating in a fun school activity, students can change their lives for the better. Music education can help students on their journey to success.

Furthermore, group participation in music activities can assist in the development of leadership skills (Kokotsaki and Hallam, 2007: 13). One participant stated about the benefits of music study that, "I have gained confidence in my leadership skills through conducting the Concert Band" (Kokotsaki and Hallam, 2007: 28). Conducting an ensemble is just one of the many leadership opportunities available to music students.

Music builds bonds between individuals. Feeling between music allows people to exchange the design ideas. being a member of the music group, making the division of labor, to take responsibility, develop feelings such as fulfillment individuals together an open, flexible, understanding that enables them to be tolerant also provides social contact and interaction

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[4] Brown, Laura www.pbs.org/parents/education/music-artsthebenefits-of-music education

William Shakespeare wrote in his play *"The Merchant of Venice* "The man that hath no music in himself, Nor is not moved with concord of sweet sounds, Is fit for treasons, stratagems and spoils; The motions of his spirit are dull as night And his affections dark as Erebus: Let no such man be trusted. Mark the music." (*The Merchant of Venice,* 5.1.91-7).

4. **Personal Benefits of Music Education**

Listening to music and playing music builds self-esteem, self-identity, self-discipline, focus, and creates an important emotional outlet. Music brings beauty into our lives and helps make the world a better place. Music helps the young and old connect with themselves and others by encouraging communication, creativity and cooperation.

Paulo Baldi, drummer for the band CAKE, said[5]*,* "Marching band in particular is the saviour for people who may or may not be athletic. Marching band is music, memorization, eye-hand coordination and good for your posture. It may hurt to be told your paradiddles suck, but it builds character. It's a team sport. You create friendships that become your buddies for life. High school music is something focused to do. You don't have to be great to belong, and members immediately have something in common."

5. **Economic Benefits of Music Education**

Music education helps young people acquire the life skills, traits, and attributes necessary to broaden the horizon of career opportunities in any field of endeavor, not only for careers in music performance or the music industry. The positive effects of music (higher graduation rates, better grades, more positive choices, and relationships with mentors) increases the overall lifetime economic prospects for individuals who have had music education in their lives (www.spiritofharmony.org/music.html).

Based on the results of the Spirit of Harmony Foundation's informal survey on the perspectives of Americans regarding music education programs, our hypothesis is that there is significant benefit for students who have been exposed to music education programming in terms of college admission and career viability. We are currently in the process of designing a study, in concert with existing university partnerships, in order to examine these relationships. If discovered, a significant relationship between these variables would undoubtedly change the way that key stakeholders view the importance of robust music education programs in public schools (www.spiritofharmony.org/music.html).

Economic benefits cover production, distribution, consumption in music area. Forexample making instrument is very important for music production industry, playing instrument is important for music distrubition industry and buying an instrument is important for music consumption industry. So music education is very important for the quality music economic industy. (Uçan,1996 :28).Also increases the production costs of uniformity in the workplace to listen to music

CONCLUSIONS

Eventually, no one would even remember what music is. Many people do not realize it, but music has a bigger effect on their lives than they may think, and they would definitely care if it was to disappear. Without music, life would never be the same. To keep music alive, students must be educated about it in schools. Students will not only get to experience and enjoy what music has to offer, but will reap the innumerable benefits that come with music. Ancient Greek philosopher and teacher Plato said it best: "Music gives a soul to the universe, wings to the mind, flight to imagination, and life to everything."

Even though it has been proven that music education benefits students, many people argue that it still should not be required in schools. They state that with the increasing importance placed on standardized testing, there is not enough class time to include music classes (Abril and Gault 68). However, it has been shown that the time students spend in music classes does not hinder their academic success.

So, we understand from all researches that; music education is very important in the people's live. Therefore, we should make a place music and music education in all stages of our life.

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THE IMPORTANCE OF PALLIATING: IMPLICATIONS FOR OVERLOAD IN THE INFORMAL CAREGIVER

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ABSTRACT
Incurable disease affects lines of defence of the family and all feel the effects of suffering, the burden of tasks the caregiver is required to perform. Objective: Assess the impact of family functionality on overload of the informal caregiver.

Descriptive study, cross-cutting focus. Participants: non-probability sampling of 144 caregivers, mainly women (73.6%), with or over 44 years old.
Intense overload affects 54.8% of moderately functional families. The higher the family functionality, the lower the impact of caregiving.

Identifying the type of family APGAR and the specific needs of families are essential strategies to promote the caregiver's well-being.

Keywords: Family, Caregivers, cost of illness

INTRODUCTION
"*Palliative care* focus on prevention and relief of physical, psychological, social and spiritual suffering, well-being improvement and support to patients and their relatives, when pain is related to a severe or incurable disease, at an advanced stage and progressive, Decree-Law No. 52/2012". In turn, *palliative procedures* "are isolated therapeutic measures without curative purposes, performed by health care professionals without specific training, aimed at reducing, during hospitalization or at-home care, negative consequences of the disease on the overall well-being of the patient, particularly one with an incurable or severe disease, of progressive nature and at an advanced stage, Decree-Law No. 52/2012".
These palliative procedures carried out at home represent significant and persistent challenges to relatives and can lead to significant physical and psychological effects. The action of providing care to a patient can be felt as a task that may result in imbalance, as well as physical, emotional, social and economic overload, in spite of the desire and satisfaction of performing this role, and affection is vital to ensure family support. This support will depend on the way caregiver and patient deal with their relatives over time (Ribeiro and Sousa, 2010).
Therefore, overload emerges as one of the negative effects of the informal caregiver's role. Nonetheless, at-home care enables greater perception on the patient's legitimate needs, in accordance with the daily life of the people who live and interact in that context, allowing a more humane and individual-centred assistance (Nietsche, Cielo Vedoin, Bertolino, Lima, Terra and Bortoluzzi, 2013).
Considering that the family takes on significant challenges that modern times pose as informal caregiver, as a privileged position of support to the life and mental health of members thereof, the study is aimed at assessing the implications of gender and family functionality in the overload of the informal caregiver.

THE STUDY
Based on the assumption that Palliative Care strives to help cancer patients and their relatives achieve their highest physical, psychological, social and spiritual potential, its goals are: affirming life and viewing death as a natural process, not anticipating nor postponing it intentionally; providing patients with relief from pain and other uncomfortable symptoms; incorporating psychological, social and spiritual aspects of care, so that patients

can come to terms with their own death to the fullest possible extent and in the most constructive manner possible; offering a support system to help patients be as active and creative as possible; offering a support system to help families adapt during the course of the disease and during mourning (Barbosa, 2013).

To sum up, Palliative Care is perceived as the evolution of caregiving inasmuch as, when there is inability to cure and death is apparent, one must acknowledge that when curing goals have been exhausted caring goals must be reinforced (Barbosa, 2012).

Within this framework, the issue of this study lies in the observation that, for informal caregivers of patients under palliative care, end-of-life care is extremely demanding vis-à-vis the abilities and technical skills required to provide that type of care, thus resulting in overload. It is a special health situation, marked by great instability as other transitional stages during life, but characterized by the singularity of being related to the end of life. The death-denying culture is implied and present in most articles, highlighted by trouble coping with loss, speaking openly about the closeness to death with the patient himself/herself, due to the sense of failure and defeat arising therefrom. These facts mirror the dominant culture in modern Western societies and show indirectly how difficult it is to establish a profound relationship with the dying patient. Therefore, there is an urgent need to engage the family in the therapeutical process, making it being taken care of too (Sapeta and Lopes, 2007).

Consequently, the following general research question emerged:

To what extent does gender and family functionality are predictive of an overload of the informal provider of palliative care?

METHODOLOGY

This research has the features of a descriptive, analytic and correlative study, with a non-probability sampling of 144 informal caregivers, with an average age of 35.42 years (SD=14.854), 26.4% being males and 76.6% females, living in mainland Portugal, in urban areas (53.5%), particularly in the centre of the country (77.6%). Most elements of the sample are aged 44 or older and a predominance of single caregivers (54.2%) was observed. This is a medium-qualified sample from an academic point of view composed of high school graduates (41.4%) who work (47.2%) and have a household income corresponding to minimum wage (43.5%) [Table 4].

Information gathering was based on a socio-demographic questionnaire, the Family APGAR Scale (Smilkstein, 1978 qtd. in Azeredo and Matos, 1989) and the Scale of Assessment of the Burden of Informal Caregivers (Sequeira, 2010).

In order to conduct the study, approval was sought and granted by the Ethics Committee of the Higher School of Health of Viseu.

As mentioned above, family functioning was assessed using the Family APGAR Scale, drawn up by Smilkstein, Ashworth and Montano (1978) qtd. in Azeredo and Matos (1989), which measures the existence of family dysfunction and the level thereof through 5 questions, with several answer possibilities ("almost always", "sometimes" and "almost never"). We consider that a highly functional family has a total score between 6 and 10, a moderately functional family possesses a score between 3 and 6 and a highly dysfunctional family a score between 0 and 2. This scale enables characterization of the components of family function as: Adaptation – refers to the use of intra- and extra-familial resources to solve the problems which jeopardize the balance of the family in times of crisis; Participation/communication – regards sharing of decision making and nurturing responsibilities by family members; Growth/development – encompasses physical, psychological and emotional maturation and self-fulfilment that is achieved by family members through mutual support and guidance; Affection – caring or loving relationship that exists among family members; Resolve/devotion or decision – commitment to devote time to other members of the family for physical and emotional nurturing. It also involves a decision to share wealth and space.

It is worth noting that this scale merely assesses the degree of family satisfaction felt and expressed by the individual.

The outcome of the psychometric study of the Family APGAR Scale showed that, on the whole, items were well balanced. The highest figure was observed in item 1 (M=1.74) and the lowest in item 5 (M=1.50).

The Split-Half coefficient or method indicates values of Cronbach's alpha slightly lower than the alpha for the scale as a whole (0.746), but reasonable for the first half where a figure of 0.774 was obtained and of 0.236 in the second half, which reflects a weak internal consistency. Nonetheless, the items from the original structure were maintained [Table 1].

Table 1: Statistics and Correlative Values of the Family APGAR Scale

Item No.	Items	Mean	sd	R/item	Alpha w/o item
1	Are you satisfied that you can turn to your family for help when something is troubling you?	1.74	0.508	0.587	0.677
2	Are you satisfied with the way your family talks on things with you?	1.56	0.570	0.706	0.624
3	Do you believe that your family accepts and supports your wishes to take on new activities or change your lifestyle?	1.54	0.583	0.549	0.686
4	Are you satisfied with the way your family expresses affection and responds to your emotion, such as anger, sorrow and love?	1.55	0.593	0.571	0.678
5	Are you satisfied with the way your family and you share time together?	1.50	0.584	0.197	0.811
Split-half coefficient		1st half 0.774 2nd half 0.236			
Overall Cronbach's alpha coefficient		0.746			

Sequeira's version (2010) of the Scale of Assessment of the Burden of Informal Caregivers enables the assessment of the objective and subjective overload of informal caregivers, exploring negative effects it has on the latter in social and personal contexts, as well as in terms of financial status, emotional situation and type of relationship. The original version was composed of 29 questions, but was reduced to 22 questions. Each question is assessed according to a Likert-type scale with five possible answers: "never" (1); "almost never" (2); "sometimes" (3); "often" (4); "almost always" (5). Sequeira (2010) validated the scale for the Portuguese population, reporting a good internal consistency (α=0.93). He also stressed that a factor analysis enabled the identification of 4 factors: the first, named "impact of care provision", encompasses items on overload related to provision of direct care, being composed of 11 items (1,2,3,6,8,10,11,12,13,17,22); the second, named "interpersonal relationship", covers items connected to the relationship between the caregiver and the care receiver. These items assess the interpersonal impact arising from the relation during care provision (associated to interaction problems). It is composed of 5 items (4,5,16,18,19); the third, named "expectations about caregiving", is related to the expectations the caregiver has regarding care provision, being essentially focused on means, fears and availability. It is composed of 4 items (7,8,14,15); the fourth factor, named "perceived self-efficacy", pertains to the caregiver's opinion on his/her performance. It is composed of 2 items (20,21).
The scale can have a total score between 22 and 110, where the highest score corresponds to a higher perception of burden. The following thresholds are used: below 46 corresponds to without overload, between 46 and 56 overload is mild and above 56 overload is high.
The outcome of the psychometric study of the Scale for Assessment of the Overload of the Informal Caregiver showed that, in subscales *expectations about care* and *perceived self-efficacy*, alpha values are slightly higher than those of the scale's author (Sequeira, 2010) [Table 2].

Table 2: Cronbach's alpha values for the subscales of caregiver's burden and overall value

Subscales	No. items	Cronbach's alpha (Split-half)			Cronbach's alpha Portuguese version (Sequeira, 2010)
		Part 1	Part 2	Total	
Impact of care provision	11	0.790	0.861	0.906	0.93
Interpersonal Relationship	5	0.587	0.636	0.766	0.83
Expectations about Caregiving	4	0.582	0.514	0.758	0.67
Perceived Self-Efficacy	2	Not applicable		0.882	0.80
Overall Overload	22	0.860	0.826	0.914	0.93

FINDINGS

The Family APGAR study reveals that family functionality ranged between a minimum value of 2.00 and a maximum value of 10.00, with an average of 7.89;2.001 sd. [Table 3]. Highly functional families stand out (77.1%), followed by moderately functional families (21.5%), and 1.4% of caregivers belong to families with marked dysfunction. [Table 4].

Table 3: Statistics regarding family functionality and gender

Gender	Min	Max	M	SD
Male	5.00	10.00	8.24	1.639
Female	2.00	10.00	7.76	2.107
Total	2.00	10.00	7.89	2.001

The study revealed that statistics regarding the overload of the informal caregiver have a minimum of 11.00 and a maximum of 47.00 for the first factor, *impact of care provision*, which correspond to a mean age of 24.81 ±8.182 sd. As for the second factor, *interpersonal relationship*, we observe a minimum of 5 points and a maximum of 23.00, with a mean value of 10.14±3.802. For the third factor, *perceived self-efficacy*, the minimum score was 2.00 and the maximum was 10.00 (M=5.35±2.036 sd). Lastly, the factor *expectations about caregiving* had a minimum score of 4.00 and maximum score of 19.00 (M=11.90±3.285 sd). Finally, the overall overload achieved a minimum of 22.00 and a maximum of 86.00 (M=52.22±14.414 sd) [Table 4]. Analyzing outcomes, we observe that 36.1% of informal caregivers had no overload. Caregivers with intense overload had the same number. It was found that 27.8% had mild overload [Table 5].

Table 4: Statistics regarding overload on the informal caregiver

Overload on the informal caregiver (n=144)	Min	Max	Mean	SD
Impact of care provision	11.00	47.00	24.81	8.182
Interpersonal Relationship	5.00	23.00	10.14	3.802
Perceived Self-efficacy	2.00	10.00	5.35	2.036
Expectations about Caregiving	4.00	19.00	11.90	3.285
Overall overload	22.00	86.00	52.22	14.414

The descriptive analysis of the burden of the relative according to socio-demographic variables showed that intense overload is higher in older men of little education, with low means and moderate family dysfunction [Table 5].

Table 5: Prevalence of overload in the informal caregiver according to socio-demographic variables

Overload Variables	W/o overload nº	W/o overload %	Mild nº	Mild %	Intense nº	Intense %	Total nº	Total %	Residual 1	Residual 2	Residual 3	X²	p
Gender												2.946	0.229
Male	12	31.6	8	21.1	18	47.4	38	26.4	-.7	-1.1	1.7		
Female	40	37.7	32	30.2	34	32.1	106	73.6	.7	1.1	-1.7		
Area of residence												0.901	0.956
Rural	24	35.8	18	26.9	25	37.3	67	46.5	-.1	-.2	.3		
Urban	28	36.4	22	28.6	27	35.1	77	53.5	.1	.2	-.3		
Age												6.320	0.176
<= 26 years	20	42.6	15	31.9	12	25.5	47	32.6	1.1	.8	-1.8		
27−43 years	15	31.3	16	33.3	17	35.4	48	33.3	-.9	1.1	-.1		
>= 44 years	17	34.7	9	18.4	23	46.9	49	34.0	-.3	-1.8	1.9		
Marital status												1.960	0.375
Single	32	41.0	21	26.9	25	48.1	78	54.2	1.3	-.2	-1.1		
In a relationship	20	30.3	19	28.8	27	40.9	66	45.8	-1.3	.2	1.1		
Region												4.944	0.293
North	5	27.8	7	38.9	6	33.3	18	12.6	-.8	1.2	-.3		
Centre	40	36.0	27	24.3	44	39.6	111	77.6	-.2	-1.5	1.5		
South	7	50.0	5	35.7	2	14.3	14	9.8	1.1	.7	-1.8		

Educational qualifications													
Up to lower secondary education	14	34.1	6	14.6	21	51.2	41	29.3	-.4	-2.2	2.5	9.946	**0.041**
Upper secondary education	25	43.1	19	32.8	14	24.1	58	41.4	1.4	1.1	-2.4		
Higher education/doctorate	12	29.3	14	34.1	15	36.6	41	29.3	-1.1	1.1	.1		
Professional status													
Active	21	30.9	21	30.9	26	38.2	68	47.2	-1.2	.8	.5	1.706	0.790
Inactive	26	41.3	16	25.4	21	33.3	63	43.8	1.1	-.6	-.6		
Did not answer	5	38.5	3	23.1	5	38.5	13	9.0	.2	-.4	.2		
Household income													
Minimum wage	20	35.1	16	28.1	21	36.8	57	43.5	.2	.3	.4		
Two minimum wages	17	34.7	11	22.4	21	42.9	49	37.4	.1	-.9	.7	0.998	0.910
<= 3 minimum wages	8	32.0	8	32.0	9	36.0	25	19.1	-.3	.7	-.3		
Family functionality													
Markedly dysfunctional	0	0.0	1	50.0	1	50.0	2	1.4	-1.1	.7	.4	7.639	0.136
Moderately functional	7	22.6	7	22.6	17	54.8	31	21.5	-1.8	-.7	2.5		
Highly functional	45	40.5	32	28.8	34	30.6	111	77.1	2.0	.5	-2.5		

Men reported higher levels of overload in terms of impact of care provision, perceived self-efficacy and expectations about caregiving, and interpersonal relationships. Nonetheless, differences were only significant in interpersonal relationships. [Table 6].

Table 6: Connection between the dimensions of the caregiver's overload and gender

Gender	Male	Female		
Caregiver's overload	**Mean Rank**	**Mean Rank**	**UMW**	**p**
Impact of care provision	88.29	75.72	1710.000	0.168
Interpersonal Relationship	**80.50**	**69.63**	**1465.500**	**0.013**
Perceived Self-Efficacy	86.93	67.33	1856.000	0.458
Expectations about Caregiving	76.66	71.01	1887.500	0.564
Overall overload	69.17	73.69	1708.500	0.166

Multiple and multivariate regression between independent variables and the dimensions of overload show, using beta or standardized coefficients, that functionality creates an inverse relationship with factors *impact of care provision* (-0.257), *interpersonal relationship* (-0.270), *perceived self-efficacy* (-0.180) and *expectations about caregiving* (-0.274). This means that the higher the family functionality, the lower the burden of the caregiver in these four factors.

On the other hand, we observe that gender creates a direct connection with factors *impact of care provision* (0.165) and *interpersonal relationship* (0.231). [Table1]. The sex and operational functionality variables explain the variability of the burden of the informal caregiver as follows: 9% impact of care provision, 10% interpersonal relationship, 3% perceived self-efficacy and 7% expectations about caregiving [Figure 1].

Figure 1: Multiple and multivariate regression (between independent variables and the dimensions of overload)
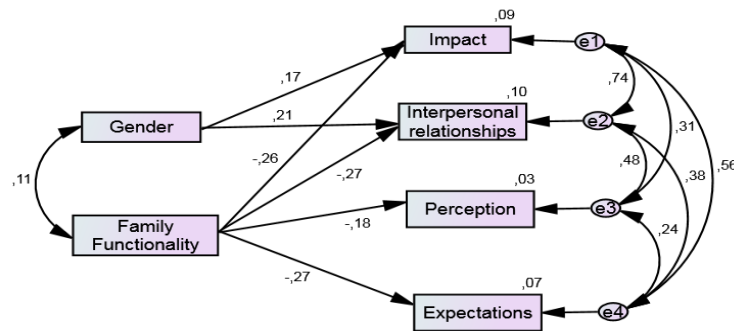
CONCLUSIONS

Palliative care has implications for the overload of the informal caregiver and is worthy of cautious analysis, being definitely one of the main topics of discussion. From this perspective, one of the topics of discussion relates to the impact of socio-demographic variables of informal caregivers providing palliative care to a patient on the level of perceived overload.

The socio-demographic profile of the informal caregiver shows that it is a female participant (73.6%) with about 25 years who works (47.2%) and receives a minimum wage (43.5%).

Female gender is mentioned in other studies which highlight the woman's role as caregiver in Portuguese-speaking culture, as well as in other cultures. It is important to know her in her role as main caregiver, since it is the woman who has closer contact with the patient and is the strongest link in the health care team (André, Cunha, Martins & Rodrigues, 2014). As for the professional situation, active caregivers were more frequent (47.2%), where 43.5% receive minimum wage. Showing understanding of this profile is appropriate and useful for health care professionals, so that they can plan and perform activities oriented toward the reality of patients and their caregivers in the context of long-term illness, as all support offered, and consequently costs assumed, is almost exclusively the responsibility of families. And the well-being required for good mental and physical health is based on a sense of safety which arises from having material resources to pay for daily expenses, having easy access to health care, in case of need, belonging to a network of active family and social relationships (André, Cunha, Martins & Rodrigues, 2014). In Portugal, the National Health Plan 2012-2016 states that disease represents an additional expense, both in terms of direct costs (drugs and complementary diagnostic tests) and indirect costs (absence from work and decrease in productivity). Therefore, the Portuguese National Health Plan clarifies that solidarity and social justice mean that the burden of expenses must be distributed fairly according to the ability to contribute, and that families must not become impoverished as a result of the disease and use of health care services. This idea is corroborated by the study conducted by Alves (2011), which identified the need that female caregivers had to stay near the patient, by obtaining unpaid leave or sick leave, thus changing the working situation they had before their relative was struck by a disease.

Stressing the importance of overload on caregivers has a special meaning in order to understand, feel, think and act regarding the coherence in health care provided by nurses and actions of assistance and support to families during transitional periods, which generate suffering, and health disparities. It is worth noting that 36.1% of informal caregivers had intense overload. This outcome responds to the study conducted by Fernandes (2012) in which most caregivers were also under intense overload. We observed that caregivers belonging to more functional families were less subject to overload, which is in line with data. Therefore, family is highlighted, by being mentioned as the most important microstructure to understand representations and practices related to the health, disease and care process (Leite & Vasconcelos, 2006 qtd. in André, 2014).

To sum up, outcomes support that gender and family functionality variables predict overload. Therefore, the essentially factual nature of knowledge is recognized, which arises from a holistic approach to assistance in palliative health care where family receives care, privileging management of the disease and at-home visits. We can state that the patient's home is the most suitable place to assist him/her, as it usually offers a more comfortable and reliable environment. In this context, it is worth mentioning the following principles of palliative care: being active, rehabilitating, promoters of autonomy, and a system of support and assistance to the family, so that it may be able to deal with the disease of its relative and its own mourning (Raposo, 2012). In this regard, it is relevant to highlight the action of the multidisciplinary health care team, promoting family empowerment in order to decrease overload.

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THE IMPROVEMENT OF TEACHING AND LEARNING IN THE COURSE *"DA'WAH PRODUCTION IN ELECTRONIC MEDIA"* THROUGH SCRIPTS AND HOSTING

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ABSTRACT

"Da'wah Production in the Electronic Media" is a course taught to the second year student at the Department of Da'wah and Leadership, The National University of Malaysia. This course concerns mainly with the production on the television related to *da'wah*. Reflecting to the rapid development of new media, since the second semester of the year 2010, this course has shifted its focus to the production in the YouTube. It covers the production of a documentary of the real issues in the society related to the interests of Islam. This new focus of teaching and learning (T&L) nurtures students with four skills, namely video recording, using software for editing footage, choosing the relevant issues, script writing and lastly the hosting. Indeed, the effort to nurture all these skills in a semester and within a subject is truly challenging. Thus, this course has focused extensively on learning by doing for three skills; video recording, software editing and choosing issues. Meanwhile, for two other skills, namely script writing and hosting, the T&L is by giving examples and guidelines at the beginning of the semester. Based on the study of the students of the second semester, year 2012/2013, it is found that 72% of students are satisfied with the current approach while the 28% have a view that a close attention and guide is more needed including for script writing and hosting. Indeed, the skill is a tacit knowledge that is hard to be nurtured only through reading and listening, but it needs a good understanding and continuous practice. This finding indirectly indicates inability of one-third student to nurture those skills by themselves.

INTRODUCTION

The teaching and learning (TL) based on 'learning by doing' such as making the video, public presentation and laboratory experiments are among the effective methods of TL (Maimun Aqsa Roslan, 2005). These types of TL method will guide students with the technical knowledge to the level of execution and evaluation. According to Bloom Taxonomy, execution level is beyond the comprehension level because students do not only understand, but they can do it. These TL activities cannot not only be done in the classroom, but it can be extended to anywhere, as long it is a hands-on activity that could transfer knowledge from "know-what" to "know-how". Besides, it can evaluate the level of student understanding as well as strengthen current understanding of a particular subject.

The integration of four practical activities in the course 'Da'wah Production in Electronic Media' (DPEM) is a new approach of TL in this course since semester 2, 2010/11. It is a course introduced in communication module at the Department of Da'wah and Leadership Studies (JPDK) that focus originally to the production of documentary, drama and lectures on the theme of *da'wah* on television. However, some new approaches have been made in this course by emphasising on the short documentary by covering current and important issues in Muslim society. It nurtures students with at least five skills; using a video camera, using software for editing footage, choosing the relevant issues, script writing and lastly the hosting. In short, this course involves learning by doing that can nurture students to master all these skills effectively. This article discusses the result of students' experiences during enrolling this course in Semester 2, 2012/2013 after some new approaches have been introduced in this course.

The introduction to *Da'wah* Production in Electronic Media

The course "*Da'wah* Production in Electronic Media" (DPEM) has been established since the department introduced three modules in year 2000 namely, communication, counselling and management. These modules indicate the specialization of the studies for undergraduate programme in this department and simultaneously describe a niche area of research. The students have to choose only a module for their specialization commencing from the third semester and they have to follow this module until the end of the study. According to Idris Endut (2014), the former lecturer of JPDK, prior to the year 2000, students have to choose a certain number of courses without respect to any module to complete their studies. However, by introducing module system, the studies at this department are more organized because the specialization is determined from the beginning.

Basically, the objective of the module of 'communication' is to nurture students with communication skills that can expand the efforts of *da'wah*. According to al-Bayanuni (2005), the communication skills among Muslim activists are truly a need to convey the messages of Islam effectively. There is totally no coercion for non-Muslim to embrace Islam, only Muslims can show people the beauty of Islam and tell the messages of Islam. In Islam, the art of calling people to Islam is called *al-hikmah* as stipulated in al-Quran (16:125) that can be interpreted by art of convincing and influencing during communication. The communication module introduced by JPDK is hopefully can meet the requirement of conveying messages of Islam with *al-hikmah* especially when the development of ICT is emerging increasingly. Theoretical and practical studies should be taught hand in hand to enhance students' skill for the benefit of Islam.

The module of communication in this department consists of eight courses. Students have to enrol all these courses from the third to sixth semester; while in the meantime, they also have to enrol some other compulsory courses from the department and the faculty as well. DPEM is taught in the fourth semester besides of two other courses from this module. It means that the students have been already exposed to some knowledge and skills in the third semester, whereas in this semester they can get more knowledge and develop more skills. According to Undergraduate Handbook (2013), the main objective of this course is to provide students with skills of publishing videos related to *da'wah* as mentioned in the introduction of this course:

> *This course focuses on the principles and methods in developing da'wah materials for electronic media. It will include the planning, drafting a theme, identifying targets and marketing. The focus will be given to the publication of drama, documentary and advertisement. Practical training in the process of publishing print and electronic media will be held.*

The introduction to this course implies that the objective is too wide because it comprises several genres of video including drama, documentary and advertisement. Therefore, commencing from semester 2, 2010/2011 the department decided to focus the studies in DPEM to produce short documentary on issues related to *daʾwah*. The idea is inspired from the segment "Investigation" which is a popular segment in channel NTV7 and TV3 that attracted many viewers. The topic discussed in this segment is relevant and the presentation is smart. Throughout this course, students are guided to develop their creativity, combining both theoretical and practical aspects. The practical aspect is an important part to be emphasized here because the success of this course is when students are able to do the task accordingly. From the perspective of T&L pedagogy, this approach can exceed the third Bloom Taxonomy, which is "the application" in which students do not only be able to "know what" but to "know how". According to Bloom Taxonomy, the effectiveness of a TL is when students achieve at least the level of application, but it is good when they are able to do the analysis, then the synthesis and finally, the evaluation.

The nature of the course DPEM is "know how" because it involves at least five practical activities. The first is choosing the relevant issue to be highlighted. The second is shooting video covers the subject matter and the interview with relevant parties. The third is writing the documentary script. The fourth is hosting the segment. The fifth is using software for editing. Actually, combining all these activities in a course is quite tough for non-technical student. They can deliberate the issue, but to use the hardware and software is a challenge to them.

Short documentary on issues related to *da'wah*

The documentary is a nonfictional motion picture intended to document some aspect of reality, primarily for the purposes of instruction or maintaining a historical record. According to Asiah et al. (2009) and Ubaidullah (2008), most documentary films on Malaysian television focuses on aspects of heritage, history, development, education, nature and cultural lifting national personality. Besides, there is still some documentaries focus on practices of Islam and Muslims culture in Malaysia. Indeed, the short documentary on issues related to *da'wah* does not use the

narrative genre that covers the real phenomenon related to Muslims. Moreover, it is a critical reflection on the Muslim beliefs and practices in which may contradict with the true teaching of Islam. The critique is targeted to public in general and some individual who may abandon or overlook their duties that lead to breaking Islamic laws and ignore the rights of people. This critical reflection is indeed essential to wake some people who may overlook their duties unconsciously including some authoritative bodies. It is more effective when the presentation uses the reverse psychology because some people might ignore the direct psychology.

The short documentary on issues related to *da'wah* using critical genre is not yet popular in Malaysian Television. Only TV al-Hijrah, which has a segment called "Issues in Islamic Belief" airs once a week, raising some relevant and controversial issues related to Muslims. This segment introduced in 2013 and it has attracted many viewers because the issues are relevant and controversial such as misunderstanding of the concept of Jihad and the misuse the donation for personal interest. This genre could open the eye of the public, especially Muslim because their current practice of Islam is wrong or their understanding of Islam is incorrect.

Indeed, these issues should be brought to public discussion to avoid misunderstanding of Islam that might lead to political crisis, economic problem and social problem. It is not only related to Islamic belief, but comprises all issues related to misconception of Islam, the abandonment of duties and lack of commitment as a Muslim. If it is for the production in the television, the production team has to think the most relevant issues to be highlighted but it is constrained by some government policies and gatekeeper who may decline to raise this issue for some reasons. However, for the YouTube production, Muslim activists have a broad opportunity to raise all issues and highlight it for public attention. Maybe these issues seem to be unimportant for some people, but from the perspective of those activists some of these issues are important. The new media is a shortcut medium to voice up all these issues for public attention. The public can benefit directly from this documentary and in the meantime, they can give feedback, including if the facts and information presented is wrong or deficient.

New media provides lots of opportunity for Muslims to produce a short documentary due to no or little gatekeeper as in traditional media. They can utilize YouTube to upload this kind of production and benefit from Facebook to spread the production quickly. Since the new media is a must in this modern society, this production can be used not only for sharing information, but also for influencing perception and pressuring authorities. This medium is open to the public without or less restrictions from the authorities. This concept of production in the new media is called *Citizenship Journalism* that is different to *Traditional Journalism*.

CJ refers to the publication via the website can be done by the public in the work of journalism. It includes activities such as blogging about current issues, sharing photos and videos, post your own witness-based on current issues (Allmond Codrington Goode, 2009). It is a term that is given to activities that give the space open to the average person to produce any of their views through new media. In countries that adopt the closed media policy and the system of regulating the freedom of the media, CJ is a medium to be able to speak of the people who oppose Government policies because sometimes the Court media more efficient from the report to the authority party. Therefore, CJ acts as the medium used by the impeller for pressing a particular party to follow their claims. Without the need for labour and high costs, a video can be uploaded for public viewing.

In short, raising the controversial issue in the public sphere is a shortcut approach to raise the public consciousness. It also can be a pressure to the authoritative bodies due to bringing issues to the court, sending the complaint in the online system, or doing public complaint sometime do not work smoothly. There are some technical issues and bureaucracy constrains that may the complaint is fruitless.

The management of the course
Since 2000, the average number of students of the module of communication is 18 students. It is based on the number of sit offered in the department because the seat is around 60. Since the department has three modules, each module consists of 20 students in average. The tabulation of the student is shown in Table 1.

Table 1: Tabulation of the students for DPEM from 2010 to 2015

Name of The Course	2010/2011		2011/2012		2012/2013		2013/2014		2014/2015	
	1	2	1	2	1	2	1	2	1	2
Daʿwah Production Electronic Media		29		20		16		17		17

The table shows the average number of students is 20. During the semester 2010/2011 the number of students was 29 because it is a combination between semester 3 and 5 because this course is not offered in the previous semester. In 2011/12, the student intake was higher than next three semesters. At the same time, there are some students who change the module.

Apart from that, when this course taught in semester 2010/2011, the emphasis was given to the skills of making short documentary. Due to the short time to provide students with the skills, students were given two days intensive course to equip them with minimum technical skills especially in handling video camera and using software for editing. Although some students have been exposed earlier with these skills, this intensive course could standardize all students with these skills. Besides, along with the semester, the students were guided to have a critical reflection to observe the relevant and the current issues about Islam and Malay culture that may contradict with Islam. The students were assigned in three students per group to make a short documentary on current issues related to Islam and Muslims. The evaluation was given to the relevancy of the issues and the quality of the visual presentation in that documentary.

In semester 2011/2012, a little improvement has been made in this course. The students were guided to write the script that critiques the audiences who may abandon and ignore their duties as a Muslim or may have misunderstood about Islam. Various examples have been given to students as a guide to build a good script. Besides, students were given a few guides to be a host as in a real segment based on the script. The task remains as in the previous semester, but the task was divided into two; namely editing footage and making the short documentary. The reason for inserting "editing footage" as a part of the assignment is to ensure the students have the technical skills as a prerequisite to make the video. The task has to be submitted in the first four weeks of the semester. For this semester, the evaluation of the course is more structured because it combines all the skills needed for making the video. 40 marks allocated for the final exam and 60 marks for the assignment. The assessment of the assignment was as follows

Table 2: Types of the Assessment

No	Type	The assessment	Marks
1	Visual presentation	The technique of video shooting	20
2	Choosing the relevant issues	The way of the issue is presented	20
3	Good script	The most criticise is much better	10
4	Good presentation (hosting)	The way host is doing the presentation	10

During the semester 2012/2013, the similar approach was carried out as in the past semester. However, there is a little improvement made in which the editing task was given to each student instead of by group. The reason is to assess all students using the software because editing skill is a fundamental skill in electronic productions. This task should be given individually, not in the group. In semester 2013/2014, the improvement was made to the approach of the study. Normally the theory is taught earlier than the practice, but here the practice is earlier than the theory. The reason is to give students a much time to make the best video because bases in the past experiences the students are hurrying to complete the assignment, especially at the end of the semester they have to prepare a lot the assignment for other courses.

Indeed, this course involves five different skills to be nurtured in a semester. It is quite tough. To harness the skills of recording hardware and editing software, an intensive course is conducted before the beginning of the semester to ensure students have been provided with basic knowledge and skills. Since the technical skill is an intangible knowledge that cannot be transferred by a few sessions of lecture in the classroom, it needs the hands-on activity and continuous practice and training. Therefore, this course combines all skills together to make the sort documentary.

RESEARCH METHODOLOGY
This is a qualitative study using questionnaires to get data from students of semester 2012/2013. The objective of the study is to analyse the feedback of the students when some improvement was made to the course. It will answer the research question whether or the course could achieve more than the third Bloom Taxonomy. The bloom can help to determine the effectiveness of TL of this course. Since this course has difficulties to train students with all these skills in a semester, three constructs were asked; the adequate time to complete the assignment, the enough exposure theory and the enough training for technical skills. A total of 13 respondents have responded the questionnaires out of 16 students.

RESULT
Here are the results descriptively based on 13 of 16 students who follow this course in semester 2, 2012/2013. These findings are divided into four based on the four skills that are given to them.

	Adequate time		Enough Exposure theory		Enough training			
	Yes	No	Yes	No	Yes	No		
Editing	12	1	9	0	9	2		
Script	5	1	3	3	3	3		
The selection of issues	12	1	11	2	12	1		
Hosting	8	5	9	4	13	3		
Total Yes	**37**		**32**		**37**		106	82%
Total No		**8**		**9**		**9**	26	28%

    a.   Editing video

Generally, 92% respondents agree with the adequacy of time given to complete the assignment because it is given in the first week of the semester. Those who still perceive not enough time is perceived because of lack of skill in using the equipment and software that causes delays of work. Four respondents propose the enhancing intensive training that is currently organized in two days. It means that the course is inadequate to train the students, perhaps because of little or lack of knowledge and experience in handling video camera and using the software for editing. However, they always be reminded for self-exploration to improve the technical skills, as it is an intangible knowledge that need continuous training. Besides, there is a complaint about the university facilities such as computer laboratories and the slowness of the Internet connection.

Based on the evaluation of the assignment, it is found that they can do the assignment accordingly. It can be said that the complaint for inadequate training and lack of facility is a reason by a small number of students. As for inadequate training, actually they can find the alternative such as the tutorial on YouTube and as for the problem of the Internet connection; there are some areas in the University that have a good Internet connection. It can be said that, the constraints are inevitable, but the lecturer and the university have given their truly efforts. The students have to manage their studies and set up priorities to manage their learning effectively.

From the assessment of the video, the students could achieve more than the third level of the Bloom Taxonomy because they can do the design, manufacture and categorize the material they produce it. They could reach the level of analysis as well as a synthesis when they are able to make films and recording related to current issues that are sorted in order of logical and appropriate submissions.

b.   The script development

The writing a good script for short documentary is a challenge for the students who are beginners in this field, though they have been given an ample time and an example of the script. Based on the Table 2, 50% of respondents feel inadequate theory and attention to complete this assignment. In other words, they face difficulties to write a good critical script. Actually, at the beginning of the semester, they have been briefed to manage the script in time because the writing skill is a common problem among students. Indeed, the short documentary related to Islam needs the rational and structured arguments to infuse the rational and the emotion of audiences. Nevertheless, along the semester, they have submitted the scripts to the lecturer many times, but it was rejected for the improvement to become a good script. In terms of time given to complete the assignment, the respondents are comfortable with the time, but they could not complete the assignment in time.

Based on the feedback of the study, the script development is second challenge in this course. Due to the effectiveness of the short documentary is closely related to the quality of the script, the intensive training of script writing is needed and this task is not a group task, but it should be an individual task. Based on the evaluation of the results of the assignment, it is found that the students are able to write the script even the submission is late. It can be said that it can achieve at least third level of Bloom Taxonomy. In fact, they could achieve the fourth level that is the level of analysis because writing the script needs the critical reflection of the society.

c.   Selection of current issues

Throughout the course, the main problem is that to identify the relevant the issue to be highlighted of public concern. They are required to present and discuss the reason for choosing these issues. The studies found 92% respondents are satisfied with the time and the theory and the guide that have been given in choosing the relevant issue. The Table 2 shows that only a student perceives inadequate time to carry out this task. Actually, this task needs a wide reading on social issues with the sharp observation on the society from *da'wah* perspective. It is hard to be trained in a semester, but getting involved in the society and continuous training will help to identify the relevant issue easily.

The improvement can be made by listing several important issues as a case study to be discussed in the classroom. The discussion can give a deep understanding of how to identify the relevant issue. Besides, they also can develop a script from the discussion from the beginning of the semester.

Based on feedback from students and assessment of the results of assignments, they successfully conducted assignments accordingly, even though in the beginning of the semester there is a little challenge in identifying the relevant issues. They are also able to make a critical assessment of current issues that enable them to reach the level of the fourth and fifth Bloom Taxonomy.

d.   Hosting Skills

The nervous in front of a video camera is a common problem unless who are familiar with the camera. However, this problem can be slowly reduced with a proper training. Based on Table 2, 5 of 8 respondents perceive insufficient time and training provided by this course. It is due to the training for hosting begins after the editing video is done and the script is well prepared. Actually, this skill should be focussed from the beginning of the semester because it consists of many skills such as self-confidence, voice intonation and way of presentation. The improvement in this part is by focussing on hosting as early as possible after the script has been approved. Furthermore, the task can be given not necessarily to one student, but the host can be paired to ensure the training involves many students.

Based on the evaluation of the video, the students are able to become the host with a good presentation. Though there are some weaknesses, they tried to be confident in front of the camera. This means that they are able to achieve at least the third level of application of the Bloom Taxonomy.

CONCLUSION

The making of short documentary requires both technical and non-technical skills. By the increasing of the Internet penetration and the computer literation among the younger generation, these technical skills are no longer a main constraint in producing many short videos in new media. In fact, these skills have already nurtured in this generation by its nature because they live in the era of communication technology. They are known as "generation z" in which the attribute is different to the previous generation. Therefore, it is expected in the next short future, many short documentaries will be produced in new media. Today, we can see in social media, many videos have been in social media. The main question here is about the content of the video in the next five years, whether it is related to the interest of Islam or not. This question could be answered today because the effort of *da'wah* is related to the deep understanding of Islam and the high motivation to spread Islam among this type of generation.

This study contributes to the effort in injecting awareness the students who are living in the era of Generation Z for the techniques of producing a short documentary related to Islam. The citizen journalism is a good concept to describe the effort of doing *da'wah* in an online environment because it is a responsibility of all Muslims. Although *da'wah* can be carried out by authoritative bodies or who are assigned for duty, they have a limitation. If this duty is carried out by many Muslims, the messages of Islam can be delivered to all mankind. This study is an attempt to test whether the non-technical student can develop these skills by themselves or need more attention from the lecturer. The result found that the majority of the student can manage to produce the short video with a little attention from the lecturer. Therefore, it is expected in the next future, many more video related to the interest of Islam can be done in new media.

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THE INSTRUCTION METHODS IN TEACHING MATHEMATICS TO PRESCHOOL STUDENTS WITH SPECIAL NEED

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ABSTRACT

Researches indicate that students with special needs having difficulty during the school life in mathematics skills. Therefore, early childhood is critical especially in gaining mathematics ability to the preschool students with special needs. İn these period, using the most appropriate teaching methods is so important for the students with special neeeds. The aim of this article is analyzing the articles and defining teaching methods or programs using in the researches to teach the mathematics to the preschool students with special needs. The articles were searched from the researches publishing in 1990-2015. The articles were selected as the criterions; participants must have been preschool student with special needs and teaching a mathematical skills. Accordin to these criterions 15 articles was selected using an instruction method or program to the preschool students with special needs. The selected articles was analyzed according to their research models, participants, dependence variables and wheather using reliability, social validity, generalization, and maintenence datas. Finally the findings which is obtained from the articles were discussed and reported.

İNTRODUCTİON

Preschool education is accepted as the period when children form a basis for motor, cognitive, language, socio-emotional and self-care skills. İn this period, supporting the academic skills that take part in the scope of cognitive development positively affect the academic skills in primary school period. Children in preschool period obtain and start to use the basic mathematical conceptions in their daily lives that provide the basis for the academic skills they will acquire in primary school. Preschool period has a critical role as it is the period when children start to have either positive or negative attitude towards mathematic.

İt is advised that children who make a typical progress in preschool period should be supported in their education environment in terms of classification, matching, comparing, sorting, counting, operations (simple addition and subtraction operations), position-in-space, simple geometric shapes, measuring and graphic reading skills (Aktaş- Arnas, 2015; Ministry of National Education / Preschool Education Program, 2013). Children who make a typical progress in preschool period usually acquire these concepts and skills related to mathematics during concrete experiences in their daily lives. Therefore, rather than transferring knowledge directly, in mathematic teaching, activities such as preparing a stimulatory environment, providing guidance and experiences with concrete materials are preferred for these children who make typical progress (Aktaş- Arnas, 2005).

On the other hand, it is not possible for preschool children with special needs to learn mathematical skills and concepts by themselves like many other skills without being presented any systematically instruction. That's why, in mathematic teaching, methods, suitable for individual needs, having a scientific base, and that is efficient, should be designed systematically for preschool children with special needs. İt is believed that the quality of education in mathematic teaching provided for preschool children with special needs will increase if the type of methods and the way to apply them is known by teachers. Knowing these methods is of critical importance as teachers have an application protocol that they can use in education environment.

Mathematics interventions to teach mathematical conceptual concepts and procedural fluency for students with special needs should include systematic instruction in a small group with possibly supportive coaching by the teacher (Bryant et al.,2011) and also it was suggested that explicit teaching of basic numeracy skills. When literature on this issue is investigated, it can be seen that a great number of reviews and meta- analyses (Butler, Miller, Lee ve Pierce, 2001; Grasso, Dipipi-Hoy and Jitendra, 2005; Browder, Spooner, Ahlgrim- Delzell, Harris and Wakeman, 2009 and Hord and Bouck, 2012) have been conducted about teaching mathematic with special needs.

When the researches in literature are examined, it can be seen that the researches in the mathematics instruction generally focused school term students with special needs and researches related to the mathematics instructions

in the preschool term generally focused on the students without disabilities. So in the literature there are limited researches related to both mathematics instruction and preschool students with special needs and also there existed no reviews and meta-analysis studies on the methods used in mathematic teaching to preschool children with special needs. Considering these limitations, it is necessary to determine the quality methods that will be used to enable preschool children to gain basic concepts and skills in mathematic. Keeping all these points in mind, the aim of the study is:

1.Defining the articles instructing mathematics to the preschool students with a special needs.

2.Defining the instruction methods and programs using in preschool mathematics to the students with special needs.

3.Making descriptive analysis of the selected articles according to the specified criterions.

METHOD

In this research a qualitative approach is structured and descriptive analysis were used to analyze the criterions. The articles were searched articles beginning in 1990 and 2015 in the databases. First 59 articles were found related to mathematics instruction in preschool students with special needs. After analyzing the researches, 15 articles selected according to criterions which are using an instruction method or program for preschool students with special needs. İn searched articles' participants were also selected as their special needs which are learning disability, discalculi, mental retardation, developmental delays, autism, down-syndrome etc. Because of the diffuculties in defining student with special needs in the preschool term, students who defined low ability in mathematics after determining students with a scale are included to the participants. Searching procedure was used by Library Databases and electronical databases (EbschoHost, Proquest, National Thesis Centre (www.yok.gov.tr). İn search also the key words used as "preschool students, mathematics education, special education, special needs, students with disability, early childhood, early numeracy, early number sense".

FINDINGS

The articles about mathematics instruction to the preschool students with special needs was analyzed with the specified criterions. The findings were presented in each title including different criterions.

The findings according to the scientific method.

İn these 17 articles three different scientific methods were used. These are experimental studies, single case studies and qualitative studies. The numbers of articles using these scientific methods are shown in the Table 1.

Tablo 1. The number of articles using scientific methods

Research Model	Number of Articles
Experimental studies	12
Single Case Studies	4
Qualitative studies	1

According to Table 1, %70 of these articles about mathematics instruction about preschool students with special needs are experimental studies, %24 are single case studies and %4 are qualitative studies. The articles using experimental methods are shown in the following Table 2.

Table 2. The articles using experimental methods

Article	Number of participants	Type of Disabilities	Model	İndependent Variable	Dependent Variable
Alfonso,2003	41	DD	Pretest-Posttest	Computer Games	Counting
Barbosa,2004	11	Autism DD MR	Pretest-Posttest	Microgenetic methodology	Matching Counting Computation
Aunio,Hautamäki & Van Luit,2007	90	At risk for LD(33), LD(12)	Pretest-Posttest	Let's Think Math	Number sense Counting Gometry
Baroody, Eiland & Thompson,2009	80	At risk for LD	Pretest-Posttest	Manipulatives Computer game	Number sense Aritmethic

Green,2014	50	DD	Pretest-Posttest	Preschool Numeracy İndicators	Early numeracy
Kroesbergen,Van Luit, Van Lieshout, Loosbroek & Van de Rijt, 2009	115	At risk for LD	Pretest-Posttest	Determining Math Abilities	Numeracy Language Executive Functions Subitizing
Reynolds,1994	1052	At risk for LD	Pretest-Posttest	CPC(Child parent center)	Counting Precondition Skills
Sood & Jitendra, 2011	61	At risk for LD	Pretest-Posttest	Number sense instruction	Number sense
Van Luit & Schopman, 2000	62	At risk for LD	Pretest-Posttest	Number sense instruction	Number sense
Velasco,2009	26	At risk for LD	Pretest-Posttest	Touchmath	Addition
Young-Loveridge, 2004	106	At risk for LD	Pretest-Posttest	Computer games Books	Early numeracy

According to table 2, most of the articles use pretest-posttest analyzing method for defining the effectiveness of their instruction methods. The articles using single case design are shown in Table 3.

Table 3. The articles using single case design

Article	Number of participants	Type of Disabilities	Model	İndependent Variable	Dependent Variable
Daugherly, Grisham-Brown ve Hommeter, 2001	3	DD	Multiple Probe Design	Embedded İnstruction-Constant Time Delay	Counting Colors
Davenport.2012	3	At risk for LD	Multiple Baseline Design	Embedded instruction	Numeracy
Krohn,Skinner, Fuller, 2012	4	At risk for LD	Multiple Baseline Design	Tape Assisted instruction	Discrimination of numbers
Öz, 2008	2	At risk for LD Speech Delay	Multiple Probe Design	Home based early intervention	Number Sense

According to the Table 3, there's no articles using a comparative model specialized as single case design. All of the articles aim to determine the effectiveness of their instruction methods. 2 the articles (%50) use multiple baseline design, 2 articles use (%50) multiple probe design. The articles using qualitative research models are shown in the following Table 4.,

Table 4. The articles using qualitative research model

Article	Number of participants	Type of Disabilities	Model	İndependent Variable	Dependent Variable
Colker, etc. 1990	13	Mental retardation	İnterview Presentation	Using video	Math and science ability

İn the literature review there's only one article about an instruction method for preschool students with special needs. İn this article Colker, etc (1990), interviewed thirteen students with mental retardation about their math concepts and presenting how to prepare a video format for teaching abstract skills as a concrete skills. The target population is also a large group of audiences in the articles.

The findings about participants

17 articles were analysed in this research and totaly 1722 participants were participated to the researches. İn only one article 2 parents were participated as instructor at home as a part of home based instructions. The other 1700 participants are preschool students with special needs. Some of the articles use control groups in their articles and the datas of these articles are shown in Table 5.

Table 5. The number of participants

Type of Participants	Number of Articles	Number of Participants
Experimental Group	17	1636
Control Group	3	84
Total	17	1720

However the other data is the age of participants, lots of articles couldn't give the age of each participants because of the huge number of participants. İn this articles average age of the participants were given. All of the articles the age participants are in 4 to 7. According to the gender of the participants are shown in Table 6.

Gender of Participants	Number of Participants
Girl	570
Boy	998
Not defined	154
Total	1722

The other property is the participants' disabilities. İn 17 articles students are categorized as Mental retardation, development delays, Autism, learning disabilities and being at risk for learning disabilities according to the standardized test scores.The number of students who are classified as their disabilities are shown in Table 7.

Table 7. The number of students with different types of deficiency

Type of deficiency	Number of prticipants
Mental retardation	15
Developmental delays	103
Autism	8
Learning disabilities	12
At risk for learning disabilities	1581
Normal	2 (Parents)
Total	1722

In Table 7 it's easily seen that most of the participants (%92) are at risk for learning disabilities. These participants are identified by the standardized test about math concepts and prerequisite skills. The other type of disabilities (%8) are less in the selected articles. This datas demonstrate the compliance with the literature which is claimed the difficulties of the diagnosing of the students before primary school.

The findings about dependent variables

In 17 articles the dependent variables are shown in Table 8.

Table 8. The findings about dependent variable

Dependent Variable	Number of Articles
Number Sense	8
Counting	5
Computation	2
Preresequite Skills	3
Mathematics ability	1
Matching	1
Geometry	1
Mathematics vocabulary	1

According Table 8 number sense (%47) and counting skills (%29) are mostly used in the articles. These findings are compliance with the preschool mathematics program teaching to the preschool students. Using prerequisite skills (%18) as a dependent variable is also important for the literature because of its compulsory property.

The Findings about Reliability and Validity

Inter-observer reliability, generalization, maintenance and social validity datas were important for the literature of the feasibility and reliability of the and instructions' results. İn this review these datas are analyzed from the articles. Using these datas are shown in the Table 9.

Table 9. The number of articles with reliability and validity data

Analysed Data	Number of Articles
İnter-observer Reliability	5
Generalization	5
Maintenance	8
Social Validity	2

According to Table 9, it's easily seen that maintenance datas (%47) are used in the articles. İnterobserver reliability and generalization datas are used in 5 articles (%29) and social validity datas are used only in 2 articles (%12). When we analysed the articles, it's easily shown that the articles using single subject design are mostly used these datas in their researches and also only one articles using experimental designs is used these datas except social validity.

The findings about independent variables

Using an instruction method or a program are important for the preschool students with special needs. So in this research instruction methods and programs are analyzed. The findings of these datas are shown in Table 10.

Table 11: The number of articles about their results

	Instruction methods and programs	Number of Artiicles	Effectiveness
Instruction Methods	Direct instructions	1	+
	Touchmath	1	+
	Embedded instruction	2	+
	Using computer	2	+
	Using technology	1	+
	Constant time delay	1	+
	Tape assisted instruction	1	+
	Using manipilatives	1	+
	Using books	1	+
Programs	Microgenetic methodology	1	+
	Home based early interventions	1	+
	Preschool Numeracy İndicators	1	+
	Number sense instructon program	3	+
	Let's think (Adey et al.,2001)	1	+
	Math (Van Luit & Schopman, 1998)	1	+
	CPC (Child parent Center)	1	

In Table 11, it's easily seen that there's no commonly accepted instruciton methods and programs in teaching mathematics to the student with preschool students with special needs. But if we accept computer as a technology using technology is mostly used in the articles (%18) and as a program number sense instruction program is also mostly used in the articles (%18). The important findings of this research is the results of the articles. All of the instruction methods and programs are found as effective to teaching mathematics skills to the preschool students with special needs.

CONCLUSİONS

The aim of this research is searching the literature which is related teaching mathematics to the preschool student with special needs and defining their research models, participants, instruciton methods and dependent variables. According to these aims there are lots of important findings to contribute the literature. Firstly, however there are lots of articles about preschool math education, but there are limited articles about instruction preschool math to the students with special needs. This findings are contribute the misconsuptions in the literature as teaching mathematics is not priority aim with the students with special needs. This is also important for the future studies. The other findings are; however single subject design is most commonly used method as a research model in special education, there are a few articles using single subject design. İt is suggested that articles using single

subject design must increase in the future researches. The last important way of this research is the type of the participants' disabilities. İn literature there are lots of articles claiming the difficulties of the diognasing the students before the school life. According to this research's findings, students at risk for learning disability is the largest group in all participants and most of these participants diognased by the researchers of these articles by teh standardized test. Therefore this finding is important for defining this problem of special education and the articles diagnosing preschool students must increase in the future researches.

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THE INVESTIGATION OF THE EFFECT OF COMPUTER AND TECHNOLOGY SUPPRETED TEACHING APPLICATIONS ON STUDENTS' ACCESSIBILTY ABOUT THE TEACHING OF THE TOPIC OF ENERGY

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ABSTRACT
In this research, effectiveness of computer and technology supported teaching applications on students' accessibility about the subject of "energy" in grade 9 was studied. 90 students from different classes in a public school in the centre of Ankara were used as 2 control and 2 experiment groups, which constituted the research sample in the second semester of 2013-2014 educational year. The survey was a semi-experimental study based on the 'Control Grouped Pre-test and Post-test Model'. According to Fraenkel and Wallen (2006) experimental researches are the most valid and reliable ways to observe the effects of the variable and to test the cause and effect relationships. "Accessibility test of the topic of energy" prepared by the researchers was used as a means of collection of data. Pre-test before the intervention, post-test after the intervention, and retention test 4 weeks after the application were applied. For statistical analysis of the collected data, descriptive statistical methods (mean, ± standard deviation, percentage) as well as independent samples T-test, one-way ANOVA and LSD test cross-table were used. As a result of analysis, it was found that, both post-test results of the students in the experimental group, in which computer and technology supported lessons were carried out, and post-test results of the students in the control group showed a statistically important increase. However, while the increase was found to be % 189 among the group of students where computer and technology supported lessons were carried out, it was found to be % 128 among the other group where regular educational program was carried out. According to retention test applied to both groups, 4 weeks after the intervention, while the loss found to be % 2.3 for the group of students where computer and technology supported lessons were carried out, it was found to be % 9.5 for control group where regular educational program was carried out. Thus, it was concluded that, comparing with classical teaching applications, computer and technology supported teaching practices were more effective on increasing students' accessibility and maintaining retention.

Key words: Technology supported teaching, students' accessibility, retention

INTRODUCTION
Continuous changes of the societal structure and rapid improvements in science and technology influence education system and entails new approaches. The uppermost approach to the education is to utilize computers, which are considered as the most effective means of communicating and personal teaching. In these early days of the 21st century of information society, we enjoy important developments from definition of trained person to content of education and increase and diversification of sources of knowledge to the newest methods of teaching and learning. Computer assisted learning media expands rapidly and is getting effectively used. As one of the purposes of education is to grow individuals in line with society's requirements, there raises an obligation to train students, keeping in mind the feature of information societies.

Since computers allow features such as personal learning rates, active participation, immediate correction, gradual advance, they stay ahead of the other teaching tools (Çepni vd., 2006). Applications related to using computer as a means of learning-teaching in activities like directly communicating contents of courses, repeating learnings

received through other methods, problem solving, doing researches are called "computer assisted education". It is possible to develop various types of materials that address to more sense organs if technology is used, therefore one of the major contributions of technology for education is about preparing course materials (Sönmez, 2003). On the other hand, Hannafin and Peck (1989) defines computer assisted teaching as transmitting educational contents or activities to the student via computer. Computer incorporates into teaching process not as an alternative to teacher but a supplementary and strengthening tool to the system. In science literature, there are studies already done with respect to influence of computer and technology assisted teaching on students' success and behavior (Öz, 2002; Çepni, Taş & Köse, 2006; Olgun, 2006; London, 2005; Wilder, 2006; Kahraman, 2007).

When it comes to contents, espacially science courses are convenient for applications of computer assisted teaching, This is because, scientific concepts and principles are mainly contained in these courses and appropriate teaching techniques may be utilized as visuals during development stage of course softwares. Also, computer assisted teaching is effective in terms of gathering attention especially during science courses, when compared to other techniques, as findings suggest (Hounshell & Hill, 1989). It has been identified that students in the experimental group, to whom computer assisted teaching was applied during Kahvecioğlu's (2007) visual arts course, became academically more successful compared to students in the control group, to whom conventional teaching method was applied. According to Cüez (2006), for 8th graders, e-enabled science teaching is effective comparing to the conventional method. Demirer (2006) concluded in her study applied to the secondary students that computer assisted science teaching is effective over conventional method in terms of acquisition, permanence and student's success.

Permanence of the information learned plays a fundamental role for students' academic success (Tatar, 2006). We should prefer information that may be used in daily lives and will be remembered for a long period of time rather than information to be immediately forgotten or memorized only (Yaman, 2003). Aim of this research is to determine impact of computer and technology assisted teaching on students' acquisitions and permanence of information, in the course of teaching "ENERGY" subject to the 9th graders.

METHOD

Study Model
This research, examining the influence of "computer and technology assisted teaching" on determining 9th graders' academic levels in reference to "energy" topic and enhancing these levels, is a quasi-experimental research based on the "Control Group Pre-test and Post-test Design".

Study Group
Study group of this research includes 9th grader students of 90, from 4 different classes by the same teacher who taught during 2013-2014 educational year in Ankara, in a public school affiliated to the Ministry of National Education. In this study, a computer and technology assisted teaching program has been applied to the experimental group. This application lasted for four weeks and 12 courses. 15 open-ended questions, developed for the first time and tested against validity and reliability by the researchers, were asked to the experimental and control groups. At the end of this application, two classes with the lowest and the highest average points were designated as control group, while the other two classes with intermediate average points have been designated as the study group, thus forming two groups with equal average points. After four weeks following the process, the post-test was applied. And after four weeks following the post-test, the same 15 open-ended questions were applied; results didn't change. A and B classes of the experimental group included 43 students, while C and D classes of the control group included 47.

Data Collection Tool
In this study where impact of computer and technology assisted teaching application on teaching the topic of energy to the 9th graders, 15 open-ended questions developed by the researches has been used as the data collection tool. Before preparing these questions, energy section included in the reference book of the course was examined, and a form including 25 questions was created. This form of questions was reviewed by 3 professors and 1 teacher, before the final version. Each question is 10 points.

Analysis of Data
Descriptive statistical techniques like arithmetic mean, standard deviation, frequency and percentage were used for analysis of data, Mann Whitney's U-test was used for testing significance of differences between pre-test and post-test points of the control and experimental groups, and Wilcoxon signed-rank test was used for testing relationships between dependent variables. Significance level of the research was decided as 0.05.

FINDINGS

Exclusively, impact and permanence of computer and technology assisted teaching application on teaching energy topic to the 9th graders were identified in this section. In Table 1, data in relation to the pre-test, post-test and permanence of experimental and control groups.

Table 1: Experimental and Control Groups Test Results

	Experimental Group		Control Group	
	$\overline{x}$	Standard Deviation	$\overline{x}$	Standard Deviation
Pre-test	42.58	19.82	42.85	18.79
Post-test	123.16	12.07	97.85	20.12
Permanence Test	117.79	12.91	87.49	21.52

Based on results of analysis, for experimental and control groups, pre-test averages are closer, while post-test and permanence averages differ. Statistical analysis of these identified differences are shown in Table 2.

Table 2: Comparison of Pre-test Results of Experimental and Control Groups

	Research Groups	N	Mean Rank	Mann-Whitney U	Z	p
Pre-test	Experimental Group	43	45.28			
				1001.000	-,077	,939
	Control Group	47	45.70			

Significance of difference between average points of pre-test of experimental and control groups was analyzed, and the difference identified in the pre-test was found to be statistically insignificant (p>0.05).

Table 2.1   Comparison of Post-test Results of Experimental and Control Groups

	Research Groups	N	Mean Rank	Mann-Whitney U	Z	p
Post-test	Experimental Group	43	62.05			
				299.000	-5.756	0.000
	Control Group	47	30.36			

Based on the comparison of analysis results, a statistically significant difference was found between the experimental and control groups (p<0,05). It can be construed from this finding that computer and technology assisted education is more effective compared to the conventional education method, considering students' academic success.

Table 2.2   Comparison of Pre-test and Post-test of Experimental Group

	N	Mean Rank	Z	p

	Negative Rank	43	22		
Pre-test*Post-test	Positive Rank	0	0	-5.712	0.000
	Even	0			

According to Wilcoxon sign-rank test carried out to examine the difference brought by the education system applied, there is a statistically significant difference between pre-test and post-test averages of the experimental group. This difference is in support of the post-test, and this proves that education system applied to the experimental group is effective.

Table 3: Comparison of Experimental and Control Groups in Permanence Test

	Research Groups	N	Mean Rank	Mann-Whitney U	Z	p
Permanence	Experimental Group	43	63.36			
				242.500	-6.212	0.000
	Control Group	47	29.16			

For the comparison of permanence test results between experimental and control group, difference between two study groups has been found to be statistically significant (p<0,05). When it comes to mean rank of the control group, value is found to be higher. Briefly, permanence test average of the experimental group is higher than the control group, and since this difference is significant, it can be interpreted that, on statistical permanence basis, computer and technology assisted education helps students keep information in mind for a much longer period. Pre-test and post-test data belonging to each class of experimental and control groups are presented in Table 4.

Table 4: Averages of Pre-test and Post-test by Classes

	Experimental Group				Control Group			
	Class A		Class B		Class C		Class D	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Pre-test	37.45	18.68	47.95	19.97	33.50	11.20	51.08	20.40
Post-test	116.45	11.27	130.19	8.44	79.55	10.92	113.96	9.68
Permanence Test	111.36	11.70	124.52	10.65	69.36	12.22	103.44	13.81

If Table 4 is examined, it can be understood that post-test mean points of experimental and control groups are higher than the pre-test mean points. Yet, academic success is improved better in classes included in the experimental group rather than control group. When increases in pre-test and post-test averages of classes A and C (the lowest mean points) of the experimental and control groups are analyzed, the academic success increase of class A in the experimental group is found %210,95, while class C in the control group is %137,46.

CONCLUSIONS

As a conclusion, while teaching "Energy" topic, a significant difference has been determined in terms of post-test academic success results between the students of experimental group, to whom computer assisted teaching method was applied and those in the case of conventional teaching methods. This difference has been identified in support of the students in the experimental group, to whom computer assisted teaching method was applied. In other words, academic success results from the post-test of the students of experimental group who received computer assisted education is higher, compared to the students of control group who received conventional education. Based on these results, while teaching science, computer assisted teching method is more effective than the conventional teaching method, as may be inferred from students' increased academic results.

It may be seen from the relevant literature that computer assisted teaching is effective on students' success. This result is confirmed through a number of researches of various fields and levels, in Turkey and foreign countries (Yenice, 2003; Hançer, 2007; Akçay, Aydoğdu, Şensoy & Yıldırım, 2005; Pektaş, Solak & Türkmen, 2006; Yiğit &Akdeniz, 2003; Çepni, Taş & Köse, 2006; Reed, (1986) ; McCoy, 1991; Traynor, 2003; Dockery, 2006; Liao, 2007). From these researches, it has been understood that using computers for educational purposes significantly increase success rates, while teaching science. These results prove the results of this research.

RECOMMENDATIONS

Especially while teaching science topics, using computer assisted teaching method will help students materialize abstract concepts and provide meaningful learning, and will give chance to apply and consolidate what they've learned. The more sense organs students use, the more effective and permanent the learning will be. For this reason, teachers should utilize teaching methods and tools for their students and ensure that teaching focuses on as many sense organs as possible (Akçay vd.).

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THE INVESTIGATION OF RELATIONSHIP BETWEEN TEACHER CANDIDATES' GOAL ORIENTATIONS AND EPISTEMOLOGICAL BELIEFS

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ABSTRACT

Individuals' subjective beliefs about knowledge is defined as an epistemology. Epistemological beliefs of individuals has the potential in developing the curriculum. A motivational approach that attempts to explain the purpose of learners' participation in teaching activities is called goal orientation. Learners' goals of participating in teaching activities affect ways of participation to learning activities, participation levels and maintaining level of participation. The purpose of this study is to examine the relation between teacher candidates' goal orientations and the belief that learning depends on effort. In this study, correlation method was used. The achievement goal orientation scale and the scale of belief that learning depends on effort, which is the subscale of the epistemological belief scale. The data are collected from 161 teacher candidates. Pearson Product Moment Correlation and stepwise regression analysis method were used in data analysis. The results of the study showed that there was positive and significant correlation between belief that learning depends on effort, learning orientation and performance-orientation approach. On the other hand, there is no significant correlation between performance-avoidence orientation and belief that learning depends on effort.

Keywords: epistemological belief, achievement goal orientation, teacher training

INTRODUCTION

Epistemological belief implies that what the knowledge is, how it is acquired, its clarity level, constraints, assumptions that the individuals possess about its obtainment criteria (Perry, 1981). From that point, epistemological beliefs can be told as five dimensions which are structure of knowledge, its origin, clarity, rapidness of its obtainment and its control (Schommer, 1990). The faith of the people who have improved epistemological beliefs is high that the knowledge is complicated instead of being simple, changing instead of being constant, the learning is realized in course of time not on a sudden and the ability is not by born, but improves in advance (Deryakulu, 2004).

The scale about acquiring the epistemological belief levels of the university students is developed by Schommer (1990). That scale is adapted to Turkish by Deryakulu and Büyüköztürk (2002). At the end of the study, it is found that the scale has a structure with three factors. These are 'belief that learning depends on effort (BLDE) 'belief that learning depends on ability (BLDA)' and 'the belief that true is one (BTO)'. It can be stated that BLDE of those factors is a sophisticated epistemological beliefs while the others are naive epistemological beliefs. Effort is internal and at the same time has a controllable by the individual (Gredler, 2001). It is an important factor in active learning. Because students actively participate learning process and spend effort to learn new skills. To apply active learning methods in their classroom teachers must believe learning depends on effort. For that reason, it is required to improve BLDE of teacher candidates.

In that research, the BLDE of teacher candidates is identified as a dependent variable and it is researched that the achievement goal orientations of those candidates has an effect on their BLDE or not.

While learning-oriented students consider the aim of school as the acquisition of skills that will be taught, performance-oriented students think that as obtaining positive judgments about themselves or avoiding negative judgment (Slavin, 2000). In this context, students may be learning-oriented, performance approach and avoidance-oriented according to their achievement goal orientations. While learning-oriented students prefer

activities that let them learn something new, performance approach-oriented ones prefer activities that cause to demonstrate their ability to others. The students with performance avoidance orientation refrain from activities that are going to demonstrate that they have low ability (Ormrod, 2006).

Ames & Archer (1988) and Harackiewicz, Barron, Tauer, Carter and Elliot (2000) have found that students with mastery goal orientation more use deep learning strategies (Arslan, Usta and Sahiner, 2012) and attitude toward class than students with performance goal orientations. Mastery goal orientated students prefer challenging tasks. They attribute success to effort. Performance goal orientated students attribute failure to ability (Ames and Archer, 1988; Graham & Golon, 1991; Gredler, 2001; Tuominen-Soini, Salmela-Aro and Niemivirta, 2008). Mastery goal orientation is negative correlated, performance approach and performance avoidance is positive correlated with fear of failure (Bartels and Mugan-Jachson, 2009). The aim of this study is to show that there is a relation between the teacher candidates' BLDEs and their goal orientations.

METHOD
In this study, correlation method which is one of the descriptive research methods is used. Correlation is a statistical method that explain two or more variables covary or not (Cresswell, 2012).
Participants

The study is carried out with 161 teacher candidates who studying in the academic year of 2013-2014 in Bulent Ecevit University Eregli Education Faculty. 31% of the participants are classroom teaching students, 31% are pre-school teaching students, 38% are social studies teaching students.

Instruments

In the study, two data collection tools were used. These are "Achievement Goal Orientation Scale" and "Epistemological Belief Scale".

Achievement Goal Orientation Scale

The scale developed by Midgley and others was adapted into Turkish by Cetin and Akin (2007). The scale consists of three factors in total. The first one is learning orientation factor. This factor consists of 6 items and its reliability is found as 0.77. The second factor is the performance approach factor. This factor also consists of 6 items and its reliability is found as 0.79. The third factor of this scale is performance avoidance factor. This factor consists of 5 items and its reliability is found as 0.78. In this study, coefficient reliability for the scale factors is calculated to the learning orientation 0.82, to performance approach 0.83, to performance avoidance 0.79.

Scale of Belief that Learning Depends on Effort

Scale used in this study was subscale of epistemological belief scale developed by Schommer and adapted to Turkish by Deryakulu and Büyüköztürk (2002). As a result of pilot study, it is understood that the scale have three-factor structure. These factors are "belief that learning depends on effort," "belief that true is one" and "belief that learning depends on ability". In this study, "belief that learning depends on effort" subscale located on the epistemological beliefs scale was used. This factor consists of 18 items and its reliability is found as 0.78. This factor coefficient reliability in the study is calculated as 0.79.

ANALYSIS
In the study, while Pearson-product moment correlation was used to reveal the relationship between the factors, stepwise regression analysis was used in order to reveal the predictive power of independent variables on dependent variables.

FINDINGS
In this study, primarily the relationship between teacher candidate's beliefs that learning depends on effort (BLDE) and achievement goal orientations is examined. The findings are presented in table 1.

Table 1. Results of Correlation Analysis

	Learning	Per.App.	Per.Av.	Effort
Learning	1,00			
Per.Ap.	0,357[**]	1,00		
Per.Av.	-0,010	0,308[**]	1,00	
Effort	0,541[**]	0,341[**]	-0,003	1,000

** p < 0,01

When Table 1 is examined, it is observed that the strongest correlation occured between the scores of BLDE and the scores of learning orieantation. There is a positive, moderate and significant correlation (r = 0.541; p <0.01) between these two variables. Accordingly, it is observed that when teacher candidates' learning orieantation scores increases, BLDE scores also moderately increase.

It is seen that there is a moderate, positive, and significant correlation (r = 0.341; p <0.01) between teacher candidates' BLDE scores and performance approach orientation scores. Accordingly, it is observed that when teacher candidates' performance approach orientation scores increases, BLDE scores also moderately increase. It is identified only a relationship isn't significant between teacher candidates' BLDE scores and performance avoidance orientation scores (r = -0.003, p> 0.01).

When the relationship between the factors that constitute the achievement of orientation is examined, it is seen that teacher candidates' performance approach orientation. Scores have positive, moderate and significant relationship both with learning orientation scores (r = 0.357; p <0.01) and performance avoidance orientation scores (r=0,308; p<0,01). There is no significant relationship between learning orientation scores and performance avoidance orientation scores (r = -0.010, p> 0.01).

In order to reveal the impact of teacher candidates' goal orientations on BLDE scores, stepwise regression analysis was used. In the analysis, achievement goal orientation variables were identified as a independent variable, BLDE variable was identified as a dependent variable. The findings are presented in table 2.

Table 2. Regression Table

Step	Predictors	R	R²	R Square Change	F	P
1	Learning	0.541	0.293	0.293	65,532	0,000*
2	Learning, Per.Approach	0.568	0.314	0.021	37,313	0,000*

When Table 2 is examined, it is seen that the most powerful predictor of teacher candidates' BLDE scores is learning orientation. Teacher candidates' learning orientation scores predict 29% of BLDE scores. The other significant predictor of teacher candidates' BLDE scores is performance approach orientation. Teacher candidates' learning orientation scores and performance approach orientation scores together predict 31% of BLDE scores. Accordingly, it can be said that learning orientation and performance approach orientation orientations have a significant effect on teacher candidates' BLDE scores.

CONCLUSION

When the research findings are examined, the highest relation of the teacher candidates' BLDE scores occurs with learning orientation. Similarly, Ames & Archer (1988) and Tuominen-Soini, Salmela-Aro and Niemivirta (2008) have found moderate correlation between effort as a cause of success and mastery goal orientation. In addition, while the moderate, positive and significant relation between teacher candidates' BLDE scores and performance approach orientation is detected, very weak and insignificant relationship is found with

performance avoidance orientation. When the results of study's regression analysis are examined, it is obtained that there are two predictors of teacher candidates' BLDE scores. While the most powerful predictor is learning orientation, the other predictive variable is performance approach. It implies, if teacher candidates set learning and performance goals, their BLDE increase and they use active teaching methods when they become teachers.

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THE LEISURE PREFERENCES ANALYSIS OF VISUALLY IMPAIRED ADULTS

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ABSTRACT

This study was aimed at investigating the leisure activities of visually impaired adults by analyzing the status and preferred types of such activities. For this purpose, the status and preferred types of leisure activities were surveyed on 115 visually impaired adults, and the analysis of frequency data was performed. The results were as follows. First, the rate of participation of visually impaired adults in leisure activities was shown to be high at 93.9%, and 42.6% of them were enjoying leisure activities alone without any accompanying person, indicating that they were substantially enthusiastic at leisure activities. Second, the most preferred types of leisure activities among visually impaired adults were hobby/recreation such as napping, sauna and bathing, and cultural viewing such as watching TV, musical and play. These were mostly activities that were a passive type or could be enjoyed alone. Therefore, a need to provide the information about the leisure facilities and programs in a variety of ways was suggested as an implication so that visually impaired persons could participate in more active leisure activities.

INTRODUCTION

As the average human life span increases and the working hours decreases, there are growing interest and desire for leisure in order to enjoy a happy life rather than working for more income.

Currently, leisure culture is the human rights for all in Korea including the disabled and the non-disabled people alike. The leisure and cultural activities have a great impact on the formation of individual's personality and become vitality in life particularly for the disabled people(Gladwell & Bedini, 2004). In addition, it can be stated that their role as elements of equal opportunity and rehabilitation is substantial. Although available leisure activities may be limited for the disabled people, a significant number of them enjoy their own leisure activities with the sound, their bodies and hearts instead of their eyes, and recover their vital strength in life. Being unable to see things does not mean monotonous life. However, visually impaired people cannot be motivated by various types of leisure activities due to visual loss and lack in visual stimulus, and accordingly, it is difficult for them to have a curiosity about the activities(Research group for leisure activities of students with disabilities, 2001). In addition, since visually impaired people have more difficulties in enjoying leisure activities compared to other disabilities due to the nature of the visual disability even though they still have an ability to make a decision on their own, the visually impaired people need to be helped for leisure life. For this purpose, the needs analyses for the status of leisure for the visually impaired people, their awareness and desire for leisure activities as well as their preferred type of activity are required.

METHOD

For this purpose, the status and preferred types of leisure activities were surveyed on 115 visually impaired adults, and the analysis of frequency data was performed.

RESULTS

1.Analysis of the status of leisure activities

1.1.Participation in leisure activities

The result from the analysis of whether visually impaired people participated in leisure activities is shown in Table 1.

Table 1: whether visually impaired people participated in leisure

Division	N	%
participating	108	93.9
not participating	7	6.1
Total	115	100

According to Table 1, it is shown that 108 people participated in leisure activities while 7 did not.

1.2. People whom visually impaired people spent leisure time with

The result from the analysis of whether visually impaired workers spent leisure time with people is shown in Table 2.

Table 2: visually impaired workers spent leisure time

Division	N	%
family	23	21.3
friends	19	17.6
colleague	8	7.4
activity assistant	12	11.1
by yourself	46	42.6
Total	108	100

The analysis on who visually impaired workers spent leisure time with showed that 46 people spent leisure time alone, which was the highest rate, and the next is family with 23 of them, followed by friends with 19.

2.Analysis of the preferred type of leisure activities

2.1.The most preferred type of the leisure activity

The result from the analysis of the preferred types of leisure activities is shown in Table 3.

Table 3: the preferred types of leisure activities

Division	N	%
indoor and outdoor sports activities	19	16.5
tourism and mountaineering activities	17	14.8
art creative activities	14	12.2
watching Cultural Activities	24	20.9
hobbies recreational activities	29	25.2
internet-related activities	12	10.4
Total	115	100

The analysis result of the preferred types of leisure activities showed that 29 visually impaired workers picked hobbies and entertainment related activities as their most preferred type of activity, 24 did cultual performance viewing, and 19 did indoor and outdoor sports activities.

CONCLUSIONS

Discussion of the results from this study on the basis of the preceding studies is as follows.

First, the investigation of the statue of the current leisure activities of the visually impaired workers suggests that most of them are active in the leisure. In more detail, 93.9% of the visually impaired workers were involved in leisure activities, which indicates that most of them participated in the leisure activity. This is consistent with the results of study by Gangho Ko(2012), which found that people with jobs were likely to participate in leisure activities. In addition, the ratio of visually impaired workers spending leisure activity alone was 42.6%, which indicates that they could find and be involved in leisure activities by themselves without an accompanying person.

Second, the types of leisure activities preferred by the visually impaired workers have been investigated. First of all, the most preferred type of the leisure activity was hobbies and entertainment related activities including nap, sauna and bath by 25.2%, followed by cultural activities such as TV and musical/play watching by 20.9%. This is consistent with the national survey on leisure activities conducted by the Ministry of Culture, Sports and Tourism(2014), which showed that relaxation(62.2%) and hobbies/entertainment activities(21.1%) were the types enjoyed by Korean people this year.

These results suggest that disabled people enjoy leisure activities alone and passively in many occasions(Park, 1996; Cho, 1997; Choi, 1994), and experience the leisure boredom more easily than non-disabled people since the former have more difficulties in enjoying leisure time due to the limiting factors of disabilities(Lee, 2000). Therefore, it is considered that information about the leisure facilities and programs need to be provided in various ways so that visually impaired people can enjoy more active leisure activities. Every public institution needs to offer a guide to leisure programs, and provide services and information particularly to the elderly and severely visually impaired people as they have substantially poor ability to acquire information. In addition, the creation and offer of various web sites that can be used by visually impaired people are needed(Yoon, 2007), and accordingly, the information about leisure facilities and programs should be provided via internet.

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THE LEVEL OF DIRECTIVITY OF THE PARENTING STYLE

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ABSTRACT

The aim of this study is to provide theoretical and methodological insights into the level of directivity of the parenting style. The paper is focused on families with children who attend either Montessori or traditional classes at primary school and compares any potential differences in the level of directivity of the parenting style. The questionnaire, created by the authors, was used to divide directivity of the parenting styles into three broad areas: (1) autocratic, (2) laissez-faire, and (3) democratic. The differences by gender, age, education and the amount of time parents spend with children were also studied.

Keywords: parenting style; traditional and alternative education; Montessori education; children; parents

INTRODUCTION

Theories that are the background of the results on how parental values, skills, goals and attitudes are passed from one generation to the next have been a part of philosophical debates since the seventeenth century (Spera, 2005; Van Ijzendoorn, 1992). For instance, John Locke (1689) posited that children were born as a blank slate or with a "tabula rasa" through which parents and society could easily spread their values and beliefs to their children. On the other hand, Jean Jacques Rousseau (1762) believed that children were "innately good" and that it is up to parents and the society to promote and teach the values inherent in children.

Education is currently primarily understood and researched in the context of the family, that is, when parents raise their children. Parental education is being realized through a wide range of parenting styles that are psychological constructs representing strategies that parents use in their child rearing. They cover the initial sum of the prohibitions, commands, attitudes and ideas about the world, which the child encounters in their life and therefore are extremely important. Children are further educated by teachers in kindergarten, primary school, by after-school club educators, teachers of various interest groups and recreational activities, professors and teachers at secondary schools and universities. The most important is certainly the early education in early childhood when habits and behavior patterns are instilled in children.

Parenting styles are often divided into different categories by researchers. Some of the distribution is less extensive, divided into two or three categories, others list multiple categories. For example, Don Bosco states that "preschool education always includes two systems: a preventive one and a repressive one" (Ferero, 2004), Čáp and Mareš (2007) expanded parenting styles into nine categories.

Lewin and colleagues (Lewin, Lippitt, & White, 1939) described three types of parenting (leadership) styles: autocratic, laissez-faire and democratic. Their studies were based on experiments focused on how leaders' behaviors affect adult groups (e.g. Driskell & Salas, 2005; Hogan & Kaiser, 2005). The autocratic (i.e. dominant) parenting style is characterized by commands, threats, (strict) punishment, not respecting the wishes and needs of children, providing little room for independence and initiative of the child. Parents with laissez-faire (i.e., liberal, weak) parenting style don't make demands or don't require their strict fulfillment. Parents usually don't constitute the limits and boundaries and provide little help in setting their own goals. The democratic (socially integrative) style supports the initiative of the child. Parents are open to discussions and debates with the child, give more suggestions, ideas and open space for independent decision-making and express understanding and encourage the independence of the children.

A growing body of research has occurred in the field of cultural differences in parenting (leadership) styles and their effects on teens' self-esteem, perceived parental relationship satisfaction, and self-satisfaction (Chang, 2007), emotional intelligence (Alegre, 2011), children's school achievements (Kordi, 2010), academic procrastination (Zakeri, Esfahani & Razmjoee, 2013), family relationships and happiness (Paterson et al., 2012). Ferguson, Hagaman, Grice, and Peng (2006) examined two large samples of data from a questionnaire administered to college students in a Midwestern university that partially supported the Lewin three-factor

formulation for leadership styles and that, interestingly, also revealed an independent individualism factor described by Triandis, McCusker, and Hui (1990).

RESEARCH METHODOLOGY

The presented article measures parents´ perceived parenting values that correspond to Lewin's parenting styles: autocratic, laissez-faire and democratic. A large number of instruments have featured prominently. The definitions of the parenting styles are often taken from Baumrind's Parental Authority Questionnaire (1968), Parental Authority Questionnaire (Buri, 1991), Measure of Parental Styles (Parker et al., 1997), Permissive, Authoritarian, and Authoritative Parental Authority Prototypes (Baumrind, 1971).

The basic research purpose was to determine the differences between parenting (leadership) styles of parents whose children attended traditional and Montessori classes in a medium-sized primary school from the region of Zlín in the Czech Republic. We also investigated what parenting style prevails in families (regardless of the traditional or alternative education chosen for children). Furthermore, we wondered whether the parenting style varies according to the age of parents and their achieved level of education. The aim of the study was also to find out how much time parents spend preparing children for school and how much leisure time they spend together. Due to the nature of the research foundation, a quantitative approach using descriptive and inductive statistics was used.

Measurement

The administered self-report questionnaire developed by the authors consisted of 15 questions in which the four items of the questionnaire have an informational character detecting sociodemographic variables such as gender, age, the level of education and type of the selected school for the children (i.e., traditional and primary school Montessori classes). The scale consists of 9 specific items asking the respondents to rate their parenting behavior on a scale of one (strongly disagree) to seven (strongly agree), with three items for each subscale: autocratic (i.e. "Do you think your child needs constant control?"); laissez-faire (i.e. "Do you keep track of how your child spends all his or her leisure time?") and democratic (i.e. "Do you give your child the opportunity to propose a solution to the problem?"). Higher scores for each subscale represented a higher endorsement of the measured parenting style, except for the laissez-faire parenting style with reversed items. These items were recoded during the data processing to maintain a uniform direction of parenting styles and these styles could be compared.

The remaining two items of the questionnaire discover how much time parents spend preparing children for school and how much leisure time they spend together. The answers ranged between a) less than an hour; b) 1-2 hours; c) within 3 hours; or d) 3 hours and more.

Sample

The base sample consisted of n = 418 parents whose children attended traditional and Montessori classes in a medium-sized primary school from the region of Zlín in the Czech Republic. All of the parents were invited to collaborate on research through printed questionnaires. An exhaustive selection of respondents was carried out and the final research sample consisted of n = 131 parents. The return rate of questionnaires was 31% which symbolizes the average level of return (Mertens, 2015).

Out of that number, 16% were male and 15% were female with the age range between 29 and 52 years. The average age of parents was 38.5 years. The age composition of the research sample is illustrated in Table 1.

Table 1. Age subsamples.

Age groups	N	%
29-35	28	21
36-40	63	48
41-52	37	28
Missing	3	2
In total	131	100

The largest number of parents (44%) completed secondary school education and 34% of the parents were university graduates. 77% of the parents selected traditional classes for their children while 23% preferred Montessori classes.

RESULTS

The Kolmogorov-Smirnov test, the Shapiro–Wilk test and the Lilliefors test of normality were used for testing the normal distribution of data. A nonparametric Mann–Whitney U test and Kruskal–Wallis one-way analysis of variance and Chi-square test for independence were used to decide whether there are statistically significant differences between the groups. The hypotheses were tested at a level of α = .05. Possible confounding results due to multiple variables were corrected by the Bonferroni method. Calculations were performed using IBM SPSS 22.

The descriptive statistics showed that respondents (parents) scored the highest score of the questionnaire (see Table 2 and Fig. 1) on the democratic parenting ($\bar{x}$ = 5.03; SD = 1.12) style. The autocratic parenting style ($\bar{x}$ = 3.32; SD = 1.09) was the second used parenting style followed by the laissez-faire parenting style ($\bar{x}$ = 2.15; SD = .89).

Table 2. The descriptive statistics of parenting styles.

Parenting style	Mean	Median	Modus	Min.	Max.	SD
Democratic	5.03	5	5	1.67	7	1.12
Autocratic	3.32	3.33	4	1	6.33	1.09
Laissez-faire	2.15	2	1.67	1	6	0.89
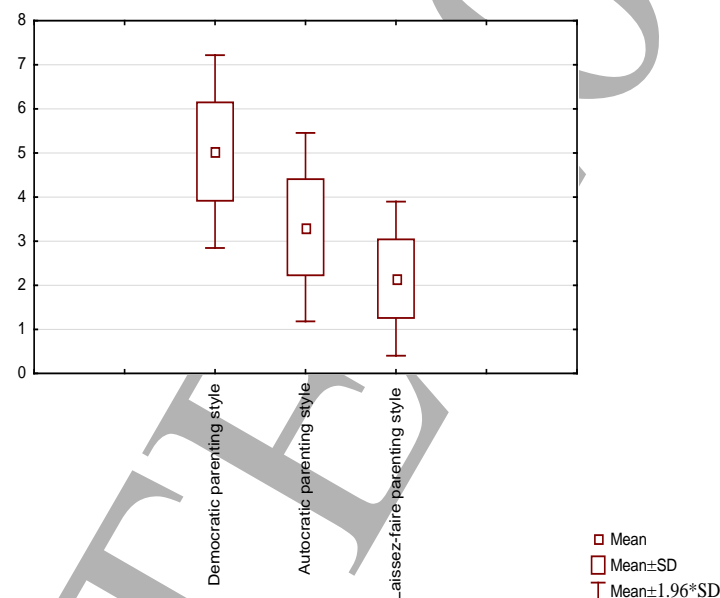
Fig. 1 The average scores on parenting style

Whether the achieved average results of the parenting styles differ significantly could be indicated based on the results of the analysis of the Friedman test. The testing indicated that there are significant differences in the achieved level of autocratic parenting style (Md = 3.33), laissez-faire parenting style (Md = 2) and democratic parenting style (Md = 5). The calculation of the comparison of the individual samples (groups) by the non-parametric Wilcox test for two dependent samples to include the Bonferroni correction (in this case p = .05 / 3 = .02) produced the following results: the medians of all groups were significantly different (p = .00, p < .02).

Regarding the relationship between types of the parenting style and the influence of the independent variables in the form of the preference of the chosen type of education for children (i.e. traditional or alternative education), there were two significant differences. Attainment levels and the democratic and autocratic parenting style vary according to the type of education chosen for children. Parents with a prevailing democratic parenting style often prefer a Montessori education for their children and on the other hand parents with a prevailing autocratic parenting style often prefer traditional education. This result confirms the assertion that alternative education is closer to parents who respect the needs and opinions of the child.

The preference of parenting style is not influenced by gender, age, or parents' education. The only exception is the democratic parenting style, which varies according to the educational attainment of their parents. Parents with a higher education achieve higher levels of the democratic parenting style. These findings are particularly

interesting since they reveal the influence of specific factors on the preference of child-rearing. However, neither age nor gender or a certain level of education of parents influence their preference of the parenting style.

Parents typically devote less than an hour a day of the time to help children to prepare for school. However, parents have transferred a lot of their own leisure time to time spent being with the children. In both cases, women spend more time with children during the day. However, this result is largely influenced by the predominance of women in the survey sample, which may affect the detected frequency of nominal variables[1] listed in Fig. 2 and 3. The interpretation of these results is descriptive for the level and should not lead to any general conclusions.
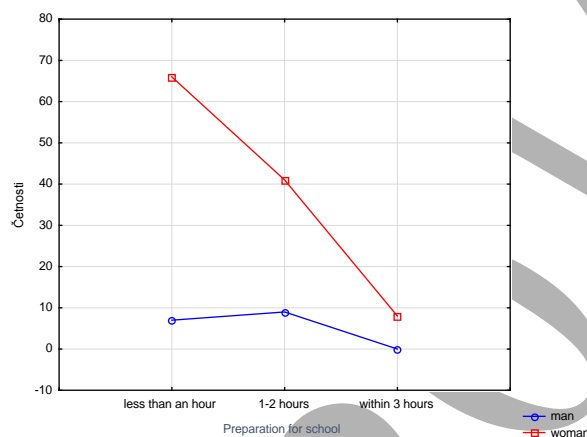
Fig. 2. The time to prepare for school by gender
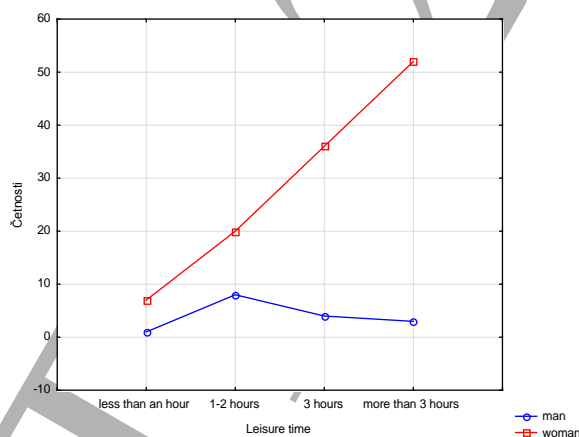
Fig. 3. The leisure time by gender

SUMMARY AND DISCUSSION

The main aim of the study was to determine the achieved level of the three most common parenting styles (Lewin, Lippitt, & White, 1939) among parents (n = 131) whose children attended traditional and alternative (Montessori) classes in a medium-sized primary school from the region of Zlín in the Czech Republic. The self-report questionnaire developed by the authors was used and the data was subjected to descriptive and bivariate statistics.

The highest score was achieved by the democratic parenting style $\bar{\bar{x}}$ = 5.03; SD = 1.12) followed by the autocratic parenting style ($\bar{\bar{x}}$ = 3.32; SD = 1.09) and the laissez-faire parenting style ($\bar{\bar{x}}$ = 2.15; SD = .89). Regarding the relationship between the types of the parenting style and the influence of the independent variables such as the type of education for children (i.e. traditional or alternative education), the age, gender and the level of the education achieved by parents was very low. Significant differences were found only in relation to the type of education chosen by parents for their children and in the level of the democratic parenting style influenced by the educational attainment of the parents. We assumed that those parents who have their children

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[1] In the case of testing hypotheses about the influence of the variables (type of education for children, age, gender and the level of the education achieved by parents) on parenting styles was worked with metric data. Different frequencies of each compared group does not influence the results and can be widely interpreted.

in alternative classes will gravitate towards the democratic parenting style. This assumption was confirmed. Linked to this is the finding that the autocratic parenting style is more popular with parents who prefer a traditional education for their children. The limitation of the study is its focus on the Zlín region in the Czech Republic, whose results may materially differ from the remaining regions of the Czech Republic. For this reason, the results can´t cover the entire population of parents.

An interesting area for future research is the intergenerational transmission of the parenting style and its influences on parenting attitudes, values and behaviour of the next generation in which the genetic and contextual continuity would be taken into account as well as grand-parenting. Another point of view can be obtained in a methodologically adequate way. Most promising are studies using observational measures for parenting style with longitudinal projects such as the one that Grossmann and his colleague used (1988). Such a design would investigate two or three generations of parents with a comparable, valid parenting measurement. Furthermore, in the traditional research program using quite global questionnaires, the sample size should be taken into account since the size restricts the generalizability of the results. Lastly, longitudinal intervention experiments and a detailed description of individual cases may shed more light on the causal mechanism of parents influencing their children's parenting abilities.

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THE MECHANICS OF RIGID BODIES IN MECHANICAL ENGINEERING EDUCATION

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ABSTRACT

The mechanics of rigid bodies is the foundation of most engineering sciences and is an indispensable prerequisite to their study.

The purpose of rigid body mechanics courses is to provide engineering students with ability to analyze any problem in a simple and logical manner and to apply to its basic principles which are few and well-understood for solutions. Therefore, it has an important role in engineering education.

The mechanics of rigid bodies is subdivided into statics and dynamics. Statics deals with rigid bodies at rest, dynamics deals with rigid bodies in motion. In this paper, engineering curriculum followed by the Turkish Universities has been examined as per their programmes of the statics and dynamics courses covering the knowledge of the mechanics of rigid bodies. The statics and dynamics course programmes which are necessary for the mechanical engineering have been evaluated regarding the international accreditation criteria.

Keywords: The mechanics of rigid bodies, statics, dynamics, mechanical engineering

INTRODUCTION

Mechanic is a discipline that examines and describes balance and action conditions of things under various forces is basis of engineering education. Mechanics starts with the results that are obtained from observations and tries to define the unvarying correlations between various elements of a physical event. The proposed laws are based on various assumptions. (Beer F.P. , Johnston E.R. , 2004).

The mechanic is the first science branch. The history of Statics goes back to ancient times but its basement on scientific foundation is new. For instance, the principle of parallelogram is proposed by Simon Stevenus (1548-1620). The history of Dynamics is newer than Statics. Although it goes back to Galileo Galilei (1564-1642), the serious foundations that survived until today were laid by Isaac Newtoon(1642-1726). The Mechanics is founded on 3 basic laws of Newton but has been developed with the collaborations of many scientists like D'Alembert (1717-1783), Lagrange (1736-1813), Hamilton (1805-1865), and Jakobi (1804-1851).

Mechanic is divided in two as follows;
- Rigid (stable, indeformable) bodies mechanic,
- Deformable materials mechanics,

  The rigid bodies mechanics is the discipline that handles the behaviors of rigid bodies under force.
- Rigid bodies statics
- Rigid bodies dynamics

The rigid bodies statics studies the bonding force that affects the static balanced bodies and their balance conditions but the rigid bodies dynamics studies the motion of bodies by using equations of motion. Dynamics is subdivided into two main fields as kinematics and kinetics. Kinematics is the study of motion without taking into account the reasons that form motion that is the forces. Kinetics is the study of forces that drive one bodies, and the relations between that force, the mass of bodies, and the motion produced (Hibbeler R.C., 1978).

THE MECHANICS OF RIGID BODIES IN MECHANICAL ENGINEERING EDUCATION

Mechanic education composes basis of Mechanical Engineering education as it is understood from its title. When student has completed his/her mechanical engineering education then he/she will be considered to learn mechanical discipline theoretically and practically. In the case of not understanding mechanics due to any reason, then it is inevitable that the young engineer will always feel incompetent, concerned and anxious.

Basic principles of mechanics at Mechanical Engineering Education Course Plans are taught primarily at the courses including rigid body mechanics knowledge. Objective of Rigid Bodies' Mechanics Course is to provide engineering students with the ability of analyzing every problem simply and logically and to apply less number

and well understood basic principles for resolutions. Therefore, it is seen that "statics" and "dynamics" courses of rigid body's mechanics are included in Education plans as two different obligatory basic engineering courses. The students with that basic mechanics information in the first periods of engineering education learn strength course, solid body mechanic and fluid mechanics principles. They continue to use those basic information at also other engineering courses.

Mechanics of Rigid Bodies; Static Course

Static course that is introductory course to mechanic provide students to meet firstly to engineering term. Today many physical events that we observe frequently in daily life are tried to be approached with engineering formation view and tried to be transferred to the minds.

Static course included in course plans of Mechanical Engineering Departments of Turkish Universities in the scope of obligatory course of which 75% is shown in the second semester, 25% is shown in the third semester. (Figure 1)
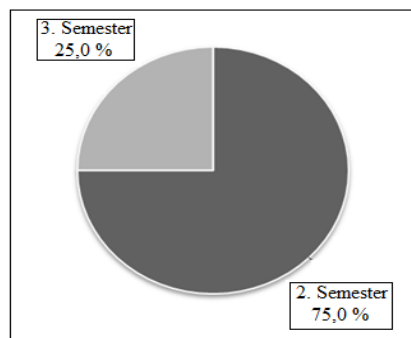
Figure 1. The semesters of Static course   Figure 2. Static course hours weekly
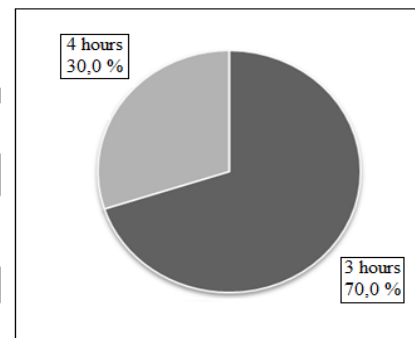
70% of Static Course Engineering department Education plans are 3 hours in a week and 30% is 4 hours in a week. (Figure 2)

 ACTS distribution at Static course varies between 4 and 9 credit. (Figure 3).
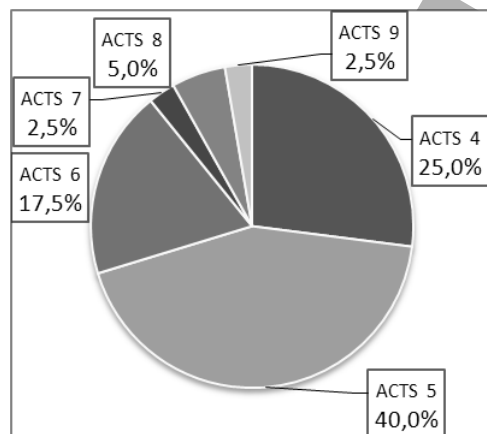
Figure 3. Static course ACTS Credits

Table 1. Static course weekly subjects

Week	Subjects
1	Introduction to Mechanics
2	Statics of Particles: Forces in Plane
3	Statics of Particles: Forces in Space
4	Rigid Bodies: Equivalent System of Forces
5	Rigid Bodies: Equivalent System of Forces

6	Equilibrium of Rigid Bodies
7	Distributed Forces: Centroids and Centers of Gravity
8	First Midterm
9	Analysis of Structures
10	Forces in Beams and Cables
11	Friction
12	Equilibrium of Rigid Bodies Systems
13	Distributed Forces: Moment of Inertia of Masses
14	Second Midterm
15	Method of Virtual Work.
16	Final Exam

Static Course Learning Outcomes:
• Students shall gain knowledge about center of gravity and may solve related problems
• To gain knowledge about equilibrium of particles and rigid bodies
• Students shall gain knowledge about bonding and bonding forces
• Students shall gain specific information about equilibrium of structures (beams, trusses, frames, cables, machines)

Mechanics of Rigid Bodies; Dynamic Course

In engineering training, the teaching of dynamics in which behaviors of objects are studied generally comes after study of statics. The kinematics and kinetics that are the subdivisions of dynamics must be precisely learned in engineering to be able to get the powerful tool of analysis. Since the machines start at high speeds and at significant accelerations, the calculations required to be made according to the laws of dynamics instead of statics. The technological development of today on speed requires more implication of mechanical principles and especially the dynamics. Those principles are the basis for design and analysis of all moving objects, fixed structures that are subject to specific impact conditions, robotic equipment, automatic control systems, vehicles, pumps, turbines, cranes, and etc. (Meriam J. L., Kraige L.G., 2008).

It is necessary to learn dynamics to be able to understand, define, and make analysis of motions of objects with continuous transitions between physics and mathematics. The students, who could not understand the dynamics lectures, would face the problem of inadequacy to freely make these transitions.

Dynamic course is included in the third year in 65% rate, in the fourth year in 32.5% rate, in the fifth year in 2.5% rate in Mechanical Engineering Departments' Education Plans(Figure 4). Weekly dynamic course dispersion varies from 2 to 5 hours (Figure 5).
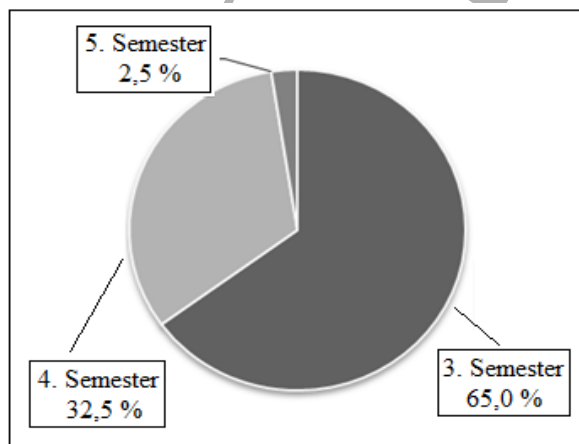
Figure 4. The semesters of dynamic course
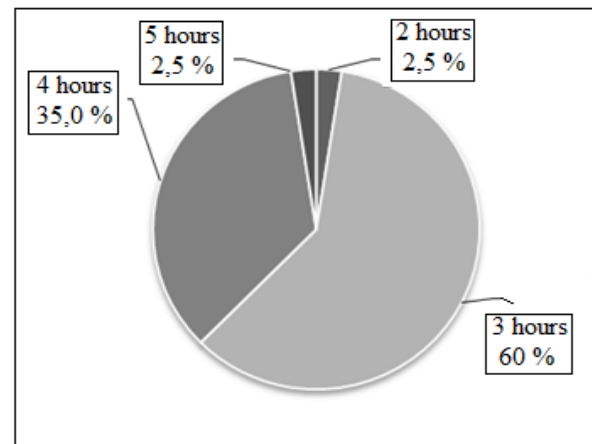
Figure 5. Dynamic course hours weekly

ACTS distribution at Dynamic course varies between 3 and 6 credit. (Figure 6).
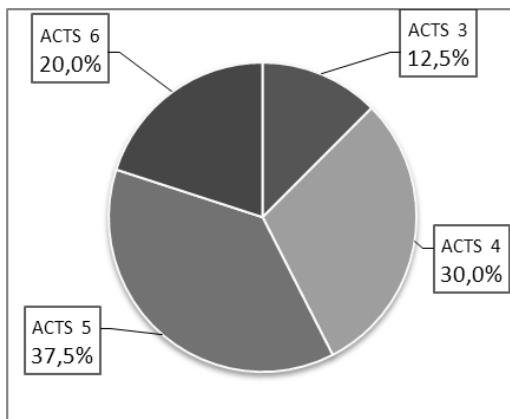
Figure 6. Dynamic course ACTS Credits

Table 2. Dynamic course weekly subjects

Week	Subjects
1	Introduction to Dynamics
2	Rectilinear Motion of Particles
3	Curvilinear Motion of Particles
4	Curvilinear Motion of Particles
5	Kinematics of Rigid Bodies
6	Kinematics of Rigid Bodies
7	Kinematics of Rigid Bodies
8	1st Midterm Exams
9	Kinetics of Particles; Force, Mass and Acceleration
10	Kinetics of Particles; Work, Energy and Momentum
11	Kinetics of System of Particles
12	Plane Motions of Rigid Bodies; Forces and Accelerations
13	Plane Motions of Rigid Bodies; Work and Energy
14	2nd Midterm Exam
15	Plane Motions of Rigid Bodies; Impulse and Momentum
16	Final Exam

When the distribution of dynamics lectures between weekly curriculums is studied, it is observed that there are some differences between schools in terms of their lecturing plans. The plan that is given above for lecturing during 15 weeks period has been found to be the more understandable by the students and it is observed that this plan saves time at lectures.

Dynamics Course Learning Outcomes:
•   To be able to select and use an appropriate coordinate system to describe particle motion
•   To be able to formulate dynamics models in accelerating frames
•   To be able to identify and exploit situations in which integrated forms of the equations of motions, yielding conservation of momentum and/or energy for the particles and rigid bodies

- To be able to formulate and analyze dynamics of bodies in plane motion

RESULTS AND DISCUSSIONS

When instructional plans of Mechanical Engineering Departments in our country are examined, it is seen that statics course is studied mostly in the 2nd semester and dynamics course is studied in the next, 3rd semester.

Both courses are generally 3 hours in a week. It is proven to be appropriate to lecture statics and then dynamics courses just after the basic courses in the first semester.

Amendments are applied to Instructional Plans of the Mechanical Engineering Departments continuously, in terms of the number of courses and credit hours with a content of contemporary and international criteria.

Since providing the quality assurance in university education becomes imperative in a Europe where borders between countries removed, the success of universities and their diplomas are supposed to be recognized mutually in the European scale within the framework of the Bologna process.

In the context of the Bologna process, when course lesson plans of the Mechanical Engineering Departments of the Universities are compared, lesson titles, content and credits are not much different from each other. The mechanics of rigid bodies lessons also have the same situation.

Does Rigid Bodies Mechanics get the attention it deserves within Mechanical Engineering Education? If the answer is 'YES' then we could consider that there has been serious progress in these two fields. Firstly, we are educating students who are fully equipped to detect the mechanical problems which are part of his/her profession and analyze them from the engineering perspective. Secondly, the mathematical substructure and quick thinking skills needed for solving mechanical problems have been gained by the students.

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THE MOBBING BEHAVIOR IN SECONDARY SCHOOLS AND DIFFERENCES BY PROVINCE

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ABSTRACT

The aim of present study is to investigate whether or not mobbing experienced in secondary education institutions in different regions of Turkey differ from each other. This study employed a survey research model. The sample of the study consists of 415 teachers. "Negative Acts Questionnaire" (NAQ) was used as a data collection tool. This scale was developed by Einarsen and Raknes (1997) and adapted to Turkish by Aydın and Öcel (2009). As a result, mobbing that teachers experience in secondary education schools in the city of Adana is the highest compared to other cities. Teachers working in schools in Balıkesir and Kütahya experience mobbing the least. The most common type of mobbing was found to be "Hiding from you the information that can improve your performance" and the least common type of mobbing was found to be "Implying that you need to leave your job". There is no statistically significant difference between age groups and gender.

Keywords: Mobbing, school management, secondary schools

INTRODUCTION

Mobbing is a type of negative behavior that take place between individuals and that affect individuals negativeley. Deriding someone on and on, interrupting someone, implying that someone is a liar, and spreading rumors about someone are some of the examples of this type of behavior (Davenport, Schwartz ve Elliott 2003). Leymann (1984, cited in Davenport et al, 2003: pp.4-5) defines mobbing as "psychological terror" or "psycho-terror" that takes place as a result of systematic hostile and unethical treatment of others by someone or some people. The victim of mobbing is influenced by being appalled and isolated (Leymann & Gustafsson, 1996). As a result of mobbing to which he or she was exposed to, the victim loses his or her self confidence Generally, the ultimate aim here is to cause the victim to leave his or her workplace (Duffy ve Sperry, 2007).

Early research on the issue carried out in Europe and the United States showed that such behavior is an important bloodletting for institutions. Early studies carried out by Leymann (1996: 169) in Sweden found that 3,5% of the working population were exposed to mobbing. In addition to this, it was estimated that the possibility for any employee to be exposed to mobbing in his or her lifetime is 25% (Leymann, 1990: 125). On the other hand, studies carried out in the United States showed that 82% of the employees who were exposed to mobbing either had to leave their jobs or lost their jobs. Of this, 34% left their jobs due to some health problems that they experienced as a result of mobbing, and 44% left their jobs either on their own initiative or on the decision of the administrative boards after the performance assessment reports of the institutions.

Research on mobbing has shown that those who are exposed to mobbing experience some biological and psychological health problems. According to Einarsen and Raknes (1997), 23% of the employees who are exposed to mobbing in workplaces experience psychological disorders. According to Davenport et al. (2003: 70), if the experienced mobbing affects the victim severely, this may cause the victim to develop some health problems such as depression and heart attack, and this may even drive the victim to commit suicide.

Research has shown that mobbing can also be seen in educational institutions. Ertürk (2013) carried out a study in the schools of primary education in Turkey and found that 4.1% of the teachers and administrators are exposed to mobbing on a daily basis. O'Conner (2004:2-3) carried out a study in educational institutions and found that teachers are exposed to the mobbing of their school administrators, inspectors, their colleagues, their students and the parents of students. In the UK, Dick and Wagner (2001:255) carried out a study on job stress and mobbing that teachers experience. They found that feeling pain from fatigue and especially from physical symptoms that arise from mobbing causes more teacher absenteeism. Yazıcı (2009: 41) carried out a study with teachers in Turkey and he obtained similar findings. This study found that teachers who are exposed to mobbing develop stress and burnout syndrome.

Research conducted in different sectors in Turkey show that mobbing is present in all sectors. Demirçivi (2008) in tourism sector; Dilman (2007) and Aytaç, Bayram & Bilgel (2005) in health sector; Cemaloğlu & Ertürk (2007), Cemaloğlu & Ertürk (2008) and Tokel (2005) in education sector; Erbaş (2004) and Işık (2007) in textile sector; Yavuz (2007) and Gökçe & Oğuz (2009) in higher education; Kocaoğlu (2007) and Aytaç et all (2005) in

security sector; Iyem (2007) and Cengiz (2009) in professional football clubs; Kocaoğlu (2007) in postal operatons; Çakır (2006) in industrial enterprises; Kök (2006) in public and private banking sector; and Bahçe (2007) in public and private sector are examples of the studies conducted in different sectors.

Mobbing also differs according to the cultures of societies or institutions. For the customs and traditions of the culture of an individual has an important role in the perception of a behavior as mobbing (Rayner, Sheehan & Barker, 1999). Different individuals feel differently in the same situation. Therefore, mobbing to be exercised may differ according to different societies and cultures. This study investigates whether or not mobbing experienced in secondary education institutions in different regions of Turkey differ from each other. To this end, the present study seeks to find answers to the following questions:

1. How frequently do teachers experience mobbing in different cities?
2. Is there a statistically significant difference among the frequencies of mobbing experienced by teachers in different cities?
3. Is there a statistically significant difference between the frequencies of mobbing in terms of the sex of teachers?
4. Is there a statistically significant difference between the frequencies of mobbing in terms of the age of teachers?

THE STUDY

This study employed a survey research model. Survey research is carried out with a large group, confers on the views and attitudes of the participants, and describes the events in this way (Tanrıöğen, 2011: 59).

The general population of the study consists of the teachers and administrators who are presently working in the secondary education schools in the seven geographical regions of Turkey. This population consists of 2,734 schools and 95,655 teachers and administrators (MEB, 2014: 118). This study employed a sub-population method.. In this method, one city was selected randomly from each region. According to Balcı (2001: 95), in this method every member of the population has a chance to be involved in the sample. In the selected schools, a questionnaire was administerd to those teachers who volunteered to take part in the study.

In order to determine the sample size, population size and sampling error were taken into consideration. The sample size for populations up to 100,000 is 383 (with a sampling error of 0,05 and a confidence level of $\alpha = 0,05$) (Şahin, 2011: 127). Therefore, considering the 95,655 teachers in the general population, a sample of 383 teachers was considered to be enough. Considering the return rate and possible data loss, the sample size was increased by 20%. In this way, the sample size was determined to be 459 (383+76). To collect the data, a total of 460 questionnaires were distributed. Of the 460 questionnaires, 432 returned (93.9%). Of the 432, 415 were found to be suitable for analysis. According to this, the return rate is 90%.

Of the participating teachers, 54% were male and 46% were female. 51% of the teachers were in the below-33 age group, 39% in the 34-45 age group and 10% in the 46-and-above age group. 86% of the teachers have bachelor's degree. In terms of career steps, 5% were teacher candidates, 76% teachers, and 19% senior teachers.

In order to find out about the frequencies of mobbing to which teachers are exposed, the "Negative Acts Questionnaire" (NAQ) was used as a data collection tool. This scale was developed by Einarsen and Raknes (1997), revised by Einarsen and Hoel (2001) (22 items), and adapted to Turkish by Aydın and Öcel (2009). During this adaptation work, the Cronbach's Alpha reliability coefficient of the scale was found to be .88 and the test-retest reliability coefficient to be .80. Furthermore, the factor loadings that accumulated under a single factor were found to be between 0,31 and 0,76, and the observed variance was found to be 39% (Aydın & Öcel, 2009: 99).

Factorial analysis showed that the items in the scale were collected in one factor but that two items had high factor loadings. These two items were excluded from the scale. It was also found that the factor loadings of the remaining items were between 0,55 and 0,74; that the KMO value was .69; and that the variance value was 64%. In the reliability analysis of the scale, the Cronbach's Alpha reliability coefficient was found to be .94.

SPSS v13.0 was used in the processing of the data. Frequency, percentage, t-test and ANOVA were used to analyse the data. The findings were tested at p<.05 level.

FINDINGS

This part of the study presents the findings and interpretations. Table 1 below shows the distribution of the frequencies of mobbing that the participants experienced in different cities.

Table 1. The distribution of the frequencies of mobbing that the participants experienced in different cities.

Item No	Behaviors	Total		Balıkesir	Kütahya	Adana	Ankara	Samsun	Gaziantep	Bingöl
1	Hiding from you the information that will improve your performance	$\bar{x}$	1,96	1,72	1,80	1,93	2,08	1,80	2,22	2,19
		S	,99	0,68	0,87	0,95	1,11	0,79	1,23	1,10
2	Overloading you more work than you can manage	$\bar{x}$	1,80	1,74	1,65	2,01	1,89	1,58	1,85	1,80
		S	,87	0,94	0,63	1,09	0,97	0,77	0,84	0,83
3	Assigning you simpler duties that are far below your skills	$\bar{x}$	1,63	1,48	1,44	1,78	1,70	1,50	1,75	1,72
		S	,90	0,79	0,70	1,13	1,01	0,51	1,01	0,90
4	Requiring you to finish illogical, meaningless and impossible jobs with impossible completion dates	$\bar{x}$	1,51	1,30	1,35	1,66	1,58	1,42	1,66	1,58
		S	,80	0,52	0,52	1,10	0,85	0,56	0,92	0,80
5	Ignoring your ideas and views	$\bar{x}$	1,62	1,40	1,41	1,73	1,61	1,66	1,86	1,78
		S	,79	0,55	0,52	0,90	0,93	0,76	0,97	0,79
6	Excessive control over your work	$\bar{x}$	1,49	1,30	1,36	1,61	1,51	1,44	1,63	1,58
		S	,75	0,61	0,55	0,97	0,77	0,65	0,93	0,67
7	Reminding you of your wrongs over and over again	$\bar{x}$	1,33	1,35	1,23	1,36	1,40	1,19	1,46	1,34
		S	,67	0,84	0,48	0,61	0,76	0,47	0,91	0,69
8	Denigrating or ridiculing you regarding your work	$\bar{x}$	1,54	1,36	1,43	1,69	1,53	1,47	1,68	1,58
		S	,72	0,75	0,58	0,88	0,72	0,65	0,79	0,67
9	Spreading romours about you	$\bar{x}$	1,55	1,30	1,44	1,79	1,56	1,40	1,55	1,68
		S	,76	0,47	0,58	0,99	0,78	0,55	0,82	0,84
10	Speaking insultingly and abusively about you	$\bar{x}$	1,40	1,37	1,27	1,50	1,44	1,31	1,52	1,38
		S	,66	0,63	0,54	0,84	0,66	0,47	0,81	0,60
11	Disregarding or excluding you	$\bar{x}$	1,57	1,55	1,40	1,69	1,50	1,44	1,81	1,72
		S	,77	0,86	0,61	0,88	0,68	0,65	0,83	0,88
12	Implying that you need to leave your job (resign)	$\bar{x}$	1,21	1,20	1,13	1,27	1,16	1,25	1,34	1,22
		S	,56	0,70	0,34	0,71	0,41	0,44	0,80	0,51
13	Being frightened through menacing behaviors	$\bar{x}$	1,35	1,30	1,31	1,48	1,26	1,41	1,40	1,34
		S	,63	0,72	0,51	0,92	0,54	0,50	0,64	0,48
14	Insistent criticism of your work and efforts	$\bar{x}$	1,49	1,30	1,38	1,58	1,53	1,36	1,56	1,70
		S	,79	0,72	0,66	0,90	0,72	0,54	0,81	1,05
15	Ignoring you or treating you in a hostile way when you approach them in a friendly way	$\bar{x}$	1,36	1,30	1,18	1,43	1,41	1,27	1,52	1,46
		S	,73	0,66	0,49	0,90	0,72	0,51	0,86	0,91
16	Making untrue claims about you	$\bar{x}$	1,28	1,20	1,23	1,40	1,27	1,22	1,34	1,25
		S	,57	0,56	0,52	0,76	0,51	0,42	0,69	0,44
17	Becoming an object of excessive derision	$\bar{x}$	1,34	1,30	1,23	1,41	1,35	1,25	1,50	1,34
		S	,64	0,65	0,52	0,76	0,59	0,44	0,89	0,56
18	Shouting at you or becoming the target of anger in cases when you are not to be blamed	$\bar{x}$	1,70	1,56	1,53	1,80	1,63	1,75	1,84	1,90
		S	,87	0,64	0,75	1,00	0,78	0,81	1,02	1,01
19	Pressing you for not demanding something that you deserve	$\bar{x}$	1,42	1,35	1,29	1,58	1,47	1,31	1,50	1,41
		S	,74	0,77	0,60	0,93	0,76	0,47	0,76	0,75
20	Being exposed to practical jokes	$\bar{x}$	1,53	1,56	1,51	1,34	1,50	1,88	1,34	1,82
		S	,78	0,94	0,79	0,53	0,70	1,13	0,52	0,85
	Total	$\bar{x}$	1,49	1,35	1,35	1,63	1,50	1,42	1,59	1,55
		S	,52	0,33	0,34	0,73	0,55	0,35	0,60	0,49

When the data in Table 1 are examined closely, one can see that the behavior that has the highest mean is "Hiding from you the information that will improve your performance" (x=1,96). This behavior was most experienced by teachers in Gaziantep (x=2,22), Bingöl (x=2,19) and Ankara (x=2,08). The behavior that has the lowest mean is "Implying that you need to leave your job (resign)" (x=1,21).

In terms of different cities, the frequencies of mobbing was found to be as follows: Adana (x=1,63), Gaziantep (x= 1,59), Bingöl (x= 1,55), Ankara (x= 1,50), Samsun (x=1,42), Balıkesir and Kütahya (x= 1,35).

Table 2. The ANOVA results regarding the frequency of mobbing to which the teachers are exposed in different cities

Province		N	$\bar{x}$	St	df	F	P	difference
Balıkesir	1	34	1,35	,32	6	2,67	,015	2-3
Kütahya	2	83	1,35	,34	358			
Adana	3	64	1,63	,73				
Ankara	4	59	1,50	,55				
Samsun	5	32	1,42	,35				
Gaziantep	6	45	1,59	,59				
Bingöl	7	48	1,55	,48				
Total		365	1,49	,52				

*p>,05

Table 2 shows that teachers working in the city of Adana are exposed to mobbing the most (x=1,63). Teachers working in the cities of Balıkesir and Kütahya are exposed to mobbing the least (x=1,35). Analysis results show a statistically significant difference between the frequencies of mobbing that the teachers experience in different cities [F6-358 =2.67, p< .05]. In other words, the frequency of mobbing that the teachers are exposed to differ significantly depending on the city where they work. A Scheffe test was used in order to find out about the between-groups differences. According to the results of this test, teachers working in Adana are exposed to mobbing (x=1,63) more than those working in Kütahya (x=1,35).

Table 3. The t-test results of teachers' exposure to mobbing according to sex.

Gender	N	$\bar{x}$	S	sd	t	p
Male	201	1,46	,46	362	-,837	,403
Female	163	1,51	,59			

*p<,05

Table 3 shows that the mean of male teachers' exposure to mobbing is x=1,46, and the mean of female teachers' exposure to mobbing is x=1,51. When the t-distribution is examined, one can see that teachers' exposure to mobbing does not show a statistically significant difference in terms of sex variable. In other words, the sex variable is not a determinant factor for teachers' exposure to mobbing.

Table 4. The ANOVA results of teachers' exposure to mobbing in terms of age.

Age	N	$\bar{x}$	St	df	F	P
33 and above	185	1,51	,53883	2	,495	,610
34 – 45	141	1,46	,51059	361		
46 and above	38	1,56	,50459			
Total	364	1,4915	,52385			

*p>,05

Table 4 shows that teachers who are 46 years old and above are exposed to mobbing the most (x=1,63), and teachers in the 34-45 age group are exposed to mobbing the least (x=1,46). Analysis results show that there is not a statistically significant difference between the frequencies of mobbing in terms of age. In other words, the age variable is not a factor that accounts for mobbing that teachers are exposed to.

CONCLUSIONS

Research findings indicate that mobbing that teachers experience in secondary education schools in the city of Adana is the highest compared to other cities. Teachers working in schools in Balıkesir and Kütahya experience mobbing the least. That there is a statistically significant difference between the frequencies of mobbing in different cities leads us to think that mobbing is affected by cultural variables.

The most common type of mobbing was found to be "Hiding from you the information that can improve your performance" and the least common type of mobbing was found to be "Implying that you need to leave your job (resign)" A study by Mete (2013) found the most common type of mobbing to be "exclusion and discrediting." The reason why the findings of the present study and those of Mete's are not parallel may be that the two studies were carried out in different institutions.

In terms of the sex of teachers, there is no statistically significant difference in the frequency of exposure to mobbing. The findings of many studies on the topic confirm these findings. For example, studies by Cemaloğlu (2007), Koç and Urasoğlu-Bulut (2009), Acar and Dündar (2008), Yeşiltaş and Demirçivi (2010), Deniz and Ünsal (2010) Hansen et al (2006), and Vertia (1996) showed that there is no difference in mobbing in terms of sex variable. However, there are also studies that found that there is a statistically significant difference between mobbing and sex variable (Karcıoğlu and Çelik, 2012; Namie, 2003). This difference may be accounted for by cultural variables as well as by the characteristics of the institutions in which the studies were carried out.

As for the age of the teachers, there is no statistically significant difference between age groups. Zapf's explanation supports this finding. Zapf (1999: 75) states that the age factor is not a significant factor in individuals' exposure to mobbing. However, a study by Urasoğlu found that the age variable is an important and statistically significant variable in mobbing. Urasoğlu (2007: 85) conducted a study in secondary education institutions in 25 cities and found that teachers under 25 years of age are exposed to mobbing more than other age groups.

The finding that the types of mobbing in secondary education institutions differ according to cities is an indication that mobbing is affected by culture. With more comprehensive studies both in educational sector and other sectors, it is possible to obtain a clearer picture of this finding. Therefore, more studies are needed on the issue.

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THE MUSIC OF ISTANBUL DERVISH LODGES IN OTTOMAN ERA

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The traditional theory of Turkish Music has been formed by the perspectives of al-Kindi, al-Farabi, Ibn Sina, Safiyyuddin Urmevi and Abdulqadir Meragi. And the most important practical contribution to this tradition made by mystic paths which use music as a substantial component of their rituels.

Istanbul in the Ottoman era was one of significant cultural and artistic center of Islamic heritage. From musical respect interpretations during the mystical rituels with enstruments has present Dervish lodge (Tekke) music. Musical forms which have been performed in the dervish lodges, have a deep effect on the other forms of Turkish Music. The masterpieces of Turkish Music have been given by the composers or performers attained from dervish lodges in Istanbul.

The main purpose of rituels in dervish lodges is to mention and the music is a tool that used to leading of mentioning ceremony. Main characteristics of this kind is intensive rhythmic componets and choral performances.The borders of dervish lodges' forms are not categorical. These forms sometimes are also performed in mosques by different performing style. But the forms which reflecting the mystical thought of the path are only belong to dervish lodges.In these survey music of dervish lodges and forms will be mentioned.

Keywords: Turkish Music, Religious Music, Dervish Lodges, Hymn, Instruments

THE OPINIONS OF SCIENCE TEACHER CANDIDATES TOWARDS INQUIRY-BASED PHYSICS EXPERIMENTS

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Inquiry-based learning (IBL) is a new approach that has come forward in science education in recent years. Science Curriculum aims to train science literate individuals who try and use different ways to solve daily problems. For this purpose, it based on IBL approach. To achieve the goals of the program science teachers, as the practitioner of the program, should apply inquiry properly. That means science teachers and candidates need to learn the IBL approach and to be aware of positive and negative aspects of it. Also teachers' and candidates' comments and suggestions are important for the effectiveness of teaching process.

In this context, the purpose of this study was to investigate the views of science teacher candidates towards Physics Laboratory course conducted with Inquiry-based Physics experiments. The study was conducted with 40 pre-service teachers at Bartın University Science Education Department. During the study, teacher candidates were trained about IBL and how to conduct inquiry-based physics experiments. After the training, inquiry-based physics experiments which were required for the course topics were prepared and the course was carried out with these experiments. At the end of the semester, teacher candidates' views towards inquiry-based Physics experiments were collected via questionnaire including open-ended questions.

After data analysis process, results will be shared in the full paper. It is thought that the findings of the study will contribute to the literature related to IBL and to teacher candidates' views towards inquiry-based experiments usage in Physics course.

Keywords: Inquiry-based learning, Physics experiments, Science education, Teacher candidates

THE OPINIONS OF STUDENTS ABOUT COMPUTER ASSISTED DEMONSTRATION EXPERIMENTS IN GENERAL CHEMISTRY LESSON

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The enrichment of Chemistry courses including abstract concepts, through laboratory applications, contributes to the development of positive attitude and cognitive competence of the students on the subject. So students can understand chemistry much easier and can build their own knowledge. With this study were aimed the investigation of teacher candidate's opinions about computer assisted demonstration experiments in general chemistry lesson. This research is designed as relational scanning model. The samples of the study comprised 198 students from Science, Elementary school and Gifted education department in education faculty.In the study; "General Chemistry Computer Assisted Demonstration Experiments Effectiveness Scale" with three factors which is developed by Özsoy-Güneş and Kırbaşlar (2014) is used as tool of data collection. In order to analyze the data, SPSS 16.00, ANOVA, independent T-Test, Pearson correlation coefficient techniques are used. As a result; the significant differences were found between the gender, department and graduated secondary school with general scale score and "Persistence of Knowledge", "Contribution to Learning", "Motivation" factors.

Keywords: Computer-Assisted Instruction, Chemistry Education, Persistence of Knowledge, Contribution to Learning, Motivation

THE PLACE OF MADRASAS IN THE HISTORY OF TURKISH EDUCATION

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ABSTRACT

History of education is also history of humanity. Every nationa has its own history. In this paper, the history of Turkish education was examined. In this context, he importance of madrasas was the main subject of this paper. In doing this, it was also examined the history of turkish education in both pre-Islamic era and Islamic era. It can be seen that after accepting Islam religion, the Turkish educational system was mainly changed and madrasas was appeared as a sign of formal education. In the beginning, madrasas were only Muslim theological schools; but later they affected on all Turkish educational system, especially in Seljuks and Ottoman, until the foundation of Turkish Republic. Along with the foundation of new state, Turkish Republic, madrasas were closed with the law on unification of education beacuse of their degenerations.

INTRODUCTION

Education cannot be defined easily, so it can be found many answers about what education is. In its narrow sense, education means school instruction, while in its wider sense, it means the total development of the personality. In general sense, education is any act or experience that has a formative effect on the mind, character or physical ability of an individual. The history of education is the history of man. Every nation has its own history of education. Generally, the educational history of a nation mainly deals with instructional and educational activities from a historical perspective. The history of Turkish education goes back to early centuries. In history of Turkish education can be divided into two main eras: Pre-Islamic Era and Islamic Era. It can be found the division of the history of turkish education in the following schema:

History of Turkish Education

Pre-Islamic Era
-Huns
-Gokturk
-Uyghur

Islamic Era
- Karakhanid
-Seljuks
-Ottoman
-Turkish Republic
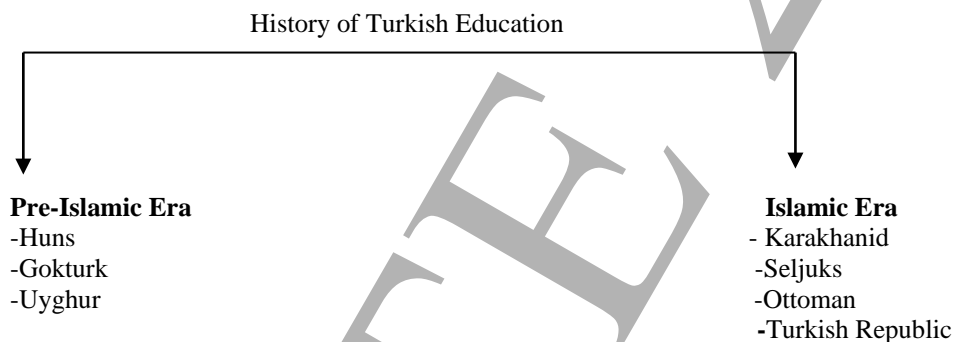
PRE-ISLAMIC ERA

In pre-Islamic era, there were three Turkish states; Huns, Gokturks and Uyghurs. Education in these states was based on culture. There was no any formal education. Families were responsible to educate their childs. "Fathers educate their sons and mothers educate their daughters". In this time, education meant development of personality not school instruction. In pre-Islamic era, turkish education system was mainly based on morality and vocational education was important. Education of Turks before Islam was shaped with their life style.

ISLAMIC ERA

After their conversion to Islam, the life styles and educational systems of Turks were mainly changed. In Islamic era, it can be found important Turkish states such as Karakhanids, Seljuks, Ottoman and Turkish Republic. The most important change in education after accepting Islam was the starting of formal education and the foundation of madrasas as a formal educational instutions.

The name of madrasa means class. In Islam world, it was an educational instution. Madrasas had very important place in history of Turkish education and Islam world. The first roots of madrasas were mosques. In Islam world, education was given in mosques firstly. This education was equal to elementary level. Madrasas were Muslim theological schools, found after accepting Islam. In the beginning of the history of Islamic education, small mosques were the center of education; but over time they began to fail for education. Hereat, madrasas were found.

The first Turkish Islamic state was Karakhanids, so formal educational instutions such as Madrasas can be seen in Karakhanids firstly. Madrasas had very important place in Karakhanids and they had three functions: One of

the functions of madrasas was to reinforce of new belief. The other and may be the most important function of madrasas was to protect Sunni-Hanefi communion againts to other communions. In Karakhanids, madrasa was a venue for both scientist and clergymen. The teacher of madrasa was called Fakıh and he must be Hanefi communion. All students of madrasa should also be Hanefi communion.

Farabi and Ibn-i Sina suggested ideas about education in this time. For Farabi, the aim of education is happiness and to rehabilite people for society. There are 3 kinds of educators for him. These are: Head of the family, Teacher and Sovereign. He separeted teaching and education. For Ibn-i Sina the first education of child is moral education and playing is also important in education.

SELJUKS

In Seljuks, mosques and prayer rooms, places, libraries, ahi-order organization etc. were common-public educational institutions. Schools (mektep) and madrasas were formal educational instutions. Schools (mektep) had a level of elementary school, and they were called also *kuttap*. They were founded near mosques. Students learned how to write and read in these schools. It was an important institution. Madrasas also had an important place and rapidly spread in Seljuks because of the following reasons:

1-One of the duties of madrasas was to spread and prevent Hanefi communion to other communions.
2- To need education personnel in the government.
3-To need educating Muslim scholars.
4-They needed to educated people for the sake of the state.
5-Madrasas were used to reintroduce poor students to society.
6- The disposition of statesmen towards arts and science.

Higher education began with madrasas in Seljuk. One of the most important madrasa was Baghdad Nizamiye Madrasa. Baghdad Nizamiye Madrasa was a higher education institution. Madrasas were first founded in 10th century. Nizam'ul Mulk was the great vizier of the Great Seljuk Empire and he founded several madarasas in the cities of Isfahan, Musul, Merv etc.

Nizamiye madrasas were also founded to serve the purpose of trained personnel for the state by Nizam'ul Mulk. Courses lectured in Baghdad Nizamiye Madrasa were divided into four main branches such as religion and law, language and literature, philosophy and positive sciences. These branches were also contained different subjects. These branches and their subjects were as follows:

Religion and Law	Language & Literature	Philosophy	Positive Science
Qur'an	Arabic literature	Philosophy	Medicine
Tafsir	Poetry	Logic	Surgery
Islamic Law	History		Arithmetic

Later philosophy was removed from the cirriculum. These madrasas taught religion, law and language. The language of education was Arabic, but in some places it was also used to Turkish. In here, education system was based on rote-learning. Professors of the madrasa were selected by sultan or vizier. In general, they were working until they died. It was a requirement that professors in Nizamiye Madrasa have to be Shafii communion, unlike madrasas in Karakhanids. However, there was no any prerequisite for the students. In Seljuk, students of madrasa were called *fakih*. In Nizamiye madrasa, education was free and it was found by etatism (state).

In general Madrasas were constructed single storey. Seljuk madrasas in Anatolia were divided into yard-type and domed. Madrasas consisted of yard, ıwan, small mosque, shrine, student rooms, winter classroom, pool, fountain. Nizamiye madrasa was a model for the other madrasas founded in Ottoman.

OTTOMAN

In Ottoman, the madrasa system was inherited from the Seljuks and it was founded many madarasas during Ottoman. In Ottoman educational system was mainly based on Seljuk educational system, but ther was also some innovations. The new language called Ottoman Turkish emerged, this was an artificial language including Turkish, Arabic and Farsi. While in Anatolian Seljuk, Konya, Sivas and Kayseri were the science centers; in Ottoman, Bursa, Edirne and Istanbul were the science centers. (Izgi, 1997, p. 20).

In the Ottoman, all educational institutions except Enderun were called Madrasa. Enderun was a palace school for the Christians of the Ottoman Empire, which primarily recruited students via devshirme.Devshirme was a system of gathering of Christian children for serving the Ottoman government. Until Tanzimat period, there were only two formal educational instutions in Ottoman. These were Sıbyan schools and madrasas. Sıbyan schools were primary schools; education was free and compulsory in these schools.

The first madrasa called Orhaniye madrasa in Ottoman was founded in İznik by Orhan Bey in 1331. "Between the years 1331- 1451 a total of eighty-two madrasas were founded in Ottoman" (Ihsanoglu, 2004, p. 7). The teacher of madrasa was called muderris. The assistance of muderris was also called muid. Madrasas had three different levels: secondary school, high school, and university level. Madrasas included a library, dormitories, a mosque etc. There were three main branches wich taught in madrasas. The first was law and religion, the second was rational sciences such as philosphy and mathematics, and the third was instrumental sciences such as grammar, logic, rhetoric. In Ottoman there were also four main vocational and specialized madrasas. These were called Darulhadis, Daruttip, Darulmesnevi, and Darulkurra. In Darulhadis, it was taught hadits. In Darruttıp, medical science was taught. Mevlana's Mesnevi was read in Darulmesnevi. And in Darulkurra, it was trained hafiz.

From Seljuk to Fatih the basic aim of education was religion in madrasas. Until Fatih Sultan Mehmet the curriculum of Ottoman madrasas was based on the curriculum of Nizamiye Madrasas, madrasa education was systematized by him. Fatih converted many churchs including Ayasophia into madrasa. He founded Tetimme and Sahn-ı Seman madrasas.. Sahn-ı Seman Madrasas contained eigth madrasas, Islamic sciences such as tafsir (commentary), hadith (sayings from Muhammed, the prophet), fıqh (Muslim canonial jurisprudence), and kalam (theology) were taught in these madrasas.

The students of Sahn-ı Seman were trained in Tetimme. There was a hierarchy among madrasas. The highest level of madrasas was Sahn-i Seman. The levels of the madrasas were associated with the daily salary of muderris. The hierarchy among madrasas as follows: Tecrid, Miftah, Kirkli, Hariç, Dahil and, Fatih madrasas. The most advanced examples of Ottoman madrasas were Fatih and Süleymaniye madrasas.

In Ottoman, there was no any end time of madrasas. The aim was to read some books. However, at least one or two years education was given. The number of students was not over twenty. Four days in a week there was a course. All courses in madrasas began after breakfast and continued until lunch time. There was no any class in religious holidays and holy nights. In holy months, students went to different villages to give some advaces to villagers. This was called "*cerre çıkmak*". This was a kind of practical implementation of theoretical knowledges. Students graduating madrasa could be teacher (*muderris*), mufti, kadi, sect leader etc. A diploma called *icazetname* was given students. (Akyüz, 2011, pp.67-79).

Madrasas provides equal opportunities to all peoples. Education was free. Madrasas were designed like a boarding school. To provide accommodation service there were some dormitories called *hücre* and to provide nutritional requirement there were some cafeterias called *imaret*. These Hücre and Imaret were the characteristic features of madrasas. (Sarıkaya, 1997, pp. 34-35).

In Ottoman, in every level of madrasa students was called to different names: The students of sibyan school were called talebe, students of secondary school were called softa and students of higher school were called danismend. The general name of madrasa students was talebe-i ulum.

After 1776, Madrasa was more effective on civil schools rather than military schools. The end of the empire, madrasas began to loose their importance. The beginning of deterioration of madrasas dated Kanuni time. It began the illegal appointments of madrasa teachers. Later, demoralization of discipline, the effect of war, decrease in population, publications against madrasas caused the deterioration of madrasas. Therefore, interest to madrasas was decreased and the number of students were very few in madrasas. During this time, there was an instability of madrasas; while one was opened, another was closed because some madrasas were only opened for unemployed muderris. To recover madrasas from this undesired situation, it was taken some steps. Finally, to reform madrasas, an enactment was declared called "renovation of madrasas law"(*medreseleri ıslah nizamnamesi*) in 1914. However, corruptions in madrasas continued uncontrollably.

TURKISH REPUBLIC
After Ottoman Empire, Turkish Republic was founded in 1923 by Mustafa Kemal Ataturk. New educatinal system has emerged with new state. Latin alphabet was accepted an coeducation began.
In the new state, education has been secular and democratic. After the Establishment of Turkish Republic, a significant step was taken with the acceptance of the Law on Unification of Education (*Tevhid-i Tedrisat Law*) in 1924.With this law: All scientific and educational institutions were brought under the Ministry of National Education and madrasas were closed.

CONCLUSION

Madrasas were indications of the devoloping of science and education in Islam world especially in Ottoman. They were affected on the education of the world. At the beginning, madrasas accepted students by way of examinations, and cirriculum was rich. However, positive sciences and philosophy were removed from cirriculum and education was only concentrated on religious subjects. The language of education was Arabic, but in some places it was also used to Turkish. The method of education was based on rote-learning.

Madrasas were constructed like an Ottoman social complex (*külliye*), these referred to today's campus. They included a library, a mosque or prayer room, dormitories, yard etc. The teaching staff of madrasas consisted of teacher (*muderris*), assistance of teacher (*muid*), and student. In the beginning of the Ottomans, teachers were more important than madrasas. The importance of madrasas were determined according to the qualities and salaries of teachers. In madrasas, education was free and it was given scholarship for the students. Madrasas were financed by pious foundations.

Madrasas were an integral part of the Islam educational system. They had similar curriculum in all. In Ottoman, educational system was developed by the Seljuk Turks. The type of Nizamiye Madrasa was affected on the madrasas of the Ottoman. "The madrasa system inherited from the Seljuk Turk continued in existence augmented by the contributions of the Ottomans" (Ihsanoglu, 2004, p. 4)

Many students who came from different countries in Europe, studied in Muslim madrasas in Spain and Sicilia. These graduated students founded high schools called university in their countries such as Bologna, Oxford. So madrasas were not only in Islam world, they also had an important place in all of the world.

In sum, madrasas played an important role to shape the educational system in the history of Turkish education. Today's educational system has been affected educational system of madrasas. Especially, there was a close relation between Islam and madrasa. The place of madrasas was undeniable in spread of Islam. However, the deterioriations caused to dissappearence of madrasas. Along with the new state, Turkish Republic, educational system has been renowed and become crital. Instead of madrasas, many schools and universities has been founded. In this way, a perception of contemporary, secular, progressive, multiple education has been arised.

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THE PORTFOLIO IMPLEMENTATIONS OF PROSPECTIVE PRE-SCHOOL TEACHERS IN SCIENCE AND MATH EDUCATION AS AN ALTERNATIVE EVALUATION INSTRUMENT (The Sample of Sabahattin Zaim University)

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ABSTRACT

Although the use of portfolio in the curriculum of teacher training and evaluation process is a common method, in recent years, it is a new trend in Turkey. The purpose of this study is to set forth an approach on using portfolio not only as an assessment tool based on constructivist approach but also as a teaching tool in the process of science and math education in preschool education. The document examination and observation methods of qualitative research were employed in this study. The study was conducted with second grade prospective preschool teachers (n=49). For this study, prospective teachers were asked to design two original experiments and materials for science and math education for children at the age of 4-6, to perform these experiments by them and children in a period of 14 weeks; and to perform these experiments at home and kindergarten in compliance with the target achievements. The experiments designed by prospective teachers were discussed with other prospective teachers in terms of being safe, economic and practicable. The experiments were performed by prospective teachers for two times; first at home and kindergarten, then at science classes. After the process of experiments and the applications of materials, the feedback obtained from children were re-evaluated by prospective teachers. Finally, the prospective teachers were asked to prepare portfolio involving their self-assessment regarding each step of the implementation process. As a result of this study, under the lights of portfolio implementations and evaluations, an approach was set forth towards the use of portfolio in the process of teacher training which paves the way for the usability of cognitive life skills at the highest level for teachers and suggestions were made.

Key words: preschool science and math education, portfolio, experiment, material.

INTRODUCTION

Advances in science and technology affect all developed and developing countries.These advances cause a fast change in the social, political, economic and cultural systems in Turkey. In parallel with this, the need for education increases and the importance of investing in human beings becomes clearer. Accordingly, the everchanging world and social needs make some changes in the educational system inevitable. The traditional status of teachers as information provider has been transformed into a status of teacher as a guide to information, a facilitator of learning, and a motivator of students for thinking. Instead of rote learning, students must be trained as individuals who can reach the information, who can use this information, who can debate, who is inquisitive, who can utilize the thinking processes, and who can produce new information (Bilen, 2002: p. 2). Classical approaches to assessment/evaluation have been commonly used both in Turkey and abroad. They usually tend to give importance to performance or process assessment, contain questions with one correct answer such as pen and paper tests, and find out whether students remember the information given to them. Besides, genuine assessment methods that offer students an opportunity of choice and collection of and reflection on the things that they are to learn, that will improve students critical thinking skills, and that will motivate them to show their academik powers are ignored (Adams ve Hamm, 1992, p.103) and therefore permanent learning is not achieved (Banta, 2003, p.2). Starting from preschool teaching, teachers at all levels of education are interested in what students learn, and they feel the need to use suitable assessment methods in order for them to track the development of students. It is important that teachers run together the processes of knowing and assessment of students with the process of learning, and that they consider each activity as data about students (Parlakyıldız ve Yıldızbaş, 2007, p.377). The use of alternative assessment activities are supported by theories of learning and classroom life. On the one hand, students learn in different ways and on the other, they create information from their own experiences. Variation in types of learning and the nature of learning have obligated teachers to employ alternative assessment methods (Vyortkina, 2003, p.11). The main goal in choosing portfolio assessment from among alternative assessment methods in the present study is that it has all the characteristics of new assessment methods and that it has been widely used all over the world. Portfolios do not only assess students' knowledge and skills; they also require more effort for planning and assessment. Fort his reason, it is an assessment method that also teaches ways of learning (Banta, 2003, p.3). What is portfolio? Portfolios have been defined differently by different researchers. Some of them are as follows; "Collection of cumulative and systematic works chosen and recommended by students, teachers or colleagues in order to assess/evaluate the development of the student's existing skills" (Simon and Forgette, 2000, p.85). "A teaching portfolio is the total of the documents of a teacher's in-class activities and contains lesson plans, student homework, teacher's written instructions, video cassettes an deven advisor evaluations" (Wolf, 1996, p.35). A portfolio is a collection with a

purpose which exhibits students' achievements in different areas in the process in which they are. This collection is a criterion for qualified decisions, a proof of students' own reflections, and contains students' own sections with the contents chosen" (Paulsen ve Meyer, 1991, p.60). As the definitions indicate, its characteristic that improves students' creative thinking makes portfolio an alternative to the classical assessment tests (Banta, 2003, p.1).

The characteristic of the present century which can be defined as "Science Explosion" makes it necessary for our children to acquire some characteristics such as scientific concepts and creative thinking in early childhood. Early childhood is a period in which a child actively acquires basic concepts and the skills of the scientific process. The experiences that the children have in this period creates a suitable environment for the acquisition of the concepts. In the day-to-day life, when we observe a small child in his/her natural activities, we can see the formation of the concepts and their application in cases that require problem solving. One-to-one matching, counting, classifying, and assessment are some of these concepts (Arı, 1993, p.99). The starting point of the science and maths teaching for preschool children is their natural environments. They are curious, investigative, imaginative and querier. In order to support their development in this aspect, they must be given opportunities in which they can satisfy their curiosity by investigating and make predictions by suggesting ideas. This can be achieved through "science and maths activities" that improve children's curiosity and research motives and stimulate their cognitive skills (Arnas, 2007, p.7). In this way, children who have become familiar with scientific activities can learn and implement the scientific processes both at home and in the preschool science teaching. In addition, active participation of the families in the programs of the educational institution, their familiarity with the play material and their uses, and and at least their attempt to supply children with similar material in the home environment will simply contribute to the learning process of the children (Bilir, 1993, p.34). Achieving a successful parent-child interaction, which can be considered as the basis for the interaction that the child will establish with other people in the future, depends if and only on the condition that the mother spares enough time for the child and meets his/her affectionately and properly. As is known, parents are the first teachers of a child who help the child learn many developmental skills such as walking and speaking, and information about his/her environment. The teaching functions of the parents start from the child's birth but do not come to an end when the child starts to go to school and has a regular teacher at school (Temel ve Ömeroğlu, 1993, p.74). In general, almost in all countries in the world, the education in the first five years of a child's life, which is the most important period, is considered to be the basic duty of the parents (Oktay, 1993, p.104). It has been observed that children start the process of learning their immediate environment by touching, tasting, hearing and seeing and then start to develop their skills of asking questions and doing observation-experiment. Especially in the preschool period, making the activities of science and maths education more pleasurable for children and aiming their interests, expectations and needs rather than giving them standard information when planning these activities will make science and maths education more meaningful for children and lead them to develop a more positive approach to sciences in the future (Gürdal ve et al, 2001).

The Laboratory (Experiment) Method in Science Education

Akgün (2001) defines the experiment method as "experimentation whose conditions are prepared by the researcher in order to repeat the events in nature and reveal a truth in science" (cited in Arnas et al, 2012, p.148). According to Kang & Wallace (2005), the laboratory method is a teaching method that develop cognitive skills and that allows for the learners to work individually or in groups. Science experiments are a necessary and indispensable part of learning experiences in science lessons. It improves the investigation and research skills of the learners and make them interested in learning and eager to learn. Science experiments which are based on learning by doing and experiencing make learning effective and lively and allows for the learner to actively take part in the learning process (cited in Küçükturan, 2008, p.66). This improves learner's such cognitive skills as ratiocination, setting up cause and effect relationships, problem solving, and making generalizations. It also helps them develop positive attitudes towards using the scientific method (Küçükturan, 2008, p.66).

The Importance of Experiment in Preschool Teaching

The use of experiment method in science and maths lessons in preschool teaching is important in terms of developing children's curiosity and research motives, stimulating their cognitive skills and being successful in their school lives in the future. Children are interested in the objects and events in their immediate environment. In order to keep children's interest alive, parents and teachers should find science/maths activities that will set the them in motion and that will be interesting for them. A perfect laboratory is not always necessary in order to make experiments. Especially for preschool children, there are many experiments that can be conducted with simple materials without having a laboratory. Such things at home and in the environment as growing plants, animals, worms in the soil, wood floating on water, and sinking of a stone in water are all experiments. Children who do not attend preschool education institutions must also be educated by their parents at home. Science/maths activities can also be done at home (Şahin,1998, p.31). One of the most enjoyable ways of involving children in science and maths is the cooking activity either at home or school. According to Jackman (2005), one may ask a child playing in a dramatic playground to explain the material in an imaginary cake that she is baking. Most of the time, the response will like this: "I added 20 cups of sugar, some flour, and two eggs. I blended them and put the mixture in the oven for ten

minutes." Even though the numerical amounts of the materials in the recipe are not correct, children are aware of the concept of amount in the recipe (cited in Kandır ve Orçan, 2011, p.37). The aim of conducting experiments in the science and maths lessons is not to transfer information to children by showing; the aim is for them to learn in an effective way by doing and experiencing the events related to the nature, science and maths (Arnas, 2012, p.148). As can be seen, parents at home and teachers at school can extend such activities through play. In this way, the child improves her skills of counting-concepts-colors-shapes-matching-measuring-forming patterns-modelling-cooperation-problem solving, and in this way contributes to her social and emotional development.

The aims of the present study are: to investigate the possible aims of science experiments and maths materials that can be conducted and used at home and school; to find out about the aspects of such experiments and materials, to which attention must be paid during implementation; to determine the advantages of using home and classroom as an experiment environment; to elicit learners' views about the portfolio implementation in science and maths instruction; and, by creating a model of education, to suggest an approach on how experiments and materials can be used as experiment tools in science and maths education. Thus, the study involves the assessment of the regular and cumulative collection of the science experiments/maths materials that the university students performed/prepared during the course using some predetermined criteria.

METHOD

In the present study, the data were collected through document review and observation methods (Yıldırım & Şimşek, 2000). "Documents proove their value not only because of the things that could be learnt from them but also due to being stimulating for researchers that can only be followed by observation and contact" (Patton, 2002). "Observation is a method that is used for a detailed description of a behavior that takes place in an environment or institution" (Yıldırım & Şimşek, 2000, p.124). This study was carried out in the Science and Maths Teaching course with the second year students (N=49) of the Department of Preschool Teaching, Faculty of Education, Istanbul Sabahattin Zaim University, in the spring semester of 2014-2015 academic year. This study was carried out with prospective teachers and the steges of the study are as follow; Prospective teachers were asked to review articles for two weeks and then design two original experiments and one maths material to be used in the science and maths class for the 3-6 age group. However, during the design process participants were warned that the experiments and material had to be in line with the gains and indicators and the students' level of education and that the material had to be waste material that can be found in the natural environment. Each experiment and material that was designed by each prospective student was discussed in the class with other prospective students by paying attention especially to reliability, economy and practicality and necessary modifications were made. When the experiments and materials took their final form, prospective teachers were asked to test them themselves at home, and in this way the stages of experiments and materials were re-checked to see whether they are suitable in terms of such aspects as timing and reliability. Then, these experiments and materials were implemented in the Science and Maths Teaching course of the fourth semester of the undergraduate program of the university and in the science and maths courses in the nursery schools/at home by children. At this stage, before the results were discussed in class, prospective teachers were asked to prepare a portfolio including their own evaluations for each stage of the implementations. Finally, prospective teachers shared with other prospective teachers their experiences in class either by implementing them or as a presentation by considering the results of their implementations of the experiments and materials. The feedback that was elicited from children after the experiments and materials were implemented were re-evaluated with prospective teachers by considering the portfolios as well. After the presentations, prospective teachers were asked to add another section into their portfolios in which they evaluated their peers, course, and the instructor of the course. In this way, they evaluated themselves, the children at school/home, and their classmates. Throughout the process, the researcher observed the implementations of the prospective teachers and took some notes. The portfolios prepared by the prospective students were collected at the end of the implementations and were anaylzed using document analysis, one of the qualitative research methods. When analyzing the portfolios, they were coded to maket he analysis more meaningful. The portfolios were coded as P1, P2, P3, P4, and so on. The notes that were taken during the observations in the prosess and the results of the examination of the portfolios were combined and in this way the results for the approach of "Creating Experiments and Materials for Science and Maths Course" were obtained.

FINDINGS

As a result of the researcher's document review of the portfolios and observations, the findings about the aims that the experiments and materials serve were collected under the following titles.

Acquiring the Concepts

Review of the portfolios and observation data showed that through science experiments and maths materials, children can acquire especially the concepts at home/school safely and joyfully. For example, a prospective teacher taught children the concept of numbers, counting from 1 to 6, and matching the colors through an activity called "Let's Do Our Own Lovely Train Loaded with Fruits" (P1) which was made completely of waste material. Doing a cut and paste activity, the prospective teacher contributed to their motor development (See Picture 1).

Picture 1. An image of "My Lovely Train Loaded with Fruits".

It supports the cognitive developmen domain (The child concentrates, counts the objects, observes, does matching according to color, tells the name of the geometric form). It supports language development domain (the child examines the visual materials, aswers questions related to the visual materials). It supports motor development domain (The child lays the objects together, piece them together to create new forms, stick them together, cut them). Gains after the activity are such concepts as primary-secondary colors, circle-square, odd-even, front-back, up-down, in front of-at the back, bottom-top-middle, former-latter,same-different-similar.

Modelling capability
Review of the portfolios and observation data also showed that science experiments are effective in modelling capability of children. For example, in the "Stampeding Peppercorn" experiment, it was found that the habit of washing hands with soap can be acquired (P28). In this experiment, the peppercorn as a visual element represents the microbes. If we immerse our hand with soap, we see that the peppercorn stampedes and it never likes soap.

Picture 2

Picture 3

A Picture of the "Soapy Water and Soapy Hand" experiment   A Picture of "Stampeding Peppercorn" experiment

Forming Patterns (Matching-Establishing Relationships -Raising Awareness for Movements that Require Object Control)

Review of the portfolios and observation data also showed that the experiments and maths materials raised children's awareness in terms of balancing objects of different sizes and weights on a scale. For example, sorting objects with different sizes, colors, weights and figures in an ascending order, grouping, estimation, observation, and establishing a cause and effect relationship. The "Let's Weigh the Numbers" science-maths-play activity emphasizes the importance of child's ability to perform the movements that require object control (see Picture 4,5). This activity also improves child's ability to form patterns and use them in the Daily life.

Picture 4.
 A Picture of experiment materials

Picture 5
A Picture of "Let's Weigh the Numbers" activity

Multipurpose usability of a single material

Prospective teachers state that many experiments can be made at home/in the classroom at zero cost using a single material that can be created by using waste material. For example, a prospective student explain it like this in her portfolio (P26). "*I am a graduate of vocational high school for girls and when I heard the word experiment I always remembered such things as heater, alcohol and beaker, but When I was preparing my portfolio I found that I can teach children a lot of things by using only "cloth-paper-rope. This caused me to make a lot of plans about my career development and Daily life.*"

Another prospective student made the following remarks in her portfolio (P23). "*As can be seen from the sample experiments that I made, we do not need expensive materials and different equipment.*" The aim of the "Journey to the Seasons" material aims to teach children clothing according to weather conditions, finding solutions to problems, shapes, colors, texture, thin-thick, and etc.

Picture 6	**Picture 7**
A Picture of experiment materials	A Picture from the "journey to the Seasons" activity

Having an impact on the social and emotional progress of the children

Based on the examination of portfolios and observation data, one can see that hoe/classroom experiments affect children's social-emotional development. For example, in the "What was It that I Touched" experiment (P36), "I can do it" feeling was observed in the children and this shows that home-kitchen-classroom can be used as experiment spaces (See Picture 6). Children always feel themselves ready to explore the physical environment in which they are. When they take the opportunity to explore they become interested. When they research in their daily lives, they also create a strong and permanent mental image of their experiences (Conezio and French, 2002, p.12).

Picture 6. "What was It That I Touched?"   Pcitures from the Experiment Stage

In the light of the portfolio assessment and observation notes taken by the researcher, another finding is that there are some points that must be taken into account when using the home/classroom environment as experiment space. They are as follows;
- The experiment must be preplanned and materials must be ready.
- Experiments must be at student's level of development and be suitable to his/her want and readiness.
- Before the actual implementation, the experiments must definitely be tried by the teacher, necessary modifications must be made, and it must be tailored to the level of the child. It was observed that by doing this, the time is used correctly and fruitfully.
- The planned experiments must be evaluated from the child's point of view, and if necessary, they must be redesigned according to children's perceptions of them.
- When using the home and classroom as experiment spaces, objects of possible harm must be removed as far as possible, and ultimate care must be taken to create a suitable environment for the experiment.
- The teacher must be aware of the fact that the individual characteristics differ from one child to another and that expecting from them more than their actual abilities will demotivate them and they will get bored even with the simplest experiments.
- In order to get a good control of the experiment, it should first be implemented with a small group.

Based on the portfolio assessment and the notes taken by the researcher, the advantages of the approach of conducting experiments in the home and classroom environments were found to be as follows:

- It supports the questioning of the results of the observations and experiments.
- The experiment approach responds to teachers' and children's attempts to learn about the world in which they live.
- It increases children's curiosity.
- The child is able to define his/her envıronmet better.
- Because children conduct the experiments themselves, this approach is effective in the development of their self-care abilities and improvement of their self-awareness abilities.
- Home/classroom experiments have some serious cost advantages.
- It was found that establishing relationships with the daily life is effective in discovering life skills, and this was especially emphasized by the prospective teachers.
- One of the most important advantages of home/classroom experiments is that one can use waste materials to conduct the experiments.
- In this way, they contribute to children's sensitivity towards the environment.
- If children carry out the experiments under the supervision of their parents, this will make children happy and will increase their self-confidence and therefore will contribute to their motivation.
- Home/Classroom experiments offer children a lot of opportunities. In addition, children directly make their own experiences more interesting and enjoyable in their lives.

Prospective teachers' views on the portfolio implementation in the Science and Maths Course are categorized in Table 1.

Table 1. Students' views on the portfolio implementation in the Science and Maths Course

Categories / Responses	f
What did I do during this course?	
I made an article review	45
I was planned and I used the library	10
I tried to create different activities	26
I followed the science and technology	33
I practiced by trying to take notes	10
What did I learn?	
Compared to other courses, I learned more distinctive things.	42
I am now able to transfer what I have learned to others	32
I've been reconciled with maths	4
When investigating experiments, I noted down the ones that I found different	5
I learned how to prepare activity plans	38
I learned how to prepare daily plans	12
I learned what to do with the materials at home	42
I learned that learning is a process	46
I learned to use scratch paper when studying	5
I discovered that things are more meaningful with children	
Points/Activities in the study that I found I was successful	
I used the waste materials professionally	43
I knew myself	20
I developed tools at zero cost	38
My creativity and imagination improved	24
I enjoyed my activities	41
I gained self-confidence and learned the importance of group work	37
Points/Activities in the study with which I had difficulty	12
I had difficulty in creating experiments	18
I had difficulty in tasks that required hand skills	34
I had difficulty in keeping up with the pace of the course and in understanding the method of the course	42
Preparing the portfolio took my time	
Skills that I think I acquired throughout the Science and Maths course	22

This course contributed to us in terms of such skills as social sensitivity, awareness, cooperation, solidarity, effective communication, self-assessment	27
I was patient and act according to needs	33
I learned to be open to innovation and to use the methods when and where necessary	44
My skill of criticism improved	45
I used the technology in the right place	36
I explored what I can do	12
My sense of competition improved	30
My sense of taking responsibility improved	
Occupational skills that I thing I gained from the Science and Maths course	45
I learned from this study that there are a lot of materials around me that I can use in science activities	46
By writing reports about the material, I learned how to prepare materials	31
I paid attention to doing research in all areas and courses	27
My relationship with children grew stronger although I am a second year student	31
I gained the skill of leadership and actively participated in the lessons	47
I improved my skills of preparing presentations and speaking	
My thoughts on and recommendations for portfolio assessment	41
I improved my research skills	45
I understood the importance of literature review	44
I improved myself through peer assessment	46
I saw my deficiencies through my research	12
I started to read articles in other fields	37
I improved myself with the feedback of my instructor	45
I adopted economy and saving as my life style	46
I understood what process-driven learning is	

According to the statements of the prospective students in Table 1, the portfolio implementation in the Science and Maths course supported their personal and occupational development and improved their self-confidence. These feelings are manifested in their statements that their self-confidence are increasing consistently and that they are more aware of their achievements. The analysis, documentation and presentation of the activities that the prospective teachers conducted helped them to reflect their strengths and weaknesses in the beginning of the course, their changing interests and types of perception due to portfolio implementation, and their need for continuous improvement. Furthermore, they especially emphasized the fact that the science and maths course caused more enjoyable and more permanent learning with accompanying research and activities. However, the consensus that students reach in the form of self expression through individual or group works and discussion and critical analysis of their occupational development was found to be rather difficult and time consuming. The portfolio process encourages students about sparing more time for studying and research.

After the document review of all portfolios (N=49), observations and implementations, "A Model for Home/Classroom Experiment Approach" has been obtained that will allow for seeing all the related elements from a single point of view (see Figure 1). The aim of this model is important in that it offers a flowchart for the use of home/classroom as an experiment environment.

At the first level of the flowchart, a needs analysis is made by taking an expert's opinion. After the learning targets have been set, the contents are created accordingly. After the creation of the contents, different teaching strategies are developed. For science experiments and maths materials, the most suitable strategies are determined as discovery and brainstorming methods. Brainstorming allows for sharing with stakeholders. At the end, an evaluation is made about whether the targeted behaviour has been gained. If the evaluation shows that it is enough, the interaction (congruence between learning targets and gains, congruence between method and implementation) between the elements is checked and so the teaching process comes to an end. If the targeted behavior is not congruent with the gains, the process starts again from the learning targers. Figure 1 shows this loop.
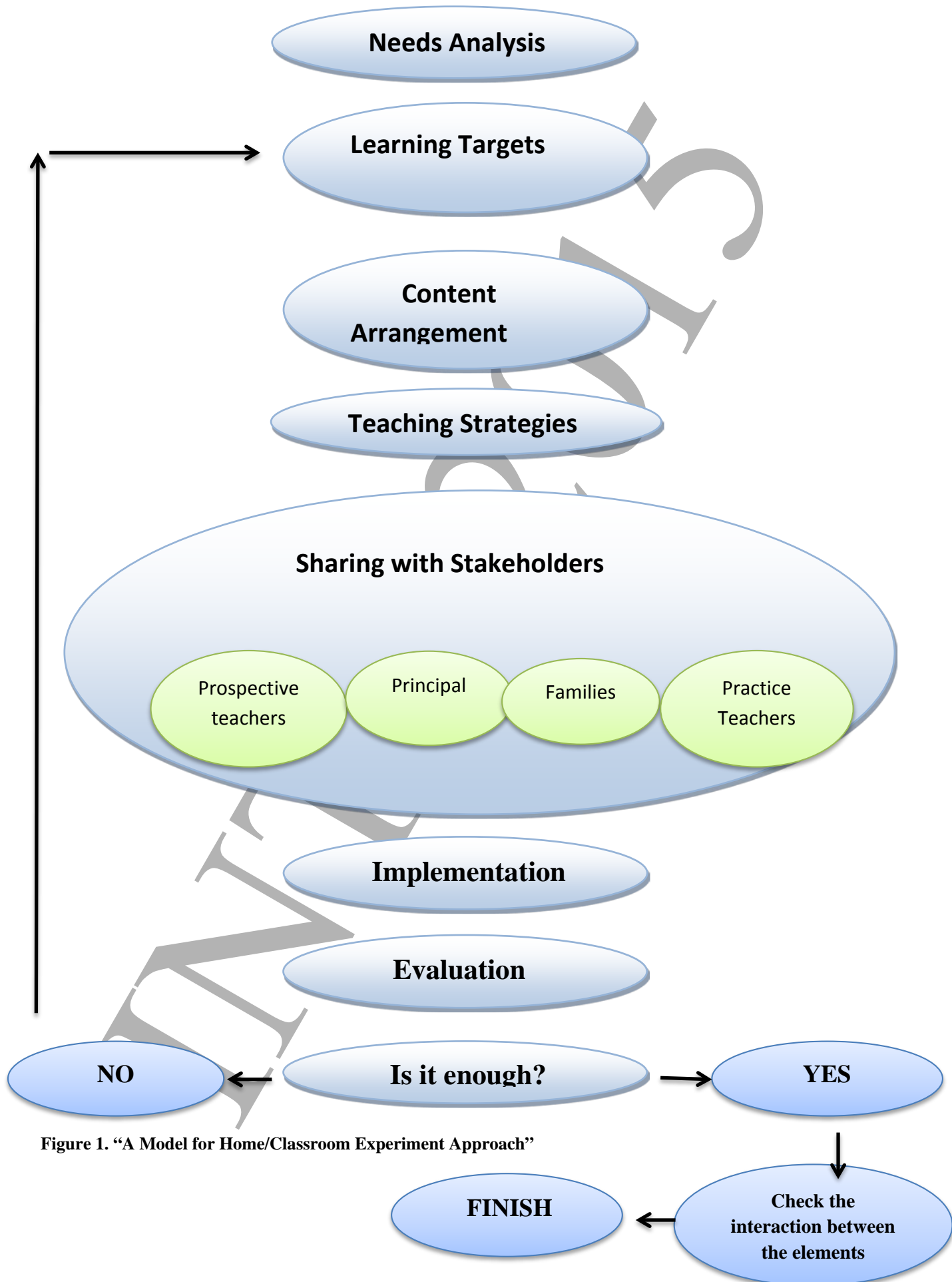
Figure 1. "A Model for Home/Classroom Experiment Approach"

CONCLUSIONS AND RECOMMENDATIONS

Prospective teachers can get the necessary skills that can be the foundations of their lives by making suitable plans, designing suitable experiments and materials, and by using different methods. The positive and supportive attitudes of educators and parents are important in making the children to get these skills qualitatively. Each activity that is conducted with children will enrich their small world. For this reason, prospective teachers must be good observers, must be able to canalize children to such activities whenever they need to, and must develop their skills of observation, research, investigation, experimentation and questioning by asking them open-ended questions about everthing. Observing whether or not a child can transfer the knowledge that she learned in the school or in her environment into her real life can be made only by parents and teachers. Therefore, prospective teachers must not see the science and maths education in the early childhood as an activity but as a life skill.

It is possible to create projects and conduct experiments at home/school. The findings of the study have shown that science experiments and activities made with maths materials can be used as a laboratory for science and maths education in all cases with waste materials and without structured apparatuses.

Prospective teachers stated that through the portfolios that they created they reflected the individual differences, occupational values, problem solving skills in the daily life, and life styles. These findings were obtained through a study made by prospective teachers and it was found that a lot of things can be achieved if different environmets are used. All these make the present study important.

As one can see, portfolio-based learning, implementation and assessment make it possible for a student to give meaning to new knowledge by starting from her own knowledge without separating her brain from her body, feelings and social environment, and it perceives the student as a whole and aims to educate them as all-rounders. This study has shown that as an alternative assessment tool, portfolio implementation can be used successfuly in the "Science and Maths Education" course with prospective teachers in undergraduate education.

This study makes the following recommendations:

- It is thought that simple science experiments and maths activities that can be conducted at "home/school" in the preschool period will offer children rich experiences. Teachers and parents can be informed of this.
- Workshops can be organized on how to design experiments and maths materials using waste material.
- Through in-service training courses and seminars, preschool teachers and prospective teachers can be informed of waste materials and science and maths experiments.
- Science and maths course is limited in terms of course coverage. In a longer period a pilot work may be done to find out about the effectiveness of the experiments and materials.
- In educational institutions, experiment and learning environments that are suitable for the constructivist approach can be created.
- Portfolio implementation and assessment is recommended in the teaching of different courses in teacher training departments of universities in general, and in the teaching of all courses in the departments of preschool teaching in particular.

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THE POSSIBILITIES OF DEVELOPMENT OF PLANAR AND SPATIAL ORIENTATION IN HIGH SCHOOL STUDENTS

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ABSTRACT
Technological and polytechnic education in the field of computer aided design (drafting) in 2D and 3D at non-technical secondary schools represents a new and relatively unexplored area. It is therefore necessary to deal with questions concerning the necessity of such training, and its potential influence and/or impact on students` further development. The answers were sought via an investigative research, the outcomes of which are presented by the submitted paper.

Keywords: Planar and spatial orientation, high school students, technological and polytechnic education

INTRODUCTION
Technology is an internal part of our life, it is all around us. Nowadays, a person without necessary basic technical knowledge and skills would not be able to perform their social function properly, and, consequently, would not live a full life (Zubata, Plishke & Kropáč, 2011). Therefore, elementary technical knowledge and skills should be mediated to the general public, not just to the students of technical secondary schools, by the educational system. In terms of advanced educational systems, elementary technology training represents an integral part of the general curriculum taught at elementary and secondary schools. It is transferred to pupils and students via a school subject, different not only in name (practical training, practical activities, technical training, technical practice, technique, practice, technology etc.), but also in scope and content.

Over the recent years, the term "subjects of technical character" has been used in professional literature (Idrus, Mond & Abdullah, 2010). By means of this subject, pupils acquire not only theoretical knowledge, but also elementary work skills. The emphasis is usually placed on technical creativity, depending on students` fields of interest, and the training is carried out mostly within the framework of optional subjects. Despite the rapid development of computer technology in all developed countries` education systems, elementary manual activities of technical nature such as woodworking, metalworking, working with tools and simple machines, electrical work etc.), remain a part of the curriculum. A combination of the two aforementioned is more and more common. The aim of the technology or polytechnic education is to develop the skills of the learners in manipulating working tools and machines, adopting work culture, and to acquaint them with the scientific principles of contemporary production, safety rules, etc. (Mojžíšek, 1981).

At present, these objectives are further developed by the supportive role of ICT, as information technology today covers or supports a significant part of industrial production. The aforementioned goals shall be well achieved in technically oriented subjects, which are based on the combination of the two stated goal segments, and the content and process side of which are close to a number of professions, not only these called technical today (Manullang & Kons, 2012).
Even though teaching at primary and secondary schools is primarily focused on general training, preparation for the use of computer technology and technology in general grows in importance as a component of education (Granath, 2003, p. 129). These efforts have not only been declared, but also embedded in a wide range of curricular and policy documents, and in many cases they have also been financially supported by various grants. The above stated facts indicate that education systems clearly aim to promote polytechnic education. Unfortunately, at least in terms of the Czech education system, it is not always the case. During 2006 and 2007, the Faculty of Informatics and Statistics of the University of Economics in Prague in cooperation with the company CACIO-CSSI-SPIS conducted a complex research to analyze students' of grammar schools readiness for academic studies at technical universities.

The study involved 53 faculties all over the country. The conclusions of the study were alarming, as they revealed a lack of experts in technical fields, as well as the absence of expertise among teaching staff, and an

inadequate level of education at grammar schools in technical disciplines, based on the rudiments of drawing documentation, as one of the most important prerequisites for successful studies at technical universities. Moreover, according to the conducted study, only a small percentage of grammar schools` students proceed with their studies at technical universities. They prefer fields of study more related to humanities, though their dispositions to study at technical universities might be very good (mathematics, chemistry, physics, etc.). Following the results of the aforementioned study, the author of this paper conducted a similar research in 2013 (Klement, Kubrický, 2013), a part of which was carried out at six 8 and 6 year grammar schools. Among others, a question concerning the reason why so few students of these grammar schools apply for technically oriented universities was asked. The most frequent answer received from the students was a claim that they were unable to assess the benefits of technology studies, because their high school`s curriculum did not involve any subject which would at least partially expound technology and technical issues to them.

Based on these results, we started to prepare in 2013 and implemented in 2014 an experiment, based on the inclusion to the set of ICT subjects taught at 8 and 6 year grammar schools of a thematic unit "Application of mathematics and chemistry in computer-aided technical drawing", which integrated both the technical area of technical drawing and drawing documentation, and the area of specialized CAD software tools used in these activities (Klement, 2001). The experiment thus consisted in the introduction of a new thematic unit to the established curriculum, and in the evaluation of the impact of thus conceived education on the students.

SPATIAL IMAGINATION AND ITS DEVELOPMENT

Despite the fact that most of us do not even realize it, spatial imagination accompanies us throughout our lives and at every step. Spatial orientation begins to develop as early as in infancy, when the child learns to follow the trajectory of moving objects and focus on the immediate area. The development starts in the vertical direction when a child, thanks to the Earth`s gravity, adopts the notions of up and down. Anteroposterior and horizontal movements follow, improving and deepening of the perception then go on throughout the rest of our lives. We cannot classify imagination as a purely mathematical, or psychological ability, however, there are fields of human activity which require a developed spatial imagination, for example sculpture, topology, architecture, building construction, and other technical disciplines.

According to Jirotkova (1990), spatial imagination equals intellectual ability to purposefully recall:
- earlier seen or perceived objects in three-dimensional space and recall their properties, location, and spatial relationships
- sooner or at any given moment seen or perceived objects in a different relative position than they were at, or are actually perceived
- object in space based on its planar visualization
- non-existent real object in three dimensional space on the basis of its verbal description

Spatial imagination develops along with the development of certain skills, such as the ability to
- communicate (especially graphic communication)
- use tools and features,
- work with mathematical and technical terms,
- apply mathematical and technical knowledge,
- explore and work creatively.

Spatial imagination can serve various purposes. It can be a useful tool, an auxiliary way of thinking, a method to obtain information or to formulate a task, and/or a means to solve a particular problem. Thanks to the versatility and the use of spatial imagination, there are many different definitions of the collocation. Obviously, the definition by a psychologist will differ from the one by a neurologist, a teacher, or an engineer. Apparently the broadest definition of the term has been provided by a pedagogical sciences professor H. Gardner (1999): "*The core of spatial imagination are the capabilities which ensure an accurate perception of the visual world, facilitate the transformation and modification of the original perceptions, and create a visual experience from one`s own mental images, even in the absence of outward stimuli effect*."

The aforementioned functions of spatial imagination are used in mathematics in order to solve various tasks, in chemistry for visualizing chemical bonds, in technical drawing, and while designing solids, shapes, and objects. That is why lessons of technical drawing or computer-aided technical drawing create favorable conditions for the development of spatial imagination and technical thinking (Kropáč, 2004). To be able to compile, and to project appropriate teaching of 2D and 3D drawing documentation based on the use of up-to-date electronic study materials, it is necessary to continuously determine their impact on the target group, and regularly identify the views and the attitudes of the later. Based on the conducted investigation, it is possible to correct some of the

negative side effects or, on the other hand, accentuate the positive effects. Teaching computer-aided technical drawing, supported by well selected teaching materials thus offers many a possibility for more effective teaching and developing interdisciplinary links (Grecmanová, 2000).

SETTING CONDITIONS FOR THE IMPLEMENTATION OF THE EXPERIMENT

A necessary precondition for the implementation of the experiment was to create its own concept and content of education, focused on the use of CAD systems, for the purpose of the enrichment of teaching of mathematics and chemistry at 8 or 6 year grammar schools with the practical application based on the use of computer-aided technical drawing. A new training module "*Application of mathematics and chemistry in technical drawing*" was developed, the aim of which was to elaborate interdisciplinary links, interconnect theory and practice via real life examples and practical tasks (Grecmanova, 2000), and last but not least contribute to a substantial development of the competencies of the students in the field of computer-aided technical drawing (Klement, 2003), as one of the important factors facilitating their potential further studies at technically oriented universities.

The aforementioned module enabled a substantial development of interdisciplinary links between math and chemistry, as a consequence of practical use of the students' knowledge of the two subjects during the visualization of objects in 2D and 3D space, elaborated to technical drawing, as one of the basic means of graphic communication. The practical application related mainly to the following fields:

- Plane geometry (parallels, skew lines, etc.).
- Spatial geometry (spatial solids and surfaces, conics, etc.).
- Boolean algebra (operators and, or, or and their graphic visualization).
- Descriptive geometry (traces of planes, intersections between planes, solid edges).
- Visualization of the atomic structure of matter (visualization of the core structure and valence spheres).
- Modelling of element molecules (visualization of molecular structures).
- Modelling of compound molecules (visualization of the molecular bonds).

To be able to implement the aforementioned experiment, a joint project of the Department of Technical Education and Information Technology of the Faculty of Education of Palacký University Olomouc and 6 partner 8 and 6 year grammar schools from Olomouc region called *CAD - computer-aided technical drawing at schools*, was carried out. The project was aimed at an extension of the subject matter of math and chemistry lessons by practical application of computer-aided technical drawing in the second or third year of a four-year program of study 79-41-K/41, or equivalent years in a six-year program of study 79-41-K/61, and/or eight-year program of study 79-41-K/81 of grammar schools. It was based on an active approach of teachers (methodologists) to the development and implementation of a new learning content and application of subjects, creation of a new learning program, including its verification in live instruction. Moreover, the individual key activities comprised all the basic processes associated with the change in the content of particular subjects` curricula, focused on practical application and use of computer-aided technical drawing in lessons of mathematics and chemistry.

Due to the activity character of the realized teaching, which took account of the needs of 6 and 8 year grammar schools, a practical application of knowledge on concrete examples was used as a method, including the creation of 2D and 3D visualizations which enabled the students to better understand the subject matter (Klement, 2013). Thus conceived concept guaranteed that the students would be able to practically apply their knowledge to real-world examples. It should be noted that the structure of the particular units was mostly focused on mastering the knowledge and the skills immediately required for basic orientation in the field of creating 2D and 3D drawing documentation in AutoCAD 2013 system (Klement 2013b). For the contents of particular training modules see below:

Name of the training module	Content of the training module
Training module 01: Applications of mathematics: Introduction to plane geometry	The module familiarizes students with the basics of the operation and the use of the AutoCAD 2013 user interface. Via practical examples, students are gradually informed about various parts of the interface and functions of AutoCAD 2013, and also get acquainted with the creation of basic plane geometric figures.
Training module 02: Applications of mathematics: Creation and basic alteration of geometric figures	The module familiarizes students with further possibilities of the operation and the use of the AutoCAD 2013 user interface. Via practical examples, students are gradually informed about further parts and functions of AutoCAD 2013 interface, and also get acquainted with the creation of further plane geometric figures.
Training module 03: Applications of mathematics: Creation and more advanced alteration of geometric figures	The module builds on knowledge gained in previous teaching modules 01 and 02 and extends them by introducing possible alterations of plane geometric figures via advanced modifications. Students are gradually initiated to the practical application of these modification options, both via frontal teaching and practical examples requiring individual work.

Training module 04: Applications of mathematics: Creation and advanced alteration of plane figures	The module builds on knowledge gained in previous learning modules 01, 02 and 03, and extends them by introducing possible alterations of plane geometric figures via advanced modifications. Students are gradually initiated to the practical application of these modification options, both via frontal teaching and practical examples requiring individual work.
Training module 05: Denoting dimensions of plane figures	The module is focused on denoting the dimensions of plane figures. Students are gradually acquainted with the basic principles and approaches regarding dimensioning of plane figures. They apply this knowledge in practice by creating both diameter and radius dimensions. They thus follow up to the issue taught in mathematics lessons and apply it in an AutoCAD 2013.
Training module 06: Applications of mathematics: Filling in plane figures	The module is focused on filling in, or hatching, plane geometric figures. Students are gradually acquainted with the basic principles of and approaches to hatching plane figures. They apply the knowledge in practice by creating hatched areas, both by selecting interior points and border areas.
Training module 07: Applications of mathematics: Basics of spatial geometry	Training module 07 is intended to introduce students to the basics of spatial geometry and spatial modeling in the AutoCAD 2013 system. By means of both frontal teaching and individual work, basic spatial elements and some selected surfaces are created by the students. They thus apply the knowledge of mathematics, which they extend with practical activities focused on the modeling of 3D spatial scenes and figures.
Training module 08: Applications of mathematics: Visualization of compounds and elements in space	The module follows up with the training module 07 and extends it toward practical applications of the knowledge of chemistry, especially the knowledge focused on the visualization of chemical elements and compounds. Students individually create 3D models of elements` and compounds` atoms and molecules in 3D space, using the AutoCAD 2013 system.
Training module 09: Applications of mathematics: Boolean operations in space	The module is focused on the practical application of Boolean operations on solids and surfaces in 3D space. On practical examples, students will be acquainted with the union, difference, and intersection operations. They will thus follow up with the subject matter of mathematics lessons, more specifically to Boolean algebra, which shall be practically applied in the system of AutoCAD 2013.
Training module 10: Applications of mathematics: Rotation and projection in space	The module focuses on the practical application of operations focused on the creation of spatial objects and surfaces in 3D space. Students shall be acquainted with the use of rotation and projection in practice. They will thus follow up with the subject matter taught in mathematics lessons, more specifically with the issue of transformation in 3D space, which they shall apply in practice in the AutoCAD 2013 system.

Table 1: The contents of the thematic unit "*Application of mathematics and chemistry in computer-aided technical drawing*"

Overall, the thematic unit "Application of mathematics and chemistry in computer-aided technical drawing" was divided into 10 separate training modules, following each other. The time allocation of individual training modules was two lessons. The training modules were introduced into the curriculum and taught in the year 2014 at six 8 or 6 year grammar schools, they were attended by a total of 301 students, and 12 teachers were involved. Upon completion of this conceived training, it was possible to evaluate the impact and the results of the experimental subject matter from the perspective of students and teachers. The following text describes the procedure and the method of the evaluation of the results and of the impact from the students` point of view.

DESCRIPTION OF THE CONDITIONS, THE SAMPLE, AND THE METHOD OF EVALUATING THE RESULTS OF THE EXPERIMENT

The actual teaching of the thematic unit "Application of mathematics and chemistry in computer-aided computer drawing" was followed by a research investigation conducted at all involved schools. The investigation was aimed at a determination of opinions and attitudes of the stated schools` students on the instruction realized, and on its real impact on the educational process at these schools. A total of 301 students of the students who had experienced the lessons enriched by the experimental learning content participated in the research.

As the principal tool for obtaining the data necessary for the implementation of the research investigation, a questionnaire was used. Within the framework of research methods classification structure, questionnaire belongs to indirect methods of investigation. According to N. Ničkovič, a questionnaire can be characterized as "a specific measuring device by means of which opinions of individuals on particular phenomena are explored" (Horak & Chráska, 1983, p. 94-96). From the point of view of the person or respondent questioned, these phenomena can refer either to external phenomena, or to internal processes. That is why a structured evaluation questionnaire meeting the requirements of the research investigation was created (GAVORA, 2000). It stemmed from personal experience and enabled us to find about the students` views on and attitudes to the teaching of the thematic unit "Application of mathematics and chemistry in computer aided technical drawing."

Students were asked to fill out the questionnaire anonymously and thus present their views on and attitudes to

particular questionnaire questions. They were asked to express their opinion by ticking the YES or NO option in compliance with their personal preference. For the description of the research sample, see Table number 2 below.

Gender	Number of respondents	Number of respondents in %
Boys	122	40.5 %
Girls	179	59.5 %
Total	**301**	**100 %**

Table 2: Structure of the research sample

As the main method for the evaluation of the acquired research data we used the chi-square test (Chráska, 1988), which enabled a determination of the dependency of the research outcomes on a significant sign of a group of respondents, that is to say on gender. In order to determine the potency of the particular groups of respondents, whose answers were the same, basic descriptive statistics and their visualization via tables were used. For the purpose of calculating, the statistical system Statistica 11 (Klímek, Stříž & Kasal, 2009) was applied. The following text presents some of the partial results of the realized survey, the aim of which was to find about the opinions and attitudes of students of 6 and 8 year grammar schools on and to the teaching of the topic "Application of mathematics and chemistry in computer- aided technical drawing" and its real impact on the educational process at these schools.

PARTIAL OUTCOMES OF THE CONDUCTED RESEARCH INVESTIGATION

In further text, we are presenting the outcomes of the conducted research, organized in six separate areas. Each analysis included the calculation of the pivot table, the calculation of the percentage, and the estimation of the particular outcomes` dependency on the sex of respondents. For the purpose of simplicity and clarity, all three analyzes are comprised in one table.

The first area examined was the level of interest in AutoCAD applications shown by the students. By answering the relevant question, students expressed their opinion on whether teaching supported by AutoCAD 2013 application was interesting for them and whether producing 2D and 3D drawing documentation was to any benefit. A summary of the outcomes based on their responses is illustrated by the Table 3 below.

Contingency table for: n = 301 Pearson`s chi square: p = 0,048454 Was computer aided technical drawing interesting for you?			
Gender of respondents	**Boys**	**Girls**	**Row totals**
No, it was not – frequency	25	55	80 (27 %)
Yes, it was - frequency	97	124	221 (73 %)
All groups - frequency	122	179	301 (100 %)

Table 3: Interest in computer-aided computer drawing teaching

According to the findings presented in Table 3, it is possible to state that teaching of AutoCAD 2013 applications caught the interest of almost three quarters of students (73%) of 6 and 8 year grammar schools. The initial presumption that the inclusion of this experimental educational content would be regarded as interesting and beneficial by the students was hereby confirmed.

Furthermore, it is possible to conclude that there is a statistically significant difference (p = 0.048454) between the frequency of responses given by girls and boys. The boys` interest in AutoCAD applications 2013 proved significantly stronger than that of the girls, which, given the fact that technically oriented activities have always been more popular with boys, is not a surprising result and does not defy the average.

Next area of research was focused on whether the students consider teaching of AutoCAD 2013 applications as difficult, or more difficult than other activities aimed at the use of ICT. By answering the relevant questions, students expressed their opinion on whether the learning content of this thematic unit was more difficult for them to understand than the learning content of the other subjects focused on ICT, mathematics and/or chemistry. A summary of the outcomes based on their responses is illustrated by the Table 4 below.

Contingency table for: n = 301 Pearson`s chi square: p = 0,070579 Did you find the lessons of computer-aided drawing difficult?			
Gender of respondents	**Boys**	**Girls**	**Row totals**
No, I did not– frequency	96	124	220 (73 %)
Yes, I did - frequency	26	55	81 (27 %)
All groups - frequency	122	179	301 (100 %)

Table 4: The level of difficulty of teaching AutoCAD 2013 applications

Based on the findings presented in Table 4, it is more than obvious that the vast majority of students of 6 and 8 year grammar schools do not consider teaching of AutoCAD 2013 applications as difficult, or more difficult

than other thematic units focused on ICT, mathematics, and/or chemistry. This result indicates and confirms, among other things, that the general popularity of the subjects focused on sciences is low and that students therefore welcome every opportunity to enrich the lessons.

Furthermore, it is possible to conclude that there is a statistically significant difference ($p = 0.070579$) between the frequency of responses given by girls and boys. This time it was the girls who, in comparison to boys, showed a statistically significant enthusiasm for the inclusion of the experimental learning content into teaching, because they regarded it as less difficult.

The third area investigated was focused on the question whether the students would welcome the opportunity to further educate themselves in the field of 2D and 3D drawing documentation using AutoCAD system in 2013, both controlled and independent. By answering the relevant questions, students expressed their opinion on whether they found these issues as engaging and evolving as to be dealt with further on in the future. A summary of the outcomes based on their responses is illustrated by the Table 5 below.

Contingency table for: n = 301 Pearson`s chi square: p = 0,002095 Would you like to educate yourself further in the field of computer-aided drawing?			
Gender of respondents	Boys	Girls	Row totals
No, I would not - frequency	70	133	203 (67 %)
Yes, I would - frequency	52	46	98 (33 %)
All groups - frequency	122	179	301 (100 %)

Table 5: Level of interest in further education in creating drawing documentation supported by the use of AutoCAD system

According to the findings presented in Table 5, it is more than obvious that only less than one third of the students, more specifically 33%, would like to be further educated in the field of the creation of 2D and 3D drawings using AutoCAD 2013 system. Although this result is inconsistent with the first stated analysis relating to the interest in this teaching, it can be explained by the fact that the general level of intentionality in education is currently lower and further education is thus refused by the students.

Furthermore, it is possible to conclude that there is a statistically significant difference ($p = 0.002095$) between the frequency of responses given by girls and boys, as the girls rejected further education in the field of AutoCAD 2013 applications more often than boys. Even this result is by no means unusual, and can be attributed to the generally lower popularity of technically and biologically oriented subjects among girls.

Yet another area of research was focused on the question whether the students actually apply the knowledge and skills gained in AutoCAD lessons in further education. The assumption was that especially those students who would consider further education in technical fields might show a preference for this need. On the basis of this analysis we can suppose those students might be interested in further technical education. A summary of the outcomes based on their responses is illustrated by the Table 6 below.

Contingency table for: n = 301 Pearson`s chi square:p = 0,002431 Do you think you will use computer-aided drawing in further education?			
Gender of respondents	Boys	Girls	Row totals
No, I will not – frequency	68	130	198 (66 %)
Yes, I will – frequency	54	49	103 (34 %)
All groups - frequency	122	179	301 (100 %)

Table 6: The use of the outputs of AutoCAD 2013 applications teaching in further education

Based on the findings presented in Table 6, it is obvious that the vast majority of students do understand the necessity of teaching AutoCAD 2013 applications for creating 2D and 3D drawing documentation, because 34% of them claimed that the subject matter would be necessary for their further education. It is therefore possible to deduce that the level of interest in technical fields, where the use of CAD systems is more than common, is relatively high.

Furthermore, it is possible to conclude that there is a statistically significant difference ($p = 0.002431$) between the frequency of responses given by girls and boys, as the boys perceived the use of CAD systems for further education as more important than girls, which again is a result that could have been be expected.

The fifth area of research was focused on the question whether the students actually apply the knowledge and skills gained in lessons focused on the creation of 2D and 3D drawing documentation in everyday life. Once

again, the question is related, though indirectly, to the prospective professional orientation of the students and to their interest in the further career in technical fields. A summary of the outcomes based on their responses is illustrated by the Table 7 below.

Contingency table for: n = 301			
Pearson`s chi square:: p = 0,000381			
Do you consider computer-aided drawing beneficial from future perspective?			
Gender of respondents	Boys	Girls	Row totals
No, I do not - frequency	56	119	175 (58 %)
Yes, I do - frequency	66	60	126 (42 %)
All groups - frequency	122	179	301 (100 %)

Table 7: Benefit of the AutoCAD 2013 applications teaching from future perspective

Based on the findings presented in Table 7, it is obvious that the students understand the need for teaching applications AutoCAD 2013 combined with the creation of 2D and 3D technical drawings, because 42% of them expressed a positive belief concerning the future use of the outputs of this instruction.

Although there is a statistically significant difference (p = 0.000381) between the frequency of responses given by boys and girls, in general both girls and boys consider the AutoCAD 2013 application of low benefit for their future lives.

The last area of investigation was focused on the question whether the students perceive a change towards better understanding of the principles and functioning of computer equipment and software tools thanks to the lessons of the creation of 2D and 3D technical drawings in AutoCAD 2013, in other words, whether the students understood better other subject matters related to ICT. A summary of the outcomes based on their responses is illustrated by the Table 8 below.

Contingency table for: n = 301			
Pearson`s chi square: p = 0,245060			
Do you think that you understand the operation of computer technology better now?			
Gender of respondents	Boys	Girls	Row totals
No, I do not – frequency	51	87	138 (46 %)
Yes, I do - frequency	71	92	163 (54 %)
All groups - frequency	122	179	301 (100 %)

Table 8: Better understanding of the principles and the operation of computer technology

Based on the findings presented in Table 8, it is more than obvious that the students now understand the functioning of computer technology better than it was before the implementation of the teaching of AutoCAD 2013 applications. Experimental learning content thus developed the students' knowledge and skills in the field of the creation of 2D and 3D drawings, and related interdisciplinary links between mathematics and chemistry. Moreover, it contributed to a deeper understanding of the principles and operation of ICT, and its possible use.

Furthermore, it is possible to conclude that there was no statistically significant difference (p = 0.245060) between the frequency of responses given by girls and boys, and therefore these two groups share the same opinion.

CONCLUSIONS

The above described experimental educational content focused on an enrichment of the teaching of mathematics and chemistry with a practical application of the computer-aided technical drawing, represents an innovative way of using modern information and communication technologies in education. As it is obvious from the above described research, the experiment and its impacts positively influenced the formation of key educational activities for students in upper secondary education, and at the same time increased the qualifications of teachers of 6 and 8 year grammar schools, where the experimental education was implemented.

The benefits and added value for the teachers was gaining new skills, expansion of professional skills, a significant improvement in the conditions for the preparation and implementation of the teaching of technically oriented graphics systems and, last but not least, a free access to the relevant electronic educational materials.

With respect to students, the experimental educational content offered them an opportunity to learn about and improve in the field of creating 2D and 3D drawings in AutoCAD 2013 system. They were enabled to develop individual skills in a new way, to solve tasks in a more attractive way and independently, based on the acquired knowledge of work with ICT, to use all means of communication effectively and creatively, and, last but not

least, to accept responsibility for their own work. As a whole, all these skills can significantly contribute to the wider adaptability of students in further studies at universities.

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THE PRINCIPLES OF HUMAN RIGHTS EDUCATION AT HIGHER EDUCATION

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Human Rights is currently a very popular subject in national and international academic literature. Although generally international human rights law is tought at law faculties, but the human rights education becomes very important at all educational levels. Conveying the "common language of humanity" is the whole purpose of human rights education. Concerned citizens need to understand and embrace the fundamental principles of human dignity and equality and accept the personal responsibility to defend the rights of all people.

The international community has increasingly expressed consensus on the fundamental contribution of human rights education to the realization of human rights. Human rights education aims at developing an understanding of our common responsibility to make human rights a reality in every community and in society at large. In this sense, it contributes to the long-term prevention of human rights abuses and violent conflicts, the promotion of equality and sustainable development and the enhancement of participation in decision-making processes within a democratic system.

 Provisions on human rights education have been incorporated into many international instruments and documents including the Universal Declaration of Human Rights. In accordance with these instruments, which provide elements of a definition of human rights education as agreed upon by the international community, human rights education can be defined as any learning, education, training and information efforts aimed at building a universal culture of human rights.

"Higher education" is defined as "all types of studies, training or training for research at the post-secondary level, provided by universities or other educational establishments that are approved as institutions of higher education by the competent State authorities". It is very important that according to the International Law Instruments the human rights education at higher education institutions should provide the basis for a concept of quality education that goes beyond reading, writing and arithmetic, and which entails competences for democratic citizenship and attitudes promoting solidarity as important outcomes.

 This presentation will explore the main principles that should be adhered while delivering the human rights education at higher education.

Keywords: international human rights, human rights education, higher education

MALAYSIAN PRINTING CHALLENGES IN COMMERCIAL PRINTING

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ABSTRACT

The printing industry is one of the important industries in Malaysia and has been started almost 200 years. Nowadays, this industry has made tremendous progress in economic growth. The rapid development of technologies and the new trends of consumer requirements make the printing industry face challenges in sustaining business. The objective of this study is to explore the challenges related with survival of the commercial printing companies in Malaysia. A qualitative approach by employing interviews with owner or the top managements from the selected commercial printing companies is employed. The respondents are interviewed from fourteen commercial printing companies. The findings of this study revealed the majority of commercial printing companies in Malaysia do face challenges, rank in the following order, (1) the reduction of printing order, (2) digital printing development era, (3) the adoption of international standards. The identification of the relevant and appropriate factor is hoped to assist commercial printing companies in strategizing their practices to ensure continuous growth in business.

INTRODUCTION

Nowadays, the printing industry globally becomes more competitive in relation with customer demand and the development of technology. The rapid changes and developments in the printing industry make printing sector a more challenging business in which one can venture. The commercial printing is considered as one of the most dominant segment in the printing industry (Thompson, 2013). The survival of the commercial printing segment has been widely discussed (Marketline, 2012; Thompson, 2014; Watkins, 2012). Romano (2015) stated that the commercial printing industry has been declining by 45% in less than 20 years. In addition, if compared to the packaging industry, the sales value is about $ 800 million in 2013 and projected to increase by 4% per year to 2018 (Henry, 2014). Many studies have shown that the commercial printings are facing with high competitive conditions. Associated with the rapid changes on customer demand and globalization of the digital printing in the printing industry (Thompson, 2014).

The rapid developments in digital printing technology had changed the requirements and customer demands. The changes are currently toward customer demand and preferences are strongly influenced by the development of the internet and social media. According to (Paige, 2013), the printing industry has changed remarkably from a family-owned business based and tradition to a merger with other fields such as marketing plans, variable data, use the web and social media. The scenario has affected the demand activity in the printing industry. It has become a topic of discussion on how is the survival of the commercial printing companies presently and in the future. Graham, Arthur, & Mensah (2014) added the liberalization and globalization are changing the business landscape in printing domestically or internationally.

Studies or white paper were discussed in the context of global and specific countries focusing on the trends, challenges and strategies required among the printing industry to sustain in business (Chung & Jensen, 2011; Hultén, Viström, & Mejtoft, 2009; Lasomboon, 2012; Romano, 2004; Thompson, 2013). However, very limited studies discussed about the issues in Malaysia. Therefore, more in depth studies emphasizing on current printing scenario in Malaysia is required in order to help in enhancing commercial printing companies to strategies for a better performance. This study explored the issues related with the survival of the commercial printing companies in Malaysia, and how this could help to remain competitive and sustain in business .

The Malaysian printing industry is also affected with what is happening in the global development. The Malaysian printing businesses encountered several challenge, in terms of competency in winning the printing project, especially commercial printing segment. This supported by Thompson, (2013) who stated that the commercial printing companies are now struggling to sustain in business. This is due to a trend of consumer is spending their money, for example to purchase retail products, travel and leisure, sports through the internet. The changing of people spending is affecting the printing demand in printing industry. The people get information and seeing the advertisement through the website would reduce the use of printed matters. Furthermore, Hultén et al., 2009; Lasomboon, (2012) also highlighted the customers put emphasized on price, better quality of product and faster delivery are among the challenges that need to be considered by the commercial printing companies to compete in the market. There is competition between the printers that have prevailing price war in an attempt to get a print job.

The increase of stiff competition in the print market due to the market shrink, the development of digital printing technology and the explosion of the internet changes consumer's purchasing style (Malaysia Printing & Supporting Industries Directory, 2015; Romano, 2004; Thompson, 2013). The rapid development on technologies makes uncertain business condition in the commercial printing industry. Therefore, the printing companies in Malaysia need a new business model in order to face the new trends in customer demand and ready for the world of digital era.

The printing companies is encouraged and not recommended to only depend on the local market where the demand and markets are getting limited (Malaysia Printing & Supporting Industries Directory, 2010). To enter the international markets, the printing companies are required to meet certain requirements such as having a certain international certification or standard. To ensure that customers are satisfied and become their selected printer, printing companies need to prove their capability to produce quality printing works by having certification (Chung & Jensen, 2011). According to the National Printing Equipment Association (NPES) for Suppliers of Printing, Publishing and Converting Technologies (2005), the implementation of the international standard will give positive contributions to printers and the nation as a whole, because the print production will be faster, more efficient and more cost-effective (Chung and Jensen, 2011). One of the effective strategies that has been widely used and proven successful is through the implementation of Total Quality Management (Kartha, 2004). The printing company can introduce the quality program as a movement towards continuous improvement within the organization. Currently, most of printing companies in Malaysia are certified with the popular international standards such as ISO 9000, ISO 14000. However is lesser of printing companies are attempt to obtain international standard certifications that specific to the printing industry for example is ISO 12647. Presently, the use of the international printing standard has become a trend in the printing industries worldwide (Lokhande, 2012; NPES, 2005). This can be supported by a survey that was done by Robert Chung, whom stated that most of the printers involved in the survey had expressed the importance of the printing standards and plans for implementation in the near future (Chung & Jensen, 2011). According to Thaler (2008), in a challenging business environment, in determining the quality, cost and time spend, the standard plays an important factor in contributing towards the success or failure of a company.

Thus, the printing industry in Malaysia should be prepared to face the challenges of the new trends in the printing business. Printing companies should update their technology capabilities, adopt new technologies, modernize equipment, increase production strategies to meet changing demands and remain competitive (Abdullah and Masod, 2012). The Malaysian printing companies need to position and plan new business model and strategies to make them remain competitive and sustain in business. Therefore, this study is worthwhile to understand the scenario that faced by Malaysian printing companies and ideas and data gathered are valuable not only for commercial printing industry but also for education purposes.

METHODOLOGY OF STUDY

This study is confined to the printing companies located in the Klang Valley area. This area was chosen because of the density and volume of the printing activities businesses. The printing companies were chosen based on their printing activities namely commercial printing segment and books which is known as general printing. This printing company mainly offers printing services using an offset lithography printing process. In terms of company size, the chosen printing company comprised of small, medium and large. The printing companies are selected based on their consent and availability to be interviewed. The research methodology used in this study is qualitative approach and the purposive sampling method was employed. To ensure rich and trustworthiness of data collected, the respondents selected are among the owner, managing director or top management staff. According to Miles, Huberman and Saldana, (2014), who states that qualitative data is focused on the experiences of individuals who are in a real situation. They are considered to have a lot of ideas and knowledgeable in providing the information. They were contacted by telephone, short messaging system (SMS), WhatsApp and followed up by email to confirm the appointment before the interviews.

There were fourteen respondents selected from the different printing companies for in-depth interview. The questions that were asked during the interview session were specific in exploring the current challenges faced by the commercial printing companies. In addition, other information is also gathered such as an opinion regarding the management approaches and strategies in facing the current challenges. Averagely the question raised is based on the un-structural question and take between 45 minutes until one hour. The data was transcribed in Malay, then re-transcribed in English, coded, and analyzed for themes. The Computer Assisted Qualitative Data Analysis Software (CAQDAS) was used to process the data. The selected CAQDAS program used in this study is Atlas.ti 7.1.4. The CAQDAS is considered useful tool to help researcher in analyzing qualitative data through multiple options available (Miles, Huberman & Saldana, 2014). Member-checking procedures with all the informants were done to enhance the trustworthiness of the transcripts.
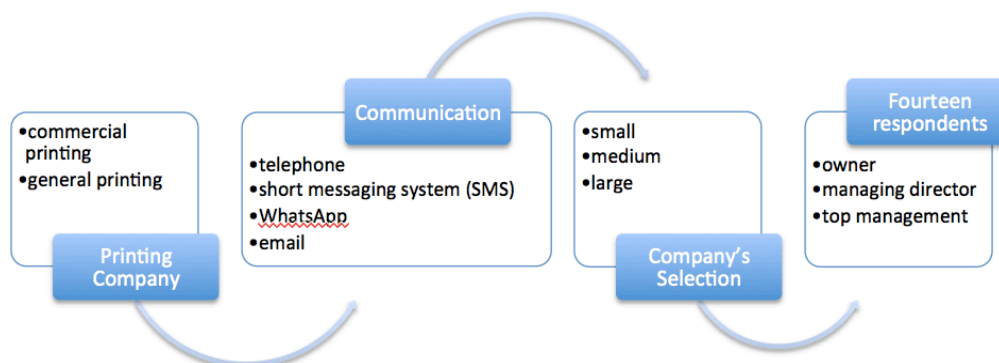
Figure 1. Overview of in-depth interview selection and criteria

RESULT AND FINDINGS

The fourteen respondents are from the different companies and various positions who are participated in this preliminary study. They are Managing Director or owner of the company is seven, senior production manager is four and followed by director of company, marketing manager and head of department where each position is one. They are having vast experience in the commercial printing industry. The respondents share their general opinion about the challenges and developments in the printing business. Twelve of the participants were male and two were females. Most of respondents have experience in printing field is more than ten to twenty years. This is the respond from the participants related to working experience:

"I have been running this business for almost twenty years. I believe that this business is very potential and gave me good businesses" (Managing Director, company J)

"I started this business in 2004, it has been almost ten years. Before this, I've worked with Malindo Press in Shah Alam for several years." (Managing Director, company L)

"I started printing back in 81, up until now. I started with Tien Wah Press. Studied in Germany and in 83, I went back, and joined Times Offset. Then I joined briefly Ultimate print, for 1 and a half year. At Times Offset for almost 15 years, All the way printing..."
(Senior production manager, company B)

There are various sizes of companies that are involved in this preliminary study. The largest number of respondents from the small and medium enterprises (SMEs) is nine people compared to the large company are five. According to the National SME Development Council (NSDC) (2013) was defined for Small and Medium Enterprises (SMEs) in Malaysia. It is based on the annual sales turnover and number of full-time employees. The enterprises which are in the SME category sales turnover is not more than 50 million and the number of full-time employees more than 200 people. The small enterprises means sales turnover is between RM300,000 to 15 million or total full-time employees is between 5 and 75. Meanwhile the medium-sized enterprises means the sales turnover is between RM15 million to RM50 million or full-time employees is between 75 and 200 people.

Therefore based on the study conducted there are three major issues concluded, namely (1) the reduction of printing order, (2) digital printing development era, (3) the adoption of international standards. These issues will be discussed to the rank order of important issues revealed by respondents during the interview session.

1. The reduction of printing order

The printing market changes are related to reduction of quantity has become a major challenge discussed in the printing industry. It is hard to deny the development of electronic media as one of major factor affecting the reduction of printing order mainly in commercial printing segment. For example, the trends of consumers using the internet to purchase online products, the development of e-book in education and the government moves to ICT initiatives which lead towards paperless government. This situation affects the activities and sales growth in commercial printing industry. Therefore, many of printing companies struggling and competing each other in order to get the printing jobs. These quotations were provided to describe the scenario of quantity reduction:

"Nowadays, the main challenge to printers is reduction of printing order"
(Senior production manager, company B)

 "Commercial printing is still dropping, for example; broadcasting company gives free copy to their customer. The print quantity is almost 2 million copies but now it was decrease to 300 hundred thousand copies" (Senior production manager, company B)

"latest development, the government has stepped towards the use of high technology in the practice of paperless administration. This means that the printing works from government is going decrease"
(Senior production manager, company C)

"Talking about the title, it is increase, but circulation or volume is drop. For example, previously the ABC magazine, print quantity is around 80 to 90 thousand copies per issue but now it about 35 thousands only. Previously adolescents pride when carried it." (Senior production manager, company A)

"Magazine Z, printed around 85 thousands using Web. Now it was transfer to sheet fed, no more print on web. For instance, print for ten thousands, waste paper is around two thousand, meaning waste is 20 percent." (Senior production manager, company C)

"The demand is getting less in the sense of using the book or any printed matter in the form of hard copy. By comparing with the previous time everybody are depending on hard copy but now people are have an option which they can use soft copy."(Managing Director, printing company F)

Furthermore, the small and medium enterprises (SMEs) are dominant category in the Malaysian printing industry. Some of the SMEs practicing are throwing price where creating price war in the market in order to win the printing jobs from the clients. The scenario occurs because the small and medium enterprises need to survive in business as well as the customers who also put pressure in terms of price. Participants commented on the issue of printing price on the market:

"Price also gives a problem. For example, one company gives offer for RM 1 and another one offer 90 cents. The customer will find the lowest price. They spoil the market which is not healthy"
(Senior production manager, company B)

"Subsequent challenge is price war for getting printing jobs from clients. Sometimes very difficult to understand because the price offered is to low" (Sales manager, company E)

"Products from publication segment have a problem but packaging segment is growing. And we have a plan to get involve in printing segment" (Senior production manager, company I)

"Unfortunately, the scenario in the local printing industry is the occurrence of a price war among printing companies in order to get the printing job. Every printing company try to ensure company's targets are achieved to make their printing machine and other facilities occupy with printing work activities." (Managing Director, company F)

The publishing industry is also giving a strong pressure to the commercial printing companies by reducing the number of print order. The rapid development of digital printing technology has given opportunities for the publishing industry to develop a new model in manufacturing book. One of the advantages of digital printing is focus on Print-on-Demand (POD) market. POD means the ability to print even a single copy of book in a short production cycle and time. Based on the conventional model, the publisher will print certain quantity of the publication, then, they will try to sell the books to the market. Currently, the approach has changed, the publisher does not intend to print book in large volumes. Reduction of print order for books was commented by participant:

"Nowadays, especially book printers facing the problem with the dropping the print orders from publisher or client. Previously, usually for the first print of book the publisher will place order around 5000 copies but today the thing was change where the quantity order is around 2000 to 2500 copies only." (Managing Director, company F)

"In the current trend also shows the influence of digital printing. This printing process gives the option to publishers and printing companies in order to print the books work. It is associated with a fast print production of job-creating the book from start to completion. The processes involve in book production are less for example to print 1000 copies loose sheet it will take roughly around 15 to 20 minutes. Be more economical for small volume orders. For example, calculation based on the quantity order that are less than 500 copies the printing costs are lower compared to offset printing. Currently, the Digital printing process is mainly for Print-on-Demand (POD) market." (Managing Director, company F)

The publishers try to reduce or eliminate the storage costs by keeping excessive stock as inventory. For the conventional publishing business the slow movement of book stock will cause tie up the cash flow for the company and lead to retard in business operation. The trend shows that most publishers have towards an approach based on POD or short run book order. The trends of reducing print order that finally gives pressures to commercial printing companies where having problem in excessing of machines capacity. A modern and advance of offset printing machine have a capability to print at the high speed with thousands of impressions or sheets that can be printed in an hour. Therefore, the failure to utilize the maximum capacity of advance offset printing machine would cause commercial printing company struggle to survive in business. The participant also adds some information that associated with the advancement of printing machine technology and reduction of print order:

"In another perspective, printing technology continues to grow by offering printing machine capable of printing up to reach 18,000 impressions per hour but at the same time the number of quantity order on the printing job has decreased. (Managing Director, company F)

"Technological developments such as Print on Demand (POD) that causes market shrink. For example impact on reducing of prints order." (Managing Director, company N)

2. The development of digital printing

Many commercial printing companies in Malaysia are now integrating offset printing process and digital printing process in their printing businesses. The commercial printing companies make investments for digital technology in order to complement the existing printing process as well as to better serve their customers. This statement that be shared by one of participant:

"Our company also makes investments in buying digital machine in order to fulfill the customer demand. The digital printing exists is to complement existing offset printing process"
(Managing Director, printing company E)

They start to understand if they do not take the opportunities on the development of digital printing, they will be left behind. The conventional offset businesses are having weaknesses in term of manufacturing the printing product in a short time and in a small quantity order as low as one copy. The digital printing processes currently are more popular due to its advantages in producing the printing job within short printing cycle, better quality and more cost competitive. The investment in digital equipment by printing company is to improve the quality of products and services. This will provide a competitive advantage to the company in the printing market. Customers in current business trends need a solution from the printing company with innovative ideas, high value, cost effective and concern of environmental issue. Nevertheless, the factors of price, quality and faster delivery are still main consideration of customers. Description given by the participants on developments in digital printing:

"printing industry is a sunset industry, when facing with the internet development. Digital printing will be used to print small quantity printing jobs, for costs saving" (Managing Director, printing company F)

3. The adoption of international standards

The printing industry in Malaysia is more dependent on the local market, gradually embarking the international market. The size of the print product export is still small compared to neighboring countries like Singapore and Thailand. However, efforts are started by the printing companies in Malaysia to penetrate overseas markets. This is supported by one of the participants:

"However, the customers from overseas are more emphasis on quality and give high profit margins compared to domestic customers. Now, the company is trying to focus on the international market. The reasons are a high profit, the large quantity print order as well as a consistency in monthly orders."
(Senior production manager, company I)

However, in some cases, when local printing companies is to have business with the international market, they are required to be certified in order to be eligible to get the printing jobs or contracts. This regulatory has impacted the local small and medium sized enterprises compared to large companies. Generally from preliminary study concluded the importance of standards highlighted by large printing companies. The large-sized printing companies have clients from abroad and perform for high-quality printing works. Usually, the best quality management practices always implement by large companies compared to small and medium enterprises (SMEs). Generally, the large companies have realized that they will gain the internal and external benefits for organization through the adoption of international standard. The international standard is work as a marketing tool for the company. In addition, the companies will able to increasing the productivity and profitability, motivation for employees, the production under control and efficient quality management. With strong capital lead the large printing companies are able towards ISO certification and quality management practices. Meanwhile, the local SMEs are more focus on local market, instead of international markets. Participants from medium and large printing companies commented on implementation international standard:

"Our company has entered the international market to strengthen its business. To enter the international market by having an international standards accreditation is an advantage to the company. In 2011, our company has been certified for ISO 12647-2 (printing standard) by an international standard of certification bodies. The benefit of certification is give confidence to our company to produce high quality printing. Our production is

also able to achieve print quality at 400 lines per inch (lpi), which could not be achieved by most competitors in the market. In addition, our company is able to build the confidence and trust of customers with quality print produced." (Managing Director, printing company F)

Currently in Malaysian printing industries, there are less commercial printers adopting good quality management and have international standard certification. Even though, the total number of Malaysian companies certified for ISO 9001 are large and continue to increase yearly. However, the printing industry has adopted international standards is unknown. In the context of, international printing standards, currently, there are only four commercial printing companies in the large and medium sized that are certified as a Process Standard Offset (PSO). The fact is, if the printing output produced is still below the standard required, the customer or allied printers are reluctant to give the printing job to any printer that is not capable to produce good printing quality, especially associated with the SMEs printing companies. Some of the medium and large printing companies commented:

"Process Standard Offset (PSO) has grown quite long time, but it still not acceptable in Malaysia. It is involve with many work processes. The adoption is very slow in Malaysia compared to Europe."
(Senior production manager, company B)

"There are not many book printing companies having the ISO certification. They do not emphasize the international standards that are associated with the nature and practices of printing the book in the context of Malaysia. Local market was also felt that the international standard is not very important in Malaysia. It is quite important and useful for the packaging printing that need the accuracy of the printing color." (Managing Director, company F)

By having any international certification it would become a stepping stone to a company to move ahead and penetrating oversea market. The international jobs required certain requirements in order to get the job. However, to get international certification, the company needs to invest in term of consultation, training and equipment. Some participants from large printing company gave statement from their experience:

"Nowadays, quality is very important in the market, any problems the customers will get the free copies"
(Senior Production manager, company B)

"To get Process Standard Offset (PSO) certification will involve with costs, need some investment. Therefore, the company try to get the printing jobs that required high quality printing. The customers are willing to pay more." (Senior Production manager, company A)

The participant from small printing company gave statement from their experience associated with the adoption of international standard:

"Standard certification obtained can be a marketing tool and can make it easier to get printing work from customer. Printing working practices are based on standard is still unfamiliar among the local printer, but it will eventually be implemented by a local printer in the near future."
(Managing Director, printing company D)

The return on investment will be gained at least three to five years after the implementation. Normally in this case it gives some pressure to small company. Factors such as capital, technology and knowledge always make small and medium companies lagging in the printing market. The large printing jobs usually are secured by large printing companies compared to small companies. Finally, the capital strength and size of the market and existing customers is a determining factor for printing company moving towards the international standard certification.

CONCLUSION
This effort is conducted to bring the printing industry in Malaysia to become more competitive as well as the printing companies can survive in the printing businesses. This research could have an impact on the printing industry in Malaysia. The challenges for current and future in the printing industry needs to be understood precisely for business survival and allow the printing companies to establish new business models. Researches on current trends and challenges should be carried out at the largest setting in the Malaysia context. The results of this study will close the gap of the lack of information regarding the printing industry in Malaysia.

Furthermore, the current business activities should not mainly reduce the price and profit margin, but the most important things are how to attract the customer's attention. The customer's attention can be achieved through the improvement in customer service, produce the better quality product, faster delivery and offering competitive price. Nowadays, the printing company cannot simply provide what customers want. They need to provide more than that, for example able to provide the solution center to the customer, providing ideas that are innovative, offering an efficient and knowledgeable employee. Therefore commercial printing companies are able to deal with the opportunities and threats of globalization business changes.

The emergence and development of digital printing process cannot be denied. The digital printing process has become more popular compared to conventional printing processes such as offset lithography, flexography and gravure. The advantages of digital printing processes such as fast, short production cycle and save costs have put pressure on offset printing process. However, it is becomes a trend where the printing company invests and equips them with the digital equipment and offset machinery. Therefore, it will create opportunity to company in getting biggest market share as well as giving selection of printing services to the customers. The developments in digital printing technology should not be seen as a rival to offset printing. Instead they need to develop a strategy to make both printing processes complement each other. The customers are given the option through the printing processes that offered by the printing company. Therefore, the customer loyalty to the commercial printing company will be sustained.

Meanwhile, the commercial printing company in Malaysia should be prepared to change mindset to develop a new business strategy in line with current developments. For example by accepting international standards in helping companies improves businesses performances and sustain in business. Therefore this indicates that the adoption of international standards can be an important issue to be considered as a strategy for business growth and development. If they do not act to change, the company will face a failure to compete in the global and domestic print market as well as improvement of internal production performances.

This confirmed, the adoption of international standards among printing companies will strengthen and improve the businesses performances. This is also one of the reasons why this study is conducted to help printing companies to be aware of the opportunities and barriers faced effective business performance through adopting the quality management. It not only provides internal benefits to the company even externally impact to the company. Printing company in Malaysia is now working towards producing the better quality print product. Many of printing companies' usually large size company already embedded the quality program in their business practice compared to SMEs printing companies.

ACKNOWLEDGEMENTS

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THE PRIORITY IN THE ISLAMIC MANAGEMENT ACCORDING TO THE METHODOLOGY OF MAQASID AL-SHARI'AH

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Islam looks at the rules, acts and legal commandments vary widely in terms of their priority. Some people give the unimportant more attention over the important. Therefore, they require proper management of their living by the priorities. This paper attempts to examine the Islamic management according to the methodology of the objectives of the Islamic laws (*maqasid al-shari'ah*). Attempts are also to examine the priorities according to *maqasid al-shari'ah*. This study is using qualitative methodology that analyses the opinions of muslim scholars. Muslim scholars are of the opinion that the *maqasid al-shari'ah*, which are a necessity (*daruriyyat*) for humankind to be able to live peacefully in this world, according to al-Quran and al-Sunnah, include five main areas, starting with protection of faith (*din*), protection of life (*nafs*), protection of reason (*aql*), protection of posterity (*nasl*), and protection of property (*mal*).

Keywords: Management, protection, faith, life and posterity

THE PROPOSAL OF ADDITIONS TO THE EDUCATION OF THE SHIP SECURITY OFFICER

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ABSTRACT

This paper proposes supplements to the training program of the Ship Security Officer. The role of the Ship Security Officer is regulated by the provisions of the International Ship and Port Facility Security Code. The Code was adopted in 2002 and came into effect in 2004, bringing a number of measures aimed to enhance the security of ships and port facilities. This paper discusses and emphasizes the importance of the ship security officer. It is considered that, due to exposure of ships to various forms of contemporary threats such as piracy and armed attacks, the training program for Ship Security Officers should be complemented. The existing program does not provide the training of Ship Security Officers in terms of minimum self-defence criteria in case of exposure to the contemporary threats. Therefore, the paper proposes the supplements to the Ship Security Officer training program with the purpose of enhancing the ship and crew security and a more efficient implementation of the International Ship and Port Facility Security Code.

INTRODUCTION

Maritime security is now considered as one of the most important segments of security. The deterioration of general security situation has severely affected the maritime security as well. Therefore the International Maritime Organization (IMO) developed a number of measures in order to increase the level of security of all segments and stakeholders in the maritime industry, including the International Ship and Port Facility Security Code (ISPS Code) which contains recommendations and methodology for implementing the security measures at international level. This paper discusses the provisions laid out by the ISPS Code with a particular emphasis on its goals and the role of all stakeholders in the system of maritime shipping security. The ISPS Code defines the persons participating in the implementation of the security system, with the Ship Security Officer (SSO) being one of the most important. The following chapters describe the duties and responsibilities of the SSO and discuss the SSO training program. Analyses confirm the need for supplements to the SSO training. The deterioration of the security situation at sea, especially in view of increased pirate attacks in some parts of the world, has resulted in forming and engaging the Privately Contracted Armed Security Personnel (PCASP). On board ships, PCASP provide physical protection in the event of fire arms attack. Since this represents a situation where arms are used onboard merchant ships, it was necessary to adequately regulate this issue at the level of the IMO. The IMO provided guidelines that, among other things, regulate the PCASP training requirements. The paper discusses the requirements and the feasibility of applying certain segments of the PCASP training to the SSO training with the purpose of increasing the level of ship security. It is suggested that the SSO training program is supplemented with the contents that ensure a better cooperation with naval forces and the contents associated with the familiarisation with fire arms and their effects on board ship. The suggestion of supplementing the training program of the SSO is aimed at raising the level of ship and crew security and a better implementation of the ISPS Code.

INTERNATIONAL SHIP AND PORT FACILITY SECURITY CODE

The ISPS Code was created as the IMO's response to the contemporary security threats in the wake of the 9/11 terrorist attacks in the Unites States of America. Due to the deteriorated security situation it was necessary to develop a consistent system of organising, monitoring, surveying, and assessing the situation at the level of the IMO, with the purpose of improving maritime security. The Contracting Governments to the International Convention for the Safety of Life at Sea (1974 SOLAS Convention) finalised the text of the preventative maritime security regime at the IMO Conference in London in December 2002 (SOLAS/CONF.5/31). The Conference adopted the ISPS Code and agreed that the maritime security measures would be accepted internationally by 1st January 2004, and in force six months later (1st July 2004) as a mandatory amendment to the 1974 SOLAS Convention. The ISPS Code introduced an entirely new approach to maritime security issues, as well as new requirements on cooperation regarding these issues. The new requirements form the international framework through which ships and port facilities can cooperate to detect and deter acts which threaten security in the maritime transport sector.

The ISPS Code is a two-part document describing minimum requirements for security of ships and ports. Part A provides mandatory requirements for Governments, port authorities and shipping companies. Part B provides a series

of guidelines about how to meet these requirements. The objectives of the ISPS Code are to establish an international framework (involving co-operation) and respective roles and responsibilities for Contracting Governments, government agencies, local administrations and the shipping and port industries with the purpose of detecting security threats and taking preventive measures against security incidents affecting ships or port facilities at the national and international level.

Other objectives include ensuring the early and efficient collection and exchange of security-related information, providing a methodology for security assessments in order to have plans and procedures to react to changing security levels, and ensuring that adequate and proportionate maritime security measures are in place (IMO/SOLAS/CONF.5/34, Section 1, Para 1.2).

These objectives clearly confirm that the ISPS Code involves a comprehensive approach whose implementation requires the integration of all elements (stakeholders) engaged in maritime shipping, including the Contracting Governments (their agencies and administrations), companies, port facilities and ships. The ISPS Code defines the activities, duties and responsibilities each of the stakeholders. In addition, the ship and port security assessment system is developed, as well as the ways of monitoring the system's implementation and the certification in line with the ISPS Code requirements. The ISPS Code defines the principles but provides for considerable flexibility to allow for the required security measures to be adjusted in meeting the assessed risks facing particular ships or port facilities.

Contracting Governments and their administrations are responsible for risk assessment and evaluation (including setting the appropriate security level), issuing of relevant documents, information exchange and supervision of the ISPS Code implementation.

On behalf of the Contracting Governments, the Recognized Security Organizations may carry out the assessment of ship security, approve the Ship Security Plan (SSP), and issue the International Security Shipping Certificate and/or the relevant training certificate (IMO/SOLAS/CONF.5/34 ANNEX 1, Sections 4 and 5).

Shipping companies should carry out the security policy, including the implementation of the security system across the company and its fleet, appointment of security officers and their detailed responsibilities within the security system, development and putting into effect the security plans, training and education of the personnel engaged in the security system as well as other employees and crewmembers, exchange of information, and reporting on security (IMO/SOLAS/CONF.5/34 ANNEX 1, Sections 6 and 11).

Ports must provide an adequate Port Facility Security Assessment and Port Facility Security Plan. They have to appoint adequate personnel in charge of security and carry out regular trainings. In addition, ports must participate in the exchange of information and in reporting on security-related issues (IMO/SOLAS/CONF.5/34 ANNEX 1, Sections 14 to 18).

The ship must act in line with the SSP and the security levels that are in effect in individual ports. Also, the ship must perform regular crew training, keep relevant records, have appropriate documents, and participate in the exchange of security-related information. In addition, the ship must carry authorised personnel who take part in the security system (IMO/SOLAS/CONF.5/34 ANNEX 1, Sections 7 to 10).

In order to meet the ISPS Code requirements, it is necessary to designate appropriate security officers/personnel on each ship, in each port facility and in each shipping company to prepare and to put into effect the security plans that are approved for each ship and port facility. The persons engaged in the security systems are Company Security Officer (CSO), Port Facility Security Officer (PFSO) and SSO.

According to the provisions of the ISPS Code, a CSO is an officer having at least one year of experience in the capacity of an officer and a completed adequate CSO training. Merchant shippers usually appoint one CSO who provides technical and any other support to the SSO in the area of security. The PFSO is in charge of port security and is appointed by an authorised government body. The PFSO's numerous and demanding responsibilities regarding the port security correspond to the CSO's corporate responsibility. Larger ports usually appoint a team of officers in charge of a port and its parts and facilities (Mojaš, Vujičić, Hrdalo, 2013).

ISPS Code provides training standards for the CSO, PFSO and SSO. The following paragraphs discuss the requirements and standards of the SSO training.

REQUIREMENTS FOR SHIP SECURITY OFFICER

The SSO is the person on board, responsible for the security of the ship, including the implementation and maintenance of the Ship Security Plan and for the liaison with the CSO and PFSO (IMO/SOLAS/CONF.5/34 ANNEX 1, Section 2, Para 2.2.6.). The SSO is accountable to the master, designated by the Company, and identified by the Ship Security Plan. The ISPS Code defines SSO requirements. A SSO is an officer having at least one year of experience in the capacity of a ship officer and a completed adequate SSO training. The duties and responsibilities of the SSO, as described by the ISPS Code, include but are not limited to:

- undertaking regular security inspections of the ship to ensure that appropriate security measures are maintained;
- maintaining and supervising the implementation of the SSP, including any amendments to the Plan;
- co-ordinating the security aspects of the handling of cargo and ship's stores with other shipboard personnel and with the relevant PFSO;
- proposing modifications to the SSP;
- reporting to the CSO any deficiencies and non-conformities identified during internal audits, periodic reviews, security inspections and verifications of compliance and implementing any corrective actions;
- enhancing security awareness and vigilance on board;
- ensuring that adequate training has been provided to shipboard personnel, as appropriate;
- reporting all security incidents;
- co-ordinating the implementation of the SSP with the CSO and the relevant PFSO(s); and
- ensuring that security equipment is properly operated, tested, calibrated and maintained, if any (IMO/SOLAS/CONF.5/34 ANNEX 1, Section 12, Para 12.2.).

The SSO must be properly trained and qualified to carry out the above stated procedures. The qualification is ensured by completing the training as defined by the provisions of the ISPS Code and the SOLAS Convention. The SSO training program arises from his/her duties and responsibilities. The SSO should acquire knowledge, skills and training in the following areas:

- security administration;
- relevant international conventions, codes and recommendations;
- relevant Government legislation and regulations;
- responsibilities and functions of other security organizations;
- methodology of ship security assessment;
- methods of ship security surveys and inspections;
- ship and port operations and conditions;
- ship and port facility security measures;
- emergency preparedness and response and contingency planning;
- instruction techniques for security training and education, including security measures and procedures;
- handling sensitive security related information and security related communications;
- knowledge of current security threats and patterns;
- recognition and detection of weapons, dangerous substances and devices;
- recognition, on a non-discriminatory basis, of characteristics and behavioural patterns of persons who are likely to threaten security;
- techniques used to circumvent security measures;
- security equipment and systems and their operational limitations;
- methods of conducting audits, inspection, control and monitoring;
- methods of physical searches and non-intrusive inspections;
- security drills and exercises, including drills and exercises with port facilities;
- assessment of security drills and exercises;
- the layout of the ship;
- the SSP and related procedures (including scenario-based training on how to respond);
- crowd management and control techniques;
- operations of security equipment and systems; and
- testing, calibration and maintenance of security equipment and systems whilst at sea.

SSO training programs have been created in line with these areas. IMO member states are in charge of developing the programs for supplementary SSO training and the authorised maritime schools are in charge of carrying out these training programs. Upon completion of these trainings, the authorised government bodies issue adequate SSO certificates. Although the process of SSO training represents a national responsibility, it must be harmonised at the international level so that the certificates can be recognised internationally. The SSO training program in the Republic of Croatia is entirely harmonised with the ISPS Code and SOLAS Convention. It covers all the above stated areas and has a duration of 17 hours (Ordinance on ranks and certification of seafarers / Pravilnik o zvanjima i svjedodžbama o osposobljenosti pomoraca, Official Gazette / Narodne novine No. 130/13 and 45/14).

The analysis of this training program clearly shows that it is focused on maintaining and supervising the implementation of the SSP, assessment of security risks and threats, ship inspection aimed at ensuring that

appropriate security measures are maintained, management and testing of the ship's security equipment, and enhancing the crew's security awareness and vigilance on board. These requirements and areas are in accordance with the contemporary threats in maritime shipping, such as piracy, armed robbery and terrorism.

However, two problems can be identified. The first problem refers to the duration of training while the second refers to the very contents of the training program. As for the training duration, it can be concluded that such a comprehensive program can be performed only at the terminology level within 17 class hours, given the fact that it contains a total of 25 areas defined by the ISPS Code. On the other hand, the contents of the programs are loaded with abundant administrative information on the maintenance and implementation of the SSP through all the entities within the maritime shipping security system.

It is reasonably assumed that the level of security threats in maritime shipping will increase, given the deteriorating security situation across the world. This will result in the increased risk of firearm attacks on merchant vessels. Although the crewmembers onboard merchant vessels do not carry or use arms, their additional training will be required in terms of development self-protection measures in the event of a firearm conflict.

PCASP on board ships may be authorised by a flag State to counter the attacks and protect merchant vessels against firearm attacks. These personnel are trained to handle fire weapons and to provide physical protection to merchant vessels in the event of firearm attack. The following chapter discuss the PCASP training standards and requirements.

REQUIREMENTS FOR PRIVATELY CONTRACTED ARMED SECURITY PERSONNEL

The increased threat to commercial shipping by Somalia-based pirates has led to an extended use of armed guards and a noticeable expansion in the number of firms offering armed maritime security services for ships in the High Risk Areas (MSC.1/Circ.1405/Rev.2). PCASP teams come on board with the purpose of preventing and dealing with armed attacks.

The deployment of PCASP teams on board of merchant ships and fishing vessels is based on the IMO Interim Guidance to private maritime security companies, flag States, governments, ship owners, ship operators, ship masters and crew. The Guidance covers Private Maritime Security Companies (PMSC) professional certification, requirements for PMSC, management and deployment considerations. According to the IMO, the use of PCASP should not be considered as an alternative to Best Management Practices and other protective measures. Carrying and use of firearms by seafarers for personal protection or for the protection of a ship is strongly discouraged (MSC.1/Circ.1334 and MSC/Circ.623/Rev.3). The use of PCASP on board merchant ships and fishing vessels is a matter for a flag State to determine in consultation with the ship owners, operators and companies. Masters, ship owners, operators and companies should contact the flag State and seek clarity of the national policy with respect to the carriage of armed security personnel. All legal requirements of flag, port and coastal States should be met (MSC.1/Circ.1334). Thus, the flag State has responsibility to authorize the use of firearms on board of merchant ships and fishing vessels in consultation with ship owners, operators and companies. Thereby the IMO refrained from the use of firearms on board merchant ships and fishing vessels and transferred the responsibility onto national legislations. The carriage of armed personnel remains a matter of decision for the ship owner, to request and the flag State to decide whether or not to allow the use of PCASP to protect their ships.

The areas of PCASP training are defined by the Annex to Interim Guidance to private maritime security companies providing Privately Contracted Armed Security Personnel on board ships in the High Risk Area. Private maritime security companies should ensure that the PCASP they employ acquire and can demonstrate to have acquired adequate and appropriate individual and collective training. The training areas are associated with the IMO recommendation that PCASP should have necessary operational capabilities, including the ability to assess risks, appropriate skill/experience in the field of carriage and use of firearms, appropriate medical qualification and shipboard familiarization training (MSC.1/Circ.1443).

It can be therefore concluded that the training of PCASP consists of two areas. The first area refers to tasks associated with using weapons for providing protection onboard ships, while the other area refers to the shipboard familiarization training. The training related to providing protection on board ships ensure compliance with the company standards in the fields of appropriate use of force, command and control relationship, competent use of the specific firearms, ammunition and other related security equipment, and medical training. The area of shipboard familiarization training refers to the familiarization with the ship type, the particular route envisaged, legal/practical implications for the deployment, and the provisions of relevant security related shipboard regulations. In that field PMSC should ensure, in consultation with the ship owner and master (subject to any additional requirements of the flag State), that the onboard team have received, as a minimum, shipboard familiarization training including life-saving, safety and fire-fighting requirements and communication protocols (MSC.1/Circ.1443).

These clauses of the Annex to Interim Guidance to private maritime security companies providing Privately Contracted Armed Security Personnel on board ships in the High Risk Area entitle the flag States to use their own

legislation to regulate the matter of PCASP training in the area of shipboard familiarization. Hence it is possible that a flag State require the training in line with the provisions of the STCW Convention only for the Team leader, whereas other team members may attend training onboard the ship they protect; it is also possible that all team members have to complete the training in compliance with STCW requirements. Professional STCW training for seafarers comprises Basic Safety Training (STCW A-VI/1) which includes Personal survival techniques, Firefighting and fire prevention, Elementary first aid, Personal safety and social responsibility. This training has the duration of 55 hours, including 19 hours of practical work.

THE PROPOSAL OF SUPPLEMENTS TO THE TRAINING PROGRAM OF THE SSO

By analysing and comparing the SSO training program and the recommendations for PCASP training, it can be concluded that the two training programs overlap in the part referring to the shipboard familiarisation. This correspondence results from the SOLAS Convention which requires that all persons performing any onboard duties must complete a special basic onboard safety training in order to be able to respond to emergencies onboard ships.

Therefore, theoretically speaking, both SSO and PCASP are qualified at the same level in terms of procedures in the event of emergencies onboard ships. However, in practice, it should be taken into account that an SSO is a professional seafarer who has been educated and trained to perform officer duties, and who has adequate experience, whereas a PCASP is not a seafarer but a person having military experience. Having in mind that a PCASP does not have a status of a crewmember, it can be assumed that the level of the Basic Safety Training necessary for the familiarisation with emergency procedures in the event of risk at sea could be sufficient for performing security tasks onboard ships.

Just as professional seafarers educate former or retired professional military personnel in the area of shipboard familiarisation, an inverse analogy might be applied regarding the training seafarers to become SSO. Therefore it is suggested that PCASP team members, i.e. qualified persons having experience in physical protection of ships, participate in a part of SSO training.

The analysis of SSO training leads to a conclusion that the SSOs are insufficiently trained for recognising and providing adequate response to the existing and oncoming security threats such as piracy, armed robbery and increased terrorist activities. The fact is that the security situation has worsened across the world, particularly in certain busy shipping areas. The deterioration of the security situation has reduced or even suspended the ability of some coastal states to control the security situation within the territory under their jurisdiction, both at sea and ashore. For all these reasons the SSO training programs need amendments and supplements.

It is suggested that the existing SSO training programs are supplemented by the following contents:

- familiarisation with the activities, abilities and constraints of national or international naval forces in preventing and suppressing terrorism, piracy and armed robbery against ships;
- familiarisation with the modes of cooperation with national or international naval forces and the organisations or services in charge of maritime shipping security and supervision;
- detailed familiarisation with the tactics, techniques and procedures of the attacks launched by pirates, terrorists or criminal groups at sea;
- good knowledge of technical features, capacities and efficiency of weapons, ammunition and equipment used by pirates, terrorists or criminal groups at sea;
- familiarisation with the measures for individual or group protection of crewmembers in the event of armed attack onboard ships.

Familiarisation with the activities, abilities and constraints of national or international naval forces in preventing and suppressing terrorism, piracy and armed robbery against ships is important due to the fact that a wide range of activities related to the above mentioned problems have been already undertaken at the national and international level. It is here worth mentioning the operations such as Operation Atalanta-Somalia, the first military operation undertaken by the EU Naval Force, NATO-led operations Ocean Shield and Active Endeavour, as well as operations launched by national naval forces in the areas of threatened security. Familiarisation with these activities would enable the SSO to implement more efficiently, and to adjust if necessary, the SSP.

Familiarisation with the modes of cooperation with national or international naval forces and the organisations or services in charge of maritime shipping security and supervision represents an important segment of fighting against all threats at sea. The SSO should be familiar, at an appropriate level, with the modes of cooperation with naval forces, as the matter is directly related to their missions. Likewise, the ship master could have easier and faster access to information on the activities of the naval forces in his/her area, which would considerably facilitate making decisions regarding the potential attacks on the ship. In this context we should emphasise the importance of familiarisation with the ways of operation of various organisations and services that carry out activities associated with the maritime shipping security and supervision, such as Maritime Security Center Horn of Africa, The United

Kingdom Maritime and Trade Organization, The NATO Shipping Center, Maritime Liaison Office and others. The activities of these organisations and services directly contribute to an increased level of maritime security that depends on the data gathered from vessels and/or shipping companies. Therefore the SSO should be familiar with their activities and operation modes, as well as with the benefits that can be obtained through these organisations and services in terms of increased ship's security.

Detailed familiarisation with the tactics, techniques and procedures of the attacks launched by pirates, terrorists or criminal groups at sea represents a sort of insider's view into security threats. Such knowledge could result in the SSO's increased ability to respond to potential attacks launched by these groups.

Good knowledge of technical features, capacities and efficiency of weapons, ammunition and equipment used by pirates, terrorists or criminal groups at sea directly improves the quality of response to potential attacks. The existing SSO training program requires only the recognition and detection of weapons, dangerous substances and devices, which is not sufficient for creating quality protection against attacks. Practical experience has shown that various criminal groups engaged in attacks at sea use guns, rifles, machine guns and launchers for rocket-propelled grenades. Familiarisation with technical features, capacities and efficiency of these weapons would ensure a more efficient protection of the crew. The more we know about the efficiency of specific arms, the more efficient we are in responding to them. The SSO should be well aware of the parts of the ship that can be used as safe shelters from specific weapons. Directly related to the familiarisation with the efficiency of various weapons is the modification of the SSP featuring the positions of shelters for an individual crewmember or a group of crewmembers.

The proposal is that the parts of training associated with the activities of naval forces, security organisations and services, are conducted by former or retired naval officers with adequate experience in missions, operations and security activities. The suggestion is that the contents related to armed attacks are delivered by former or retired professional military staff with adequate experience in physical protection of vessels.

With regard to the own experience in this matter, the author of this paper consider that the time needed for delivery and acquisition of these contents amounts to at least 15 to 20 hours. The exact duration of delivery and acquisition of these contents will be subsequently defined upon further consultations with the experts in this area. The author continues to examine supplements to the SSO training with the aim of sending finalised proposals to the relevant IMO bodies for adoption.

CONCLUSIONS

IMO introduced the ISPS Code as a response to the deteriorated global security situation following the 9/11 terrorist attacks in the United States of America. The ISPS Code, implemented through the 1974 SOLAS Convention, is a comprehensive set of measures aimed at enhancing the security of ships and port facilities. It refers to all stakeholders, i.e. entities in the international maritime shipping, defining the procedures, obligations and duties of the Contracting Governments, shippers, maritime companies, ports and vessels. The implementation of the ISPS Code implies the appointment of persons in charge in companies, ports and on ships, namely the CSO, PFSO, and the SSO. According to the ISPS Code, it is the responsibility of the company and the CSO to appoint the SSO. The ISPS Code defines the requirements regarding the education and training of these staff. The requirements are implemented in national legislations of the Contracting Governments. The upsurge of Somali-based piracy has further worsened the security situation at sea. As a result, some flag States decided to engage the PCASP on board ships, to provide physical protection in the event of firearm attacks. As PCASP were deployed on board merchant ships, the IMO provided guidelines that define the PCASP training.

Through the analysis of the SSO training program and comparison with the PCASP training area, it has been ascertained that the existing SSO training program should be extended. The reasons for the program extension are associated with the development (deterioration) of the security situation at sea. Therefore it has been proposed that the SSO training is supplemented in the parts related to the activities of naval forces, with the purpose of reducing the efficiency of arms used in attacks on merchant ships.

Familiarisation with the naval force activities and operation modes would enable the SSO to implement the SSP in a more efficient way. It would also result in increased safety and security and it would simplify and facilitate decision-making regarding the implementation of onboard security measures.

Furthermore, it would be of great importance to familiarise SSO with the operation modes and attack patterns of pirates, terrorists and criminal groups, and with the efficiency of weapons they use. Therefore, supplementing the SSO training program with these contents would enable enhanced protection of merchant ship crews. It is proposed that the supplementary SSO training is performed by experts with experience in naval force or PCASP missions, operations, and activities. It can be concluded that the suggested amendments to the SSO training programs would enhance the level of security onboard merchant ships.

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THE PSYCHOLOGICAL DYNAMICS OF EFFECTIVE TEACHING

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ABSTRACT

In every professional field there are techniques and skills constantly developing day by day. Teaching is not merely a profession but also a passion for many as it is a sharing of the precious gift of one's knowledge and ideas and one's own self. … "his heart lies in being an educator and doing something worthwhile" (Beetlestone 1998, p.IX). Hence there evolves a *psychological dynamics* of developing the entire person, the result of which is *effective teaching*. In this article we enumerate the qualities of teachers as educators, progressively making an educational presence in the lives of the students.

Keywords: Psychology, Teacher, Skills of teaching, Classroom management, Student-teacher Relationship, Education.

INTRODUCTION

The Psychology of teaching is an in-depth sharing of one's very self. It is a choice and a commitment. It is a commitment in character formation, and a personal choice of career that touches the heart of the teacher and the students. The dynamics of teaching is not merely a technique, but *"teaching is an ART."* "In my educator heart, I want to see teaching as an art."(Flanagan 2014) The core of the teaching skills, techniques, and the art of teaching, lies in the *HEART* of the Educator. "The goal of classroom management is to maintain a learning environment that allows for positive interaction, access to learning, and enhanced student achievement. Effective teachers are strong leaders in managing behavior, instruction, and student concerns."(Aloe et al. 2013. p.105)
The psychological process of effective teaching involves the whole person, penetrating the *psyche* of both the teacher and the students. The teacher is not just one who teaches some subjects in the classroom only, but an educator in overall perspective. Yet the oft used word in academic sense is "*teacher*", which should be well substituted with an appropriate and a comprehensive term of "*educator*." However, in this article we use the term **"teacher".** "Teachers are important adults in children's scholastic lives, and there is some evidence that teacher wellbeing, at least indirectly, has significant effects on children's socio emotional adjustment and academic performance" (Hamre et al. 2004. p.297. and Spilt. 2011. p.458)

1. Clarifying some basic concepts

Who is considered to be a teacher?
     i) In a generic term a teacher is one who is endowed with the quality to share the knowledge to anybody who comes in contact with that person, with a process of interactive communication. Teaching is "an interactive process that occurs between teacher and student who must both participate actively in the process"(Pol et al. 2010. p.274)
     ii) In a formal term a teacher is one who is qualified to teach. The qualification is specific to the level of teaching, be it for the school (teacher), or for the college (lecturer), or university (professor). (Day and Leitch 2001; O'Connor 2008; Spilt et al. 2011. p.461).
     iii) In the simplest form of the word a teacher is one who teaches what he knows whether qualified or not qualified. But (s)he should aim at becoming professional teacher. (Roth et al. 2007)
    Hence what is basically running through in every definition is a communicator and a co-operator. The whole process of learning is between a *learner* and the one who imparts knowledge, a *teacher*.
    Therefore the fundamental question regarding the art of effective teaching is *what the teacher is composed of? The psyche of the teacher?* What really the teacher *is* in himself/herself more than what he/she *has*? "Teacher self-

efficacy is the extent to which a teacher believes that (s)he is able to teach even the most difficult and unmotivated students, and involves many dimensions of teacher practices" (Aloe et al. 2013. p.105). Only after that we can consider what the teacher *wants* to do with what (s)he has? Hence the teacher should verify essential concepts regarding teaching.

1.2. Personal verification of essential concepts

i) The teaching profession is basically a *personal desire* for communication, which is the core of effective teaching. This desire is not limited with *feelings* but originates from the depth of the heart of the person. Hence, the one who wants to be a teacher should really acquire a deep compassionate heart for the students to whom the communication is aimed at. In every teacher "there are three universal, innate psychological needs: for autonomy (ownership, responsibilities, and self-actualization), belongingness (close relationships, interpersonal regard, and support), and competence (feeling capable to bring out desired outcomes and effectively cope with challenges) (Deci et al. 2000 and Spilt. 2011. p.462) these are to be spelt out in action as teaching techniques.

ii) Secondly at the beginning of one's teaching career, the teacher should really ask this question "*what do I want to do as a teacher"?* Is it some learning material that one wants to dump it into the heads of the students who are under your control? Or does the teacher have some seeds to be sown on the fertile minds of the students who are there in front, not knowing exactly what is going to come from the teacher, and how it is going to come. (Greene et al. 2002)

iii) Therefore the key role of psychology in the art of effective teaching begins from one's Heart. Once her/his heart establishes a resonance with the minds of the students whom (s)he is going to encounter, the skill can be acquired easily to fashion and mold the versatile minds of the students. (Mashburn et al. 2006; Spilt 2011. p.461). Effective teaching is not one way, but an interactive stimuli-response communication between two hearts and minds.

2. Dos and Don'ts

To have a Psychological ascendency over what we call *skills or techniques of effective teaching,* is to keep in touch with one's own personal preparation before getting to teach. There are various little things that a teacher has to personalize, the common sense, that has evolved into norms of expertise indications of Dos and Don'ts.

Here are few of Dos.

i) Do prepare the lesson well before you go to teach. A fundamental obligation.
ii) Present yourself decently in dress, in cleanliness and appearance.
iii) Prepare your mind to face the students in a friendly way.
iv) Arrive at the class punctually if not a few minutes before the scheduled time.
v) Be calm as you enter the class in whatever condition you find the students are.
vi) Smile at the students even before they greet you.
vii) Take a glance at every face of the students if possible while responding to the greetings.
viii) As soon as the students settle down strike a brief conversation of the current happenings; maybe of the school, or the climate, or the society, or about your very self. While having a brief acclimatization get closer to the topic of your lesson.

The above mentioned dos are basic etiquette which in turn will make a deeper psychological impact on the students, "…teachers construct mental models of their relationships with students that represent teachers' views, feelings, and inner world regarding their teaching" (Pianta et al. 2003. p.199 and Spilt. 2011. p.463).

Furthermore the teacher should aim at, "instruction, adapting education to fit students, motivating students, keeping order and discipline, cooperating with colleagues and parents, and coping with changes and challenges." (Skaalvik et al. 2007. p.99, and Aloe et al. 2013. p.105). Thereby, one should avoid the obstacles and barriers that may ruin effective teaching.

Here are some don'ts

2.1. Do not go to the Class half prepared. In case you are not prepared with your lesson for teaching, you could always keep the students engaged with revising the lessons or letting the students read by themselves. This is most productive and liked by all the students; a moment of self-study. Or an un-announced class test to give the students to check how much they grasped the previous lessons. (Turner et al. 2005; Van de Pol et al. 2010. p.275)

2.2. Don't be late for class constantly. Punctuality of the teacher is a great disciplinary education that the students learn from the teacher. If you are not punctual the message goes deep into the minds of the students that you live with double standard. (Maloch. 2008; Oh. 2005; Van de Pol. 2010. p.279). By being constantly late you give an impression that you lack discipline yourself. That you don't mean to educate the students, but just to fulfill some obligation of entering the class.

2.3. Don't carry your troubles to the class. In case you had a row with your family or your colleagues or whatsoever your problem, leave them all outside the class. Don't project your problems on to the students or on the lesson. (Reley 2009; Spilt 2011)

2.4. Don't begin the class with agitation in case your students are agitated and disturbed. "Poor relationships go against this need for relatedness and make teachers vulnerable for personal failure and rejection by students."(Spilt et all. 2011. p.465). The students are fun-loving they will try to provoke the teachers to make their life enjoyable. Not all students are studious. Some come to class only because there is no other go. Hence your agitation becomes a reason for creating more disturbances in the class.

2.5. Don't begin the teaching with reprimand. This will ruin the whole class. The minds of the students are fertile, vulnerable and fragile. It can be molded and formed according to the environmental conditions both positively and negatively. "Disobedient student behavior, for instance, is more likely to be appraised as challenging and threatening when the teacher has internalized negative feelings about the relationship." (Pianta et al. 2003; Spilt et al. 2011. p.467). Hence if the teacher does not set a tone of educative ambient, the students are left high and dry. The moral condition of learning drops down very low.

2.6. Don't always expect that all the students will greet you whole heartedly. Hence no flowers will bloom if you keep your face gloomy or stern. Don't consider yourself as the centre of the universe or centre of your class. (Mercer et al. 2004; Van de Pol. 2010. p.280) The students are centre, you are only a facilitator. A best teacher is a best facilitator of learning process.

2.7. Don't start the lesson with a difficult jargon. The minds of the students are to be gradually led to grasp the crux of the problem. Hence to start with a difficult note will sometimes make the students get lost. So you need to prepare the ground before sowing the seed of learning. The teacher should be alert in 'monitoring and checking students' understanding' (Garza 2009). We must remember the student attends various lessons from different teachers in a day. Hence your lesson should have its own plowing for irrigation if you intend to produce fruits through your teaching.

Having said about the *Dos and Don'ts*, let's pose few basic questions about effective teaching.

3. Psychological parameter of effective teaching.

The psychology of effective teaching is the self fulfillment of the teacher and the collective growth of the students, in other words, the efficacy of the teacher. Broadly the teachers self efficacy can be compressed into "instructional efficacy, engagement efficacy, and classroom management efficacy." (Aloe et al. 2013. p.105). Thus the effective teaching skills can be categorized and developed into three aspects. A) The subject of teaching. B) The ambient and the mode of teaching. C) The students, the primary goal of teaching.

3.1. The subject of Teaching

3.1.1. The subject, which is the substance of teaching, takes a prominent role. The matter matters a lot. Not all subjects are taught in the same way. The nature of the subject calls for its own preparation and presentation. The quality of teaching lies in the preparation. The productivity of the teaching lies in the presentation. "…coherent and learner-centered curriculum." (Ten Dam et al. 2004; Spelt et al. 2009. p.367).So the subject has to be given its due importance according which the skill should be acquired. Therefore, we consider the following steps to be kept in mind as part of the teaching technique.

3.1.2. Know your stuff. As mentioned above, the material of the subject to be taught is an important component of teaching. If the teacher does not grasp the material that is to be taught then the whole teaching process fails in its purpose. (Pawan 2008; Cole 2006; Van de Pol. 2010. p.279). Even if the teacher has multiple skills to teach but if he/she does not have the matter, all the skills will hold no water. Hence the a-priori requisite for the teacher is to make sure that he/she has well assimilated the subject to be taught. The content of the teaching has to be part and parcel of the teacher.

3.1.3. The matter to be taught should be well structured logically.

3.1.4. The material should not be complicated, instead it should be simplified. This does not mean that the whole content is reduced to nothing. There should be complexity in the matter that gives challenge to the students to grapple with the subject.

3.2. The ambient and the mode of teaching.

The style of teaching, the methods used in the class and the teaching setting can be collectively termed as the ambient of reaching. "Realizing desired learning outcomes demands consistent and well-designed learning environments."(Ten Dam et al. 2004; Spelt et al. 2009. p.367). It's here the skill is also utilized as teaching techniques. The teacher actually exhibits and reveals his strengths and weaknesses, his best and worst qualities in this context.

3.2.1. The ambient: The **Ambient** can be created by the teacher in most cases. But not always possible to create a desired physical condition beyond the given setting of a class room in most cases. Yet the teacher has to make sure that the teaching ambient is appropriate before beginning to teach.

3.2.2. The mode: the mode of teaching also depends on the ambient. If for instant there is a projector or if there is black board the mode of teaching should be adapted accordingly.

3.2.3.The audibility: At all cost the teacher should be **audible**. There is no substitute for this basic need of teaching. Whatever the teacher communicates should reach the students.

3.2.4. The undulation of the voice: During the course of teaching to draw the attention of the students the teacher should **undulate** his voice. It is one of the effect skills that the teacher should acquire. Monotonous voice is something that the students loath. The voice of the teacher is something that captivates the attention of the students in the classroom ambient.

3.2.5. Clarity in expression: The **clarity** of the words that the teacher uses should be optimum. There shouldn't be any mumble-jumble while teaching. The clear the teacher in his expression, the better the students grasp the point that is communicated. Clarity in the words, clarity in the pronunciation, clarity in the thought, clarity in the material that is taught, clarity in logic.

3.2.6. Precision in communication: To be **precise** in communication is another character of a good teacher. The concept that has to be communicated to the students must be precise and to the point. If the teacher is not comprehensive the students will have to spend more time and energy to grasp the theme of the subject that is being taught. An indication of being precise is seen in summing up the whole content of the day's class. If you, as a teacher, is able to sum-up the entire lesson of the day in few sentences then you understand yourself how precise you are. Precision is nothing but, be short, be crisp and stop.

3.2.7. Mannerisms: Avoiding **mannerisms** is another skill of teaching. There are many habits that are destructive and digressive in teaching career. The less mannerisms the better distractions, because mannerisms is an indicator that the teacher is not having control of himself/herself. Hence its important to take efforts to find out what are the mannerisms that one has in order to eliminate them. For example, removing the spectacles every minute and putting back, pulling the tie all the time, adjusting pants or the shirt often, clearing the throat every second, shifting the legs right and left constantly, and repetition of some slangs and words such as, "*practically speaking, practically speaking... practically speaking... what you call, what you call, what you call,...*" etc.

3.2.8. Mobility: Stationary and physical stagnancy is a drawback of a teacher. If the teacher is only seated from the beginning of the class till its end or stationed only in one position like an **unmoved mover,** is not so productive for the classroom teaching. "Monitor students carefully and frequently so that misbehavior is detected early before it involves many students or becomes a serious disruption."(kizlik 2014) The teacher should once in a while move into the class or the lecture hall if possible. The closer the teacher to the students in every sense the better the rapport between teacher and the students. "Moving close to the offending student or students, making eye contact and giving a nonverbal signal to stop the offensive behavior."(Ibid.,) If the teacher never comes down from his teaching pedestal to the level of the students even in the physical structure of the class room the students will have their own game which the teacher will not be aware of. "Effective classroom managers practice skills that minimize misbehavior."(Kizlik 2014). So it's better to go towards the students periodically to get to know the students and their activities during the class.

3.3. The students, the primary goal of teaching.

"When considering the measurement of teachers' interpersonal experiences with students, it is worthwhile to take the multidimensionality of teachers' relationship perceptions into account. Teacher perceptions of student – teacher relationship quality embody relatively independent dimensions referring to close and warm aspects of the relationships." (Spilt et al. 2011. p.471).

3.3.1. The focus of the teaching skill lies in the psychological bond between the students and the teacher. "The strong connection between the personal and professional wellbeing of teachers and have reasoned that there

cannot be real professional development without personal development…" (Day and Leitch 2001; O' Connor 2008; Spilt 2011. p.461). The teacher should primarily establish a dignified, cordial, educative relationship with the students. The students – teacher relationship is a vital aspect of teaching reality. All the skills of teaching would be considered a farce if the real target of teaching, that is the students, is not taken into main consideration. Hence the teacher should be ready to meet all sorts of students with a heart of an educator, as mentioned earlier.

3.3.2. The students are of different intellectual capacities. Not all students will be able to grasp the point that you are driving at in the class. And not all students are dull heads either. "Understanding of mind and its development to organize instructional content across diverse subject matter and to create teaching methods that are appropriate for different individuals at different phases of learning". (Demetriou et al. 2011. p.602). Therefore to keep the senses alert to notice the weak students and the bright students who are in the class and give due attention to the needs of both the category of the students, which calls for a close observation of the students in the class like a mother who knows each child intuitively, the various needs of the children.

3.3.3. There are students who are very studies and there are those who are very playful and trouble makers. This difference of temperaments and behaviors of students often get on the nerves of the teachers. This could be a cause of distraction and disappointment and disturbance for the teacher even to proceed teaching with peace of mind. "Teachers' mental representations of relationships with individual students are a more powerful predictor of teacher wellbeing than perceived student misbehavior"(Spilt et al. 2011. p.472). Some students listen to the teacher attentively and eagerly while others are bent on disturbing and playing mischief. This is what causes the conflict between the teacher and students. The teacher may show the displeasure on the whole class instead of dealing with the particular student who is the cause of disturbance. Hence the delicacy and tactful way of approaching the student who disturbs. This is one of the great efficacies of the teacher.

3.3.4. Finally, the essence of teaching is not just the material to be taught but to educate the student in holistic sense. The mind of the student is only a part of the personality. Hence a teacher has an important role to play as an educator of the entire person who confides in his hands. "There is also some evidence from descriptive and correlational research that confirms the importance of healthy teacher – student relationships for the wellbeing of teachers" (Shann 1998; Spilt 2011. p.461). This is possible only with the heart of an educator. The psychology of teaching and learning is a relationship of sharing knowledge in the depth of the human heart. "Deliberately focusing attention on positive feelings such as compassion, warmth and care for self and others." (Waters et al. 2014. p.3) Once this communication is established the knower and the known merge to comprehend each other. This is the art of teaching.

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THE QUALITY OF COMMUNICATION AMONG PARENTS AND THEIR ADOLESCENTS AS STUDENTS AT THE JUNIOR HIGH SCHOOL IN MEDAN, INDONESIA (THE STRATEGY TO RESOLVE DELINQUENCY)

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Aims of this study to investigate the quality of communication among parents and their adolescents that as students at juniorhigh school to resolve problems related to youth delinquency. They were include to understand the characteristics of quality communication in families, to understand quality communication practices among problematic and non-problematic adolescents and to understand factors that contribute toward quality communication practices in families**. Methods**: A total of 212 adolescents that as students at junior high school completed the Impact of Event Scale and Parent–Adolescent Communication Scale (PACS). **Results:** Adolescents communicated less openly with mothers in problematic adolescents than in non-problematic adolescents; this was the only significant difference with the reference group. Daughters communicated more openly with mothers with reference group. Daughters more open communication with parents in non-problematic families was related to fewer in problematic families. More problem communication with both parents was related to more delinquency in both sons and daughters. Sons reported more problems in communication with his parents in case of more conflict in families members. Daughters experienced less open communication with both parents when their parents stay far . Time since in communication was not related to parent–adolescent communication. Multivariate analyses showed that communication patterns specifically affected behavior of daughters. Problem communication with the problematic adolescent was the strongest predictor of intrusion while problem communication with the problematic adolescent was the strongest predictor of avoidance. **Conclusion**: Parent– adolescent communication in families have strong influence of adolescent in families not confronted with parental problem. Problem communication outweighed lack of openness with respect to development of PACS. Recurrent development and intensive frequency affected parent–adolescent communication negatively.

Keywords: quality communication, parents, adolescent, delinquency.

THE REASONS OF SPORT- CARE VULNERABILITY FOR THE ALGERIAN FEDERATIONS OF SPORTS

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This article exhibits the results of afield study which aimed at identifying the reasons of sport- care vulnerability for the Algerian federations of sports. It included almost all the Algerian federations across the country in addition to some economic enterprises acting in this field through the analysis of questionnaire and interview results. According to the results of the foresaid study there are a lot reasons led to a critical sport- care vulnerability. Amongst these reasons perhaps economic, social, administrative, legal and communicative.

تعرض هذه المقالة نتائج دراسة ميدانية، استهدفت تحديد أسباب ضعف الرعاية الرياضية للاتحاديات الرياضية الجزائرية، حيث خصت الدراسة معظم الاتحاديات الرياضية على المستوى الوطني، إضافة إلى مجموعة من المؤسسات الاقتصادية الناشطة في هذا المجال، و ذلك من خلال تحليل و مناقشة نتائج الاستبيان و المقابلة و استنادا لنتائج الدراسة السابقة.

بينت النتائج الأولية أن هناك تضافر لمجموعة من الأسباب، أدت بالرعاية الرياضية لهذا الضعف و من عدة جوانب، منها: اجتماعية، اقتصادية، تنظيمية، قانونية و إعلامية.

Keywords: Algerian federations of sports - economic enterprises

THE RELATIONSHIP BETWEEN SKILLS OF READING COMPREHENSION AND ESTABLISHING RELATIONS OF COHERENCE AND COHESION IN WRITTEN EXPRESSIONS OF SECONDARY SCHOOL STUDENTS

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ABSTRACT

This study aims to determine the relationship between skills of reading comprehension and establishing relations of coherence and cohesion in written expressions of good and poor readers. Out of general screening models, relational screening model was selected and used in the study. Accessible population of the study is composed of 8-grade students receiving education in Kırşehir city center. As for sampling, 131 students were selected randomly from three secondary schools. An achievement test was prepared to determine the students' levels of reading comprehension. In order to assess their success in the criteria of coherence and cohesion, the students were asked to write a composition. The students' works of written expression were evaluated according to these two criteria of textuality. Results indicate a significant difference between good and poor readers' levels of reading comprehension and their skills of using coherence elements and setting cohesive relations in written expressions. Good readers use coherence instruments more successfully and constitute better cohesion than poor readers do while composing texts.

Keywords: Coherence, cohesion, reading comprehension

INTRODUCTION

Researches show that language is not just a communication tool made up of individual words but it is a system built of closely interrelated units valued by each other. Therefore, limiting all linguistic studies to sentences may be an unhealthy approach (Aydın, 2007).

Text linguistics is a branch of science that deals with texts in their entirety as a supra-sentential unit as elaborated in linguistic studies today. It is an approach to analyse a text in its structural and semantic integrity and to understand the main constituents of a text. While semantics and rhetoric gravitate toward the power of meaning, text linguistics tries to unfold the interrelation between these semantic groups (Aytaş, 2008).

In Western countries, text linguistics is used in studies of text reading and comprehension, constructing texts in teaching foreign language, teaching writing in mother tongue, and improving writing skills (Ayata Şenöz, 2005).

In order for a piece of writing to be called as a text, it needs to include certain criteria in company. The extent to which a piece of writing observes these criteria determines its quality of textuality. De Beaugrande and Dressler (1981) regards coherent and cohesion among the essential criteria of textuality.

According to Halliday and Hassan (1976), cohesion denotes lexical and grammatical relations that enable us to perceive a combination of sentences as a discourse rather than independent sentences. Cohesive elements convey the meaning and build a sort of semantic integrity between textual units. Cohesive relations can be observed in the same sentence or between consecutive sentences, sometimes between nonconsecutive sentences in a paragraph or between paragraphs within a text (Can, 2012).

In the early studies on text linguistics, cohesion was defined as a link comprising all sorts of suprasentential grammatical and lexical relations between sentences that make up a text. However, grammatical relations between sentences have been treated in the context of coherence later on, and cohesion has been considered as a lexical and logical connection within a text (Toklu, 2009).

Onursal (2003) points out that coherence and cohesion are different from each other in terms of their levels even though they are interrelated and integrate each other within a text. While coherence can be seen in the surface of a text through linguistic elements, cohesion denotes the logical connections between meanings in the deep structure of a text and there are not certain linguistic elements that are indicative of cohesion. Sometimes a whole text or different parts of a text may be cohesive without linguistic elements ensuring coherence.

Although there are extensive and various studies on reading-writing relationship, those relations can be grouped into three: rhetorical relations, procedural relations, shared knowledge and cognition (Fitzgerald and Shanahan, 2000).

Reading and writing skills are closely interrelated. A great deal of studies indicate that children's performance in writing can accurately reveal their reading knowledge and process (Cox and Shanahan, 1990). In the same vein, Eckhoff (1983), argues that ones's achievement in written expression can be predicted by his/her reading scores.

Reading contributes to students' writing skills in several ways. First of all, it informs students about what they will write and, on the other hand, it functions as the first model by which reading and writing skills can be learned (Zainal and Husin, 2011).

As a skill, both reading and writing necessitate grammar, i.e. knowledge of coherence as well as cohesion. Grammatical knowledge is shared between reading and writing especially in sections including ortographical, semantical, synthetical, rhetorical, and structural analysis (Shanahan, 1984).

Text is the common area of interest for studies of text linguistics, reading comprehension, and writing. According to structuralists, understanding a language is an interactive process between a text and its user. They argue that a text itself does not carry any meaning; it is the reader who can get the meaning via the contribution of that text (Parvaz and Nodushan, 2006). Since reading is an interactive and communicative activity, the most effective learning environment should be a place where children and adults share a text, recognise the author behind that text, and inquire the thoughts and linguistic choices of its author. In this way, they will be more aware of rhetorical organisation (Anderson, 1990).

Studies on reading comprehension show that coherence instruments function as a focus for readers to associate the meaning in a text (Cox and Shanahan, 1990). Studies on writing indicate that coherence instruments significantly contribute to improving the quality of written expression (Cox, 1987).

Based on previous studies, this paper aims to uncover whether there is a relationship between good and poor readers' reading comprehension skills and their ability to interrelate the criteria of coherence and cohesion in their written expressions. In reference to the research problem, we tried to answer the questions below:

1. Is there a difference between good and poor readers' reading comprehension skills and their ability to establish relations of coherence in their written expressions?

2. Is there a difference between good and poor readers' reading comprehension skills and their ability to establish relations of cohesion in their written expressions?

3. Is there a relationship between good and poor readers' reading comprehension skills and their ability to establish relations of coherence in their written expressions?

4. Is there a relationship between good and poor readers' reading comprehension skills and their ability to establish relations of cohesion in their written expressions?

2. METHOD
2.1. Research Model
With the aim of examining the possible relationship between good and poor readers' reading comprehension skills and their ability to interrelate the criteria of coherence and cohesion in their written expressions, relational screening model was used in the present research. Among general screening models, relational screening model is used to determine the existence and/or the extent of covariance between two or more variables (Karasar, 2009)

2.2. Participants
2.2.1. Formation of the Research Population
Accessible population of the research is composed of 8-grade students receiving education in Kırşehir city center. As for sampling, 161 students were selected randomly from three secondary schools. While selecting this sampling, the researcher cared to choose students with high, medium, and low socio-economic levels.

2.3. Goal of the Research
By making use of previous research, this study aims to reveal whether there is a relationship between good and poor readers' reading comprehension skills and their ability to interrelate the criteria of coherence and cohesion in their written expressions. New approaches to the relationship between reading and writing skills can be put forth in this way.

2.4. Data Collection Tools
In order to determine the students' reading comprehension levels, a 30-question achivement test was prepared by using the student placement exams carried out by the Ministry of National Education in different years in placing 8-grade students to high schools. As for measuring their achievement in coherence and cohesion, the students were asked to complete a work of written expression, choosing one out of five topics so as to accomplish their work with ease.

While selecting the topics for written expression work and preparing the achievement test, we asked the opinions of two specialists on Turkish Language and Literature and two Turkish Language teachers.

2.5. Validity and Reliability of Data Collection Tools

Table 1. Analysis Values for the Validity and Reliability of Achievement Test

	Reading comprehension achievement test
Number of items	30
P (Difficulty index)	0,65
T-value for top and bottom 27 % (Discrimination)	25,082 (p<0,05)
Kuder Richarson 20 (KR-20)	0,75

In order to assess the validity and reliability of the achievement test, a pilot study was carried out with a group of 100 students. Item difficulty indexes of achievement test were calculated at first. Difficulty index was 0,65 for the 30 items in the reading comprehension achievement test. Item difficulty indexes are expected to have values ranging from 0 (zero) to +1. The closer the value of an item difficulty index is to +1, the more correctly it answers; and the closer it is to 0, the less correctly it answers. An ideal assessment tool has an item difficulty index with an overall value of 0,50 (Ozçelik, 2010).

The values calculated for the achievement test in the scope of this research were closer to 0,50 as a desired indicator of the validity and reliability of our assessment tool. In addition to this, means of top and bottom 27 % were calculated for each achievement test. Their t-values yielded the significant value for each item. This result shows that each item is enough to discriminate the achievement of students.

KR-20 reliability coefficient of the achievement tests was computed as 0,75 for reading comprehension. Reliability coefficients of assessment tools range from 0 to 1. A coefficient is accepted as considerably reliable if it has a value between 0,60 and 0,80 (Kalaycı, 2009). As the values for achievement test in this research were in this range, it can be concluded that the items of our assessment tool produced considerably reliable results.

2.6. Data Collection Process
Students with different socio-economic levels were selected from three secondary schools in Kırşehir city center. 161 students participated in the research in total. 50 of them were from Cumhuriyet Secondary School, 59 from Cacabey Secondary School, and 52 from Vali Mithat Saylam Secondary School. All the tests were applied to students by the researcher himself. After the necessary explanations about the achievement test, students were asked to answer 30 questions during a course time (40 minutes). In the second course time, they were asked to complete a work of written expression. The data collection tools were coded in order to specifiy which achievement test and composition paper belong to which student. Lastly we proceeded to analysing the data after matching the achievement tests and texts belonging to the same students.

2.7. Data Analysis
SPSS 17.0 software package (Statistical Package For Social Sciences) was used for data analysis. Students were classified as either good or poor readers according to their scores on the achievement test for reading comprehension skills. Those who answered 68 % of the questions correctly were evaluated as good readers, the remaining ones being evaluated as poor readers (Bridge and Winogard, 1982).

Students' works of written expression were evaluated by two researchers. "Cohesion Evaluation Scale" developed by Can (2012) was used in determining their cohesion scores. Their achievement in using coherence instruments was evaluated by two researchers upon reading their composition papers. The process ended with a t-test and correlation analysis showing the relationship between the students' scores on the reading comprehension test, cohesion of their composition, and errors of coherence.

3. RESULTS and EXPLICATION
This section of the research includes the results and their explication.

Table 2. Results of Independent T-Test Analysis Showing the Relationship between Good and Poor Readers'
Scores on "Comprehension Test and Cohesion Level"

	Reader Category	N	$\overline{X}$	Ss	T	p
Achievement Test	Poor	67	13,1045	3,84603	19,679	,000
	Good	64	24,1406	2,36286		
Cohesion	Poor	67	8,0896	2,80006	11,782	,000
	Good	64	15,4531	4,23863		

As it is seen in Table 2, the difference between cohesion and achievement test scores of good and poor readers is significant in favour of good readers (p<0.05).

Table 3. Results of Independent T-Test Analysis Showing the Relationship between Good and Poor Readers'
Scores on "Comprehension Test and Their Coherence Errors"

	Reader Category	N	$\overline{X}$	Ss	T	p
Achievement Test	Poor	67	13,1045	3,84603	19,679	,000
	Good	64	24,1406	2,36286		
Substitution Error	Poor	67	,0149	,12217	,977	,330
	Good	64	,0000	,00000		
Conjunction Error	Poor	67	1,3881	1,44553	6,582	,000
	Good	64	,1406	,46691		
Reference Error	Poor	67	1,4328	1,72525	5,660	,000
	Good	64	,1719	,45616		
Lexical Coherence Error	Poor	67	1,6269	1,56511	6,809	,000
	Good	64	,2188	,54827		
Ellipsis Error	Poor	67	1,8806	1,49263	7,671	,000
	Good	64	,3438	,59678		

As seen in Table 3, an evaluation of coherence elements regarding errors of conjunction, reference, lexical coherence and ellipsis in written expressions of good and poor readers indicate a significant difference in favour of good readers.

Tablo 4. Correlation between Comprehension Test, Cohesion Levels, and Coherence Errors of Good and Poor Readers

		Achievement Test	Cohesion	Reference Error	Lexical Coherence Error	Ellipsis Error	Conjunction Error
Achievement Test	R	1	,754**	-,471**	-,497**	-,437**	-,532**
	P		,000	,000	,000	,000	,000
Cohesion	R	,754**	1	-,385**	-,343**	-,302**	-,489**
	P	-,471**		,000	,000	,000	,000
Reference Error	R	,000	-,385**	1	,423**	,538**	,293**
	P	,000	,000		,000	,000	,001
Lexical Coherence Error	R	-,497**	-,343**	,423**	1	,366**	,307**
	P	,000	,000	,000		,000	,000
Ellipsis Error	R	-,437**	-,302**	,538**	,366**	1	,327**
	p	,000	,000	,000	,000		,000
Conjunction Error	R	-,532**	-,489**	,293**	,307**	,327**	1
	p	,000	,000	,001	,000	,000	

n= 131 * p < .05; ** p < .01

As seen in Table 4, there is a positive and highly significant relationship (r =754, p<.01) between the achievement test scores and cohesion levels as shown by Pearson Correlation Analysis carried out to determine whether there is a relationship between good and poor readers' test scores for comprehension and cohesion. Accordingly, the higher scores students get on the reading comprehension test, the higher scores they get from the evaluation of textual cohesion. As for the evaluation of coherence errors done by good and poor readers, there is a negative and moderate relationship between their achievement test scores and errors of reference and ellipsis but there is a negatively high relationship between their achievement test scores and errors of conjunction and lexical cohesion. According to this, the higher scores students get on the reading comprehension test, the less errors of coherence they do in written expression.

CONCLUSION, DISCUSSION AND SUGGESTION

Results indicate a significant difference between reading comprehension levels and cohesion skills in written expression works of the good and poor readers selected from 8-grade elementary students. This result is in the same vein with Mcgee and Richelss' (1990) argument that readers and writers share common processes related to cohesion such as planning, organising, and aligning in reading and writing activities.

According to the evalution of coherence elements used by good and poor readers in their written expressions, a significant difference was observed in favour of good readers in terms of conjunction, reference, lexical coherence, and elliptical expression. Good readers are more successful in using those coherence elements when compared to poor ones. Abbot and Bringeer (1993) also enunciate a considerable relationship between one's level of reading skill and the quality of his/her text.

A positively high and significant relationship was observed between the achievement test scores and cohesion levels of good and poor readers. According to this, the higher scores students get on the achievement test, the higher scores they get from the evaluation of textual cohesion. The evaluation of coherence errors done by good and poor readers show a negative and moderate relationship between their achievement test scores and errors of reference and elliptical expression but there is a negatively high relationship between their achievement test scores and errors of conjunction and lexical cohesion. Accordingly, the higher scores students get on the reading comprehension test, the less errors of coherence they do in written expression.

Results of this resarch indicate that good readers use coherence instruments more successfully and constitute a better cohesion in their written expression than poor readers do. An increase in students' scores of achievement test for reading comprehension considerably correlates with an increase in their scores of coherence and cohesion.

The results of a study by Cox and Shanan (1990) support the results of this research. According to the researchers, knowledge of coherence is connected with improving children's reading and writing ability. Good readers use simple and complicated functions of coherence in their reading and writing activities more successfully than poor readers do.

In a study aiming to measure the relationship between reading and writing, Eckhoff (1983) states that the features of texts students read are similar to the features of texts they write. The texts written by students who read high-level texts are more detailed, more competent in terms of using linguistic structures, and have a more complex linguistic form than those of students who read low-level texts (Eckhoff, 1983). According to Ahmed (2011), the effect of reading on writing skill is more than that of writing on reading; therefore, changes in students' writing skills can account for the status of their reading skills.

Pointing out the association between writing and reading, Clay (2001) states that writing can help children learn reading. Palmer (2010) also asserts a relationship between not only writing and reading comprehension but also fluency in writing and reading comprehension.

Based on these results of the present research, following suggestions are made:
Coherence not only denotes to what extent a thought is in harmony with other thoughts within a text but also is a model of facilitation for readers in order to associate their thoughts (Lightman et al., 2007). Coherence is important both for the reader to derive a meaning from text and for the author to form an easily understandable text (quoted in Cox and Shanahan, 1990). Therefore, more practices of coherence should be included in curriculam.

Since reading is an interactive and communicative activity, the epicenter of a learning environment should be a sort of place where children and adults share a text, make acquaintance with the author behind that text, and inquire about the thoughts and linguistic choices of its author (Anderson, 1990). How authors set textual connections and associate their thoughts to each other should be demonstrated on texts. Children should be made able to evaluate texts with the criteria of coherence and cohesion. High- and poor-quality texts in terms of coherence should be presented to them and which elements of coherence make those texts high- and poor-quality should be taught practically.

Findings of text linguistics should be used while selecting texts for coursebooks. Studies supporting this suggestion are available in the relevant literature.

By way of reading and writing, students reinforce the interrelationship between comprehension and text organisation (Zainal and Husin, 2011). Hence, students should be guided to engage themselves more in reading and writing and to see the relationships between these two skills.

Lexical coherence is an important part of reading comprehension and contributes to the formation of semantic continuity (Ebrahimpourtaher and Eissaei, 2013). More works should be put forth to enrich vocabulary in order to make students able to comprehend the connections pertaining to lexical coherence (synonym, superordinate, antonym, tenor, using words from the same concept area) and able to create lexically coherent texts observing those relationships.

Students should be made aware of textual coherence and cohesion while reading and writing. Especially those who are not good at reading comprehension should make more time for reading. They should be enhanced with more knowledge and experience on how relations of coherence and cohesion are established in texts through comparisons between different genres of texts.

In getting children acquire a writing skill, highly coherent and cohesive texts can be introduced as a model until their writing skills effloresce.

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THE RELATIONSHIP BETWEEN READING SPEED IN TURKISH AS L1 AND ENGLISH AS L2

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Reading skill is of utmost importance in both L1 and L2 since it plays an important role particularly in learners' success both at school and at work. Moreover, reading acts as an important skill for any individual, opening new doors to all kinds of knowledge. The goal of the current paper is to determine whether there is any relationship between learners' oral reading speed in their L1 (Turkish) and L2 (English). The study benefits from an experimental research design. The participants include 30 first-year students of English in the department of Foreign Language Education at a state university. The participants will be asked to read the English and Turkish versions of the two paragraphs, which are of expository and narrative genres each. The participants' reading speed will be measured for each paragraph to determine the number of words read for per minute. Moreover, the participants will be asked to respond to a comprehension question on each paragraph. Considering the data to be obtained, the results will indicate whether there will be any correlation between oral speed in Turkish as L1 and English as L2 and whether there are any differences for different genres of texts (expository and narrative texts.) Based on the results, conclusions and suggestions will be provided on the transfer of oral-reading automaticity from Turkish to English.

Keywords: Reading speed, Turkish, English

THE RELATIONSHIP BETWEEN TEACHING-LEARNING APPROACHES AND ACADEMIC SELF-EFFICACY OF PHYSICAL EDUCATION CANDIDATE TEACHERS

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ABSTRACT

The purpose of this study is to investigate the correlation between pre-service teachers' teaching-learning approaches and their academic self-efficacy. For this purpose, "correlations survey method" was adopted in this study in order to find answers to the research questions. The sample of the study was students (n=329) attending Physical Education and Sports Teacher Education Departments. The data were collected by "Teaching-Learning Approaches Questionnaire (Aypar,2011)" and " Academic Self-Efficacy Scale (Ekici, 2012)". According to Pearson's moment correlation analysis, it was found out that there was a positive significant correlation between pre-service teachers' teaching-learning conception and their academic self-efficacy. On the other hand, according to the results of the regression analysis, it was found out that pre-service teachers' constructivist perception predicted their student academic self-efficacy significantly.

Keywords: Teaching-learning approaches, academic self-efficacy, physical education and sports teacher candidates.

INTRODUCTION

Intense changes occurring in our world in every field, has also affected the educational system of the countries thus it causes changes in essential qualities of individuals who will maintain the existence of the societies. At the present it is expected from the individuals that instead of consuming information they should have the abilities like raising new information by making sense of the information that we have, having an information-oriented life, critical thinking, synthesizing, problem solving, and communicating.

It can be said that developments in education sciences in different periods reveal two different teaching-learning concepts naming traditional and constructive, which are contrasted with each other (Duffy & Roehler, 1986; Chen & Elliot, 2004; Schunk, 2008; Cheng & et al., 2009; Akpınar, 2010; Aypay, 2011; Oğuz, 2011, Bıkmaz, 2011; Şahin & Yılmaz, 2011). Today the way of change in education shifts from the traditional way to student centered constructivist approach. In our country since 2006 constructivist approach based on cognitive theory has supplanted the place of traditional approaches that based on the behaviorist theory. Behaviorist theory which had been dominant until the 70s in education applications emerged based on the assumption that learners were passive in teaching. When teaching-learning situations considered in which traditional approach is applied learning is pursued with gifts, punishment, and repetition. A situation in which everything is controlled by a teacher is created (Açıkgöz, 2005). The Teacher seems as the source of the knowledge and students seem as the passive receivers. Teachers give the knowledge to students in a didactic way and expect them to give correct answers to questions. In traditional approach students often study alone (Chan and Elliott, 2004; Cheng & Cheng, 2009; Schunk, 2009).

In new teaching approach it is thought that teaching is handled like a complicated process and teaching can only be done by the educated tutors (Crisp, 2006). Students and teachers share the responsibilities in constructivist teaching. It is expected from students to attend learning activities at every stage and teachers to guide and pave the way for students while gaining knowledge and skills. Thus, planning, execution, and evaluation of the

learning process are different from the traditional approach. Today it is believed that learning is an inner and cognitive process rather than being a product of environmental factors (Biggs, 1996; Açıkgöz, 2005). Constructivists believe that some activities and rich experiences can activate learning process and affect the learners' learning levels positively (Brooks & Brooks, 1999). Hence constructivist learning is grounded in the process of problem solving, critical thinking, and creativity (Fer & Cırık, 2007).

Self-efficiency is a popular and searched concept that is an important determiner especially in the process related to education like learning and performance within social-cognitive theory (Bandura; 1989, 1994, 1997). According to Schunk (1991) self-efficiency belief is the most important predictor of the individual behaviors. Learners having high self-efficiency beliefs are more adaptive while gaining a skill or learning a subject, more hard working, more determined, more durable against difficulties, and more successful than the students who are skeptical about their capacities and skills (Pajares, 1996; Zimmerman, 2000). Academic self-efficiency accepted as a type of self-efficiency is the perception of the individuals about succeeding a duty at a level of specified success level (Schunk, 1991; Zimmerman, 1995). Academic self-efficiency is like a self-esteem in academic subject students need to study (Cheemers & et al., 2001).

It is stated that in order to be successful in school students' affective skills are important as much as their cognitive skills (Alsop & Watts, 2000; Thomson & Mintzes, 2002; Açıkgöz, 2005). In constructivist approach, students need to attend actively to the learning process by adding already known information, processing the information, developing hypotheses and testing and interpreting them (Açıkgöz, 2005). Therefore, it is known that affective domain skills are important to join that process. In order to increase students' course attendances, attentions, motivations, and self-esteems, constructivist approach methods can be used and that can increase their academic beliefs. In this context, it seems that it is possible to have a relation between learning-teaching perceptions and academic self-efficiency.

All in all, although there are so much both domestic and abroad, research in relevant literature about either academic self-efficiency or teaching-learning perceptions (Clements and Battista, 1990; Schunk, 2009, Aypar, 2011; Baş, 2012, 2013, 2014; Saçıcı, 2013), it is not encountered both of these subjects searched together. In an experimental research done by Kaya (2014), students' self-efficiency perceptions were examined about traditional and constructivist teaching methods in a chorus teaching. Therefore, it is thought that examining these two significantly interactive variables would be meaningful. Thus the problem statement of the research is "Is there any relationship between pre- service teachers' teaching-learning perceptions and their academic self-efficiencies." In order to find answers to the problem statement, these sub-problems are applied.

What is the level of pre-service P.E teachers' teaching-learning perceptions and academic self-efficiency points?

Is there any significant relationship between the teaching-learning perceptions and academic self-efficiencies of pre-service P.E teachers?

Do the teaching-learning perceptions of the pre service P.E teachers predict their academic self-efficiencies significantly?

METHOD OF THE STUDY

The purpose of this study is to investigate the correlation between pre-service teachers', attending Physical Education and Sports Teacher Education Departments on 1st and 4th grade at Akdeniz, Ahi Evran and Erciyes University, teaching-learning approaches and their academic self-efficacy. For this purpose, "correlations survey method" was adopted in this study in order to find answers to the research questions. Correlational research investigates the relationship between two or more variables without intervention (Büyüköztürk and the others, 2011).

The sample of the study was students (n=329) attending Physical Education and Sports Teacher Education Departments on 1st and 4th grade at Akdeniz, Ahi Evran, Ege and Erciyes University. The mean age (age = 21.92 ± 3:33) of 329 [130 women (39.5%) and 199 men (60.5%)] of students. 82 students (24.9%) are studying at Akdeniz, 97 (29.5%) students are studying at Erciyes, 84 (25.5%) students are studying at Ahi Evran and 66 (20.1%) students are studying at the Ege University. 176 (53.5%) students studying on the 1st grade and 153 (46.5%) students studying on the 4th grade. For the sample selection, appropriate sampling method was adopted. In this method, researchers start on the most accessible form the sample until they reach the needed size of responders (Cohen & Manion, 1998).

The data collection tools were "Teaching-Learning Approaches Questionnaire (Chan & Elliot, 2004)" and "Academic Self-Efficacy Scale (Owen & Froman, 1988)". Information about the scales is as follows.

Teaching-Learning Approaches Questionnaire

In order to determine understanding of the teaching-learning of prospective teachers, Teaching-Learning Approaches Questionnaire which was developed by Chan and Elliot (2004) and was adapted Turkish by Aypay (2011). The sample of the study was teacher candidates. The scale consists of 30 items and five-point Likert. Cronbach's alpha coefficient of the scale was calculated as 0.84. In some sub-dimensions; Cronbach's alpha coefficient for first subscale (constructivist approach 12 items) is 0.88, the Cronbach's alpha coefficient for the second sub-dimension (traditional approach 18 items) was calculated as 0.83 (Aypay, 2011). The Cronbach's alpha coefficient for the traditional approach in this research (18 items) is .85, the Cronbach's alpha coefficient for a constructivist approach (12 items) was found at 0.80.

Academic Self-Efficacy Scale

Academic self-efficacy is the perception of the individuals for doing academic tasks that have determined the level of success. For this purpose Academic Self-Efficacy Scale was developed by Owen-and Froman (1988) and validity and reliability studies were carried out by Ekici (2012) in Turkey conditions. The scale was applied to 683 university students. It is a five Likert-type scale and contains 33 items. The scale consists three dimensions: social status (the number of items: 10), cognitive practices (the number of items: 19) and technical skills (the number of items: 4). For overall Cronbach alpha reliability coefficient is 0.86. In this study, the Cronbach's alpha coefficient was found at .91.

In this study, arithmetic mean, standard deviation, Pearson product moment correlation coefficient technique was used to determine the correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy. The multiple regression analysis technique was used to examine the strength of procedure of teaching-learning approach to academic self-efficacy. SPSS 18.0 statistical software package was used for the analysis of the data in the study.

FINDINGS

In this part of the research, correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy and the strength of procedure of pre-service teachers' teaching-learning approach to academic self-efficacy is covered

Table1. The mean and standard deviation of scores, students obtained from the scales

Scales	n	$\overline{X}$	ss
Traditional approach	329	3.33	.66
Constructivist approach	329	4.14	.53
Cognitive practices	329	3.42	.63
Social status	329	3.47	.61
Technical skills	329	3.42	.77
Academic Self-Efficacy Scale (Total)	329	3.44	.59

When Table 1 is examined, the mean scores of students constructivist approach (x= 4.14 ± .53), traditional approach mean scores (x= 3.33 ± .66) was found. Students of social status, academic self-efficacy scale Students had mean scores on social status (x= 3.47 ± .61), cognitive applications (x= 3.42 ± .63), technical skills (x= 3.42 ± .77) and total scale (t = 3.44 ± .59) for Academic Self-Efficacy Scale.

Table2. Correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy

	Cognitive practices	Social status	Technical skills	Academic Self-Efficacy Scale
Traditional	r=.086 P=.120	r=.070 P=.151	r=.136* P=.014	r=.118* P=.032
Constructivist	r=.374** P=.000	r=.384** P=.000	r=.185** P=.001	r=.349** P=.000

*p<.05, **p<.01

Referring to Table 2, the correlation between pre-service teachers' teaching-learning approaches and academic self-efficacy was observed statistically significant. According to the results, correlation between cognitive applications and traditional teaching-learning approach (r = .086, p = .120), and social status (r = .070, p = .151), was observed not significant, correlation between technical skills (r = .136, p = .014) and total self-efficacy (r =

.118, p = .032) was a significantly lower level in a positive way. Correlation between subscales, Constructivist-learning approach and cognitive practices (r = .374, p = .000), social status (r = .384, p = .000), technical skills (r = .185, p = .001) and the total academic self-efficacy scale (r = .349, p = .000), was found significantly in a positive way.

Multiple regression analysis was used to examine the strength of procedure of pre-service teachers' teaching-learning approach to academic self-efficacy. There is the strength of procedure of pre-service teachers' teaching-learning approach to academic self-efficacy in Table 3.

Table3. Multiple regression analysis for the prediction of pre service students' academic self-efficacy

Variable	B	Standard error	β	t	p
Fixed	1.494	.282	-	5.296	.000
Traditional approach	.105	.046	.117	2.271	.024
Constructivist approach	.385	.057	.349	6.773	.000

R=368, R^2=.136, F (2,326)=25.564, p=.000

The predictor variables listed in Table 3 and it was found that the teaching-learning approach is a significant predictor of academic self-efficacy (R = .368 R2 = .136, p = .000). It was shown that teaching-learning approach (traditional and constructivist) explained the student's academic self-efficacy approximately 14%. When the teaching-learning approach was analyzed by considering separately, it was concluded that constructivist teaching-learning approach that the predictor variables (constructivist: R = .349 R^2 = .122, F = 45.393 P = .000) was a significant predictor of academic self-efficacy. It was shown that the constructivist approach explained the student's academic self-efficacy 12%. According to the standardized regression coefficients, the predictor variables of the order of importance on academic self-efficacy is; constructivist (β = -. 349) and traditional (β = .117) teaching and learning approaches

CONCLUSIONS

In this study conducted to examine the relationship between physical education and sports teachers' teaching-learning perceptions and their academic self-efficacy, the following conclusions have been obtained.

Participant students' constructivist approach scores average have been found to be higher than the one of traditional approaches. It can be said that students have the constructivist teaching-learning perception. In the objectives, existing for teaching programs of physical education courses in schools, In the first place, it is expected the course to guide and build up students to improve their competency in movement and get the habit of living active and healthy. At the same time, it is stated that, through physical education and sports, students can improve their social and thinking skills as well (MoNE, 2013). In schools, physical education and sport curriculum (instruction programme) principles are based on learning through "physical activities, games and sports" and students' cognitive, affective and psychomotor improvement are handled as a whole. In student-centered environments, students should be given the opportunity to construct their own learning. When educating students, environment and experiences with other people are important. In learning-teaching environments, individual, pair, and group work are provided in a balanced way. During practices, ensuring students to feel safe physically and emotionally is important. Improving creativity, critical and reflective thinking are in the foreground (MoNE, 2013). As we have seen, the principles are arranged in accordance with constructivist approach. Prospective teachers who will give the courses in question should be educated key to constructivist approach which will form a basis for them to implement the curriculum successfully. Faculty members who work in the prospective teacher education are thought to play a major role in educating prospective teachers well qualified if they give lessons with active and student centered learning methods. In this study, the prospective teachers can be said to adopt mainly constructivist teaching-learning approach. When score averages of prospective teachers' academic self-efficacy were examined (= 3.44 ±. 59), it is found to be above average. According to a literature review, in the studies conducted with physical exercise, it is emphasized that, adolescents participating regular exercise programmes make progress in terms of increase in their social competence expectations, a positive improvement in self-esteem, greater success in taking and fulfilling responsibility, also that exercise influence stress and social factors positively (Ryan and Dzewaltowski, 2002; Öztürk and Koparan Şahin, 2007; Cengiz and Ince, 2013).

In the research, positive significant correlations are found out between students' traditional teaching-learning perceptions (r=.118, p = .032), constructivist teaching-learning perceptions (r=.349, p= .000) and their academic self-efficacy. Pursuant to the result, it can be said that, the correlation between students' constructivist approach and their academic self-efficacy is stronger than the correlation between the traditional approach and academic

self-efficacy. Additionally, in the study, it is decided that, students' teaching and learning perceptions are significant predictors of their academic self-efficacy (R= .368, R2=.136, p=.000) and that prospective teachers' constructivist and traditional perceptions, together, predict approximately 14% of the total variance of academic self- efficacy. When teaching- learning perceptions are examined one by one within the traditional and constructivist approaches; it is found that, whereas the traditional approach predicts academic self efficacy 1%, constructivist approach predicts academic self efficacy 12% in proportion. Hereunder, this result shows that constructivist teaching-learning approach is a significant predictor of student academic self efficacy. When relevant literature was reviewed, in an experimental study conducted by Kaya (2014), in choir training provided through constructivist and traditional approaches, students' self-efficacy was found to be higher with choir training course with a constructivist approach than the one with traditional approach. In that study, it was emphasized that constructivist approach which centralize students and encourage them to be active, changed their self-efficacy perceptions positively. This study supports our research.

As a result, positive significant correlations were identified between students' teaching and learning perceptions and their academic self-efficacy. However constructivist approach, compared to the traditional one, can be said to be more efficient in predicting academic self efficacy. Constructivist teaching-and learning approach provides students with the opportunity to understand the world in compliance with their own experiences and attach importance to working together, appreciating multiple perspectives, taking responsibility in learning and individual's self-awareness in constructing knowledge. Constructivist approach, strategies and techniques which make physical education prospective teachers active in courses and improve their psychomotor, cognitive, emotional and social abilities, can be included in the courses which in turn contributes to the improvement of prospective teachers' self-efficacy. Research can be conducted with different large sample groups. Moreover, experimental studies which investigate the relationship between the *courses* designed with traditional and constructivist approaches *and* students' *self efficacy perceptions* towards the course can be carried out.

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THE RELATIONSHIP BETWEEN THE ATTITUDE TOWARDS TEACHING AS A SUBJECT AND TECHNOLOGY PERCEPTION

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ABSTRACT

Education is both the shaper and the shapee of the social life, culture, economy, development, and technology. It is both the subject and the object of the changes and trends, and educators should keep up with those trends and changes to stay alive and fulfil its purpose. In this sense, educators are expected to be on the same line with those changes if the quality of the education is meant. In this study, this expectation was tested by investigating pre-service teachers' attitudes towards teaching as a subject and their perceptions of technology in education via Attitudes towards Teaching as a Subject Scale (Üstüner, 2006) and Technology Perception Scale (Tınmaz, 2004). The study was designed as a quantitative study and junior students' (in four departments: Primary School Science Education, Primary School Education, Turkish Education, Primary School Mathematics Education) attitudes towards teaching as a subject and technology use in education are measured. While analyzing the data collected, SPSS (Statistics Program for Social Sciences) was used. Correlation and regression analyses was used to interpret the data to test if the technology perception of the pre-service teachers could be predicted from their attitudes towards teaching as a subject. It was expected that pre-service teachers eager to teach would be eager to use technology in their classrooms to fulfil the modern education means. As it is a grounded problem that teachers are not willing to use technology in their classrooms, an offering was made with this study where to start to make them more willing to use technology.

Keywords: technology integration, teaching attitude, technology beliefs, pre-service teachers

INTRODUCTION

Students of the era called 'technology' are found to be differentiating from the students of the previous decade in terms of clothing, language, perception, etc., still the most striking different difference of them is found to be their attitude towards technology (Prensky, 2001). Being born after 1980s, students from K-12 to college are described as under the effect of digital and rapidly changing world which started in 1970s (Palfrey & Gasser, 2013). Those students are found to be benefiting the integration of technology into classroom (Alexiou-Ray, Wilsion, Wight & Peirano, 2003). For a better learning environment for students, then, the authorities that could integrate technology into classroom would arrange learning environment and activities accordingly (Bates & Poole, 2003). Indeed, it is expected from institutions or teachers to reformulate their teaching styles accordingly with the learner characteristics (Kemp, Morrison & Ross, 2010). In this sense, it would not be dreaming to expect schools and teachers of 2000s to integrate technology into their classrooms.

Technology integration has been found to be advantageous for students in terms of motivation (Price & Kadi-Hanifi, 2011; Earle, 2002). The students in Detroit received education with two technologies (geographical information system and information assurance) are found to be benefiting technology use as their motivation and learning for science have increased (Xie & Reider, 2014). In an engineering class where metacognition software was used, students in the classroom with technology integration studied more and achieved better than the ones without technology integration (Mazumder, 2012). The study is designed with a pilot study before, and the experimental phase is tested before. The students with technology integration had a higher motivation level than the ones without technology integration. Also, it is found in the research that students without technology integration assessed themselves higher than supposed to be. However, some researchers suggest that it is not always true that all students are motivated by technology (Jacobs, 2012).

Also, it has been found in research that technology integration into classroom has a positive impact on achievement (Hancock, Knezek & Christensen, 2007; Protheroe, 2005; Keengwe & Hussein, 2014). Along with problem solving skills – a substantial element for constructivist approach -, writing skills of the students are found to be benefiting from technology integration into classroom (Lowther, Ross & Morrison, 2003). Also, a general overview of the impact of technology integration on student achievement has concluded that technology integration should be supported by teachers and schools as it brings positive outcomes besides (Cradler, McNabb, Freeman & Burchett, 2002). Instructions for teachers and scholars how to integrate technology has bee explained thoroughly by research (İşman, 2001). However, the authorities to integrate technology into classroom tend to ignore technology integration (Mumtaz, 2000; Fenty&Anderson, 2014). Even in districts like Silicon Valley where technology is expected to be highly used, it is observed that technology integration is not as much as expected (Hernández-Ramos, 2005).

There are numerous studies that signal the integration of technology into classrooms should be done effectively and in a systematic way (Gülbahar, 2007; Bitner & Bitner, 2002; Dockstader, 1999). Researchers note that too much time spent on technology does not affect the achievement positively (Lej & Zhao, 2007). The directive role of the teachers and school administration is regarded highly important for technology integration to be successful in classrooms (Muir-Herzig, 2004). On the other hand, it is reported by some researchers that achievement of students at higher education is not significantly affected by technology use and high-achievers are less satisfied when technology is used (Wurst, Smarkola & Gaffney, 2008). In this sense, teacher's role is rather significant for the way of integrating technology into classroom.

In spite of the positive outcomes of technology integration, the practitioners of technology in the classroom are hesitant about the use of technology (Ritz & Martin, 2013). If teachers do not believe the positive effect of technology integration on the achievement of students, they do not prefer to use it (Wachira, Keengwe & Onchwari, 2008). Another reason teachers are reluctant to use technology is that they lack instruction about how to integrate technology effectively into classroom (Rabah, 2015). In Turkey, it is observed that teachers are found to be incompetent enough to utilize technology in the classroom although technology integration is encouraged by the government and educators (Kurt, 2014). However, it is found that teachers become more effective in integrating technology when they are instructed (Skoretz & Childress, 2013). Thus, pre-service teachers' views and the way they are instructed are highly significant for technology integration.

On the practice of technology integration, one influential element is the beliefs of teachers about technology use in the classroom (Honey & Moeller, 1990). It is not only that teachers use technology when they believe in its effectiveness; moreover, their beliefs are found to be affecting the way of technology integration into the classroom (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012). They integrate technology into classroom the way they regard instruction. It is found in a study in the United States that the teacher beliefs are determinant on the epistemological and instructional conceptions (Kim, Kim, Lee,Spector & DeMeester, 2013). A significant correlation was found in the study between the effective instruction and technology integration. Also, the study suggests that teachers' opinions about teaching conceptions are related with their epistemological views. That is to say, a teacher's opinions about teaching experience are related with his/her way to understand information, teaching practices, and technology integration.

To conclude, as students of this era are called as "native speakers of technology" (Prensky, 2010; Kennedy, Judd, Cruchward, Gray & Krause, 2008) and pre-service teachers are expected to speak in their language to deliver effective instructions, their technology integration beliefs are expected to be related with their attitudes towards teaching. Although the relationship between technology integration and i.success, ii.motivation, iii.teacher beliefs, and iv.effectiveness has been studied thoroughly, the relationship between technology integration beliefs and attitudes towards teaching as a subject has not been studied. Nonetheless, instruction theories and curriculum development programs are based on the features of the learners so that they would enhance the instruction designed according to their needs and skills (Sparmacher, 1950). From this point, this study aimed to illustrate the relationship between technology integration beliefs and attitudes towards teaching as a subject. Although the aspects of motivation and success were studied for students, pre-service teachers and in-service teachers, the investigation of attitudes towards teaching as a subject has been neglected in the literature. Although students are claimed as technology-fonders, the re-definition of teaching experience and attitude has not been studied. In this sense, there were two questions directing this study:

   i.   Is there a relationship between attitude towards teaching as a subject and technology beliefs of pre-service teachers?
   ii. Is the attitude towards teaching as a subject predictable from technology beliefs of pre-service teachers?

THE STUDY

The study was designed as a quantitative study as group dispositions are better illustrated via quantitative methods (Black, 1999). Quantitative studies supply an overlook at the issues and draw the general features or relationships (Neuman, 2005). Among three types of quantitative research (descriptive, explorative and evaluative), explorative quantitative method was chosen as it gives the related features or reasons of a phenomena or issue (Black, 1999) and non-experimental quantitative method was used as the non-intervened attitudes and beliefs were investigated.

Though non-probability sampling, convenient sampling is chosen for this study to save time and energy for the researcher aligned with the 'practicality' element of researches. At the Faculty of Education at a state university in Istanbul, Turkey, 164 3rd year students consisted the sample. The departments of the pre-service teachers in the sample were: Primary School Science Education (36), Social Sciences Education (36), Primary School Education (45), Turkish Education (25), and Primary School Mathematics Education (22). There were 130 female and 34 male students.

For data collection tool, questionnaire is selected for this research because it is efficient in terms of time, cost (Oppenheim, 1992) and identification of the underlying patterns (Bryman, 1988). As the technology integration beliefs and attitudes towards teaching as a subject were investigated, two questionnaires were used to compare these two tendencies. The questionnaire measuring attitudes towards teaching as a subject was a one-dimension scale and developed by Üstüner (2006). The original questionnaire was revised by two other experts and some items were omitted. For this study, Cronbach alpha score of attitudes towards teaching as a subject scale was found .89 (>.60) for 31 items. The questionnaire to measure technology tendencies of pre-service teachers was developed by Tınmaz (2004) as a two-dimension scale. One of the dimensions is 'belief of positive effect of technology' measuring pre-service teachers' beliefs of positive effects of technology integration while the other one is 'effects of undergraduate program' measuring the positive effects of undergraduate program on pre-service teachers' opinions about their technology integration skills. Factor and item analyses were carried out in the pilot test by Tınmaz. Reliability Cronbach alpha score was found as .94 (>.60) for 17 items in the belief of positive effect of technology sub-dimension while the same score was found .90 (>.60) for 11 items in the second sub-dimension of the technology integration scale (effects of undergraduate program) by the researchers. Researchers carried out the data collection themselves and explained the purpose of the study and the way of usage of the data to pre-service teachers before they filled in questionnaires. Two questionnaires were given to pre-service teachers at the same time to prevent any other variable affect the data.

As for the analysis of the data, quantitative methods and tools were benefited. "Statistical Package for the Social Sciences17 (SPSS17)" was used to analyze the data as SPSS gives a clear output of the data and the most often used tool for social sciences (Büyüköztürk, 2013). For the overall investigation of attitudes towards teaching and technology integration belief, descriptive statistics was used with minimum, maximum, mean and standard deviation scores. To measure the relationship between technology integration beliefs and attitudes towards teaching as a subject, Pearson correlation and Regression analyses were used. The assumptions of both tests were ensured.

FINDINGS

The answers of pre-service teachers were entered in SPSS program and data was analyzed according to dimensions of questionnaires. Regardless of their departments, students' answers to items were first analyzed descriptively to reach a comparison of technology and teaching attitudes of pre-service teachers (Table 1). It was observed from descriptive statistics that although with a high standard deviation, mean score of attitudes towards teaching as a subject is much higher than belief of positive effect of technology ($Mean_{teachingattitude}$=111.83 > $Mean_{positiveeffect}$=67.47, $Sd_{teachingattitude}$=22.79 > $Sd_{positiveeffect}$=13.48). The interval of minimum and maximum values of teaching attitude scale was wider than positive effect of technology scale. This showed that pre-service teachers had more different attitudes towards teaching as a subject that their beliefs of positive effects of technology. Also, the sub-dimension of 'effects of undergraduate program' is regarded rather lower than the positive effect belief sub-dimension ($Mean_{positiveeffect}$=67.47 > $Mean_{undergraduateeffect}$=33.42). When looked at the minimum and maximum values of undergraduate program effect on technology integration, the widest value interval was observed. This meant pre-service teachers had the lowest and highest degrees of beliefs of undergraduate positive effect on technology integration skills. It could be concluded that students had a higher positive attitude towards teaching as a subject than they believed in positive effect of technology. However, they did not believe the positive effect of undergraduate program on their technology integration skills.

Table 1: Descriptive Statistics of Two Questionnaires

	N	Minimum	Maximum	Mean	Std. Deviation
Attitudes Towards Teaching as a Subject	163	20.00	151.00	111.8322	22.79800
Belief of Positive Effect of Technology	163	18.00	85.00	67.4785	13.48448
Effects of Undergraduate Program	163	2.00	55.00	33.4214	11.16186

The correlation analysis was carried out with Pearson correlation as the variables were found linear (Büyüköztürk, 2003). When the relationship between attitudes towards teaching as a subject and beliefs of technology integration was analyzed (Table 2), a low correlation was found between attitudes towards teaching as a subject and effects of undergraduate program on technology integration (r=.230<.30, p=.005<.05). Besides, a low and significant correlation was found between attitudes towards teaching as a subject and belief of positive effects of technology on education (r=.184 < .30, p=.025<.05). Although the mean score of effects of undergraduate program was lower than belief of positive effect of technology (Mean$_{positiveeffect}$=67.47 > Mean$_{undergraduateeffect}$=33.42), a higher correlation was found between positive effect of undergraduate program and attitudes towards teaching as a subject. Furthermore, a medium correlation was found between belief of positive effect and effects of undergraduate program (.30>r=.458<.70, p=.000<.05).

Table 2: Correlation of Attitudes towards Teaching as a Subject and Technology Integration Beliefs

		Belief of Positive Effect of Technology	Effects of Undergraduate Program	Attitudes Towards Teaching
Belief of Positive Effect of Technology	Pearson Correlation	1	,458**	,184*
	Sig. (2-tailed)		,000	,025
	N	163	163	163
Effects of Undergraduate Program	Pearson Correlation	,458**	1	,230**
	Sig. (2-tailed)	,000		,005
	N	163	163	163
Attitudes Towards Teaching	Pearson Correlation	,184*	,230**	1
	Sig. (2-tailed)	,025	,005	
	N	163	163	163

As a correlation was found between attitudes towards teaching and technology integration beliefs, regression analysis was available to test the second question of this study. The predictability of attitudes towards teaching as a subject from beliefs of technology integration was tested via linear multi-regression analysis in SPSS17. The assumptions of regression analysis were justified. Although the mean score of effects of undergraduate program was lower than belief of positive effect of technology (Mean$_{positiveeffect}$=67.47 > Mean$_{undergraduateeffect}$=33.42), the predictability of attitudes towards teaching as a subject is possible from beliefs of effects of undergraduate program, not beliefs of positive effect of technology (p$_{positiveeffect}$=.262>.05, p$_{undergraduateeffect}$=.046<.05). Pre-service teachers' beliefs of positive effects of technology over education did not predict their attitudes towards teaching as a subject. However, pre-service teachers' beliefs of undergraduate program effect on technology integration skills predicted their attitudes towards teaching as a subject.

Table 3: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	p	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Belief of Positive Effect of Technology	.171	.152	.103	1.127	.262	.794	1.260
Effects of Undergraduate Program	.378	.188	.184	2.012	.046	.794	1.260

CONCLUSIONS

When the two questionnaires were analyzed descriptively, it was observed that students believed least in the positive effects of undergraduate program on their technology integration skills. When the program in Faculties of Education was analyzed, no course about technology integration was confronted in the university where data was collected. Also, Turkish Republic Higher Education Council Presidency (Türkiye Cumhuriyeti Yüksek Öğretim Kurulu Başkanlığı) does not open a must course about technology integration at universities (2007). Thus, it aws understandable that pre-service teachers did not have high beliefs about the positive effect of undergraduate program on their technology integration skills. However, pre-service teachers' attitudes towards teaching as a subject and their beliefs of positive effects of technology were high as expected.

In addition, technology beliefs of pre-service teachers and their attitudes towards teaching were compared and it was assumed that pre-service teachers would have beliefs that are convenient for the students of this age. From this point of view, pre-service teachers would have positive beliefs of technology as students of this age are called as 'net generation' (Tapscott, 2008). As it is suggested that education should be adjusted according to learner characteristics (Tobias, 1994), it would not be dreaming to expect pre-service teachers have correlated their teaching attitudes with technology integration. However, it was found that there was a low correlation between attitudes towards teaching as a subject and both sub-dimensions of technology integration belief questionnaire.

Belief of positive effect of technology on teaching and education dimension of technology integration scale provided insight of pre-service teachers' opinions about the possible positive effect of technology on their instruction and students' learning. This dimension was correlated with attitudes towards teaching as a subject (r=.184) although this correlation was rather low. Actually, this result showed pre-service teachers did not regard technology integration as a component of their future teaching activities. That was why they did not have a bond between positive effect of technology on education and their attitudes towards teaching as a subject. For the sample of this study, it would be possible to say that they did not regard technology integration as a fundamental part of teaching activity. Or, it also would be possible to state that pre-service teachers did not believe in the positive effects of technology on students' learning as Howard suggests (2013). Another explanation why the correlation between attitudes teaching as a subject and beliefs of positive effects of technology on teaching or student learning would be that pre-service teachers did not regard students of this era as 'native speakers of technology' and thus, they did not see technology integration as a need for education (Bennett, Maton & Kervin, 2008).

Also, a low and significant correlation(r=.230, p=.005) was found between positive effect of undergraduate program and attitudes towards teaching as a subject although it was higher than the correlation between belief of positive effect of technology on education and attitudes towards teaching as a subject. Although there was a need for qualitative analysis to explain this issue, it could be asserted that pre-service teachers saw a relationship between undergraduate program and teaching attitudes. As they learned teaching at university, it is possible that they imaged teaching as a subject according to the education they received at the Faculty of Education. However, as in many studies (Plowman & McPacke, 2013; Fenty & Anderson, 2014; Rehmat & Bailey, 2014) the fact that the correlation was higher for undergraduate program effect could be suggested that pre-service teachers needed a course for technology usage in classrooms to regard technology integration as a part of their subject.

To conclude, although correlation and regression analyses pointed a higher bond between effect of undergraduate program and attitudes towards teaching as a subject, the explanation of this issue needs a further qualitative analysis.

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THE REQUIREMENTS AVAILABILITY OF ACADEMIC ACCREDITATION STANDARDS IN THE COLLEGES OF UNIVERSITY OF BISHA

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ملخص :

تهدف الورقة إلى معرفة مدى تفاوت توافر متطلبات معايير الاعتماد الأكاديمي في كليات جامعة بيشة ومجتمع الدراسة يشمل جميع كليات الجامعة وعددها (17) كلية و تستخدم الدراسة المنهج الوصفي، وأوضحت الدراسة أهمية توافر معايير الاعتماد الأكاديمي، أظهرت الدراسة أهمية توافر معايير الاعتماد الأكاديمي وأهمية العمل على نشر الوصفي العمل على توفير متطلبات المعايير ونشر ثقافة الاعتماد الأكاديمي وأهمية العمل على نشر ثقافة الجودة والتميز في كليات الجامعة، كما أوصت الدراسة بأهمية دراسة المعايير المقترحة لمجتمع جامعة بيشة .

Abstract :

This paper aims to find out the requirements availability of Academic Accreditation Standards in the Colleges of University of Bisha. The study population includes all the seventeen Colleges of the University . The study uses descriptive approach. The study has demonstrated the importance of the availability of standards for Academic Accreditation. The study has recommended the importance of making the standards requirements available , dissemination Academic Accreditation culture as well as spreading the culture of Quality and Excellence culture in the University Colleges. The study also has recommended the importance of studying the proposed standards for the population of the University of Bisha.

Keywords: الجودة ، جامعة بيشة ، الاعتماد الأكاديمي

THE RESEARCH INTO RELATIONSHIPS OF THE PHYSICAL EDUCATION COURSE SPORTSPERSONSHIP BEHAVIORS WITH TENDENCY TO VIOLENCE AND EMPATHATIC ABILITY

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: The aim of this study is to examine relationship between the physical education course sportspersonship behaviors, tendency to violence and empathatic ability for elementary school students

Methods: The sample of study consists of randomly selected 919 elementary school students attending state schools in the province of Erzincan in 2013-2014 academic year (453 female and 466 male). "Physical Education Course Sportspersonship Behavior Scale" (PECSBS) developed by Koç (2013) for elementary school students, "Scale of tendency to violence" developed by (T.C. Başbakanlık Aile Araştırma Kurumu, 1998) and "the scale of Empathatic ability for children" developed by (Yılmaz & Yüksel, 2003) were used in the study. Reliability and validity tests of the scales were done. The scores the students obtained in the scales were reexamined in accordance with independent variables such as their grade level, gender and the type of sports they are interested in most. And relationship between the values of scales was tested. The data collected were analyzed through Mann Whitney U test, Anova, Tukey and Pearson Correlation tests. For the assessment of the data, SPSS 15 and LISREL 8,7 programs were employed.

Results and Discussions: We determined significant differences in physical education course sportspersonship behaviors levels, tendency to violence and empathatic ability in terms of all independent variables. ($p<0.05$). We found that all scale values were affected negatively in those with grade levels, in male students, and in those dealing with individual sports. We determined that sportspersonship levels of the students are significantly related to tendency to violence negatively ($r=-.405$; $p<0.01$), and to empathic ability positively($r= .453$; $p< .01$).

We found that physical education course sportspersonship behaviors levels are significantly related to tendency to violence and empathic levels. We have the conclusion that these relations should be paid attention; the applications should be placed to reduce the tendency to violence and grow empathatic ability in physical education course programs In sportspersonship applications to be designed for physical education course.

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Keywords: physical education

THE RESEARCH OF ADOLESCENTS' BULLYING TENDENCIES IN TERMS OF FAMILY RISK FACTORS AND MULTIDIMENSIONAL LIFE SATISFACTION

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The purpose of this study is to investigate the bullying tendencies of 12-14 years old teenagers in terms of family risk factors and multidimensional life satisfaction. Relational screening model was used in methodology. The target population is 616 secondary school students: 306 girls and 312 boys, 175 from sixth, 226 from seventh, and 215 from eight grades. The instruments in the study are family risk factors scale, multidimensional life satisfaction questionnaire, and bullying tendencies questionnaire. Besides, the statistical techniques used in this research are t-test, one way ANOVA, hierarchical regression analysis and Kruskal Wallis U test. The findings show that the bullying tendencies are high for the students exposing parental violence, witnessing violence between father and mother, having authoritarian parents and alcohol consuming father. Furthermore, male students show more bullying tendencies than female students. At the same time, the gender and multidimensional life satisfaction perception of the students predict 0.20 of their bullying tendencies.

Keywords: Key Words: Bullying, family, life satisfaction

THE RESEARCH OF SECONDARY SCHOOL STUDENTS' SCIENCE EDUCATION SELF-EFFICACY LEVEL

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ABSTRACT
The objective of this research is to look into the science education self-efficacy levels of the secondary school students. In the study, quantitative method of research and relational screening model were used. As a data collection tool, Self-efficacy Scale towards Science and Technology (SESST) developed by Tatar et al. (2009) was used. The sample of the study consists of the students taking education in some public secondary schools in İstanbul. For data analysis, SPSS 20.0 and ANOVA were used. As a result of data analysis, the Science Education self-efficacy levels of secondary school students are found to be at a good level. Science Education self-efficacy levels of secondary school students are not meaningful in terms of gender, whereas it displays a meaningful difference for the class level. However, a meaningful difference has been observed regarding the educational status of parents. The place of the experiments and by whom the experiments are held do not display a meaningful difference, on the other hand the frequency of the experiments and the approach intended for the experiment show a meaningful difference.

INTRODUCTION
Self-efficacy refers to people's judgements about their capability to perform particular tasks and their level of confidence in their skills (Bandura, 1997). The higher a person's self-efficacy is, the greater is the person's ability to cope with challenges (Bandura and Adams, 1977). Self-efficacy also affects people's thoughts, feelings, motivations and actions (Bandura, 1995). As a result of these effects, self-efficacy belief reflected to behaviors, determine the effort people make, their determination and their levels of entrepreneurship (Yalmancı and Aydın, 2014). In recent years, the concept of self-efficacy takes more place in relation to learning and motivation theories, compared to self and self-confidence concepts (Şahin, 2013). One of the most important reasons, self-efficacy belief explains more about performance of the individuals compared to other concepts related to learning (Bong and Skaalvik, 2003; Ferla, Valcke and Cai, 2009). Teachers and students have some believes related to their capabilities in teaching and learning science. This self-perception about their personal skills in science has been suggested as the reason for success along with motivation in science learning environment and the skills for accomplishing required tasks. These type of believes are known as self-efficacy believes and they are different from self-confidence and self-respect that target at certain actions in the future. As all self-efficacy believes including the ones related to science teaching and learning can be shaped, and there is a causative relation for success, it is useful to include them in planning aimed at improving science teaching (Evans, 2014). It is indicated that, studies conducted on self-efficacy belief focus on high school and university students (Usher, 2009). In our country, most of the studies on self-efficacy belief have been carried out on teachers and teacher candidates (Çapri and Çelikkaleli, 2008; Çetin, 2008; Yılmaz and Çimen, 2008; Terzi and Mirasyedioğlu, 2009; Azar, 2010; Coşkun, 2010; Çalışkan, Selçuk and Özcan, 2010; Durdukoca, 2010; Maden, 2010; Yılmaz, Yılmaz and Türk, 2010; İpek and Acuner, 2011). The number studies conducted on secondary school students is very few (Çetin, 2009; Arslan, 2012; Arslan, 2013). As secondary school is a period of time, during which the individual acquires basic science concepts and develops either positive or negative attitude towards science, self-efficacy perceptions of students play an important role in effective science education.

THE PURPOSE OF THE STUDY
The purpose of this study is; studying self-efficacy levels of secondary school students in science. With this aim, the following questions were studied;
1- What are self-efficacy levels of secondary school students in science class?

2- Do self-efficacy levels of students in science vary in relation to; gender, class, educational levels of the mother and the father, where the experiments take place (laboratory or class), who conducts the experiments, experiment frequency, attitude towards experiments (like or dislike of experiments)?

METHODS OF THE STUDY
Quantitative research method has been applied in this study.
Research Model: The research is in relational screening model. In the relational scanning model applied in this study, defining the relationship between special events in order to reach certain goals or the existence of and/or the degree of change between one or two or greater number of variables were studied.
Sample of the Research: 1354 students studying in 6th, 7th and the 8th grade at some public secondary schools in İstanbul make up the sampling of the study. Of the students who participated in this study; 651 (48.1%) are girls, 703 (51.9%) are boys students. 453 (33.5%) of the students study in 6th grade, 441 (32.6%) study in 7th grade and 460 (34.0%) study in 8th grade.
Data Collection Instruments: Self-efficacy Scale towards Science and Technology (SESST) developed by Tatar, Yıldız, Akpınar and Ergin (2009) was used in this study. SESST categorized as the five Likert type, and made up of 27 items is in a three factors structure. The factors of the scale are titled by the researchers as; "Confidence in Science and Technology Ability" (CST), "Coping with Difficulties in Science and Technology" (CDS), "Confidence in Performing Science and Technology Tasks" (CPS).
Analyzing Data: In this study, SPSS 20.0 package program was used for data analysis. One-way ANOVA, independent t-test and Post-hoc test techniques have been conducted to monitor the scores taken from the scales in terms of demographic varieties.

FINDINGS
In this part of the study, the data is discussed and interpreted with regards to the questions of the study.
Question 1: What are self-efficacy levels of secondary school students in science class?
Science class self-efficacy scale score averages have been found as 101.5960 (Table 1).

Table 1: Students' Science Self-efficacy Scale Levels.

Scales	X	SD	SE
"Confidence in Science and Technology Ability" (CST)	57.8560	10.68853	.29047
"Coping with Difficulties in Science and Technology" (CDS)	20.2511	5.25257	.14275
"Confidence in Performing Science and Technology Tasks" (CPS)	23.4889	5.13026	.13942
Total	101.5960	17.28044	.46962

Question 2: Do self-efficacy levels of students in science vary in relation to; gender, class, educational levels of the mother and the father, where the experiments take place (the laboratory or class), who conducts the experiments, experiment frequency, attitude towards experiments (like or dislike of experiments)?

Table 2: t-test results conducted in order to define whether SESST, and the scores from sub factors vary according to the gender variable or not.

Factor	Group	N	X	SD	SE	t-test t	t-test df	t-test p
CST	Girl	651	58.3963	10.09766	.39576	-1.799	1351.092	.072
	Boy	703	57.3556	11.19187	.42211			
CDS	Girl	651	19.9094	5.34468	.20947	2.307	1352	.021
	Boy	703	20.5676	5.14941	.19421			
CPS	Girl	651	24.0077	5.10580	.20011	-3.596	1352	.000
	Boy	703	23.0085	5.10962	.19271			
Total	Girl	651	102.3134	17.41211	.71439	-1.471	1352	.142
	Boy	703	100.9317	17.14322	.64657			

As shown in Table 2, as a result of the t-test applied in order to define whether scores from SESST, and factors show a meaningful difference according to gender variable or not, the difference between arithmetic averages for total scale scores wasn't found as statistically meaningful. For CDS factor, the result was found meaningful in favor of male students and for CPS factor, the result was found meaningful in favor of female students.

As a result of the ANOVA conducted to define whether the total scores from SESST, show a meaningful difference or not according to class variable, arithmetic averages of class groups were found statistically meaningful (Table 3).

Table 3: The results of ANOVA applied in order to define whether the scores from SESST vary according to the gender variable or not.

N, X and SD Values	ANOVA Results

Factor	Group	N	X	SD	Var. K.	SS	df	MS	f	p
CST	6th Grade	453	60.1258	10.38590	Between	3516.879	2	1758.440	15.727	.000
	7th Grade	441	56.6100	11.07546	Within	151056.037	1351	111.811		
	8th Grade	460	56.8152	10.26100	Total	154572.917	1353			
	Total	1354	57.8560	10.68853						
CDS	6th Grade	453	21.0508	5.39375	Between	436.121	2	218.060	7.985	.000
	7th Grade	441	19.8186	5.33460	Within	36892.502	1351	27.308		
	8th Grade	460	19.8783	4.94439	Total	37328.623	1353			
	Total	1354	20.2511	5.25257						
CPS	6th Grade	453	24.6269	4.83258	Between	885.974	2	442.987	17.235	.000
	7th Grade	441	22.8458	5.40402	Within	34724.360	1351	25.703		
	8th Grade	460	22.9848	4.96587	Total	35610.334	1353			
	Total	1354	23.4889	5.13026						
Total	6th Grade	453	105.8035	17.08629	Between	12088.321	2	6044.161	20.834	.000
	7th Grade	441	99.2744	17.29752	Within	391935.697	1351	290.108		
	8th Grade	460	99.6783	16.72072	Total	404024.018	1353			
	Total	1354	101.5960	17.28044						

As group variances are not homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according class variable (L=4.136, L=3.368, L=4.301, L=3.044, p<.05), one of post-hoc analyses techniques, Tamhane test was chosen. As a result of this test, it was found that 6th grade got high scores at a meaningful level compared to 7th and 8th grade students.

As a result of the ANOVA conducted to define whether the total scores from SESST show a meaningful difference or not according to mother's educational level variable, mother educational level arithmetic averages for SESST were found statistically meaningful (Table 4).

Table 4: The results of ANOVA applied in order to define whether the scores from SESST vary according to mother's educational level variable or not.

	N, X and SD Values					**ANOVA Results**				
Factor	Group	N	X	SD	Var. K.	SS	df	MS	f	p
CST	Elementary	389	56.8792	10.63855	Between	2886.490	3	962.163	8.563	.000
	Secondary	455	56.6176	10.55461	Within	151686.426	1350	112.360		
	High school	388	59.4948	10.38372	Total	154572.917	1353			
	University	122	60.3770	11.30737						
	Total	1354	57.8560	10.68853						
CDS	Elementary	389	19.6915	5.08358	Between	788.779	3	262.926	9.714	.000
	Secondary	455	19.6637	5.32212	Within	36539.845	1350	27.067		
	High school	388	21.0284	5.10426	Total	37328.623	1353			
	University	122	21.7541	5.43224						
	Total	1354	20.2511	5.25257						
CPS	Elementary	389	23.4267	5.09426	Between	626.541	3	208.847	8.059	.000
	Secondary	455	22.6637	5.24836	Within	34983.793	1350	25.914		
	High school	388	24.2371	4.99514	Total	35610.334	1353			
	University	122	24.3852	4.76982						
	Total	1354	23.4889	5.13026						
Total	Elementary	389	99.9974	16.60717	Between	11030.219	3	3676.740	12.630	.000
	Secondary	455	98.9451	17.16217	Within	392993.800	1350	291.107		
	High school	388	104.7603	16.74798	Total	404024.018	1353			

University	122	106.5164	15.93069
Total	1354	101.5960	17.06169

As group variances were found homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according mother's educational level variable (L=0.424, L=0.836, L=1.753, L=0.041, p>.05), one of post-hoc analyses techniques, Tukey test was chosen. As a result of this test, it was found that the groups with high school or undergraduate degree holder mothers, scored statistically meaningful higher scores compared to groups with primary and secondary school degree holder mothers.

As a result of the ANOVA conducted to define whether the total scores from SESST, show a meaningful difference or not according to father's educational level variable, father educational level arithmetic averages for SESST were found statistically meaningful (Table 5).

Table 5: The results of ANOVA applied in order to define whether the scores from SESST vary according to father's educational level variable or not.

Factor	Group	N, X and SD Values			ANOVA Results					
		N	X	SD	Var. K.	SS	df	MS	f	p
CST	Elementary	303	57.4719	11.01948	Between	1400.099	3	466.700	4.113	.006
	Secondary	412	56.7184	10.10328	Within	153172.818	1350	113.461		
	High school	432	58.3079	10.63048	Total	154572.917	1353			
	University	207	59.7391	11.20028						
	Total	1354	57.8560	10.68853						
CDS	Elementary	303	20.2277	5.11046	Between	521.152	3	173.717	6.371	.000
	Secondary	412	19.4515	5.06215	Within	36807.471	1350	27.265		
	High school	432	20.5324	5.25797	Total	37328.623	1353			
	University	207	21.2899	5.60539						
	Total	1354	20.2511	5.25257						
CPS	Elementary	303	23.8317	4.93884	Between	347.446	3	115.815	4.434	.004
	Secondary	412	22.7888	5.04689	Within	35262.888	1350	26.121		
	High school	432	23.5718	5.28751	Total	35610.334	1353			
	University	207	24.2077	5.10951						
	Total	1354	23.4889	5.13026						
Total	Elementary	303	101.5314	17.48637	Between	5898.209	3	1966.070	6.667	.000
	Secondary	412	98.9587	16.03633	Within	398125.809	1350	294.908		
	High school	432	102.4120	17.63306	Total	404024.018	1353			
	University	207	105.2367	17.91016						
	Total	1354	101.5960	17.28044						

According to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according to father's educational variable; for total scores without homogenous distribution, Tamhane test was chosen. (L=3.389, p<.05). For sub-factors with homogenous group variances (L=2.279, L=0.583, L=0.219, p>.05) one of the post-hoc analysis techniques, Tukey test was chosen. According to the results of the tests applied for total and for the CDS factor; it was found that groups with high school and undergraduate degree holder fathers, have meaningfully high scores; for CST and CDS factors, only groups with undergraduate degree holder fathers, have meaningfully high scores compared to groups with secondary school degree holder fathers.

As a result of the t-test applied in order to define whether scores from SESST, and factors show a meaningful difference according to the place where the experiments are conducted or not, the difference between arithmetic averages of groups for total scale scores and factors was not found statistically meaningful.

The results of ANOVA that was done in order to define whether the scores from SESST display a meaningful difference according to who conducts the experiments or not, were found to display no meaningful difference for

total scale score, CDS and CPS factors. For the CST factor that's homogenous, (L=2.398, p>.05) one of the post-hoc analysis techniques, Tukey test was chosen. According to this test, making an experiment with class mates in groups, has meaningfully higher scores compared to making experiments on by own or with teachers.

Table 6: The results of ANOVA applied in order to define whether the scores from SESST vary according to with whom the experiments are made variable.

Factor	Group	N	X	SD	Var. K.	SS	df	MS	f	p
		N, X and SD Values				**ANOVA Results**				
CST	Myself	57	57.6491	9.01089	Between	1030.131	2	515.065	4.532	.011
	With group	530	58.9358	10.31927	Within	153542.786	1351	113.651		
	Teacher	767	57.1252	10.99869	Total	154572.917	1353			
	Total	1354	57.8560	10.68853						
CDS	Myself	57	19.0000	5.30162	Between	129.826	2	64.913	2.358	.095
	With group	530	20.1038	5.62759	Within	37198.797	1351	27.534		
	Teacher	767	20.4459	4.96351	Total	37328.623	1353			
	Total	1354	20.2511	5.25257						
CPS	Myself	57	22.0175	6.06362	Between	133.288	2	66.644	2.538	.079
	With group	530	23.4830	5.36641	Within	35477.045	1351	26.260		
	Teacher	767	23.6023	4.87222	Total	35610.334	1353			
	Total	1354	23.4889	5.13026						
Total	Myself	57	98.6667	14.98372	Between	1081.186	2	540.593	1.813	.164
	With group	530	102.5226	17.36499	Within	402942.832	1351	298.255		
	Teacher	767	101.1734	17.36018	Total	404024.018	1353			
	Total	1354	101.5960	17.28044						

As a result of the ANOVA conducted to define whether the total scores from SESST show a meaningful difference or not according to the frequency of the experiments variable, frequency of experiments arithmetic averages for SESST and factor scores were found statistically meaningful (Table 7).

Table 7: The results of ANOVA applied in order to define whether the scores from SESST vary according to the frequency of the experiments.

Factor	Group	N	X	SD	Var. K.	SS.	df	MS	f	p
		N, X and SD Values				**ANOVA Results**				
CST	Always	46	61.0000	11.46201	Between	3085.869	3	1028.623	9.167	.000
	Often	165	60.3091	10.30843	Within	151487.048	1350	112.213		
	Sometimes	922	57.9121	10.35294	Total	154572.917	1353			
	Never	221	55.1357	11.56639						
	Total	1354	57.8560	10.68853						
CDS	Always	46	18.9783	6.18058	Between	440.483	3	146.828	5.373	.001
	Often	165	21.5212	5.44326	Within	36888.141	1350	27.325		
	Sometimes	922	20.2484	5.11880	Total	37328.623	1353			
	Never	221	19.5792	5.29917						
	Total	1354	20.2511	5.25257						
CPS	Always	46	21.9565	6.88301	Between	538.924	3	179.641	6.915	.000
	Often	165	24.3455	5.36890	Within	35071.410	1350	25.979		
	Sometimes	922	23.6800	4.92822	Total	35610.334	1353			
	Never	221	22.3710	5.15380						

	Total	1354	23.4889	5.13026					
	Always	46	101.9348	18.84251	Between	8016.382	3	2672.127	9.109	.000
	Often	165	106.1758	17.27219	Within	396007.637	1350	293.339		
Total	Sometimes	922	101.8406	16.83140	Total	404024.018	1353			
	Never	221	97.0860	17.86176						
	Total	1354	101.5960	17.28044						

As group variances were found homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according to frequency of experiments variable for CST, CDS factors and the total (L=0.746, L=1.620, L=1.141, p>.05), one of post-hoc analyses techniques, Tukey test was chosen. As a result of this test, for all the groups, the ones that make experiments often were found to have meaningfully higher scores compared to those who make sometimes make experiments or makes no experiments. For the CPS factor that doesn't have homogeneous distribution, Tamhane test was chosen (L=5.492, p<.05). According to this; the ones who often or sometimes make experiment were found to have meaningfully higher scores compared to those who never makes experiments.

As a result of the ANOVA conducted to define whether the total scores from SESST, show a meaningful difference or not according to the like or dislike of experiments variable, arithmetic averages of groups for SESST and factor scores were found statistically meaningful (Table 8).

Table 8: The results of ANOVA results applied in order to define whether the scores from SESST vary according to the like or dislike of experiments variable.

	N, X and SD Values				ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**f**	**p**
CST	Yes	1090	58.9881	10.15784	Between	7579.525	2	3789.763	34.831	.000
	No	76	51.2105	13.38488	Within	146993.391	1351	108.803		
	Sometimes	188	53.9787	10.64546	Total	154572.917	1353			
	Total	1354	57.8560	10.68853						
CDS	Yes	1090	20.6541	5.21992	Between	963.147	2	481.573	17.891	.000
	No	76	17.8684	6.05605	Within	36365.477	1351	26.917		
	Sometimes	188	18.8777	4.59143	Total	37328.623	1353			
	Total	1354	20.2511	5.25257						
CPS	Yes	1090	24.1844	4.81293	Between	3377.566	2	1688.783	70.783	.000
	No	76	18.1053	5.78637	Within	32232.768	1351	23.858		
	Sometimes	188	21.6330	4.90317	Total	35610.334	1353			
	Total	1354	23.4889	5.13026						
Total	Yes	1090	103.8266	16.57191	Between	30703.390	2	15351.695	55.556	.000
	No	76	87.1842	18.03383	Within	373320.628	1351	276.329		
	Sometimes	188	94.4894	16.32867	Total	404024.018	1353			
	Total	1354	101.5960	17.28044						

As group variances were found homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according to like or dislike of experiments variable for the CPS factor and the total group variances, (L=2.460, L=0.466, p<.05), one of post-hoc analysis techniques, Tukey test was chosen. As group variances were not homogenous for CST and CDS factors (L=5.761, L=6.159, p>.05) Tamhane test was selected. As a result of these tests, for total and sub factors, the group who said "yes" to the question if they like experiments was found to have meaningfully high level of scores compared to the groups that said "no" or "sometimes".

CONCLUSIONS

In this study, whether Science Self-efficacy Levels of secondary school students vary according to various variables or not was studied. First of all, it was found that, self-efficacy levels of secondary school students in general total don't vary according to gender, on the other hand, it was found that, it varies in CDS factor in favor of male students, while in CPS factor, it varies in favor of female students. While the finding that self-efficacy doesn't vary according to gender displays similarity to some studies (Chu, 2003; Altunçekiç, Yaman and Koray,

2005; Çakır, 2005; Gerçek, Yılmaz, Köseoğlu and Soran, 2006; Şahin, Gülay Ogelman and Ekici, 2011; Kıran and Sungur, 2012), there are findings of some studies that show that there is difference between male and female students (Britner and Pajares, 2006; Üredi and Üredi, 2006; Joet, Usher and Bressoux, 2011). Britner and Pajares (2006) studied science self-efficacy of secondary school students and found out that female students have higher self-efficacy. According to the findings, science self-efficacy of secondary school students decreases from first years to the last years. It is a very interesting result that self-efficacy levels of 6th grade students are the highest, and it decreases to lower levels in 8th grade. This means that, over time students are losing their self-confidence in solving a problem when they face with a challenge. The reason for this, is thought to be graduation anxiety of last grade students and the preparation stress for Transition from Primary Education to Secondary Education (TEOG) exam. Schunk and Pajares (2001) expressed that, school programs make students acquire some skills and as class-level increases, these skills develop, so self-efficacy levels of students should increase over time as well. In studies conducted by Karaaslan and Sungur (2011); it was reported that gender and class level doesn't have an effect on primary school 5th-8th grade students' science self-efficacy belief that can make a meaningful difference. In this study, it is seen that as mother-father education level increases, students' self-efficacy levels increase. When the support mother and father educational status provides to students is taken into account, it is regarded as one of the most important variables that explain, self-efficacy believes of students. According to the results of the study, the place where the experiments take place (laboratory or class) isn't important for students, and making experiments as group work is more important for students than who makes the experiments. In terms of frequency of experiments, it was found that, experiments must be made more often. It was also found as a result of this study that students enjoy making experiments. One of the most important aims of science education is, to bring the complexity of the natural world or its problems to classroom or laboratory environment, teach students how to deal with these challenges and by repeating these applications often, reflecting this knowledge and success at school, to daily life, and ensuring that students are individuals who believe in themselves and have high self-efficacy levels. As indicated in other studies, self-efficacy perception is a feature that needs attention (Koray, 2003; Yaman, 2003). Individuals with highest level of self-efficacy perception about any situation, make more effort to accomplish any task they undertake. When they face with obstacles, they fight until they resolve the problem (Dorman, 2001; Ritter, Boone and Rubba, 2001). Today, as in all fields, in science education, it is very important that students have high levels of self-efficacy.

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ROLE DE L'APPRENTISSAGE ORGANISATIONNEL DANS L'AMELIORATION DE LA PERFORMANCE PEDAGOGIQUE AU SEIN DE L'UNIVERSITE MAROCAINE

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Depuis la mise en œuvre de la réforme universitaire en 2003, les Universités Marocaines sont à la recherche de nouvelles approches pour améliorer la performance pédagogique, permettant, au-delà de l'amélioration la qualité de formation, de les doter de nouveaux outils stratégiques pour augmenter le rendement interne et externe du système universitaire marocain. Dans ce contexte organisationnel, notre article propose un modèle du processus de l'Apprentissage Organisationnel.
 Nous allons montrer les apports stratégiques de ce modèle dans l'amélioration de la performance pédagogique notamment en ce qui concerne le partage des expériences entre les enseignants chercheur, le pilotage du système national de l'enseignement, et l'évaluation permanente des activités pédagogique.

MOTS CLES : Apprentissage Organisationnel, Performance Pédagogique, Evaluation, Partage des Expériences, Pilotage.

ABSTRACT

Ever since the implementation of 2003 university reform, Moroccan universities have been looking for new approaches to improve pedagogical performance allowing, further than the improvement of the training quality, the adoption of strategic tools to enhance the internal and external profitability of the Moroccan higher education system.
Within this organizational context, this contribution proposes a model of processing organizational learning. It will be centered on showing the strategic parameters of this model in the improvement of pedagogical performance, namely in terms of sharing experiential knowledge among professors/researchers, piloting of the national teaching system and the permanent evaluation of pedagogical activities.

Keywords: Organizational learning/Pedagogical performance/Evaluation/Experiential sharing/Piloting.

INTRODUCTION

Le pilotage par la performance représente un des leviers le plus important de la réforme universitaire engagée par le Maroc qui a pour ambition de passer d'une logique de moyens à une logique de résultats. La réussite du changement nécessite l'intégration de nouvelles méthodes de management, issues en majorité des méthodes managériales des entreprises. Dans cette perspective, le volet pédagogique représente la pierre angulaire du changement et constitue le chantier le plus important à mettre en œuvre dans l'université marocaine. Dans le cadre de la réforme 2003, le législateur marocain à doté l'université marocaine d'une autonomie élargie avec des nouvelles missions notamment sur le plan pédagogique. A cet égard, les universités marocains sont appelées à adopter de nouvelles modalités de gestion pour le pilotage et l'amélioration de la performance pédagogique. Ces modalités doivent être basées sur l'efficacité et l'efficience dans le cadre d'un contexte caractérisé par un taux d'encadrement pédagogique très faible. Actuellement, douze ans après la mise en œuvre de la réforme universitaire, comment se trouvent les universités marocaines par apport aux objectifs de la réforme? Quelles sont alors les voies d'accès à l'efficacité et l'efficience qui leur permettent de développer leur performance pédagogique? Deux objectifs fondamentaux encadrent notre recherche : le premier objectif consiste à évaluer l'impact des mesures adoptées dans le cadre des réformes universitaires pour améliorer la performance pédagogique. Le deuxième objectif repose sur l'intégration d'un outil en management stratégique pour piloter et améliorer les activités de l'enseignement au sein de l'université marocaine.

METHODOLOGIE DE RECHERCHE

En tenant compte de nos investigations, nous avons opté pour la problématique suivante : Comment piloter et améliorer la performance pédagogique de l'université marocaine à l'ère des réformes? En vue d'apporter les éléments de réponse, deux hypothèses principales orientent notre recherche. Hypothèse n°1 : les nouvelles approches pédagogiques adoptées dans le cadre de la réforme universitaire au Maroc portent les germes de son

inefficacité et entravent l'amélioration du rendement interne et externe. Hypothèse n°2: Les ressources humaines, clef de voute de tout projet de changement, ne sont pas mises au centre des visions et des politiques des universités. Elles sont reconnues dans les écrits mais marginalisées dans les faits. Pour vérifier la validité de ces deux hypothèses, nous avons opté pour une recherche analytique et exploratrice axée sur trois étapes. La première étape a pour objectif de dévoiler les principales démarches managériales introduites dans le volet pédagogique. Nous identifierons les facteurs organisationnels qui ont entravé la performance pédagogique. La deuxième étape consiste à étudier les fondements théoriques du management des connaissances et principalement l'apprentissage organisationnel pour montrer l'importance de ce processus dans l'amélioration de performance pédagogique. La troisième étape sera focalisée sur la conception d'un modèle de l'apprentissage organisationnel adapté avec les caractéristiques spécifique de l'Université marocaine.

LA PERFORMANCE PEDAGOGIQUE A L'ERE DES REFORMES: DEMARCHES ET LIMITES :

Principales mesures adoptées dans le cadre de la Réforme de 2003:

La réforme de 2003 a introduit de nouvelles pour améliorer la performance pédagogique des universités marocaines. A cet égard, la loi 01-00 portant l'organisation de l'enseignement au Maroc a mis en place un dispositif qui s'articule autour de trois axes fondamentaux. Le premier axe consiste à instaurer un système d'accréditation des formations. Cette démarche s'est traduite principalement par l'organisation de l'enseignement en système modulaire, organisé en cycles, en programmes d'études, en semestres, avec des possibilités de mobilité entre les programmes d'études et les établissements d'enseignement supérieur dans le cadre des passerelles. Le deuxième axe consiste à mettre en place un système global d'évaluation de l'ensemble du système. Le troisième et dernier axe, consiste à créer des instances nationales pour l'évaluation et la régulation de l'enseignement supérieur au Maroc bénéficiant de l'autonomie et de l'indépendance nécessaires, notamment l'Instance Nationale d'Evaluation et un observatoire pour l'adéquation des enseignements supérieurs à l'environnement économique et professionnel. Et dans l'objectif de coordonner les différents aspects pédagogiques, il a été décidé de créer la Commission Nationale de Coordination de l'enseignement supérieur.

Plan d'Urgence (2009-2012): vers le pilotage de la performance pédagogique :

Pour accélérer l'opérationnalisation de la réforme universitaire notamment sur le plan pédagogique, le Maroc s'est lancé dans un projet de mise à niveau, il s'agit du "Plan d'urgence". Pour cela, l'élaboration du plan d'urgence a pris en considération plusieurs paramètres qui ont été négligés dans la réforme précédente. A ce titre, ce projet a défini clairement la responsabilité de chaque acteur, ainsi que les objectifs escomptés durant toute sa période, et ce, à travers la mise en place d'un référentiel des indicateurs. De même, la mise en œuvre de ce plan, s'appuie sur un mode de pilotage basé sur les projets, constitue une innovation en rupture avec les approches passées de gestion des projets et programmes. Dans ce programme, le Maroc a opté pour une approche globale en vue de résoudre de nombreux problèmes que rencontre le secteur de l'éducation au Maroc et qui nécessitent des actions rapides en vue d'améliorer l'efficience et la qualité du système éducatif notamment le volet pédagogique. Les principaux engagements des universités dans le cadre de leurs contrats pour la période 2009-2012, ont concerné essentiellement l'extension et la mise à niveau des infrastructures universitaires, le développement et la diversification de l'offre de formation et son orientation vers les domaines professionnelles, ainsi que l'amélioration de la qualité des formations universitaires et de l'efficacité du système d'enseignement universitaire en termes de rendement interne et externe.

Limites et dysfonctionnement des mesures adoptées:

Malgré les efforts déployés par le Maroc pour améliorer la performance pédagogique dans le cadre des réformes, l'université marocaine semble toujours incapable pour piloter et améliorer sa performance pédagogique. Les pratiques évaluatives semblent en retard par rapport aux orientations affichées par les multiples changements qui affectent le système d'enseignement (Akrim et al, 2006). Ce constat fait l'objet d'un débat auprès des parties prenantes et les responsables dans le système de l'enseignement supérieur marocain. Certaines d'eux, pensent qu'il serait judicieux de créer des instances autonomes et indépendantes qui seraient chargées de l'évaluation du système universitaire dans son ensemble, selon des référentiels de qualité alignés sur les standards européens et internationaux (Benabdellah, 2004). Il faut souligner également que si l'assurance qualité est un outil indispensable pour le développement de la stratégie au sein des organisations, elle est également un facteur clé du sucées qui permet la conduite du changement. Nous croyons que l'université marocaine a besoin plus que jamais d'instaurer un système de management de qualité pour accompagner les changements sur le plan pédagogique et répondre aux besoins croissants de la société marocaine. Ce système devrait prendre en considération plusieurs facteurs notamment le facteur humain.

Pour les limites relatives au Plan d'Urgence, et en attendant la publication du rapport final, nous pensons que le référentiel des indicateurs mis en place n'a pas permet pas à l'université marocaine de piloter efficacement la réforme universitaire, et ce, pour au moins deux raisons essentielles. Premièrement, les indicateurs mis en place pour piloter l'aspect pédagogique, ne peuvent fonctionner correctement en l'absence d'un cadre général de pilotage à savoir, une approche processus et des tableaux de bord adéquats pour l'enseignement supérieur marocain. L'absence de ces outils de qualité limite le rôle de ces indicateurs de pilotage dans une fonction qui permet aux universités marocaines de dégager des données quantitatives sur le taux d'encadrement (Elkachradi et al, 2014). La réalisation des objectifs escomptés dans le cadre du plan d'urgence nécessite l'adoption des systèmes de management stratégiques qui combinent aussi bien entre le management par la qualité et le management des Ressources Humaines. Pour ce cela, notre choix porte sur l'intégration du processus de l'Apprentissage Organisationnel dans la gouvernance de l'université marocaine.

Apprentissage organisationnel dans les etablissements de l'enseignement: etat de l'art :

Les théories de l'Apprentissage Organisationnel sont issues principalement des sciences cognitives notamment avec les travaux de J. Piaget. A travers les théoriciens des sciences de la gestion, elles se sont orientées vers les organisations. Dans les années 1950, H. Simon, a initié à la transposition de la notion d'apprentissage de l'individu vers les organisations (Koenig, 1996). Cette situation évolue entre la fin des années 80 et le début des années 90, avec l'apparition du "Knowledge Management" et l'émergence des Nouvelles Technologies de l'Information et de la Communication (N.T.I.C) promettaient de révolutionner à la fois la conception de l'entreprise et l'approche de la connaissance (Cayla, 2007). Dix ans après, alors que dans les années 2000, les recherches théoriques relatives à ce concept se sont allongées, la même tendance est faite par (Boerner et al, 2001) qui considère que l'un des principaux moyens par lequel les individus innovent et changent : l'apprentissage". Dans ce contexte théorique, quel rôle pourra jouer cet outil stratégique dans l'amélioration de la performance pédagogique ?

Apprentissage Organisationnel comme processus de la Gestion et Capitalisation des Connaissances

Avec les différents changements que subit l'université marocaine, la Gestion des connaissances prend de plus en plus d'importance (Elkachradi, 2013). Les organisations universitaires ont toujours géré un certain savoir, même si elles n'employaient pas jusque-là l'expression "Gestion de Connaissances". En tenant compte l'évolution théorique de l'Apprentissage Organisationnel, on pourrait s'interroger sur le rôle de ce processus dans la Gestion et la Capitalisation des Connaissances dans l'université marocaine? G. Huber considère l'apprentissage organisationnel comme un processus par lequel une unité de l'entreprise acquiert des savoirs potentiellement utiles à l'organisation et grâce auxquels l'entreprise élargit son répertoire de comportements possibles (Huber, 1991). Dans la même tendance, D. Kolb exige deux conditions pour que l'organisation puisse profiter de ses connaissances : être capable de procéder à la production et l'acquisition de connaissances exprimées par les individus, et être capable de capitaliser ces connaissances de façon optimale. Mais comment les universités peuvent capitaliser leurs connaissances ? Pour l'organisation qui désire capitaliser ses connaissances, M. Cohen estime qu'elle doit initialement procéder à constituer une mémoire organisationnelle, cette mémoire constitue un mécanisme de traitement, de stockage, de création et d'actualisation des informations, permettant aux entreprises de capitaliser leurs acquis informationnels et d'assister l'apprentissage organisationnel (Cohen, 1991). Pour M. Girod, il y a trois niveaux de mémoire organisationnelle (Girod, 1995) : Un niveau individuel, un niveau collectif non centralisé de la mémoire organisationnelle : ces mémoires collectives sont la conséquence des interactions entre des mémoires individuelles et émergent d'échanges, de communication entre deux ou plusieurs personnes, pouvant déboucher sur une interprétation commune permettant la prise de décisions. Un niveau centralisé, dès lors que la mémoire collective atteint tous les acteurs de l'organisation, elle devient coordonnée et centralisée, ce qui est le cas lors de l'existence d'une banque de données ou d'un document consultable par tous. L'université doit donc se doter des outils de gestion et de capitalisation des connaissances adéquats pour mesurer l'avancée pédagogique selon ces trois niveaux.

Apprentissage Organisationnel comme processus de Conduite du Changement :

Pour l'université marocaine, la charte de l'éducation de formation, sollicite l'université à répondre aux nouvelles attentes des différents acteurs de la formation. Cela a initié une réforme profonde en ce qui concerne les pratiques pédagogiques et les modalités d'intervention des différents acteurs de la formation. A cet égard, l'absence des outils stratégiques dans les universités marocaines constitue un handicap majeur pour conduire le changement. Quel est le rôle de l'Apprentissage Organisationnel dans la conduite du changement au sein des établissements de formation? L'apprentissage et le changement organisationnels sont désormais les seules

sources davantage concurrentielles soutenables". (Saïas, 1992). Cette affirmation confirme l'étroite relation entre l'apprentissage organisationnel et le changement organisationnel. A cet égard, deux critères peuvent caractériser les changements (Autissier, 2003), le critère de l'intentionnalité : volontaire / imposé et le critère de la temporalité : brutal/progressif. Dans la même tendance, l'apprentissage organisationnel a été considéré comme étant la capacité d'une institution à agir en reconnaissant, en tant qu'entité, ses erreurs et de les corriger. De plus, elle doit être en mesure de changer ses bases de savoir et de valeur afin de générer de nouvelles compétences d'action et de nouvelles prises de décisions" (Probst, 1995).. Dans le même contexte, l'Apprentissage Organisationnel est un moyen par lequel l'organisation accroît son potentiel de survie grâce à sa capacité de négocier les changements de l'environnement (Bennis, 1985). En tenant compte ces apports théoriques, nous allons proposer un modèle du processus de l'Apprentissage Organisationnel adapté avec le contexte universitaire et destiné pour piloter et améliorer les activités de l'Enseignement.

CONCEPTION D'UN MODÉLE D'APPRENTISSAGE ORGANISATIONNEL POUR AMÉLIORER LA PERFORMANCE PÉDAGOGIQUE.

Notre objectif consiste à intégrer les principes de management des connaissances dans les activités de l'enseignement. La maîtrise de ces activités implique la manipulation d'informations et de connaissances. A partir de ces ressources, de nouvelles connaissances sont produites, pour devenir, elles mêmes, les ressources de nouvelles recherches (Jaime, 2004). Notre modèle proposé s'articule autour de trois éléments fondamentaux à savoir : la mise en place d'une démarche Qualité, les activités corrélées du processus, et enfin l'instauration d'un système de pilotage pour le bon fonctionnement du processus (Elkachradi, 2013).

Conception d'un modèle de l'Apprentissage organisation pour l'Université marocaine
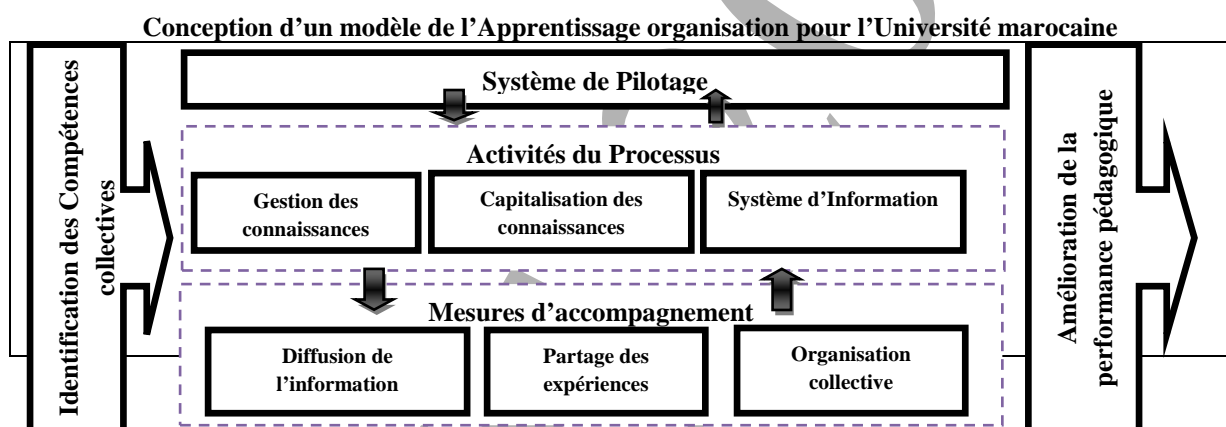
Mise en place d'une Démarche Qualité au sein de l'Université Marocaine

L'Association Française de Normalisation propose, aux organismes de l'enseignement supérieur voulant s'engager dans une démarche qualité, d'établir des dispositifs pour maintenir la qualité de l'activité pédagogique pendant tout le processus d'élaboration des formations jusqu'à la validation des résultats. D'un autre coté, la norme ISO 9001V2008 préconise la distinction entre les processus métier proprement dit, les processus de support et les processus de pilotage et du management. En s'appuyant sur cette répartition, nous proposons une cartographie de processus adapté avec le contexte organisationnel de l'université marocaine (Elkachradi 2013).

Cartographie des processus de l'Université selon la norme ISO 9001V2008

Processus Pilotage et Management		
P Système de pilotage	Définition des axes	Fonctionnement des Instances
M M. Compétences	Apprentissage Organisationnel	SMQ

Processus Métiers		
E Elaboration des formations	Réalisation des formations	Evaluation et REX
R Structuration	Partage des expériences	Valorisation de la Recherche
I Orientation des Etudiants	Partenariat	Insertion professionnelle

Processus Supports	
Gestion de scolarité	Gestion informatique et S.I
Fonction R.H	Gestion financière

Selon cette cartographie, le processus métier Enseignement est dédié à produire et à valoriser les formations. En plus du processus de la recherche scientifique et de l'insertion, ce processus constitue les fondations du métier d'enseignant-chercheur. En effet, un enseignant chercheur ne peut justifier sa vie professionnelle que par le principe de capitalisation des connaissances. Ces connaissances n'ont de valeur que si elles sont qualifiées, validées, référencées, contrôlées par des experts. Aujourd'hui, la difficulté porte sur la capacité à accéder à la bonne connaissance au bon moment, juste à temps. Les notions de référentiel, d'archivage, de classement, de qualification, de processus de repérage de ce qu'est la connaissance viable sont essentielles, car beaucoup de connaissances ne sont pas formalisées.

IDENTIFICATION DES ACTIVITES CORRELES DU PROCESSUS APPRENTISSAGE ORGANISATIONNEL

Afin de doter le modèle proposé d'une valeur ajoutée pour transformer les éléments d'entrées aux éléments de sorties, nous avons proposé trois activités corrélées. La première activité consiste à mettre en place un système de capitalisation des connaissances La capitalisation des connaissances est un processus qui vise à sauvegarder les connaissances acquises par les Enseignants dans la pratique quotidienne de leur activité dans une organisation. Le savoir-faire et le retour d'expérience sont les éléments essentiels pour une meilleure capitalisation des connaissances. Si ce concept constitue aujourd'hui un thème d'étude très répandu, sa pertinence nous semble accrue dans les activités pédagogiques et ceci pour deux raisons principales : d'une part, ce sont les universités qui produisent le savoir à travers les compétences dont elles disposent et les activités de l'expertise. D'autre part, pour répondre à une injonction d'innovation dans le cadre de la réforme mais également pour réponde aux nouvelles exigences du plan d'urgence. Afin de procéder à la capitalisation des connaissances, les gestionnaires des établissements sont appelés à instaurer des pratiques de travail plus participatives, et motivantes pour chacun des membres de leurs équipes. Cette pratique permet aux universités de répondre à une question fondamentale : comment tirer bénéfice de l'expérience accumulée dans l'enseignement. La deuxième activité consiste à instaurer une structure de gestion des connaissances. La mise en place d'un projet de gestion des connaissances requiert une approche unifiée tant sur " les organisationnels, les managériaux, les humains, les techniques et les stratégiques" (Chfiqi et al, 2007). De même, à travers l'instauration d'une démarche de gestion des connaissances, l'université marocaine peut considérer cet atout comme un avantage concurrentiel dynamique qu'il devrait pérenniser tout en s'appuyant sur les nouvelles approches de stratégies fondées sur le savoir. La mise en application d'une démarche axée sur la gestion des connaissances doit être également conçue dans un esprit d'ouverture et d'implication de toutes les structures pédagogiques pour atteindre les résultats escomptés. Cela veut dire, donner plus de responsabilité aux acteurs de l'enseignement tout en lui adoptant un cadre officiel pour sa mise en œuvre. Dans cette vision, nous considérons que le Maroc a introduit cette démarche dans la réforme en dotant les universités des instances délibératives avec des attributions élargies. Si le volet

pédagogique s'intéresse aux individus pour améliorer la productivité et l'innovation, la gestion des connaissances utilise certains de ses principes pour les appliquer surtout aux groupes et à leurs connaissances (Chfiqi, et al 2007).

Quant à la troisième activité consiste à mettre en place d'un système d'information pour la mise en application de la gestion et la capitalisation des connaissances, les universités marocaines devront mettre en place un système d'information. Cette démarche a pour objectif de gérer efficacement le capital humain de l'université à travers la capitalisation du savoir faire de chaque chercheur notamment ses caractéristiques personnelles, ses compétences et les capacités professionnelles. Nous pensons que la mise en place d'un système d'information n'a de réelle valeur ajoutée que s'il est vu dans le cadre d'un besoin stratégique. A ce sujet, la conception de ce système devrait prendre en considération les orientations stratégiques de chaque université en matière des formations. Pour la conception de ce système d'information l'université marocaine doit procéder à une réorganisation profonde des processus pédagogiques axée sur le management des connaissances.

CONCLUSION

A partir des résultats de notre investigation, nous pensons que la conduite du changement dans les universités marocaines, notamment sur le plan pédagogique, passe par le développement de leurs compétences aussi bien sur le plan individuel que sur le plan collectif. Les universités marocaines sont appelées à franchir le pas vers une gestion stratégique basée sur le développement du management des connaissances. La mise en place de cette approche permettra de développer les compétences collectives de l'ensemble des enseignants chercheurs tout en offrant les moyens nécessaires pour faire preuve de leur professionnalisme. Dans ce sens, la gestion des connaissances est un moyen qui permet à l'université d'agir au moins sur deux leviers fondamentaux. Le premier levier consiste à améliorer la gestion des compétences et remédier aux pertes de ces compétences sur le plan individuel et collectif. Deuxième levier concerne l'amélioration de la productivité, ce levier vise la réduction de la durée du traitement des tâches et l'accélération du processus de prise de décision. Ces résultats peuvent être obtenus en agissant sur la réactivité des enseignants de l'université.

Il nous semble aussi important de mettre le facteur humain au centre de tout projet de réforme de l'université marocaine, et de le considérer comme étant un levier stratégique pour une meilleure conduite de changement. D'un autre côté, nous proposons d'évaluer l'impact du plan d'urgence sur le pilotage de la performance des universités marocaines. Cette démarche servira d'après les résultats de notre recherche de capitaliser les points forts de ce plan, et procéder à l'amélioration des points faibles pour entamer des actions correctives dans la nouvelle ère de réforme (2013-2016).

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THE ROLE OF TALENT IN DENTAL EDUCATION

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In order to improve the manipulative skills of dentistry, students have to carve the exact replica of the original tooth from wax blocks. Students who think to take up dentistry as a profession, concerned about their carving ability and weather they could manage to perform tooth models. Really, is there any relation between talent in hand craft and success in dentistry education? This study was performed in order to answer this question. First midterm and final exam scores of "Tooth Manipulation" lesson were used in order to evaluate success in dental practical education. Talent in hand craft was evaluated with the scores given by two art teachers for drawings of same students'. Results showed that, students evaluated as "talented" has had higher scores for the first midterm exam; however, this was not valid for the final exam that there was no difference between "talented" and "ordinary" students. Talent in hand craft provides an advantage for the initial terms of education. However, by making more practice, ordinary students improve themselves.

Keywords: dental education

THE SCHOOL ROUTINE IN THE BRAZILIAN JOURNAL IN EDUCATIONAL STUDIES (1984-2014)

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ABSTRACT

The objective of this present research aims to investigate what the authors have written and analyzed about the school routine in Brazil between 1984-2014 through the publications published by the *Revista Brasileira de Estudos e Pedagógicos (*Journal of Pedagogical Studies) magazine. Thus, a mapping and analysis of the articles - published by the mentioned magazine – was done, related to the theme. A total of 79 articles were selected for this work. They indicate a fact: the importance that the researchers have given to the study of school routine. The analysis shows that the studies dealt primarily with Elementary Education and Teaching Practice with a focus on the teachers.

Keywords: Documental Research, Magazines, School Routine, Teachers Training.

INTRODUCTION

The objective of this research is to investigate what the authors have written and analyzed about the school routine in Brazil between 1984-2014 by mapping and analysis of editions of the published productions of Revista Brasileira de Estudos e Pedagógicos (RBEP). The option of doing a research in the Revista Brasileira de Estudos e Pedagógicos is justified as the journal totals a long historical period.

The magazine was founded in 1944, and in July 2014 completed 70 years of existence, every four months it is edited by the Instituto Nacional de Estudos Pedagógicos do Ministério da Educação e Cultura do Brasi (Pedagogical Studies of the Ministry of Education and Culture of Brazil). It is the oldest journal of educational research organized by the federal government in circulation in the country and aims to expose and discuss general questions relating to education through unpublished articles resulting from studies, research and experiences related to educational area and alike. The main objectives of the journal are: to promote research and surveys, organizing documents relating to the history of education, approaching educational institutions of the country and abroad, provide technical assistance to all instances, whether they are private, municipal or state education and mainly disseminate the pedagogical studies. (RBEP / EDITORIAL, 1944, pp. 5-6).

We assume that the articles published in the journal portray the major concerns that have permeated the school routine during these years. Although the routine of a school has never identical to another, there are several common elements between the school units that unifies them, so that present issues in a school unit are present elsewhere and are broadcast in articles, research reports and educators and researchers in the education area in Brazil. Thus, it is expected that this study be constituted as an element that contributes to the action of the teacher and the school management to be focused on the routine of schools.

CONCERNING THE SCHOOL ROUTINE

The school is the workspace where many freshmen start their journey when they leave university; where students learn to read and write, count and subtract; a space where they learn about philosophy, arts, history, geography, etc.; where parents or guardians seek to provide teachings to their children. The school is also the place where intra-school factors (such as differences in educational and pedagogical practices, type of relationship between teacher and student, interdisciplinary relationships in the classroom, discipline, curriculum, evaluation designs) and extra school (as social and income inequalities) are present. In other words, the school is a social space where there is a correlation between macro-social relations (originated at social level) and microsocial (originated at school level) resulting in multiplicities and complexities in its routine. Besides that the school routine is not something permanent and immutable, however, it is ever-changing. Educational policies that are being implemented, the changes in the contemporary human being's life, the way the school has been recognized in today's society, and the exclusion mechanisms that are present in schools modify its routine.

The first studies developed for school routine started up in the United States, with a research of Stake (1983a, 1983b) that contributed to add the need for observation of what occurs in the school routine.

Within these studies, Stake states the importance of observing the school routine, providing practical supports to analyze qualitative data. For the author, it is important to analyze both what is common as it is to a particular situation, in addition to historical aspects and the political and economic contexts in which this fact occurs.

In Brazil, researches made by Alves, André, Candau and Penin became reference in the subject in the country.

Alves (2000, 2003) seeks to relate the study of school routine exposed in classroom events, to the sociocultural dimension, which consequently refers to sociopolitical issues. Thus, according to her, studies on the school routine should be focused on all the complexity present in the school that imbricates micro with macro social issues.

For André (2004, 2008), studies in the area should focus on the social relations that are configured in this space. For him, the subjective/personal, institutional/organizational, instructional/relational and socio-political dimensions, are intertwined with each other and allow - when analyzed – to understand the social relations expressed in the school routine. The main objective of these four dimensions is that the researcher never forget the complexity and interrelationships in an investigation of everyday teaching practice. To do a search of the school routine, in the school routine and on the school routine, André (2008) suggests as a methodological basis, ethnographic research participant observation, interviews and direct contact of the researcher with the researched situation.

According Penin (1989) it is under a daily analysis that the actions of individuals can be best understood and move constitutive processes of school reality, in order to be transformed.

Under a intercultural perspective that consists in one of the dimensions present in the school routine, Candau (2002, 2008, 2011) points to the importance of analyzing the social and cultural groups that interact and act in the schools routine and the conflicts faced in schools from sociocultural and economic inequalities. As per Candau (2011), the school routine is the space of equalities and differences.

All this indicates that the school routine is complex, multiple, fragmented and multifaceted is a privileged space to understand: the practice of teaching, the teaching / learning process; conflicts between individuals; the practice of public management; the relations teacher / student; and how the knowledge of the area is linked. Given this complexity, then the dimensions in school routine, we understand that its analysis through periodic, allows tangency it in all its complexity.

METHOD

The Articles of the Revista Brasileira de Estudos Pedagógicos in its title or its subtitle made reference to the school routine or contained words or phrases such as school or educational were selected for analysis. After this mapping, it was done a reading of the summary and keywords in order to verify the relevance of their inclusion in the study.

Within the 91 copies published between May / August 1984 and May / August 2014, 79 articles were selected for analysis as these texts dealt directly from the subject, the object of this study.

DEVELOPMENT OF THE RESEARCH

The school routine was a matter particularly more intense in the studies between 1984 to 1994. In the first decade of the corresponding search volume 65, number 149, May to August 1984, volume 74, number 178, September to December 1993, in which 45 articles have been published. The second decade of research that encompasses the production of the volume 75, numbers 179, 180 and 181 of 1994, volume 84, numbers 206, 207, 208 - January to December 2003 - with 15 published articles. The third decade of research corresponds to the volume 85, numbers 209, 210, 211 January to December 2004, volume 95, number 240 of May to August 2014, producing 19 articles on the topic, published in the Journal.

In the first decade only two copies did not present papers on the theme. The period in which more articles were written was between 1985 and 1986. In the second decade, there was a sharp drop in the Journal productions, returning to sheepishly increase in the third decade to 19 productions on the subject. However, there is a production regularity on the subject.

By checking a survey of scientific production, a way to identify the number of authors who contributed in the magazine was proposed, referring to the school routine. The 79 productions were written by 190 different authors, considering authorship and co-authorship, with 157 women and 33 men. The participation of men in the publications on this theme is 17.36% and 82.63% of women, so women had a greater contribution than men in this approach. This gender distribution is as expected since the literature indicates that the education sector is a largely female area.

Based on the data, it was found that 31 authors (16.31%) contributed individually and consequently 159 authors (83.68%) produced 48 works in co-authorship. It was found that only some authors contributed with their research more than once in the journal on the theme of school routine.

In order to present the 79 articles published about the school routine considering the kind of research, it was observed at first whether these were empirical research of texts or theoretical review. It was found that 91.13% of the texts chosen in search are empirical, especially the first decade with 44 productions, 11 productions in the second decade and 17 in the third decade, totaling 72 jobs. 07 works were detected and stood out by addressing the issue based on the literature of authors who study and present the school routine, 01 production in the first decade, 04 in the second decade and 02 in the third decade of research.

With the objective of identifying the institutional affiliation of the 190 authors responsible for 79 articles published, it was resorted to the information contained in the texts themselves. Therefore, the authors were linked to 42 institutions, 39 national institutions representing all geographic regions of Brazil and 03 international located in Europe and the Americas.

It is worth mentioning that when analyzing the institutional affiliation of the authors, it was found that 16 productions were published together, involving researchers from more than one Brazilian university and in other cases, in partnership with researchers from foreign universities.

Upon identifying the institutional affiliation of these authors, it was done a mapping of the origin of these productions by geographic regions of Brazil. The highlight by geographic region was due to the Southeast, with 43 jobs over the 30 years, making 54.43%. In the first decade (1984-1993), the same region contributed 26 papers, a total of 32.91%. On the one hand this data could indicate a greater concern of the theme by researchers located in this region on the other is known that in Brazil the research concentrated mostly in the Southeast and South regions. Thus, such distortion can only be indicative of inherent inequalities in the Brazilian territory when there is a reference of the number of universities and graduate courses that exist in Brazilian states.

The Brazilian states of Alagoas, Ceará, Piauí, Maranhão, Paraíba and Rio Grande do Norte, in the Northeast, had no production identified in the survey. Similarly, the states of Amapá, Amazonas, Rondônia, Roraima and Tocantins, the Northern Region, also showed no research into the school routine.

The theoretical framework for analysis of school routine in *RBEP* journal focus on the following authors: Emilia Ferreiro, Paulo Freire, Denise Jodelet, Jean Piaget, Serge Moscovici, Maria Helena Souza Patto, Marli Elisa Dalmazo Afonso André, Pierre Bourdieu, Michel Foucault, Henry Giroux Philippe Perrenoud and Mary Rangel.

By analyzing the most cited authors in the articles distributed in the references, it can be seen that 34 of them appeared in more than a different work. These theorists, 15 are foreigners, especially Argentine Maria Emilia Beatriz Ferreiro with 05 citations. The French theorists were the ones that most bibliographically substantiated the productions on the school routine. However, the 15 Brazilians most cited in productions for the school routine, there is the Paulo Freire (he's from Pernambuco state), and his writings were used in 05 productions.

The articles related to elementary school were treated in 55 productions, 34 times in the first ten years, with a fall in production on the subject in the second decade up to 08, rising to 13 productions in the third decade. Among these items are the Cycle I productions, Cycle II, Youth and Adult Education of Elementary School and Preschool. There are still those articles in the journal that are in general, that is, addressing the elementary and high school education in the same research.

Thus, the 79 productions that address the issue, the elementary school is presented in 64 productions, that is approximately 81.01% of the work in which they were discussed. In total, among the analyzed articles, 12 papers focus on the high school and 03 higher education.

The productions have a central theme which is treated in each article. Although an article could deal with more than one theme, it was taken as a criterion to frame it in a category the central focus of it. Although the articles focus on diversity issues, mainly to address issues related to Pedagogical Practices, Social Representation and Teacher Training.

The Pedagogical Practices were the most discussed topics, being explicitly focused on 39 productions, that is 49.36% of the time indicating that this is a constant concern of studies on the school routine in the three decades encompassed by the research. Among them, only the Teacher Training is not continuously studied, which, however, does not necessarily mean a low interest in the subject, this only means the authors - who treated this subject - either have not published between the years of 1994-2003 his studies in the Journal or the Teacher Training has not been studied from the perspective of school routine.

By examining the articles it is clear that the main concerns were directed to teachers and then the students. On the other hand, the school routine, attached to the school management, appeared in only one production.

Therefore, teachers and students were the most examined in the research published by the Journal, indicating that studies of school routine are centered on intra-school relations. However, parents and communities do not tend to be the focus of attention.

CONCLUSION

The mapping done indicated that the issue of school routine has been constant within the articles, although it was mostly studied in the early 80s, today continues to be investigated.

It also pointed out that there is a wide range of authors who work with the theme. The fact is that on the one hand it indicates the importance that researchers have given to the school routine, on the other this diversity of authors and theoretical references may indicate that there is no accumulation of knowledge about the school routine, as a text or an author does not refer to the text written by others.

Moreover, the map on the subject indicated that the studies deal primarily of Elementary Education and Teaching Practice with a focus on teachers. The school routine is also analyzed as a space to be unveiled through the representations of each individual that makes up the educational field, prevailing, however, the teacher and the student as the study subjects.

But what seems to predominate is the diversity of themes, concerns and objects of study, which is, probably, related to the fact of school routine is complex, multiple, fragmented and multi-faceted as shown in the literature related to this area.

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THE SIGNIFICANCE OF MOTIVATIONAL FACTORS AS DETERMINANTS FOR THE DEVELOPMENT OF GIRLS' MATHEMATICAL TALENT

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ABSTRACT

Although there is a consensus on the fact that both sexes are equally talented across all academic domains, in Germany girls are in proportion decidedly underrepresented in support programs that aim at mathematically talented children. Thus, it is of interest to ascertain aspects that might make possible a more differentiated identification and support. This calls for a holistic approach, which among other factors may include motivation. In this article, an interview study will be reported focusing on the significance of the motivational factors mathematical self-concept, attributions and mathematics interest as determinants for the development of mathematical talent at primary school age. All probands were identified to be talented by taking part in an enrichment-project called "Mathe für kleine Asse". The study's impressions indicate that talent-identification produces positive developments of motivational factors especially with girls, since their characteristics seemed to be more disadvantageous compared to boys before talent-identification, but there could not be found any remarkable differences afterwards, i.e., after taking part in "Mathe für kleine Asse", and the girls perceived mathematics as a domain in which they have high abilities only after taking part in the project and developing more advantageous characteristics of the regarded motivational factors. Thus, disadvantageous characteristics of motivational factors might be an important factor to explain girls' underrepresentation in support programs.

INTRODUCTION

Similar to other western and northern European countries, girls are in Germany proportionally underrepresented in programs that foster mathematical talents (Benölken, 2011). This phenomenon contradicts the consensus on the fact that both sexes do not differ in their potentials across all academic domains (Endepohls-Ulpe, 2012). As to primary school children, aspects such as gender stereotyping of mathematical occupational fields cannot really act as explanations, especially because there cannot be found any gender-specific differences in mathematical competencies at this early age (Lindberg, Hyde, Petersen & Linn, 2010), and studies have indicated a decline of such differences at subsequent ages for many years (Hyde, Lindberg, Linn, Ellis & Williams, 2008). This is why it is of interest to look for aspects that improve both the identification and the support of girls' mathematical talents. With a holistic approach, diagnostics should consider both cognitive and co-cognitive, e.g. motivational, parameters as determinants in order to identify mathematical talent. Boys, e.g., mostly show advantageous characteristics of motivational factors as to doing mathematics independently of an identification of particular talents; in contrast, girls very often show disadvantageous characteristics, but if high potentials were identified with them by taking part in support programs or the like, there cannot be found any essential differences in comparison to boys (Benölken, 2014; 2015). Findings like these raise the questions if there are any effects of talent-identification on the development of advantageous characteristics in regard to motivational factors, and if such developments might influence the development of talents. In this article, the significance of mathematical self-concept, attributions and mathematics interests as examples of motivational factors as determinants for the development of mathematical talent at primary school age will be examined by a qualitative interview study. Its aim is to investigate possible developmental processes as to these factors by comparing characteristics before and after talent-identification with boys and girls by a retrospective view considering possible effects on the development of talents. First, theoretical frameworks of the regarded motivational factors will be presented, and based on brief literature reviews about research on these factors in the field of gender and high abilities, the relevance of conducting studies about their significance as determinants for the development of talent will be constituted more deeply. Afterwards, the design and the results of the study will be reported and discussed.

PRELIMINARY NOTES ABOUT MATHEMATICAL TALENT

According to Fuchs and Käpnick (2009), in this article "mathematical talent" is seen as an above-average potential regarding the criteria of Käpnick (1998), i.e., remembering mathematical facts, sensitivity and fantasy, structuring and transferring structures or reversing thoughts. This potential is characterized by individual determinants and a dynamic development depending on inter- and intrapersonal influences in interdependence with personality traits supporting the talent. Therefore, diagnostics should be organized as a long-term process applying a synthesis of standardized and non-standardized tools, and focusing on both cognitive and co-cognitive parameters. The reported view on "mathematical talent" provides the base of diagnostics procedures of "Mathe für kleine Asse" (a metaphor like "Math for small pundits"), a long-term enrichment-project at the University of

Münster to foster children between the third and the eighth grade (see Käpnick, 2008): As a first step, at the beginning of the third grade, teachers of schools in Münster elect children corresponding to Käpnick's criteria and suggest a participation in the project. In a second step, children can visit the project to get to know its organization and atmosphere. In a third step, they have to fill in a half-standardized introductory test (organized as a competition) containing "indicator tasks" that operationalize Käpnick's criteria. Simultaneously, the process-diagnostics begin and continue as long as the children take part in the project considering both cognitive and co-cognitive parameters. Therefore, (half-) standardized tools like tests that are similar to the introductory one or amending IQ-tests (e.g., the "CFT-20") as well as non-standardized tools like observational protocols (e.g., Fuchs & Käpnick, 2009), interpretations of transliterated video documentations or interviews are applied (e.g., Benölken, 2011). In this manner, an impression of the children's individual talents gradually emerges.

THEORETICAL FRAMEWORKS AND BRIEF LITERATURE REVIEWS

Preliminary note: Existing research in the field of motivational factors like self-concept, attributions or interest mostly either focuses on gender-specific aspects or on a combination of gender- and ability-related aspects. When it comes to the phenomenon of exceeding abilities, studies mostly refer to the psychological view on "giftedness" as a "g-factor-" conception, which partially differs from the illustrated view on the development of "mathematical talent". Thus, such findings cannot be transferred automatically to mathematically talented children. Subsequently, existing findings of both gender-specific aspects and the combination of gender- and ability-related aspects will be reported. In this context, different conceptions as to both high abilities and the regarded motivational factors will be included, since, altogether, they indicate the significance of the regarded motivational factors in the complex of gender and high abilities, in particular as to mathematical abilities.

Self-concepts: The conception of self-concept applied in the study refers to Shavelson, Hubner & Stanton (1976): Self-concepts develop globally and domain-specifically containing both cognitive-evaluative and affective components. Studies indicate that self-concepts can already be found with primary school children (Marsh, Craven & Debus, 1991). As early as at this age, gifted and non gifted children differ in their global- and domain-specific self-concepts (Rost & Hanses, 2000). In contrast to global self-concepts (Rost & Hanses, 2000), gender-specific differences can be found in domain specific ones (Rustemeyer & Jubel, 1996). Boys often show better self-concepts in mathematics (Pohlmann, 2005), girls in social or verbal skills (Valtin & Wagner, 2002). Disadvantageous mathematical self-concepts are considered to be an important reason effecting that primary school girls do not tend to a strong preoccupation with mathematics (Dickhäuser & Stiensmeier-Pelster, 2003). Obviously, boys and girls who were identified to be mathematically talented (in the sense of the above reported view) as well as boys who were not mostly show advantageous characteristics of mathematical self-concepts, but girls who were not identified often show disadvantageous characteristics (Benölken, 2014).

Attributions: The construct of attributions refers to reasons that an individual provides to explain his or her achievements. The conception applied in the study refers to Weiner (1986) who basically distinguishes attributions into the dimensions of "locus of control" and "stability". Older studies show that as early as at primary school age and irrespectively of certain domains, especially in mathematics, girls tend to attribute disadvantageously, i.e., success external-unstably and failure internal-stably. Conversely, boys tend to attribute advantageously, i.e., success internal-stably and failure external-unstably (Rustemeyer & Jubel, 1996). Contemporary studies indicate that girls (even if they are gifted) more often tend to internal-unstable attributions of success, and boys still tend to internal-stable ones (Dickhäuser & Meyer, 2006; Tirri & Nokelainen, 2011). Gifted children generally attribute more advantageously than non-gifted children (Schütz, 2000). In addition, boys and girls who were identified to be mathematically talented (in the sense of the reported view) as well as boys who were not mostly tend to advantageous attributions of both mathematical success and failure, while girls who were not identified often attribute disadvantageously in each case (Benölken, 2014).

Mathematics interest: The conception of interest applied in the study refers to Prenzel, Krapp and Schiefele (1986): Interest is seen as a result of an interaction between a person and an object that along with adjuvant conditions might cause to focus on a long-term preoccupation with it. This relation is characterized by value-related, affective and cognitive aspects. Additionally, in accordance with current approaches on a multidimensional interest structure, a distinction between subject-, context- and topic-related interest was considered (Krapp, 2010). The first two dimensions were summarized in the term of "mathematics interest in the classroom" because it cannot be expected that primary school children differ between activities and contexts applied in classrooms (Hellmich, 2006). The third one is referred to by the term "mathematics interest beyond the classroom". Primary school children often have a lot of interests like sports, TV, computer games or reading (Pruisken, 2005), and gender-specific differences can already be found at this early age (Hoberg & Rost, 2000): horseback riding, animals or reading seem to be "typical" interests of girls; football, technics or computer "typical" interests of boys (Fölling-Albers, 1995). Boys more often show stronger mathematics interest – even at

primary school age and both in and beyond the classroom; girls interest in language or literature (Hellmich, 2006; Pruisken, 2005). Though gifted children show the same differences, they do not have any extraordinary interests compared to non-gifted children. However, gifted children generally seem to be more interested in both mathematics and languages or literature (Pruisken, 2005). In contrast to non-gifted girls, gifted girls have more interests which are supposed to be "typical" interests of boys, and they have a larger spectrum of interests than gifted boys (Kerr, 2000). The majority of primary school children seems not to differ between mathematics interest in and beyond the classroom (Hellmich, 2006). Regarding specific mathematical talents (in the sense of the reported view), girls irrespectively of talent-identification more often show a larger spectrum of interests than boys (Benölken, 2014). However, boys seem to show stronger mathematics interest in the classroom compared to girls independently of talent-identification, but girls who were identified to be mathematically talented are more similar to the boys than to girls who were not identified – they show a lower mathematics interest as to this aspect than all other groups (Benölken, 2015; similar to Pruisken, 2005). Boys and girls who were identified to be mathematically talented as well as boys who were not show stronger mathematics interest beyond the classroom than girls who were not identified. In addition, only children who were identified to be talented seem to differ between mathematics interest in and beyond the classroom showing stronger interest beyond the classroom, while children who were not identified took similar stances in both cases on average (Benölken, 2015). Furthermore, there are only very few studies with a focus on ability-related mathematics interest. Their findings indicate that the mathematics interest of students with lower achievements exceeds that one of higher achievers (Frenzel, Goetz, Pekrun & Watt, 2010), but these studies do not focus on gifted or talented students. Finally, an often reported phenomenon is a decline of mathematics interest in the years of adolescence (Fredricks & Eccles, 2002), which is of little importance when conducting studies with primary school children.

Retrospection and deeper rationale of the study: Even if existing empirical research mostly focuses on the phenomenon of exceeding abilities as a "g-factor-" concept, the results collectively show, however, the significance of self-concepts, attributions and interest in the field of emphasizing important aspects to improve the identification and support of girls' mathematical talents: The findings indicate that there seem to be typical differences between girls and boys as to characteristics of these factors, especially as to the comparison of the four groups of girls and boys who were assessed to be gifted or talented, and girls and boys who were not: First, boys show advantageous characteristics independently of an identification of giftedness or talent more often than girls. Second, girls who are assessed to be gifted or talented mostly show characteristics which can be compared to boys, while girls who are not often rather show disadvantageous characteristics. Thus, disadvantageous characteristics of motivational factors might play an important role to explain the infrequent identification of high potentials with girls, since such findings indicate the significance of the regarded motivational factors as determinants for the identification of giftedness or talent. However, the question is obvious if there can be found any developmental effects of giftedness- or talent-identification. As far as we are aware, there is a lack of studies focusing on (1) possible effects of giftedness- or talent-identification on the development of motivational factors like self-concepts, attributions and interest, and consequently (2) possible effects of such developments on the development of talents. This desideratum provides the starting point of the reported study.

THE STUDY
Questions: The study focuses on the significance of exemplary motivational factors as to their significance as determinants for the development of mathematical talent. The following questions will be investigated: (1) Can be found any effects of talent-identification on the development of mathematical self-concepts, attributions and mathematics interest with girls and/or boys who were identified to be mathematically talented? (2) Can be found reciprocal effects of possible developments of mathematical self-concepts, attributions and mathematics interest on the development of mathematical talents with such girls and/or boys?

Design: The study's character is explorative. It is not intended to deduce generalizations, but at the most existential propositions (see Lamnek, 2010) about possible effects of talent-identification. Thus, a qualitative design was advisable, since it seems to be most appropriate to investigate questions of developmental processes with single cases. Because of the process diagnostics applied in the project "Mathe für kleine Asse" which provided the base in order to elect probands, a retrospective design seemed to be most suitable.

Sample and procedure: The sample contains N = 6 children of the third grade (3 f; 3 m) taking part in "Mathe für kleine Asse" for almost one year. They are assessed to be talented by long-term process-diagnostics according to the reported view on mathematical talent. In addition, it is a theoretical sampling (Lamnek, 2010), since their election depended on long-term observations focusing on interesting facts according to the study's questions. The probands were questioned at the end of the school year of 2013/2014 during sessions of "Mathe für kleine Asse" in a separated room. Each interview was recorded on audiotape and transliterated.
Method and analysis: It was intended to ensure that interpretations of each child's developmental processes

could be as consistent as possible. Therefore, a synthesis of statements of both each child and his or her parents was conducted, especially because it cannot be expected that primary school children are able to reflect every single aspect. Considering the theoretical frameworks of the regarded motivational factors, problem-centered interviews using interview guides seemed to be the most appropriate method as to the questions of the study. Of course, typical stages of problem-centered interviews were observed (see Lamnek, 2010): In the preamble of the children-interview, the interviewer introduced himself and proposed the interviews' theme (*"I would like to know how you like mathematics today and, maybe, how you liked it when you were younger"*; the original phrasing was German in all cases). Then, the children were asked to introduce themselves and to present some first thoughts about the interviews' focus to create both a pleasant atmosphere and confidence as well as to get first impressions. With regard to the general exploration, stimuli and questions about characteristics of the regarded motivational factors were asked (according to the theoretical frameworks; see the example of table 1) supplemented by a question focusing on the retrospective developmental perspective in each case. Additionally, possible differences between mathematics interest in and beyond the classroom were emphasized in the context of asking the mathematics interest questions *("I would like to know how you like mathematics in and beyond the classroom. 'Mathematics in the classroom' focuses on everything you do in mathematical school lessons. 'Mathematics beyond the classroom' focuses on, e.g., mathematical activities or themes in your life beyond mathematical school lessons or even outside the school."*). At the end, direct ("ad hoc") questions about aspects that had not been discussed yet or that demanded deeper clarifications were posed, especially focusing on possible developmental trends as to specific components of each motivational factor's framework and as to the self-perception of talent. The procedure of the parents-interview was similar to the children-interview: In the preamble, the interviewer introduced himself and proposed the interview's theme, but then, first, some questions focusing on general information like important facts in the child's physical, psychological and academic development were posed to create a faithful atmosphere and to get some data aiming at a characterization of the child. Then, the parents were asked to present some first thoughts about the interviews' focus. With regard to the general exploration, stimuli and questions about characteristics of the regarded motivational factors were asked considering the theoretical frameworks of the regarded motivational factors supplemented by a question focusing on the retrospective developmental perspective in each case (see the example of table 1). Additionally, the term of "self-concept" was explained (*"Self-concepts describe an individual's view on his or her characteristics and skills"*; cf. Moschner & Dickhäuser, 2006), and possible differences between mathematics interest in and beyond the classroom were emphasized analogically to the children-interview. Finally, direct questions about aspects that had not been discussed yet or that demanded deeper clarifications were posed like in the children-interview.

self-concept (children-interview)	cognitive-evaluative aspect	*How would you describe your mathematical skills?* [in addition, if necessary: *Do you think you are very good at mathematics?*]
	affective aspect	*How do you feel solving difficult mathematical tasks?*
	developmental perspective	*Has this always been the case? Even before taking part in "Mathe für kleine Asse"?* [twice asked, i.e., for each component]
self-concept (parents-interview)	cognitive-evaluative aspect	*How would you describe your child's mathematical self-concept? Please explain your answer.*
	affective aspect	*How does your child feel solving difficult mathematical tasks?*
	developmental perspective	*Did your child's mathematical self-concept change because of taking part in "Mathe für kleine Asse"? Did your child's feelings solving difficult mathematical tasks change because of taking part in "Mathe für kleine Asse"?*

Table 1: Example of operationalizing questions in the children- and parents-interview's guide.

Data were interpreted applying a combination of typical stages of both problem-centered interviews' analysis and qualitative interviews' interpretative-reductive analysis (Lamnek, 2010): (1) Transcription: The interviews were transliterated using the relatively simple system of Bardy (2007). All transcripts are available from the author. Of course, we are aware that a transcript is a first interpretation. (2) Methodological annotation: Text types were pre-structured, e.g., into descriptions or narrations. (3) Controlled interpretation (developing thematic trends and construction of thematic matrices): Data were interpreted independently by a group of experts to ensure an interpersonal valid interpretation as far as possible. In addition, thematic trends were emphasized as to possible developmental trends of the regarded motivational factors between before and after talent-identification with each of the probands. These trends were composed into thematic matrices representing the content of each interview in a synopsis to get an accumulation of all impressions. In the matrices, both self-concept and mathematics interest (in and beyond the classroom) were coded as "+", if the impressions of all answers in the respective contexts were positive, as "0", if the impressions differed between, e.g., positive and negative, and as "−", if all impressions were negative. Attributions of mathematical success were coded as "+", if they seemed to

be internal-stable, as "0", if internal-unstable, and as "–", if external (-stable or -unstable). As to mathematical failure, the assignment was turned around, i.e., attributions were coded as "+", if they seemed to be external-unstable, as "0", if external-stable, and as "–", if internal (-stable or -unstable). In each case, possible developmental trends were considered focusing on possible characteristics of the motivational factors before and after talent-identification. If a positive developmental process could be supposed, it was coded as "+", if there seemed to be no or not a strong positive effect, it was coded as "0", and if a negative developmental process could be supposed, it was coded as "–". Finally, statements that could not be interpreted properly were coded by "x" in all cases. (4) Comparative systematization (classification and abstraction): Based on the thematic matrices, "typical" characteristics were identified. However, it was not intended to ensure representativeness, but typical representations considering a holistic and realistic view. As a consequence, the probands were classified into groups, which seemed to differ from each other, and a case-example of each group was chosen to present exemplary illustrations of the interpretations. This was the base to get abstractions and topic-related descriptions about the significance of the regarded motivational factors as determinants for the development of talent.

FINDINGS

As to the *controlled interpretation*, table 2 shows the thematic matrix that was constructed as a result of interpreting thematic trends, i.e., it summarizes impressions of the regarded motivational factors' characteristics before and after talent-identification within the children- and parents-interviews supplemented by perceptible developmental processes. The impressions shown in table 2 indicate that positive developmental trends of self-concept and mathematics interest beyond the classroom can be assumed after talent-identification with girl 1, while her attributions of failure seem to develop slightly positively and it is not possible to take any stances about her attributions of success. There seems to be a decline of her mathematics interest in the classroom. Then, positive developmental trends of self-concepts, attributions of success and mathematics interest beyond the classroom can be supposed with girl 2, but it is not possible to judge the development of her attributions of failure (which seem to be disadvantageous despite talent-identification). Her mathematics interest in the classroom has always been strong. Finally, positive developmental trends of attributions of success and mathematics interest beyond the classroom can be assumed with girl 3, but her self-concept and her attributions of failure have obviously been constantly positive, and there seems to be a decline of her mathematics interest in the classroom after talent-identification. In addition, positive influences of both talent-identification and the reported developmental processes of motivational factors on the emergence of talents were described in all interviews with the girls. The impressions shown in table 2 indicate that there cannot be assumed any or at least only very slight developmental trends of the regarded motivational factors after talent-identification with boy 1, since all regarded factors have obviously been rather positive before talent-identification and afterwards. Then, self-concept, attributions of success and mathematics interest beyond the classroom have obviously been constantly positive with boy 2, but there might be a slight decline of his mathematics interest in the classroom and it is not possible to judge the development of his attributions of failure. Finally, there cannot be supposed any strong developmental trends as to self-concept, attributions and mathematics interest beyond the classroom with boy 3, since these factors have obviously been positive before and after talent-identification. In addition, there seems to be a further decline of his mathematics interest in the classroom after talent-identification. Overall, there cannot be found any descriptions of influences of talent-identification on the emergence of talents with the boys, since all of them have shown a strong preoccupation with mathematics and their potentials have been perceived by themselves, their parents and teachers from an early age. This might fit to the interpretations, that there cannot be found strong developmental processes of motivational factors with anyone of the boys.

proband/ motivational factor	before talent-identification		after talent-identification		developmental process
	children interview	parents interview	children interview	parents interview	
girl 1					
self-concept	0	0	+	+	+
attributions of success	x	x	0	x	x
attributions of failure	–	x	0	x	+
mathematics interest in the classroom	+	0	–	0	–
mathematics interest beyond the classroom	0	x	+	+	+

girl 2					

self-concept	0	–	+	+	+
attributions of success	–	x	+	0	+
attributions of failure	x	x	–	–	x
mathematics interest in the classroom	+	+	+	+	0
mathematics interest beyond the classroom	0	–	+	+	+
girl 3					
self-concept	+	0	+	+	0
attributions of success	0	x	+	x	+
attributions of failure	x	+	+	+	0
mathematics interest in the classroom	0	0	–	0	–
mathematics interest beyond the classroom	–	0	0	+	+
boy 1					
self-concept	+	+	+	+	0
attributions of success	x	+	0	+	0
attributions of failure	x	0	+	0	0
mathematics interest in the classroom	+	+	+	+	0
mathematics interest beyond the classroom	0	+	0	+	0
boy 2					
self-concept	+	+	+	+	0
attributions of success	+	x	+	+	0
attributions of failure	x	x	+	0	x
mathematics interest in the classroom	+	+	+	0	–
mathematics interest beyond the classroom	+	+	+	+	0
boy 3					
self-concept	+	x	+	+	0
attributions of success	+	+	+	+	0
attributions of failure	+	+	+	+	0
mathematics interest in the classroom	–	0	–	–	–
mathematics interest beyond the classroom	+	+	+	+	0

Table 2: Thematic matrix of motivational characteristics and developmental processes.

As to the *comparative systematization*, table 3 summarizes the developmental processes of the regarded motivational factors between before and after talent-identification with girls and boys from table 2.

motivational factor	girl 1	girl 2	girl 3	boy 1	boy 2	boy 3
self-concept	+	+	0	0	0	0
attributions of success	x	+	+	0	0	0
attributions of failure	+	x	0	0	x	0
mathematics interest in the classroom	–	0	–	0	–	–
mathematics interest beyond the classroom	+	+	+	0	0	0

Table 3: Summary of developmental processes between before and after talent-identification.

Noticeable positive effects of talent-identification can be found with all female probands, even if they have shown positive characteristics of single components before talent-identification (see table 2). In addition, some of the interview statements could not be interpreted properly and there cannot be supposed developmental

processes in very few cases (e.g., as to the attributions of failure with girl 2). Interestingly, girl 1 and girl 3 seem to show a lower mathematics interest in the classroom after talent-identification. In contrast, there cannot be found any strong developments of the regarded motivational factors caused by talent-identification with all male probands which are similar to the reported effects with girls, since positive characteristics of self-concepts, attributions and mathematics interest beyond the classroom have already appeared before talent-identification, even if some of the interview statements could not be interpreted properly and there cannot be supposed a developmental process as to the attributions of mathematical failure with boy 2. However, in the thematic matrix it cannot be proposed that there are some rather slight positive effects of talent-identification with boys implying that, even though these characteristics have been positive very early, they became slightly more advantageous by taking part in "Mathe für kleine Asse". For instance, the mother of boy 2 describes his mathematical self-concept as very advantageous before school-enrolment (and, thus, before talent-identification), but it became still slightly better because of the project-participation (*"I guess, maybe a little. He is allowed to do stuff that he likes, e.g., thinking outside the box. And he realizes that he is able to do it, even if he has actually realized it before taking part in the project."*). On the one hand, this observation confirms the significance of talent-identification on the development of advantageous motivational characteristics. On the other hand, the effects seemed to be really small compared to the girls; in particular, as opposed to the girls, the boys' characteristics of the regarded motivational factors have already been advantageous before talent-identification more often. Thus, these effects seem to be of rather little importance aiming at a final classification, i.e., determining typical developmental processes of motivational factors with girls and boys. Finally, as to mathematics interest in the classroom, the impressions indicate similar developmental effects as shown by girl 1 and girl 3, since boy 2 and boy 3 seem to show a lower mathematics interest in the classroom after talent-identification. In addition, positive influences of both talent-identification and developmental processes of motivational factors on the emergence of talents were only described with the girls. Thus, the findings indicate that two groups can be classified: There can be found similar positive developmental processes of the regarded motivational factors within the group of girls related to at least two of these factors in each case. In contrast, there cannot be found any strong positive trends within the boys' group. Thus, the boys' group obviously differs from the girls' group. In addition, both the girls and the boys seem to differ between mathematics interest in and beyond the classroom, which might be, e.g., concluded by different characteristics and a decline of mathematics interest in the classroom with some of the probands after talent-identification. In what follows, the typical developmental characteristics of the girls and the boys will be illustrated by the contrasting single cases of girl 2 and boy 3. In this context, possible effects of the development of motivational factors on the development of talent will be exemplarily discussed, too.

Girl 2 attends the third grade. She has been taking part in "Mathe für kleine Asse" for about one year. Girl 2 can be characterized as rather reserved, but helpful and inquisitive. She has a lot of interests like playing "Lego", computer games, playing the piano, gymnastics, horse riding, and playing with friends. Her favorite school subjects are music and mathematics, and she likes science teaching. Before school enrollment, girl 2 did not show any noticeable mathematics interest, but afterwards mathematics became one of her main focuses as to her interests in the classroom. In contrast, her mathematics interest beyond the classroom emerged not before succeeding in the "Math Kangaroo" and taking part in "Mathe für kleine Asse", i.e., after procedures of talent-identification (however, mathematics still queues into her other interests). An analogue observation can be made with her mathematical self-concept, since girl 2 realized her mathematical potential only by succeeding in the "Math Kangaroo" and by taking part in "Mathe für kleine Asse": Before school enrollment and before the mentioned procedures of talent-identification, she describes her mathematical self-concept as rather disadvantageous (*"Do you know 'Math Kangaroo'? We took part in this competition and I won the first prize. Because of that, I assessed myself to be better in mathematics, since before I believed 'This will not work!'"*). Similar effects can be observed with her attribution of mathematical success as well. In the meantime, girl 2 tends to internal-stable attributions of success, but she reflects a change (*"Today, I like mathematics and I know I can solve mathematical tasks, which I didn't know a few years ago."*). In contrast, her attributions of mathematical failure can be characterized as internal-unstable, i.e., relatively disadvantageous. Overall, the example of girl 2 illustrates the possible significance of talent-identification on the development of advantageous motivational factors. Her mathematical self-concept and her mathematics interest beyond the classroom have become more advantageous only after the identification of her high mathematical potential. However, her patterns of attributions indicate that there might be a long-term developmental process of advantageous motivational factors which still might be ongoing. Thus, talent-identification seems to have an important effect on developing advantageous motivational characteristics with girl 2, and maybe her parents and teachers did not perceive her high mathematical potential early because of disadvantageous characteristics. As to the significance of the regarded motivational factors as determinants for the development of mathematical talent, the identification of her talent and the positive development of her motivational characteristics caused that girl 2 perceived mathematics as a domain in which she has high abilities.

Boy 3 attends the third grade and he has been taking part in "Mathe für kleine Asse" for about one year, too. He

can be characterized as rather reserved and sensitive, but really inquisitive and persistent, in particular when he is solving mathematical tasks. He uses to spend a lot of time with his older brother, but he rarely plays with other children. Boy 3 likes playing tennis, golf and football, and he shows interest in some rather academic domains like playing chess, visiting a museum and doing mathematics. In particular, solving mathematical tasks plays an important role in his life. For instance, beyond taking part in "Mathe für kleine Asse", he attends a program aiming at the development of special skills in mental arithmetic by doing "vedic mathematics", and he dedicates a lot of time at home to doing mathematics (often together with his brother). However, his spectrum of interests can be characterized as rather small, and mathematics is obviously the main focus: For instance, he often preferred taking part in "Mathe für kleine Asse" to simultaneous football trainings. Thus, his mathematics interest beyond the classroom can be seen as really strong. His favorite school subjects are German and art, and he likes science teaching as well. In contrast, boy 3 assesses mathematics in the classroom to be boring, since he had learned most of the contents taught at school on his own before. Both he and his parents have known about his high mathematical potential before school enrollment, and afterwards, his mathematics teacher perceived it very soon. Because of his large mathematical knowledge, boy 3 attended the fourth grade for some weeks, but the parents and the teacher decided to stop this try because of his social-emotional state of development, since interactions between boy 3 and children of the fourth grade seemed to be problematic. Nevertheless, it is typical of boy 3 to learn mathematical contents of higher grades autonomously. For instance, he can deal with fractions, and his father supposes that the mathematical knowledge of boy 3 would be much more appropriate to secondary school children. Even if boy 3 has already shown a strong mathematics interest beyond the classroom before taking part in "Mathe für kleine Asse", i.e. before talent-identification, it has become slightly stronger afterwards, which is documented by a further decline of his mathematics interest in the classroom, since he assesses mathematics in the classroom to become more and more boring after taking part in "Mathe für kleine Asse". Similar to mathematics interest beyond the classroom, the mathematical self-concept of boy 3 has been advantageous from an early age. He has liked doing mathematics very early, and he has had many positive experiences by solving difficult tasks that pushed him to further engagements into learning complex mathematical themes. Finally, the father supposes that the attributions of boy 3 have been advantageous at all times. For instance, his attributions of mathematical success can be characterized as internal-stable and his attributions of failure primarily as external-stable today (e.g., as to the question why he could solve difficult tasks, he answered *"Because I understand everything."*). Overall, first, there can be found some notes of the significance of talent-identification on the development of motivational factors with the example of boy 3 as well, since taking part in "Mathe für kleine Asse" effected a slight increase of his mathematics interest beyond the classroom, even though he has already shown a strong mathematics interest beyond the classroom before. This assumption seems to be confirmed by the decline of his mathematics interest in the classroom after talent-identification. However, most remarkable are the facts that the characteristics of the regarded motivational factors have already been advantageous before talent-identification and that boy 3 has always seen mathematics as a domain in which he has exceeding abilities, and both his parents and his mathematics teacher perceived his mathematical potential very early.

As to an *abstraction of the reported findings* considering the questions of the study, first, the chosen prototypic examples of girl 2 and boy 3 indicate, that talent-identification might induce positive developments of motivational factors especially with girls, but the significance of talent-identification on the development of motivational factors can be seen by some observations with the boys as well in principle, since there seem to be some single slight positive effects. Second, the example of girl 2 indicates that many girls might reflect mathematics as a domain related to their potentials not automatically, but increasingly by developing more advantageous factors of motivation, which might be caused by talent-identification. In contrast, the example of boy 3 indicates that the regarded motivational factors' characteristics have been advantageous with many boys from an early age, and that talent-identification does not to play a role similar to the girls as to the development of positive characteristics and as to the emergence of talents. To summarize, motivational factors seem to play an important role regarding their significance as determinants for developments of mathematical talents with girls, since, vice versa, the example of girl 2 indicates that disadvantageous characteristics of such factors might make it more difficult to identify high mathematical potentials, maybe because there are obscured by other interests.

DISCUSSION

In this article, the significance of mathematical self-concept, attributions and mathematics interest – by a distinction between in and beyond the classroom –, as determinants for the development of mathematical talent at primary school age was investigated by a retrospective interview study with three boys and three girls who were identified to be mathematically talented by taking part in a long-term enrichment-project called "Mathe für kleine Asse". Based on brief reviews of existing empirical evidence, the relevance of this focus was constituted. According to the qualitative design, the study's perspective was explorative, and it was not intended to deduce generalizations, but at the most existential propositions. In principle, the study's impressions indicate that the

boys have already shown advantageous characteristics of the regarded motivational factors before talent-identification, i.e. before taking part in "Mathe für kleine Asse", and that all factors' characteristics have been rather constant except from single slight further confirmations. Thus, there seem to be no really effects of talent-identification on the development of advantageous motivational factors, and, additionally, there cannot be found any effects on the emergence of their talents. In contrast, the girls' characteristics of the regarded motivational factors were often disadvantageous before talent-identification, but afterwards they have become more positive. Thus, there seem to be effects of talent-identification causing a development of advantageous characteristics of the regarded motivational factors with these girls. In addition, such developmental processes seem to lead to a more realistic self-perception of talent with girls, since they perceived mathematics as a domain in which they have high potentials only after both talent-identification and developing more advantageous motivational factors. In combination with findings of quantitative studies which indicate that boys independently of talent-identification show more advantageous characteristics of motivational factors than girls (Benölken 2014; 2015), the results of the reported study might contribute to explain the phenomenon of the infrequent identification of girls' mathematical talents: Observable more advantageous characteristics of motivational factors might cause more efficient diagnostics of boys' talents, maybe since they focus on mathematics very early guided by self-experiences of their potentials which might cause a strong preoccupation with mathematics. Thus, teachers might perceive boys' potentials primarily, since they might be more noticeable for them. In contrast, girls' disadvantageous characteristics of motivational factors might lead to the fact that they do not develop a stronger preoccupation with mathematics and, e.g., turn to different interests, but a positive development of motivational factors might induce a stronger preoccupation with mathematics and, thus, positive effects on the development of their talents. Therefore, the study's findings imply as theses that the development of advantageous motivational factors plays an important role as to the emergence of mathematical talents with girls, and that disadvantageous characteristics seem to be important aspects effecting a more infrequent identification of high potentials with girls. In addition, such motivational factors of course have to be seen in a strong interdependence with, e.g., influences of socialization or gender-specific preferences in solving tasks (Benölken, 2011; 2014).

As to limitations of the study and directions for future research, the theoretical character of the sample has to be discussed: Because of electing certain probands, there might appear developmental effects of motivational factors which can be observed with the sample's probands because of a strong focus of observation, but which cannot be found with other girls and boys. In this context, the explorative character has to be mentioned that is not suited to provide representative results, but that allows to generate hypotheses. Follow-up studies should focus on confirming the reported findings, and maybe include different motivational factors like attitudes, e.g., by longitudinal analyses applying differentiated tools to measure motivational characteristics at different ages of an individual, or at least before and after procedures of talent-identification. The diagnostics procedures of talent- identification applied in the project "Mathe für kleine Asse" have been established for many years. Thus, the probands of the study most probably are rightly assessed to be mathematically talented. In addition, there might be certain effects caused by their participation in this project that cannot be found with children who have high potentials, but who are not taking part in such a program, even if they receive positive feedback about their mathematical potentials. The constructed interview guides and the considered syntheses of children's and parents' perspectives were adequate to the aims of the study in principle. As far as we are aware, both its questions that follow styles of the motivational factors' theoretical frameworks in each case and the retrospective design realized by questions focusing possible developmental processes of each factor's components and of talents have proven their value. In particular, the children mostly were able to reflect possible developments which seems not to be self-evidently because of their age.

As to a survey of exemplary practical consequences, first, any gender stereotyping of mathematics should be avoided. Second, the development of motivational factors seems to play an important role for girls in order to support their potentials to emerge. In particular, girls should consciously be given opportunities to collect positive experiences with mathematics as early as possible in order to create an adequate self-perception of their mathematical potentials. After school-enrollment, e.g., task-fields that are composed to foster girls especially – without stereotyping – might be useful in this context (Benölken, 2013). Finally, both the distinction between mathematics interest in and beyond the classroom and the decline of mathematics interest in the classroom that was observed with some of the probands indicate the significance of a challenging education, e.g., by using enrichment tasks in common classes (Fuchs & Käpnick, 2009).

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THE SIGNIFICANCE OF TEACHING IN A POST-INSTRUCTIONAL AGE

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This paper is an investigation into the current status of teaching. The rapid rise of online learning in higher education, together with the option to enroll in free MOOCS such as those offered by Coursera (2015) and Kahn Academy (2015), has led many scholars to believe that educational institutions will no longer be necessary in the near future. One might say that a 'post-instructional' age is upon us, and that teaching is an outdated profession. In what follows, I will use philosophical method to argue against this position. Employing the work of philosopher Jacques Derrida, I will make the case that the pending 'post-instructional' age actually clarifies the importance of teachers. Teaching is still very beneficial, but we must understand the particular significance of teaching. As we enter the 'post-instructional' era, there does not currently exist a clear way to demarcate the teacher's role from the role of Highly Effective Learning Technologies (HELT's). Indeed, most discourses on HELT's vis-à-vis teaching tout either the HELT, or the teacher, in a zero-sum game. In contrast, this paper offers a method for conceptualizing teaching in a way that actually advocates the continued importance of, and the need to encourage, teaching.

To begin with, I will use an analytic framework to distinguish teaching from the transference of knowledge, and from the facilitation of learning. It will be pointed out that those who decry the end of teaching assume that teaching is nothing other than instruction and that education is only about learning. Then, using Derrida's notions of erasure and différance as a theoretical framework, I will demonstrate two insights about teaching. First, that teaching itself cannot be equated solely with transferring knowledge and/or fostering learning. Thus, a post-instructional era does not make teaching redundant. Second, I will show how teaching adds to content in unique ways, ways that can never be replaced by replacing the teacher. So while online learning might seem to make the teacher redundant, because teaching is about more than the student's learning, the teacher's role remains central to education even in a 'post-instructional' age.

How the Learning Paradigm Theorizes Education

In this first section, I look into what has been called 'the Learning Paradigm' (Barr & Tagg, 1995). Using a highly influential article on learning in higher education, I identify the way this paradigm has been inadequately defined teaching as direct instruction and/or the fostering of learning. In 1995, Robert Barr and John Tagg published, in *Change: The Magazine of Higher Education*, the article entitled "From Teaching to Learning: A New Paradigm for Higher Education" (Barr & Tagg). This article has been sited by more than 2,000 scholars, and is often referred to as *the* ground-breaking work for a shift in focus from university instruction to university *learning*. The article serves as a touchstone in spite of the fact—or perhaps because of the fact—that K-12 educators had been making a shift from instruction to learning for decades already, long before 1995 (Bloom et al., 1956). As Gert Biesta has pointed out, the shift to learning has roots in both progressivism and constructivism throughout the 21st Century (2005). Thus, when Barr and Tagg's article is used as indicative of a move from instruction toward learning, it should be acknowledged that such a move has deep roots in educational theory. Barr and Tagg's article gives a push toward learning, and away from instruction, on the very last educational frontier, the instructional bastion of the university. Below, a close reading of "From Teaching to Learning" is offered (Barr & Tagg, 1995).

Barr and Tagg's stated aim is to advocate learning in higher education. However, in order to advocate learning, they simultaneously offer an implicit theory of teaching. I focus here on the way teaching is theorized in Barr and Tagg's work. Four main points of "From Teaching to Learning" will be detailed. The points are: 1) that teaching in universities can and should be described as instruction, 2) that teaching (which is the same as instruction) entails the transfer of knowledge, 3) that teaching creates an active teacher and a passive student, and 4) that teaching creates an atomistic method of education. First: that teaching can and should be described as instruction. "In the Instruction Paradigm," note Barr and Tagg, "the mission of the college is to provide instruction, to teach" (1995, p. 15). The apposite "to provide instruction, to teach," is an interestingly ambivalent statement given what is said elsewhere in this publication. On one hand, Barr and Tagg cede the territory of teaching to the domain of instruction. On the other, these authors sometimes indicate that the Instruction Paradigm's version of teaching is just one conception,

among others, of teaching: "…the Instruction Paradigm rests on conceptions of teaching that are increasingly recognized as ineffective" (p. 13).

Within Barr and Tagg's article, there is at first a vacillation between teaching *being* instruction, on the one hand, and teaching being *wrongly construed* as instruction, on the other. Ultimately, though, Barr and Tagg settle on the former: that teaching *is* instruction. Hence the very title of their article, "From Teaching to Learning" (1995). Implicit in this title is an understanding that teaching is instruction. In the article, the term 'teaching' is used 23 times. It is primarily used within the context of serving the dominant Instructional Paradigm. Statements like "…these Instructional Paradigm teaching and learning structures present immense barriers to improving student learning" leave teaching to instructional ends (1995, p. 20). When Barr and Tagg try to reformulate a form of teaching that compliments their Learning Paradigm, they give up the term altogether, instead using the language of "coaching" "designing" and "inter-acting" (1995, p. 24).

Second: that teaching involves the transfer of knowledge. Along with the assimilation of teaching to instruction, Barr and Tagg follow the assumption that teaching operates primarily in a vehicular manner. What does the teacher do? He or she takes knowledge and delivers it to the student. "In the Instruction Paradigm, a college aims to transfer or deliver knowledge from faculty to students" (1995, p. 15). Delivery of knowledge is used as a way to describe what is wrong with the Instruction Paradigm and, by contrast, what is right about the Learning Paradigm. In stating that delivery of knowledge via lecturing is what teachers currently do, Barr and Tagg, whether in favor of such delivery or not, confirm that their paradigm shift accepts a simplistic model of the transfer of knowledge from teacher to student. Indeed, they are critical of teaching because the teacher relies too often on the transfer of knowledge. In their opinion, knowledge is transferred too much.

Third: that teaching creates an active teacher and a passive student. This presumption relates closely the one above, namely, that teachers transfer knowledge to students. The crux of Barr and Tagg's argument for a new Learning Paradigm centers around the fact that instruction comes from the teacher while learning comes from the learner. Thus, they propose that a focus on teaching is a focus on the actions of the teacher rather than the actions of the student. Citing Alan Guskin, Barr and Tagg affirm, "'the primary learning environment for undergraduate students, the fairly passive lecture-discussion format where faculty talk and most students listen, is contrary to almost every principle of optimal settings for student learning.' The Learning Paradigm ends the lecture's privileged position" (Guskin 1994; Barr & Tagg, p. 13-14). Here, it is assumed, first, that teaching is mainly about transferring knowledge, and, secondly, that such teaching naturally creates passivity on the student's part.

Fourth: that teaching creates an atomistic method of education. For Barr and Tagg, the tradition of teaching creates a situation where discrete courses offer discrete bodies of knowledge. They point out that, following the instructional paradigm, these discrete bodies of knowledge are supposed to mesh and add up to a whole, connected curriculum. They argue that, in reality, students rarely make the necessary connections between these discrete bodies of knowledge. As Barr and Tagg explain, "The teaching and learning structure of the Instruction Paradigm college is atomistic. In its universe, the 'atom' is the 50-minute lecture, and the "molecule" is the one-teacher, one-classroom, three-credit-hour course… The resulting structure is powerful and rigid… It is antithetical to creating almost any other kind of learning experience" (1995, p. 19). Barr and Tagg construe teaching as putting bricks, one by one, on the edifice of knowledge. Students, however, learn in a much more holistic, recursive manner. Their Learning Paradigm, in contrast, will create a seamless learning experience. In sum, Barr and Tagg position teaching as an activity of instructing, delivering knowledge, creating passivity, and fostering atomism.

Given these four main points, it is important to note that the first of Barr and Tagg's points, teaching-as-instruction, is hastily offered as a precondition for the other three mis-educative aspects of teaching. It is instruction—and not necessarily teaching—that lends itself to mis-educative experiences. Yet, Barr and Tagg assume that teaching *is* instruction. The above close reading of Barr and Tagg's seminal work shows that they use a truncated picture of teaching in order to offer a disparaging description of the teaching practices in higher education. If teaching were construed broadly, it might be difficult to say that teaching is responsible for these ills. For example, if teaching were done in such a way that students were led to knowledge rather than given knowledge directly, then transmission would not be a problem. If teaching were carried out so as to empower students, then students would not necessarily remain passive. If teaching were done holistically, then curriculum would not necessarily be atomistic. If teaching were broadly construed to consist of any number of practices other than direct instruction, then teaching would not necessarily have the detrimental outcomes enumerated by Barr and Tagg. But since teaching is assumed to be direct

instruction, then the ill-effects of transmission, passivism, and atomism follow rather unproblematically throughout their argument.

By assimilating teaching to instruction, the Learning Paradigm does not take into account broader linguistic and historical discourses on teaching. If one thinks of teaching as a theoretically contestable practice, and not as an institutional practice whose ill-effects are foregone conclusions, then one comes to different conclusions. More precisely, Barr and Tagg offer a stereotype of the spoken word of teachers, whereas philosophers and educational theorists have been debating the very nature of teaching and its language for thousands of years. Certainly Plato, in *The Meno*, would have construed teaching-as-instruction to be a rather hasty stereotype (2015). Barr and Tagg—and by Barr and Tagg I also refer to decades of Learning Paradigm advocates who have echoed their sentiments—fail to take into account thousands of years of educational context and educational theorizing. Instead, they have aggregated profound, longstanding debates about the nature of pedagogy by introducing a few quick institutional recommendations.

Teaching in a Philosophical Context: More than Simply Instruction

In this section, the Learning Paradigm's account of teaching will be critiqued using the philosophical work of Jacques Derrida. Whereas the Learning Paradigm assumes that teaching is only a matter of instruction, I will argue, along with Derrida, that teaching is always *something more* than instruction. Speaking in 1974 to Greph, the Groupe de Recherches sur l'Enseignement Philosophique,
Derrida describes the phenomenon of teaching as a practice wherein the teacher is called upon to erase him or herself in order to become a mouthpiece for whatever content is under consideration (2002). Or rather, we should say that the teacher is *mistakenly* called upon to erase herself and become such a mouthpiece. It is this assumption that the teacher can be erased that Derrida wants to challenge. Derrida describes the supposed ability of the teacher to erase herself as follows:

> When I say I pose questions, I pretend to say nothing that would be a thesis. I pretend to pose or posit something that at bottom would not pose or posit itself. ...This alleged neutrality, the non-thethic appearance of a question that is posed without even seeming to *pose itself,* is what constructs the teaching body (2002, p. 89).

As Derrida correctly points out, there is a deeply entrenched assumption that teachers can somehow get out of the way and let texts, concepts, ideas, narratives, etc., speak for themselves. This assumption of erasure filters all the way down to the sorts of statements and questions that teachers see themselves as able to pose. The simple act of posing a pedagogical question is, as Derrida points out, steeped in the plausibility of teacher erasure.[1]

In this same lecture, entitled ''Where a Teaching Body Begins,'' Derrida links this matter of erasure not only to the micro-phenomenon of personal pedagogy, but also to the institutional practices of university teaching wherein the professor is supposed to ''erase'' his or her research interests if those research interests do not inform the content of what is being taught in the classroom (2002). As Derrida points out, professors are often called upon to act as if they are blank slates. I, as a professor, am often called upon to let a text speak for itself without me 'interfering' with the text's content. Even if I have organized my own research around the text under classroom consideration, it is assumed that I will not insert my own research into the 'pure' learning of the text. Or at least, it is assumed that I will not do so too forcefully.
Derrida's account of his own erasure is insightful and intimate. (I know that rings true to my own experience as a researcher and teacher.):

> Such dissociation is so well accepted and interiorized on both sides that I myself have been able to abstain almost totally, in the course of the exercises, and partially, in the course of seminars, from implicating work that I pursue elsewhere and that can be consulted in publications. I act as though this work did not exist, and only those who read me can reconstruct the network that, although concealed, of course unites my teaching and my published texts. Everything in the seminar must, in principle, begin at a fictive zero point of my relation to the audience: as though we were all ''complete beginners'' the whole time (2002, p.77).

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[1] See [author reference].

The university system often calls upon teachers to ignore their research and act like they are beginners. And what's more, the practice of teaching at all levels has a certain mandate of erasure. Here, think of the physics teacher who must teach first year physics as if quantum theory did not exist. Or, think of the first grade teacher who will read, with apparent glee, simple, rhyming verse to his students even though he actually has a taste only for complex prose-poems. As Derrida makes clear, erasure is built into the teaching apparatus at all levels: ''The teaching body (exposed, we will see, like a nonbody simulacrum reducing the body taught to a nonbody, or inversely, which amounts to the same thing, a body reducing a body to nothing but a body or a nonbody, etc)'' (2002, p. 80).

For Derrida, this logic of erasure is none other than the logic of the
signifier giving way to the signified. That is to say, the signifier is in relation to the signified in the same way that the teacher is in relation to whatever is being taught. The teacher acts as a signifier, signifying whatever content he or she is called upon to represent. There is thus

> ..a structural invariant in teaching. It originates in the semiotic structure of teaching, the practically semiotic interpretation of the pedagogical relation: Teaching delivers signs. The teaching body produces (shows and puts forward) signs or, more precisely, signifiers supposing the knowledge of a prior signified (2002, p. 81).

If one follows the logic of erasure into the realm of signifiers and signifieds, then it becomes clear why the teacher and her signifiers need, supposedly, to be erased. In order for content to become apparent to the student, the teacher-as-signifier must become a clear window onto content. The teacher must enable the student to see content clearly. The teacher-as-signifier must be erased so that the content-as-signified can come into view in and of itself. In Derrida's words, ''The teaching body, as organon of repetition, is as old as the sign and has the history of the sign. It lives from belief in the transcendental signified'' (2002, p. 81). Under the logic of erasure, the signifier stands in an inverse relation to the signified. That is to say, the teacher stands in an inverse relation to content-matter. A teacher's role becomes fulfilled to the extent that he or she becomes erased, while content's role becomes fulfilled to the extent that it becomes clearly visible to the student. As Derrida notes above, this is a precise reiteration of the belief in the transcendental signified. It repeats the belief that the word ''table'' is but an unimportant shadow of the table itself. It repeats the belief that meaning always trumps whatever words we use to represent meaning. Teachers should get out of the way because the meaning of content trumps all.

Derrida's Notion of Différance

Given the above presumption of teaching and its erasure, it is reasonable to situate this pedagogical scene in Derrida's more encompassing work on what he has called "différance" (1976). Derrida's work on différance actually reworks the presumptions of erasure, giving rise to an alternate way to think about the work of the teacher. Indeed, with regard to his own oeuvre, Derrida has made the following notable claim: "Deconstruction or, at least what I have proposed under this name—which indeed is as good as another, but no better—has therefore in principle always concerned the apparatus and function of teaching in general..."(2002, p. 73).[2] Let it suffice here to give a brief introduction to this relation by elucidating Derrida's work on language and différance. Derrida's notion of différance pushes the linguistic distinction between the signifier and the signified to the point where this very distinction becomes problematic. Following the terminology of structural linguistics, the sign is composed of two main parts, the signifier and the signified.[3] The word, ''table,'' for example, is a sign that is composed of a word itself, the ''signifier,'' and the meaning of the word, its ''signified.'' When a person says ''that table,'' she is using a signifier ''table'' to denote some specific signified, some specific table. That is to say, one can understand the meaning of ''zenu'' in the following sentence without knowing beforehand what a zenu is: We all sat down for dinner at the zenu. One can easily guess what ''zenu'' means by virtue of its relation to other signifiers in the sentence. In this sense, there is a slipperiness to the signifier/signified pair. The relation between signifier/signified is contextual rather than intrinsic. A particular signified cannot be mapped to a particular signifier in a constant and

[2] I have explored the relation between teaching and deconstruction in ([author reference];[author reference]; and [author reference]).
[3] Of course, Ferdinand de Saussure had already identified the slipperiness of the signifier/signified relationship. He had, before Derrida, already observed that the signifier gains its meaning by its relation to other signifiers, rather than by any intrinsic meaning that it carries within itself (1983).

unchanging way.

Following Derrida, the signifier has a messy relationship with the signified. It does more than simply signifying the signified. Specifically, it does two things more: When a signifier is in a position to give some meaning, it first defers the very meaning it is supposed to be giving. That is to say, when the word ''table'' is used to mean some piece of wood at which people sit to have dinner, the word table defers the meaning of the actual piece of wood insofar as the signifier stands in for the table but is not, precisely, the table itself. In this way, language always puts the meaning of what it is trying to say at a distance once removed. Language serves to defer meaning even as it is usually assumed to confer meaning. Or take the more socially constructed term, man. When I use the word ''man'' to refer to someone, it is not simply the case that by saying ''man'' in a sentence in reference to that person—it is not simply the case that I have given a precise account of that person's gender by so saying. By saying ''man'' in reference to someone, I have actually reified that person's gender into whatever stereotypes are embodied in that short three-letter word ''man.'' By saying ''man,'' I have not described the person's gender as much as I have kept myself from describing it. I have deferred the meaning of his gender by taking a detour through a stereotyping signifier. To defer is the first meaning of différance.

Secondly, a signifier differs meaning at the same time that it is usually assumed to confer meaning. Take again the example of the table. When I say ''table'' to refer to some piece of wood, the use of the signifier ''table'' necessarily depends upon the specific context in which the signifier is used. The word table will indicate a specific table. It will indicate this or that table, or it will indicate a table that I imagine, or that my interlocutor imagines. At any rate, when I say ''table'' there will always be a meaning that is specific to the context in which the word table was spoken. The utterance of a word happens in a specific context, at a specific time, with reference to a specific set of circumstances. The specific context of an utterance makes the meaning of the signifier different from all other uses of the same signifier. It is in this way that language serves to differ meaning at the same time that it is assumed to confer meaning. Each new use of a signifier will differ, at least to some extent, from every past use of the same signifier. This is even more clear when a human-oriented signifier such as ''woman'' is used. Even more than a table that might be mass-produced, each woman is different from another. Yet we use the signifier "woman'' to refer to a particular, unique woman nonetheless. Insofar as the signifier ''woman'' confers meaningful meaning on this particular woman, it confers a meaning that is different from all other possible meanings. In this way, the signifier both differs and defers. Derrida's famous notion of différance denotes this double movement, this vertical slipperiness, of the signifier/signified pair.

Différance in Teaching

Now, given the above account différance, it is possible to theorize the logic of erasure supposedly so central to teaching. As I have shown above, mainstream understandings of teaching assume that the main role of the teacher is to facilitate learning. In other words the teacher's job is to signify content. Yet if the teacher signifies, and content is signified, then, following Derrida, différance will be at play. That is to say, there will be a vertical slipperiness between teaching and content that is completely ignored by the supposed necessity of erasure. The mistaken assumption that teachers can be erased, that they can act as clear windows onto the more serious matter of content— this mistaken assumption disregards the slippery interaction between what-one-teaches and the meaning of what-one-teaches. It disregards the différance of linguistic practices.

When a teacher teaches, he or she cannot simply point to, or signify, some content that is already there just waiting to be understood. Instead, the teacher will defer content as he teaches, and, he will differ content as he teaches. This will happen in the same way that every signifier defers, as well as differs, its signified. When the teacher teaches, she will defer content by representing content in a reified way, in a way that requires the student to go through a detour of teacherly representation before actually arriving at an engagement with the content itself. When I teach about World War II, I am actually creating a reifying detour for my students to go through, a detour that postpones one's self-directed learning about World War II at the same time that it supposedly makes World War II all the closer to the student. And this deferring will happen whether or not the teacher tries to stand back and get out of the way. The presence of a teacher is a presence that points, that signs, whether or not the teacher intends to point or to sign. Even if one's teaching about World War II is not didactic, but is rather progressive and (supposedly) unobtrusive, even so, the very naming of World War II within an academic setting serves to defer World War II. It puts World War II over there, as something that has already been studied, as something that is less of an experience than it is an academic exercise, a detour around real life.

And the teacher will differ content, too. Because teachers do not actually stand in an 'erasable' position, it is impossible that a teacher will be able to offer a lesson that does not change the content of that lesson. The content of one's instruction, no matter how invariable and institutionally driven it may seem to be, is always going to have a particular, unique meaning on it depending upon the circumstances of the teacher's utterance. As Derrida reminds us, ''There is no neutral or natural place in teaching''(2002, p. 69). Interestingly, he does not mean this in the Marxist sense that there is nothing outside of ideology. Rather, he means this to be a post-semiotic statement that there is no signifier that does not have a differing effect on its signified: There is no teacher who does not have a differing effect on his or her content. When a teacher teaches about World War II, there is a performative act of differing.[4] What one says has a context. One speaks from a certain orientation. One has certain aspects of content that one stresses. One chooses what to highlight and what not to highlight. This happens even if one is not conscious of choosing to do so. There is a particular, unique context to each teacherly utterance because speech in not preprogrammed. Speech comes to fruition in its performance. A teacher signifies content at a particular time and in a particular way. His or her content differs as it defers. Teaching, like signing, is subject to différance.

CONCLUSION
To conclude, I would like to compare the presumptions of the Learning Paradigm to Derrida's insights into teaching. And I would like to offer an anecdote from my own experience of a teacher who taught me in university. As Derrida points out, the teacher is always the person who changes content in a unique way. In contrast to the 'learning paradigm' which assumes that a teacher is merely an instructor who erases him or herself, Derrida reminds us that teachers have always done two things to content: the teacher has always deferred content, and the teacher has always differed content. When the Learning Paradigm aims to displace the teacher by displacing instruction, Derrida would remind us that the role of a teacher has never precisely been to instruct in any simple sense of instruction. The teacher has never been one who delivers content in some direct and unproblematic way. The teacher was always he or she who changed content in a unique way. By definition, this person cannot be replace through technology.

When advocates of HELT's predict the end of the teacher, what such advocates ignore is the working of différance. The proposed goal of a learning technology is to provide direct access to content in a way that makes teaching unnecessary. However, teaching cannot be unnecessary because teaching will always add a change to content that cannot be foreseen. Those who predict the end of teaching have actually made a mistake as to what teaching is. They have made a categorical mistake. Teaching puts its mark on content by deferring and differing. Teaching thus actually changes the nature of content in unique ways. This is an aspect of teaching that should only be deleted if one wishes to give up on invention and creativity itself. Content is not simply delivered through the work of a teacher. Content actually takes on various lives through that work. Thus to decry the work of the teacher, far from making content more directly accessible, actually restricts the various iterations of content.

Derrida's analysis shows very clearly that teaching cannot be equated with mere instruction. And because teaching cannot be so equated, it is not the case that the sole role of the teacher is to foster learning. While it is true that students do learn from teachers, it is also true that teaching brings something more. When content is taught, that content is forever changed in unique ways by the teacher. As Derrida puts it, content *differs* when the teacher teaches. In a sense, it not incorrect to say that ours is a post-instructional age. Today is post-instructional in the sense that instruction is no longer necessary if instruction is taken to mean the delivery of content. Certainly, technology can reproduce content delivery on a massive scale. But teaching is not the same as instruction because teaching changes content at the same time that it delivers content. Thus while ours is a post-instructional age, it is not a post-teaching age. What follows a short anecdote that illustrates the significance of teaching as opposed to instruction.

Professor White and Différance

Some thirty years ago, I was taught Shakespeare by a teacher named Professor White. I will never forget the first day of my Shakespeare course. Professor White would enter on the first day, smoking a pipe, grey hair wild and

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[4] Here I am referring to J. L. Austin's sense of performative insofar as a performative utterance can be said to establish something by virtue of its utterance rather than simply reflecting a pre-existing state of affairs (1962).

disheveled. He carried a large notebook, about six inches thick, with hundreds of pages of handwritten notes. Slowly he entered, then with a deliberate *thud* he pounded his notebook to the podium.

"This, this…" he proclaimed emphatically, "this, is twenty years of teaching Shakespeare." The students, about 40 of us in a small lecture hall, watched as his pipe smoke wafted in front of us. Silent, impressed, eager, we could not wait to hear his thoughts on The Bard. He had a tome of notes about Shakespeare, yet he would rarely refer to the notes themselves. Whatever the content of his "twenty years of teaching Shakespeare," his lectures, week after week, flowed from memory and wafted around us following the contours of the ephemeral smoke whose sweet odor we became accustomed to as the semester unfurled.

Professor White was a legend around the university campus. He was one of the few teachers students talked about with unbridled enthusiasm. I remember watching my friends imitate his idiosyncrasies at night in the hallways of the dormitory. Young men would copy his speech and turns of phrase as if they were practicing the agile movements of a famous soccer player.

Professor White never told us, in so many words, which of Shakespeare's plays was his favorite. But when it came time for us to read *A Midsummer Night's Dream*, his way of teaching, his level of excitement and creativity, spoke loudly enough that we all sensed the Shakespeare play that was closest to his heart. I will never forget his description of Bottom, the "rude mechanical," the bumbling anti-hero of *A Midsummer Night's Dream*. "Bottom," he would say, "Bottom's name says it all. Bottom is… *the Bottom*." The class would laugh and smile. Professor White's speech would once again be copied that evening in the dorm hallway. As if his words were the lyric of a pop song, a phrase difficult to get out of your head.

Professor White inspired in me a lifetime of Elizabethan enjoyment. At least once a year, I manage to see a Shakespeare play. And I am lucky enough to live now in a city where a high quality Shakespeare company puts on plays every summer. I have been in the audience of perhaps 70 Shakespeare productions over the years. And my favourite? It is *A Midsummer Night's Dream* of course. And whenever I see one of Shakespeare's plays—no matter where the production, how good or how bad—I always feel that Professor White is there with me. I feel his presence as if he is sitting on my right shoulder in miniature. I remember his pipe and the wafting smoke.

Returning to Derrida, I now realize that Professor White's teachings indeed changed the meaning of Shakespeare for me. One might say that Shakespeare is both deferred and differed by this memorable teacher. Shakespeare is *deferred* in the sense that I cannot help taking a detour through Professor White whenever I attend a Shakespeare play. I cannot help but encountering Professor White, his pipe, the wafting smoke, his tome of notes, square on my shoulder every time I attend a Shakespeare play. Moreover, this teacher has changed, has *differed* Shakespeare for me in the sense that I certainly have a different understanding of Shakespeare resulting from Professor White's influence. If I had come to Shakespeare on my own, or if I had encountered Shakespeare through another teacher, I would no doubt think of Shakespeare much differently. Without becoming overly nostalgic or overly optimistic about great teachers like Professor White, I can conclude with a simple observation. Teachers do more than instruct. They defer and they differ. While instructors might be erasable, teachers are not. A teacher is quite different from a Highly Effective Learning Technology, and so a teacher cannot be replaced by a HELT. The teacher's difference resides in the teacher's différance.

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THE ASPECTS OF FOOD IN THE RITES OF PASSAGE IN TURKISH CULTURE

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ABSTRACT
No matter who we are or where we live, our lives revolve around food, which is much more than a merely sustenance. As a part of the human culture, food carries complex significance and symbolic meanings.
Turkish people attribute great value to food and its usage specifically tied to rites of passage of human life. Traditions, especially the ones practiced during rites of passage, such as birth, circumcisions, weddings and funerals, have always been accompanied by food in Turkish culture. Since food celebrates and symbolizes human progress in life in the culture, it also surrounds by aspects of belief, custom, magic, ritual and religion and has always been used in ceremonial context during such rites. Even though that context may be different depending on the religious, economic and social nuances of the various Turkish regions, like wheat, meat and bread, certain kinds of food play key roles during Turkish rites, generally upholding traditions. This paper highlights the place of food in the rites of passage in Turkish culture.

Key words: food, culture, rites of passage, ceremony.

INTRODUCTION

Food is an indispensable component of everyday life. It carries complex significance and symbolic meanings since it is part of a culture. Moreover, it is vital for both the biological aspect of a human organism as well as the making and maintenance of social relations: "*Any given human individual is constructed, biologically, psychologically and socially by the food he/she chooses to incorporate*" (Fischler 1988: 937-953).

Recently, there has been a growing cross-disciplinary interest in food and all of its aspects, specifically within the so-called social sciences. Food habits, processes, preparations, rituals and customs are just some of the topics academically discussed in a number of ways. Anthropologists, for example, tend to view food practices as one element of customs that make up a culture. On the other hand, nutritionists are mostly concerned with the impact of rituals and ceremonies on health. They focus on health effects ignoring the cultural values of food. Those two approaches provide one with fruitful research within an emerging discipline known as nutritional anthropology. In other words, nutritional anthropology is concerned with the relationship between nutrition and culture as well as their interaction (Fieldhouse 1991: 17). However, it should also be pointed that food culture goes beyond the boundaries of nutritional anthropology. It is an important research area that invites the curious eyes of historians, folklorists, sociologists and geographers, among others. Foodways has also become a focal point as well as a fine example for one to understand cultural and historical values inextricably intertwined within a society. Especially at different social gatherings, such as ceremonies, celebrations and rituals, food displays the importance of culture in every society.

Moreover, food in ritual context is also has been studied by scholars, specifically by anthropologists, sociologist and religious scholars. The earliest studies about food and its ceremonial context concentrated mostly on tribal societies. Those studies were conducted by cultural anthropologists at the beginning of the nineteenth century. They primarily focused on the significance of food in primitive rituals. To provide you with an example, in his 1964 book *The Raw and the Cooked*, anthropologist French Lévi-Strauss explored natural and cultural relationships on a culinary level. Furthermore, he maintained that culinary rites are not inborn but rather acquired phenomena (Lévi-Strauss, 1975: 586-595). Moreover, in the early twentieth century, Freud investigated the psychosexual aspects of consumption. Advocates of the structuralism tradition, such as Claude Lévi-Strauss and Douglas, have successfully shown how food is used to classify different phenomena, thereby creating a common worldview among people who share a culinary culture. Bronislaw Malinowski, the founder of functionalism, coined the basic strand of functionalism opposing the evolutions and historical particularism. Malinowski used the term "needs functionalism", believing that "humans had set of universal biological needs, and that customs developed to fulfill those needs" (Conrad 2011: 65). His form of functionalism focused on the individual, satisfying the basic seven needs of humans which include nutrition, reproduction, bodily comforts, safety, movement, health and growth (Moore 2009: 141).

Furthermore, scholars in the disciplines of anthropology and sociology viewed ceremonies and rites of passage as a way to examine a culture. Emile Durkheim, the founder of classical social science and religious theories, claimed that a ceremony is approving events in a society. Just like Durkheim, an expert on religion and ritual, Arnold van Gennep, who made the most devastating critique to Durkheim's views, innovated the term "rites of passage", in

his work *Les rites de passage*, "Rites of Passage" in 1960. Arnold van Gennep plainly stated that Durkheim's opinions of primitive cultures were "entire erroneous". He claimed that passage in social groups requires a ceremony, or ritual hence rite of passage. Later, some other scholars, such as Geertz, Turner and Rappopart, worked on ritual and ceremonies without mentioning the role of food at their studies.

Turkish folklore scholarship has not focused on food from a folkloric perspective since no books on traditional Turkish food culture and its role in the rite of passsages have been produced yet. The book, for instance, *Yemek Kitabı (Food Book)*, deals with how the old Turkish sources provide us with concrete information on the Turkish food tradition, such as *Divan-ü Lügati't –Türk* and *Kutadgu Bilig*, which are considered very important works in terms of Turkish cultural history. They also focus on food and its relationships with folklore, history and literature (Koz, 2002). However, there are abundant incomprehensive studies in that field which focus on food culture of a particular cuisine, ingredients and aspects of food production, as well as preparation and consumption of specific foods. Ethnological perspectives on the role of food in human life illuminate different aspects of food, such as culture, relations, identity and power.

As it is true for all human beings all over the world, the entire life-cycle of a person, from birth to death, is marked by a series of rites of passage. This paper is primarily concerned with a specific food and its importance in the rites of passage within Turkish society. Since the role of food, particularly in the rites of passage is still overlooked, this study aims to highlight the significance of food during the rites of passage. By focusing on specific food and rites of passage, this paper also aims to make some contributions to studies on food and culture in general.

The Characteristics of the Turkish Food
Turkish food culture was established during the Nomadic period and the first settled Turkish States of Asia, called Anatolia. In that period meat, dairy, vegetables and grains characterized the core of Turkish food culture. The typical food used in that period was of course wheat which was cultivated and used liberally in several types of leavened and unleavened breads baked in clay ovens, on the griddle, or buried in ember. The use of layered dough is rooted in the nomadic character of early Central Asian Turk. Dough based specialties an integral part of traditional Turkish food culture. Skewering meat as well as other ways of grilling varieties of *kebap* and dairy products, such as cheeses and yogurt, had been convenient and staple foods of the pastoral Turks. Sheep breeding was one of the most important forms of farm life for the Turks.

Another aspect of food is related to its ingredients, mainly sheep meat and onion. The other aspect is the cooking style: Coal fire. The utensil used the copper stewpot (Anger 1994:78). Turkish food gets its sources from rich vegetables, variety of herbs as well. The typical and traditional Turkish beverages are tea, coffee and *ayran,* namely a popular yogurt drink. Tea is the main source of caffeine for Turkish people and an essential part of a working day. It is prepared in a special way, by brewing it over boiling water and served in delicate, small clear glasses to show the deep red color and to keep it hot.[1]

The Food in the Rites of Passage in Turkish Culture
Food functions as a way to give structure to daily life and to ritualistically mark the passages from one formal life stage or informal life stage to another. Like in every culture, there are certain kinds of food consumed in the rites of passage that are pervasively performed within the Turkish culture.

As in the rest of the world, the first passage of birth, is almost always considered as the happiest event. It is believed that birth increases strenght in Turkish society. It also makes people safer and powerful at their communities. Since it is a happy event, birth has to be celebrated accompanied by a rich, sweet pastry, the so-called *baklava.* İn fact, except the dead ritual, *baklava* is the most social and ritual dessert in Turkey because it is served almost all ceremonial events, such as births and weddings. *Baklava* is made to share with the guests who attend the ceremonies. There are many variations of *baklava* in terms of ingredients, sizes, flavors and shapes. The most popular *baklava* is made of flaky layers of dough filled with pistachios or walnuts, stacked and brushed with butter and sugar syrup cut into rectangles or diamonds. Although many ethnic groups with ancestry going back to the Middle East claim the origin of this luscious pastry, there is no solid historical evidence (--though it is strongly supported that it stems from Central Asian Turkish tribes). Besides, in Turkey, the *baklava* recipe known and used today, was probably developed in the kitchens of the *Topkapı Palace*. Indeed, the sultan presented trays of *baklava*

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[1] There are many studies done about Turkish food culture in general. For example, the study by Bahaeddin Ögel *Türk Mutfağının Gelişmesi ve Türk Tarihi Gelenekleri* and another study by Mehmet Eröz "*Türk Yemek Adetleri*" give information about Turkish food culture.

to the Janissaries every 15th day of the Ramadan, a time of fasting for Muslims all over the world, in a ceremonial procession called the *Baklava Alayı*.

After the rite of birth, there is a teething ceremony, namely when a child gets his first teeth. The main food in this ceremony is boiled wheat. Both the food and the ceremony are commonly named similarly: *diş buğdayı* or *diş hediği*. In Turkish, *diş* is tooth and wheat is *buğday*. *Hedik* refers to a traditionally cooked wheat dish eaten on this specific occasion. Boiled and pounded wheat is called *bulgur* in Turkish, another common name for this tradition. *Bulgur* plays an important role in the Turkish cuisine. It has a higher nutritional value because *bulgur* is considered an ideal grain in a vegetarian diet too. *Bulgur* is the first food produced after wheat is processed. Wheat is boiled so as to taste a bit softer than *bulgur*. The ceremony "tooth wheat" celebrates the appearance of the baby's first tooth. It is believed that, if the ceremony is not held, the baby will have tough teething (Saritas 2011: 122). The anonymous, following lines symbolize the frustration of teething for the baby and the importance of wheat:

> *"If my mother sells my bed, she would make the wheat; I would then get my teeth easily. If my mother does not make the wheat for me, she should keep my coffin ready."*

The passage of circumcision is another important rite of passage in Turkish culture. In fact, circumcision and the completion of military service are two major events throughout a Turkish boy's life. Circumcision is considered as the first step on the ritual path to becoming a man. It is the strictest and the most widespread practice among religious and ritual procedures, even though both festivities and food vary according to region and ethnic origin. Since it is also a showing off to a society, there are certain kinds of food served throughout the ceremony. The main food is called *keşkek,* a traditional Turkish dish served at major ceremonies, such as weddings, funerals and some religious celebrations all over Turkey. *Keşkek* is made of wheat and meat and it requires a long process for both women and men. After being cooked in huge cauldrons, it is served to the guests. People participate by selecting the wheat in order to be blessed as well as by praying and carrying the wheat prior to cooking it. That cooking tradition is safeguarded and transmitted by master cooks to apprentices. Indeed, *Keskek* has officially entered UNESCO's Intangible Heritage List.

Farewell to the soldiers is another important ceremony in Turkey since joining the army is both a duty and a political right for all Turkish men who are twenty years old. It is believed that every Turk was born as a soldier. Therefore, certain foods play crucial roles in the organization of that farewell party. The families of the young people who will attend the military soon may sacrifice animals. They organize "soldier meals" with the meat accompanied by rice, namely *pilav* in Turkish. The rice is cooked rather differently than the rest of the world in Turkey. It is sizzled in stewpot at first to have it a creamy, buttery, and melt in the mouth consistency and taste. At the meal, there is the soldier's *baklava*, *asker baklavası*, the most popular sweet in Turkey. The farewell to the soldier ceremony ends at the bus station, holding the Turkish flag and dancing with the families that are left behind in pride and sadness.

The henna-night, *kına gecesi* in Turkish, is another important rite of passage. It is the most colorful part of the wedding female rituals. It takes place at the bride's parents' house, one or two nights before wedding ceremony. Usually dressed in red and veiled with a red headscarf, the bride enters to the room where all females are gathered. She sits on a chair and the young girls start walking in circles around her by singing specific songs all together. The mother-in-law takes some henna from the cup and tries to put it in the palms of the bride. The bride refuses to open her hands at first. When the mother-in-law puts a gold coin in the bride's palms, the bride accepts the henna. Later, the henna cup is passed from one female to another and each woman puts some henna in her own palms. Throughout a traditional henna-night, some specific foods are accompanied by dancing, singing and talking. The main food in this tradition includes non-alcoholic beverages, dried fruits, nuts so called *kuru yemiş* in Turkish. Hazelnut, peanut, pistachio, pine nut, chickpea (roasted as *leblebi*), grape, plum, sunflower seed, squash seed, watermelon seed, apricot, almond, walnut, corn are just some examples of Turkish dried foods and nuts. In fact, nuts and dried fruits have social significance in Turkish culture because these foods always associated during the ceremonial events, such as wedding and teeting.

The wedding ceremonies in Anatolia are unarguably the most important and noticeable communal events of the Turkish society. Even though the types of dishes served vary extensively from region to region, the main food is called *keşkek,* a traditional Turkish dish served in weddings as well as circumcisions, funerals and some other religious celebrations all over Turkey. Since marriage symbolizes not just the sacred union of two individuals but also the coming together of two families and extended families as well, a wedding*, düğün* dish, *keşkek* is shared with all who attend the celebrations. In rural areas, *keşkek* is served on a big *sini* a traditional alternative to a table during the wedding ceremony in Turkey.

The last rite of passage is dead. The main food at a funeral ceremony within the Turkish culture is *helva.* The preparation of *helva* is done communally. Made by pan-sautéeing flour or semolina and pine nuts in butter before adding sugar, milk or water, and briefly cooking until these are absorbed, the act of consuming *helva* is a shared community experience, a show of support for the grieving. There are certain days, such as the 7th, the 40th and the 52nd day as well as the yearly anniversary of a person's death, that are being commemorated through a religious ceremony and a meal as well. In particular, the number 40 is a mystic number in Turkish culture. On that day after the death of a person, friends and relatives visit the immediate family all day and night. They bring a meal along and keep them company.

CONCLUSION

In most parts of Turkey, whether religious or non-religious, a certain food is being consumed during the rites of passage. As a result, food is both ceremonial as well as significant within the Turkish society. It also represents the hospitality and the expression of friendship among Turkish people. Therefore, sensitivity to food preparation and consumption during rituals is important toward building and strengthening cross-cultural relationships. Food also plays an important role specifically marking ritual passages. In a ceremonial context what food is served and where individuals sit have symbolic meanings in Turkish society (Besirli 2010: 163). Because Turkish people share similar cultural backgrounds and have similar food habits, certain food plays key roles during specific rites. Hence, Turkish food patterns are identical. Finally, food brings social solidarity and integration via certain ceremonies and rituals. All in all, food reflects the history of Turkish culture in terms of spiritual, cultural, economic and political aspects.

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THE SPECIFICS OF THE LOGOPEDIC AND SPECIAL EDUCATION INTERVENTION IN CHILDREN WITH PSYCHIATRIC DIAGNOSIS

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Introduction: Communication disorders can be often linked to psychiatrics diagnosis in children. The aim of this article is the need to point out the specifics of speech and language intervention in children with psychiatric diagnosis. Methodology: The qualitative analysis of psychiatric disorders and communication disorders was carried out in Psychiatry Hospital in Dobřany, Czech Republic. Results: The most frequent sequence of psychiatric diagnosis combinations and communication disorders were specific language impairment, specific learning disabilities and communication disorders in intellectual disabilities with ADHD. Conclusion: The need of speech and language therapy and special education intervention in children in the psychiatry hospital settings is indispensable. Partial results of the investigation are related to the issue of specific learning disorders be related to the project IGA "Research on selected disorders and differences of communication ability with focus on the specifics of speech and language therapy and special education for hearing impaired assessment and intervention "conducted at the Institute of Special Education Studies Faculty of Education in Palacký University Olomouc, Czech Republic, IGA_PdF_2015_024.

Keywords: communication disorders, special education, psychiatry, children, hospital, specific language impairment, specific learning disabilities, ADHD

THE UNIVERSAL DESIGN FOR LEARNING GOOD PRACTICES INVENTORY
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ABSTRACT
This paper presents the design principles and the development results of the UDLnet Inventory for Good Practices that follow the Universal Design for Learning (UDL) framework. It aims to bridge the gap between theory and practice in applying UDL. Good Practices included in this Inventory incorporate methods, techniques, approaches or lessons, which apply the UDL principles and guidelines. The basic selection criteria for an UDLnet Good Practice were: transferable, adaptable, flexible and effective. Media Resources complement the UDL Good Practices and relate to the pedagogical approach applied by the educationalist and the instructional material used. Collections provide the facility to gather, link, and organize different UDL Good Practices and Media Resources together. The UDLnet Inventory is not static. It is a growing and dynamic space whose main purpose is to stimulate new reasoning and practices and challenge existing ones.

INTRODUCTION
The increasing interest for inclusive education in the last decades mark out that students in a class have: a variety of academic *abilities*, different *backgrounds*, diverse educational *experiences*, different *learning styles*, a variety of *preferences*, different physical or cognitive capabilities (due to a possible *disability*) and are used to instruction at *different paces*. The average student is a myth, as individual capabilities in language, memory, reading, knowledge, perception, cognition, dexterity, etc. can be extended from low to high. The need to respond to learners' variability hasbeen related with the concept of differentiation (Blamires, 1999). A teacher who follows the differentiation approach, proactively plans and carries out a variety of approaches to content, process, and product in anticipation of and response to student differences in readiness, interest, and learning needs (Tomlinson, 2001). Thus, differentiation is a paradigm shift in pedagogical thinking from an approach that works for most learners, towards one that involves providing rich learning opportunities that are sufficiently available for everyone, so that all learners are able to participate in the classroom life (Florian & Linklater, 2010). From another point of view, Universal Design for Learning (UDL) has been proposed (Rose & Meyer, 2002) as an educational

framework to guide development of flexible learning environments to accommodate individual learning differences. UDL seeks to increase access to learning by reducing physical, cognitive, intellectual and organizational barriers. UDL is much more complex than we originally thought (Edyburn, 2010). Only a few research studies have provided a comprehensive framework to put the UDL pieces together, in a practical, research grounded and efficient way (Ketz, 2013). Thus, challenges and barriers for practice seem to be similar in many countries, where educators are not familiar with UDL (Cooper et al. 2008).

This paper describes the design and development of the UDL Good Practices Inventory to benefit the interesting users in the field (educationalists, teachers, professors, practitioners, etc.). This Inventory has been developed under the UDLnet project (Riviou, Kouroupetroglou & Bruce, 2014), which aims to bridge the gap between policies and practice in applying UDL and to face the associated obstacles. In the next paragraphs, first we present briefly the UDL approach and the UDLnet. Then, the design principles of the UDLnet Inventory, along with the main results of its development are presented.

UNIVERSAL DESIGN FOR LEARNING

Grounded on new research in neuroscience (Hall, Meyer & Rose, 2012) and the Design for All (D4All) principles (Stephanidis, et al.1998), Universal Design for Learning (UDL) constitutes an educational approach that promotes access, participation and progress in the general curriculum for all learners (CAST, 2015). Individuals bring a huge variety of skills, needs, and interests to learning. Neuroscience reveals that these differences are as varied and unique as our DNA or fingerprints. Three primary brain networks come into play: recognition networks, strategic networks and affective networks (Rose & Meyer, 2000; Rose & Meyer, 2002). The following UDL principles provide the underlying framework for the corresponding Guidelines (UDL Guidelines, 2011):

Principle I: Multiple Means of Representation (the "what" of learning). Learners differ in the ways they perceive and comprehend information that is presented to them. Moreover, learning and transfer of learning occur when multiple representations are used, because they allow students to make connections within, as well as between, concepts. The relative UDL Guidelines outline provisions for:
I.a) options of perception (e.g. alternatives to auditory or visual information),
I.b) options for language, mathematical expressions and symbols (e.g. through clarification of structure, text, multimedia, notations, and
I.c) options for comprehension (e.g. by providing guidance and background knowledge, highlighting ideas, patterns and connections, and maximising generalization).

Principle II: Multiple Means of Action and Expression (the "how" of learning). Learners differ in the ways they can navigate a learning environment and express what they know. Some may be able to express themselves well in writing text, but not with speech, and vice versa. It should also be recognized that action and expression require a great deal of strategy, practice, and organization, and this is another area in which learners can differ. The corresponding UDL Guidelines propose to provide:
II.a) options for physical action (e.g. access to a variety of methods, assistive technology and tools),
II.b) options for expression and communication (e.g. multiple media and alternative communication), and
II.c) options for executive functions (e.g. support and facilitation for planning, organising, and managing information and progress).

Principle III: Multiple Means of Engagement (the "why" of learning). Learners differ markedly in the ways in which they can be engaged or motivated to learn. Some learners are highly engaged by spontaneity and novelty. Others are disengaged, even frightened, by those aspects, preferring strict routine. Some learners might like to work alone, while others prefer to work with their peers. The relative UDL Guidelines specify the importance of providing:
III.a) options for recruiting interest,
II.b) options for sustaining effort and persistence (e.g. by varying demands and resources, promotion of collaboration and increase in focus to goals and feedback), and
III.c) options for self-regulation (e.g. by promoting expectations, facilitating personal skills, and developing self-assessment and reflection).

In the first decade of its development, the emphasis in the domain of UDL was on the use of technology to inclusive education and accessibility for the disabled. Rose and Meyer (2002) proposed that UDL is a research-based set of principles that forms a practical framework for using technology to maximize learning opportunities for every student. Thus, when educators hear the term UDL, most associate it with the technology (Zascavage & Winterman, 2009). However, UDL is not solely about the use of technology in education. It is also about the pedagogy, or instructional practices, used for students with and without disabilities (King-Sears, 2009). New developments on

the theory and practice of UDL that have emerged underline the importance of instructional pedagogies that facilitate accessibility for diverse learners (Burgstahler, 2012). Recent research findings have proved that UDL can support access, participation and progress for all learners (King-Sears, 2009; Jimenez, Graf & Rose, 2007; Kortering, McLannon & Braziel, 2008; Meo, 2012). However, few have provided a comprehensive framework to put the UDL pieces together, in a practical, research grounded and efficient way (Ketz, 2013). UDL is much more complex than originally was thought (Edyburn, 2010). Understanding the potential of UDL is seductively easy. Its exponential growth indicates that it may be the right idea at the right time. However, it has proven far easier to help the various stakeholders understand the potential of UDL than it has been to implement UDL on a large scale. Now that more people are "doing UDL," it is not clear what the outcomes are. Udvari-Solner et al. (2005) illustrate ways to apply UDL principles to provide all students with multiple means of representation, multiple means of engagement, and multiple means of expression. To initiate a universal design approach, they advise secondary educators to think about three distinct curriculum access points: content, process, and product. UDL requires collaborative planning amongst teachers with different curriculum knowledge and skills (Nevin, et al., 2004). Complaints that are often raised include lack of time to co-plan and lack of resources to teach a differentiated curriculum.

Web 2.0 constitutes a broad spectrum of digital tools to create, edit, share, discuss, engage, collaborate, and communicate in online media sharing spaces (Solomon & Schrum, 2007). These tools are used to edit, mix, remix, record, and publish content. Web 2.0 tools are interactive and multisensory. These technologies, therefore, are ideal for teachers wishing to apply UDL, i.e. craft flexible, scalable, differentiated activities that are accessible and engaging for reluctant and eager learners alike (Kingsley & Brinkerhoff, 2011). CAST UDL Exchange (CAST UDL Exchange, 2015) is a Web 2.0 base place to browse and build resources, lessons and collections. These materials can be used and shared to support instruction guided by the UDL principles. UDL Exchange facilitates the power of networking to create, remix, and share UDL-informed lessons and activities. According to Edyburn (2010) "as we head into the second decade of doing UDL, it is time for a new generation of thinking about UDL. We need to clarify the core stakeholders (developers or teachers) who will be trained to create UDL products. We need to understand what it means to implement UDL. We need to understand how to measure the outcomes of UDL. Finally, we need to renew our commitment to equitably serving all students in the event that our UDL efforts fall short".

THE UDLNET NETWORK
In order to bridge the gap between policies and practice in applying UDL and to face the associated obstacles identified above, the UDL Network - UDLnet was established (Riviou, Kouroupetroglou, Bruce, 2014). UDLnet (UDLnet, 2015) aspires to address the necessity of collecting and creating good practices under the framework of UDL from a wide range (generic guidelines down to more specific ones) of four envisaged themes: inclusive learning environments, accessible resources, teachers' and school leaders' competences, examination of barriers and identification of opportunities. UDLnet targets 3.500 users in seven countries across Europe (Greece, Ireland, Cyprus, Finland, Netherlands, Germany, Spain) and in six languages.

UDLnet aims to improve teachers' practice in all areas of their work, combining ICT skills with UDL-based innovations in pedagogy, curriculum, and institutional organization. It is also aimed at in-service and pre-service teachers' use of ICT skills and resources to improve their teaching, to collaborate with colleagues, and perhaps ultimately to become innovation leaders in their institutions. The overall objective is not only to improve classroom practice, but also to raise awareness of the European educational community on the need for UDL based teaching and learning practices. The innovation of UDLnet lies within the connection of best practices from various European countries on school/university education and training, open to wide teacher and student communities who will then effectively provide UDL in education.

The UDLnet approach includes the following steps:
- Development of a detailed and systematic methodology to define the criteria for identifying good UDL practices and then operate as the frame for collection and formation of exceptional UDL based teaching and learning approaches
- Design and development of the Web 2.0-based UDLnet Inventory with a collection and categorization of UDL good practices that can support a learning community where users will be able to find, exchange and adapt inclusive teaching and learning practices and exchange ideas and good practices.
- Establishment of a constantly expanding network of educational communities informed on the necessity of UDL based innovative teaching and learning practices and trained accordingly. This network will operate in an independent way, with teachers supplying the educational material and ultimately being responsible for the preservation and further enhancement of the inventory and through Web 2.0-based approaches and tools.

- Collection and development of innovative, relevant and multilingual content that will support the UDL approach, which is described and stored in the UDLnet Inventory.
- Development of teachers, school leaders, school staff skills and attitudes to ensure the access to and use of UDL based teaching and learning practices under the umbrella of community building. Community building is critical component that enables their success in learning programs by reducing isolation, mentoring success, transforming experiences of exclusion to ones of inclusion, offering encouragement and hope, and fostering group dialogue and peer learning.

UDLnet INVENTORY DESIGN PRINCIPLES
The Inventory developed under the UDLnet is based on the following basic design principles:
- include a collection and categorization of UDL Good Practices, Media Resources and Collections,
- allow for browsing and searching UDL Good Practices with the use of selected criteria or filters,
- allow creating and modifying UDL Good Practices, Media Resources and Collections for the register users,
- support all the target user groups (teachers, teacher educators, educationalists, professors, practitioners, policy makers, etc.),
- apply the criteria for identifying good UDL practices developed in UDLnet,
- be based on Web 2.0 technologies,
- follow the W3C Web Content Accessibility Guidelines (2015),
- designed not as a destination, but as a forum for self-reflection and critical thinking,
- interconnected with the UDL community building which offers facilities for discussion, polls, group creation, activities, events, blogs, etc.

RESULTS
The main UDLnet Inventory (2015) facilities are (Figure 1):
- *Good Practices*: it incorporate methods, techniques, approaches or lessons, which apply the UDL principles and guidelines proposed by CAST (UDL Guidelines, 2011). They have proven, through experience and experiment, to maximize learning opportunities for every individual student in order to secure inclusive and quality education for all. The basic selection criteria for a UDLnet Good Practice are: transferable, adaptable, flexible and effective.
- *Media Resources*: complement the UDL Good Practices and relate to the Pedagogical Approach applied by the educationalist and the Instructional Material used. The Media Resources may also be the outcome of a particular lesson or scenario (Riviou & Kouroupetroglou, 2014). *Pedagogy Media Resources*: Good Practices require information to be presented in multiple formats (e.g. extra lesson text, graphics, audio, videos, and online games). *Instructional Materials* describe the content and outcomes of a Good Practice or a lesson, specifically or in broad terms. Examples include: online reading materials (other than the textbook), instructional technologies (e.g., Open Education Resources or Learning Management Systems) and course materials (other than the textbook) such as: Web content, documents (MS-Word, PDF), presentations (MS-PowerPoint), multimedia files (video, audio), games, artifacts and hand-outs.
- *Collections*: provide UDLnet users with the facility to gather, link, and organise different Good Practices and Media Resources together to meet their specific needs around a particular topic, theme, or class.
- *Community*: is a portal (UDL Community Portal, 2015) that provides the following facilities to the user: a) join the UDLnet online community and collaborate, b) gain full access to UDLnet online Courses and Workshops and c) obtain full access to UDLnet Training Resources.
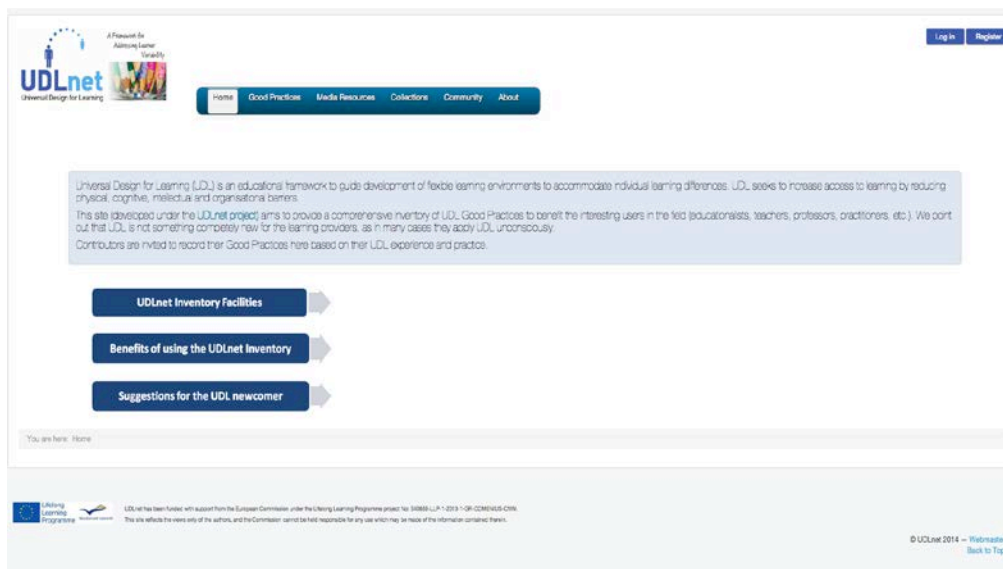
Figure 1: The main UDLnet Inventory facilities.

The UDLnet Inventory provides four types of filtering (Figure 2):

Search by keyword: the user can search between "Good Practices" by a keyword contained in the "Title" or in the "Short Intro" or in the "Keywords" of the "Good Practices".

Search by Main Topic: the user can select among the topics: Applied, Arts, Business Studies, ICT, Languages, Mathematics, Physical, Science, Social Studies and Other.

Search by Education Level: Primary, Secondary, Vocational, All and Other.

Search by Language: English, Dutch, Finnish, French, German, Greek, Italian and Spanish.
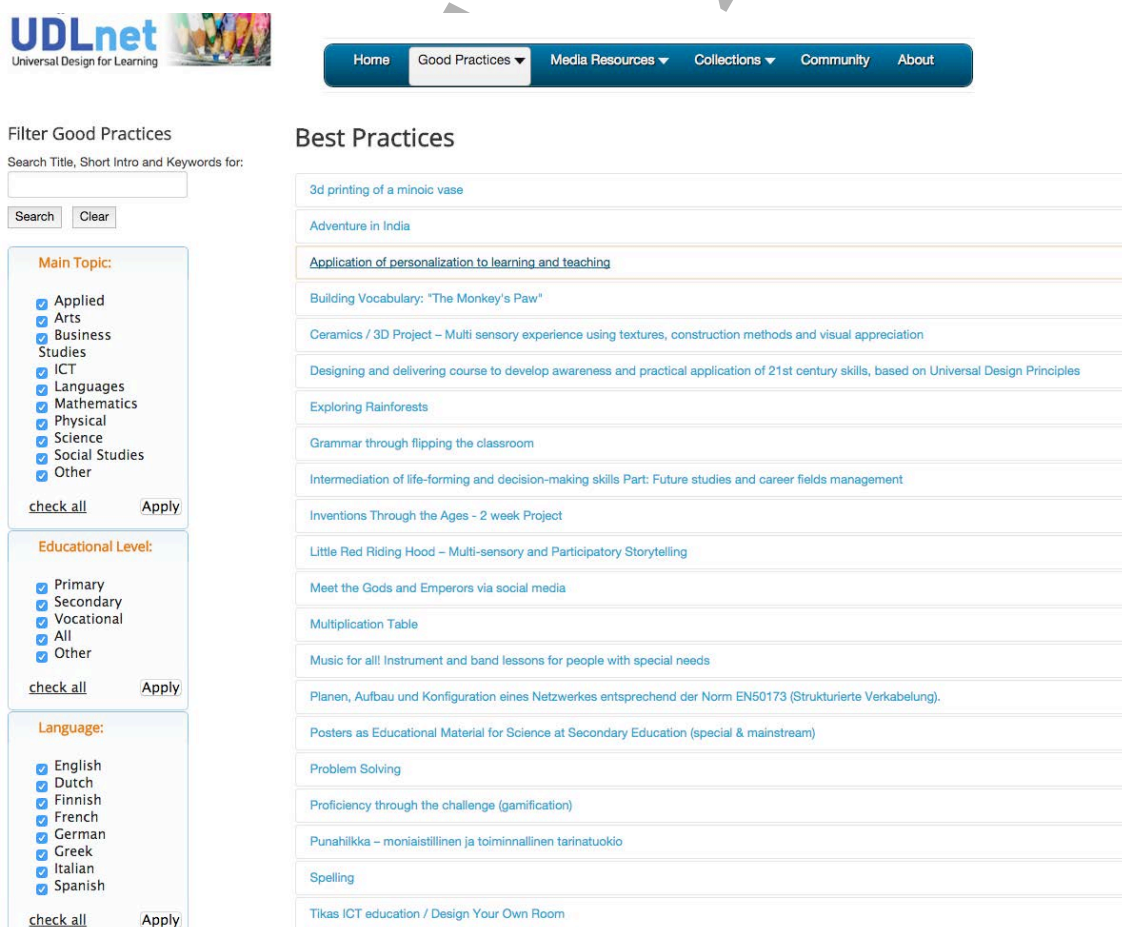
Figure 2: Types of filtering in the UDLnet Inventory.

The fields of the UDL Good Practices include seven sections (Figure 3): Overview, School Context, UDL in Action, Media Resources, Skills & Competences, Assessment and Evaluation/Comments from users. Among them, UDL in Action is the most important: its sections are colour coded according to the CAST guidelines. Each UDL Principle and guideline is listed as a statement with checkboxes to prompt the user to select appropriate options used (users may choose more than one option). Moreover, there is a text box to allow the user to add more details about how each guideline has been implemented. The UDL in Action tab is structured as follows:

Principle I: Information/Instruction offered in different ways
1st Guideline: Relevant information available on the learning objectives and outcomes:
  ☐in advance ☐at any time ☐temporarily ☐on demand

2nd Guideline: Information can be assimilated in various ways:
  ☐audio ☐visual ☐interactive ☐textual media ☐printed media

3rd Guideline: The understanding / comprehending of information is supported by providing various options:
  ☐mind mapping ☐illustrations ☐gamification ☐practical demonstration

Principle II: Allow the learners to express what they Know in different ways.
4th Guideline: Learner can actively process the necessary information:
  ☐individual work ☐group work ☐discussion ☐games

5th Guideline: Learners can show the results of work as:
  ☐textual description ☐individual oral report ☐group presentation ☐practical demonstration

6th Guideline: There are different forms of support provided such as …
  ☐face-to-face mentoring ☐online mentoring ☐feedback on demand ☐formative self-assessment

Principle III: Learners are engaged and motivated in different ways.
7th Guideline: Different known interests and motivators are addressed such as
  ☐personal interests ☐authentic tasks ☐choice in context

8th Guideline: Interests and goal attainment as well as resilience are stimulated actively by:
  ☐clear goals ☐practical relevance

9th Guideline: There are opportunities for self- regulation provided:
  ☐creative freedom ☐organizational flexibility ☐beneficial learning environment
  ☐realization of learning goals by independent learning processes
  ☐independent diagnosis and assessment of the finished learning process

Other facilities of the UDLnet Inventory allow the user to specify or select: My Good Practices, My favorites Good Practices, My UDL Media Resources, My favorites UDL Media Resources, My Collections of UDL Good Practices and My favorites Collections of UDL Good Practices.

Currently our effort is focused on the collection of innovative, relevant and multilingual UDL content that will feed the UDLnet Inventory. So far 32 Good Practices, 88 UDL Media Resources and 4 UDL Collections are available to the UDLnet community.

Figure 3: The fields of the UDL Good Practices.

CONCLUSIONS

We have presented the design and development of the UDL Good Practices Inventory to benefit the interesting users in the field (educationalists, teachers, professors, practitioners, etc.). Good Practices included in this Inventory incorporate methods, techniques, approaches or lessons, which apply the UDL principles and guidelines. They have proven, through experience and experiment, to maximize learning opportunities for every individual student in order to secure inclusive and quality education for all. The Inventory supports also UDL Media Resources and UDL Collections. The UDLnet Inventory is not static. It is a growing and dynamic space whose main purpose is to stimulate new reasoning and practices and challenge existing ones. The benefits of using the UDLnet Inventory include:

- Diverse UDL techniques, methods and resources available as a comprehensive and growing repository.
- Users can access and modify concrete examples of UDL Good Practices on a range of topics.
- Support and supply enough scaffolding to newbies in the field of UDL and inspire more advanced users
- Users can be connected and collaborate with peers on UDL, even for a specific Good Practice or at a national level.
- Decreasing preparation time for UDL based lessons, while keeping high quality.
- Bottom-up Continuing Professional Development.

The UDLnet Inventory has not been designed as a destination but as a forum for self-reflection and critical thinking. It is rather an evolving space where practices mutate, shaped and altered and results from increased participation and successes are fed back into the qualitative learning loop.

ACKNOWLEDGMENT

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THE USE OF FIELD ACTIVITIES IN GEOLOGY TEACHING CONCEPTIONS AND REPRESENTATIONS OF PRACTICES OF PORTUGUESE TEACHERS

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ABSTRACT

Field activities are valuable geology teaching resources. However, their effective educational value depends on the way teachers use them which in turn depends on teachers' conceptions. This research focused on comparing how 102 low secondary school teachers and 131 secondary school teachers deal with field activities in geology teaching. The results show that, opposite to what happens in the secondary school, the majority of low secondary school teachers do not use field activities. The majority of field activities users promote less than four activities per year and most of them do not seem to have an appropriate understanding of how field activities should be used to become a valuable educational resource. Besides, teachers do not trust too much students' ability to play an active role as learners, as they argue for teacher centred activities, based on the idea that students are not able to carry out the activity or that it is teachers' responsibility to undertake it. However, the majority of field activities users feel satisfied or even completely satisfied with the way they have been dealing with field activities. This means that teachers' conceptions and practices need to be improved.

INTRODUCTION

Science is about the natural world. Its main objective is to fully understand nature in order to attain the ultimate goal of controlling and also benefitting from it. Therefore, every citizen living in modern scientific and technological advanced societies should have a level of understanding of science that enables him/her to understand and use scientific knowledge in everyday contexts. Hence, it has been argued that whatever the school level, science teaching should give a meaningful contribution to developing students´ scientific literacy (DeBoer, 2000; Liu, 2010). This requires science teaching to convey students an understanding of some basics science concepts and a mastery of some methods and technics so that they can not only appreciate the way science knowledge is developed but also use it in their everyday personal, societal and professional lives, namely to solve real socio-scientific problems. To succeed in doing so, science teaching must not neglect developing students reasoning (Liu, 2010) and metacognitive abilities (Veenman, 2012; Thomas, 2012), so that students can decide when, what and how they can use science knowledge in those contexts and for those purposes.

It has been argued (Dillon, 2011) that teaching science outside the classroom may help students to become aware of the usefulness of science knowledge. As far as geology teaching is concerned, teaching outside the classroom is necessary also because the main geological processes can hardly be reproduced in the lab to be studied because they take a too long time to occur and have very large dimensions which are incompatible with the limited space of the laboratory (Alvarez-Suárez, 2003). Therefore, there is a good consensus among science educators and science teachers that engaging students in field activities may be a good way of getting students acquainted with real geological phenomena and to foster a contextualized and meaningful learning about them. However, the way field activities are structured and used is the key factor that may enable to or impair from reaching these goals. This is the main reason why this paper focuses on the use of field activities for geology teaching.

Due to some proliferation of terms, it seems necessary to clarify the meaning of three central concepts of this research: field wok, field activities, and field trips. Following a previous conceptual discussion on this issue (Dourado & Leite, 2013), in this paper we assume that fieldwork is a single entity that encompasses the whole set of field activities that a student can do outside the classroom. As far as field activities are concerned, they have to do with a diversity of tasks that are carried out outside the classroom: where the events to be studied take place; where the natural phenomena happen and can be observed as they happen, without the need of being reproduced; or in real work contexts, where technology is used for industry and production purposes. In addition, and as it was pointed out in a previous paper (Dourado & Leite, 2013), if one wants students to be involved into field activities, a field trip has to be planned and organized and it can include the performance of one or more field activities within the scope of one or more school subjects.

Having students doing fieldwork requires a previous preparation of the field trip. As a matter of fact, taking students out of school requires deciding on the scope and destiny of the field trip, setting up a set of administrative procedures (related, for example, to funding and transportation), and obtaining parents'

permission for their children to take the trip. However, it is worth noting that doing fieldwork does not necessarily require a long trip (Del Carmen, 1999), as some school surroundings may be rich enough to be worth being studied with the advantage of increasing the probability of making learning more meaningful for students, due to the geographical proximity of the place or phenomena that are studied.

Field trips may lead to simultaneous attainment of several learning outcomes, depending on the way they are organized, on the characteristics of the field activities to be undertaken, and on the way they are performed. As summarized in a previous paper (Dourado & Leite, 2013), those broad learning outcomes can be synthesised as follows:

- "conceptual learning, that is objectives that focus on strengthening previously acquired conceptual knowledge, constructing 'new' conceptual knowledge, or reconstructing students' conceptual knowledge (which is especially interesting when students hold alternative conceptions on the concepts to be studied within the scope of the field trip);
- procedural learning, that is knowledge of specific purposes observation techniques (e.g., birds needing), samples collection (e.g., water from a river), conservation and transportation of materials (e.g., plants or animals) that need to be mastered by students;
- epistemological learning, that is knowledge relative to the characteristics of the scientific methodology relevant in field contexts, as well as to the (un)certainty of the science explanation and to the nature and role of models in (physics, chemistry, biology and geology) knowledge development;
- attitudes development, namely those related to respect towards the environment and towards science as well as scientific attitudes;
- interpersonal relationships, which have to do with respect to others, and cooperation with colleagues;
- contact with nature and real contexts, aiming at making students' aware of the complexity of the real world and the interactions that it comprises;
- questioning abilities, that is asking questions about nature and work contexts to understand, improve and take profit from them;
- extrinsic motivation, that has to do with fostering students' interest and curiosity towards real world work contexts." (p. 1234 and 1235).

However, as it was suggested above, the learning outcomes that can be achieved through a field activity depend on the way it is structure and implemented. Thus, when planning a field trip, it is worth to start by deciding on the objectives to be attained and to select the most appropriate way of choosing and structuring the activity to be performed. According to Pedrinaci, Sequeira and García (1994), these decisions may be influenced by the teachers' teaching perspectives but they may be facilitated by having a typology of field activities that makes it explicit how different structures may be more prone to lead to the fulfilment of some objectives than to others. Based on classifications of field activities suggested by other authors (e.g., Compiani & Carneiro, 1993; Pedrinaci, Sequeira & García, 1994) Dourado and Leite (2013) have identified and characterized seven types of field activities and made explicit the outstanding objective that students may attain through each of them. Those types of activities are: Motivating, Training, Illustrative, Guided observation, Inductive, Problem posing and Problem-solving activities. Thus, the outstanding objective ranges from affective (e.g., Motivating activities) and procedural (e.g., Training activities), to conceptual (e.g., Illustrative activities) and inquiry objectives (e.g., Inductive and Problem solving activities). Some of these types of activities should be performed before approaching the related concept (e.g., Motivating, Problem posing), others should be performed after teaching the related concepts (e.g., Illustrative) and others can be performed either during or after concept teaching (e.g., Training) and still others can be really integrated with related concept as they work as starting points for learning those concepts. In fact, this requires the use of previous knowledge (that may be further developed during the activity) but also originates new learning (e.g., Problem-solving) and promotes conceptual, and methodological knowledge integration.

Although teachers believe that fieldwork provides a number of direct benefits to student's learning, they seldom use fieldwork (Morcillo, Rodrigo, Centeno & Compiani, 1998; Toro & Morcillo, 2011) and when they do "they use fieldwork as a means to help students understand theory, to inject reality into their teaching and to teach subject-specific skills." (Scott, Fuller & Gaskin, 2006, p.169). In fact, fieldwork is one of the tools that can be used to put theory into context and teachers keep on seeing fieldwork as essential for engagement with the external ('real') world (Michie; 1998; Scott, Fuller & Gaskin, 2006). However, they seem to prefer to teach the content before performing the field activity, so that students become aware of what they are going to meet in the field (Morcillo, Rodrigo, Centeno & Compiani, 1998; Scortegagna, 2005). They believe this is important for students to take the most profit from the visit. A consequence of this is that most field activities are illustrative (Zamalloa, Maguregi, Fernández, Echevarría & Sanz, 2014) even though teachers are used to state that they would like to perform more motivating and inquiry like activities, focusing on contents different from those taught in the classes (Morcillo, Rodrigo, Centeno & Compiani, 1998; Albergaria-Almeida, Barros & Cruz, 2013).

As field activities take place outside the classroom, they require a field trip to be organized and, as this costs

time and money, it should be appropriately prepared. For this purpose, three steps need to be considered: before the field trip, during the field trip and after the field trip. With regard the first step, and whatever the main goal of the field trip, bureaucratic (including permission to take students out of school) aspects need to be dealt with by the teachers and/or the school leaders. However, there are also pedagogic issues (e.g., teaching concepts, training technics, developing observation grids, making explicit assessment criteria, etc.) that need to be considered but the appropriate way of doing it (including tasks to be carried out and ways of getting students engaged) depends on the nature of the field activities to be performed during the field trip, and it may range from no task done before it (e.g., Problem-posing) to concept teaching before the field trip (e.g., Illustrative). Advantages of making students familiar with the place to be visited needs to be analysed and eventually tackled before the field trip. The encounter with a novel place may be an advantage for some types of activities (e.g., Motivating; problem posing) but it may partly prevent learning in others (e.g., Illustrative).

During the field trip, field activities should be performed according to the type of activity chosen and the requirements it imposes to students and teachers. This means that teachers need to think carefully how they will conduct students in the field, how much guidance they will offer to them, and how much verification they will do to ascertain that students did (observed or collected or measured, etc.) what they were supposed to do.

After the field trip some well-designed tasks should be undertaken in the classroom or in the laboratory to continue, complement and/or evaluate learning that took place ion the field. Students should actively participate in these tasks, so that teachers can perceive their achievements and failures related to the field activities and can help them to overcome the latter and to really take educational profit from the field trip.

Despite the existence of guidelines for field trips and field activities organization (García, 1994; López, 2008; Rebelo, Marques & Costa, 2011), when they are organized, they hardly attend to research recommendations which may put at risk the fulfilment of their intended learning outcomes. In fact, Remmena and Frøylanda (2014) studied six cases of follow-up work carried out by three teachers and their students in three upper secondary schools in Norway in order to find out whether or not it was consistent with literature guidelines. In all but one case, the implementation of such recommendations followed the literature guidelines but they concluded that students undertook low level learning processes.

Research suggests that teachers perceive field trips as highly valuable educational experiences for their students (Anderson, Kisiel & Storksdieck, 2006) and make it explicit several reasons for using field trips (Kisiel, 2005), among which are: increases students' motivation, and promotes learning (Kisiel, 2005; Viveiro & Diniz, 2009). Stokes, Magnier and Weaver (2011) even concluded that students and teachers identified similar purposes of carrying out fieldwork and emphasized that some of those purposes have to do with fragmented (non-relational) conceptions, which focus on a single piece of learning, and others concentrate on cohesive (relational) conceptions that require the development, use and integration of different types of knowledge. Zamalloa, Maguregi, Fernández, Echevarría and Sanz (2014) found that the majority of Spanish low secondary school geology teachers use pre-field activities even though these have to do with giving a lecture on the content to be approached during the visit. The option for a lecture-like pre-field trip task may be dictated by the fact that they have not ready materials that they can use to support those tasks.

Activities performed during a field trip are frequently not integrated into subsequent school-based learning, probably because teachers value and understand field trips better than post field trip activities (Anderson, Kisiel & Storksdieck, 2006). Besides, even though teachers say that they promote post field trip activities, it seem that they have different perspectives of what it should be (Kisiel, 2005) and students do not perceive that the activities they are asked to do in the classroom have some sort of relationship with the field trip (Anderson, Kisiel & Storksdieck, 2006).

When teachers try to organize a field trip they face several constraints (Anderson, Kisiel & Storksdieck, 2006; Viveiro & Diniz, 2009) that are independent of the school system and the cultural background (Anderson, Kisiel & Storksdieck, 2006). In fact, Anderson, Kisiel and Storksdieck (2006) noted that funding, lack of time allocated to field trips planning and preparation, and lack of autonomy to select venue were reported by teachers as critical obstacles to planning field trips. Viveiro and Diniz (2009) also noted that funding and lack of time together with school directive board lack of support and students (mis)behaviour and the additional responsibility that taking students for a field trip imposes on teachers are the main factors that interfere with field trips planning and reduce its frequency. Zamalloa, Maguregi, Fernández, Echevarría and Sanz (2014) found that teachers do not do field trips because they do not have time, field trips cost money, and classes have too many students. Han and Foskett (2007) encountered concerns not only about the size of the class, and safety issues, but also about the impact on other classes of taking teachers and pupils out of schools. To these authors, these constraints require considerable political work by teachers in schools to overcome them, otherwise they will offer insuperable barriers to the development of fieldwork.

OBJECTIVES

In Portugal, geology is taught in low secondary school (7th to 9th grade) as well as in secondary school (10 and 11st grade), together with biology, and also in the 12th grade, as an independent course. Besides, although a

teacher is qualified to teach geology in both school levels, schools tend to allocate teachers to a certain school level, based on the school needs and on the teachers' preferences. Also, field activities may be carried out in order to attain diverse aims, being some of them focused mainly on cognitive aspects and others on the affective ones. This means that, although teachers have the same previous background, they may use field activities with different purposes in the diverse school levels they are asked to teach.

Thus, the main goal of this research is to compare how biology and geology teachers use geology field activities in low secondary school and in secondary school science courses. The objectives of the research are to investigate: whether and why do teachers teaching geology in these two school levels use (or do not use) field activities; when are field activities performed with regard to concept teaching, in the two school levels; how satisfied teachers feel with the field activities that are carried out in the school level they are used to teach; what would be the ideal time relationship between concept teaching and field activities performance; what activities are carried out before, during and after a field trip, in the two school levels.

This research adds to the state of the art as no empirical research focusing on a comparison of the use of field activities in different school levels in known.

THE STUDY

Data were collected by means of a questionnaire developed for the purpose of this study. Taking as reference the objectives of the study, the questionnaire starts by asking teachers to provide a few personal and professional data to be used for sample characterization purposes and also to make sure that they qualify to belong to one of the groups that are under question in this paper. Afterwards, it focuses on issues like: frequency of use of field activities; reasons to use/not use field activities; relationship between time of concept teaching and field activities performance; level of satisfaction with field activities performed; activities carried out before, during and after the field trip.

The questionnaire was designed using Google Docs, it was content validated with two science education specialists and two secondary school teachers, and it was ameliorated after their suggestions. Then it was submitted to the ministry of education in order to get permission to send it to schools. As soon as this permission was obtained, data collection procedures were set up.

Thus, 303 school networks, spread all over the country, were selected and invited to participate in the study. Each selected school network Director was asked to collaborate and to choose four teachers, two of them teaching geology in low secondary school and two teaching geology in secondary school (as defined above), among his/her school network teachers with a minimum of three years of teaching experience. Afterwards, the Director would invite them to participate in the study and ask them to reply to the questionnaire which was available on-line, through a web-link given to them. Following (McMillan & Schumacher, 2010), answering to the questionnaire was assumed to be an acceptable way of showing informed consent to participate in the study. Data were got from a total of 233 Portuguese geology teachers, 102 teaching at the low secondary (LS) school level and 131 teaching at the secondary (S) school level.

Table 1 shows that both groups of participant teachers are quite similar with regard to gender, with more females as usual, but they differ with regard to age and previous teaching experience. However, as it should be expected, low secondary school teachers are younger than their secondary school counterparts. This difference is due to the fact that usually more experienced teachers are appointed by the school leaders to teach at the secondary school level, as this one is expected to be more demanding.

Table 1: Characteristics of the sample (%)

(N=233)

Variable	Categories	Low secondary school teachers (n=102)	Secondary school teachers (n=131)
Gender	Female	81	78
	Male	19	22
Age	30 to 40 years	30	8
	31 to 50 years	53	53
	Over 50 years	17	39
Teaching experience	5 to 10 years	5	1
	11 to 20 years	61	26
	21 to 30 years	25	53
	Over 30 years	9	20
Higher academic degree	First degree	65	57
	Post-graduation	12	12
	Research master	22	30
	PhD	1	1

Whatever the group, the majority of the teachers are first degree holders only. The secondary school group includes more master holders than the low secondary school group. For what is known about the Portuguese biology and geology teachers' population, these characteristics of the sample suggest that it compares to teachers teaching geology in schools at the two school levels under question.

In the case of close questions, data analysis comprises computation of absolute and relative frequencies per category of answer, assuming each *a priori* possible answer as a category of answer. As far as open questions are concerned, content analysis was done, sets of *a posteriori* categories of answers were developed, and computation of absolute and relative frequencies per category of answer was performed.

FINDINGS
Teachers' use of field activities

Data given in table 2 show that the percentage of teachers that state that they use field activities in their classes is larger in the secondary school group (76%) than it is in the low secondary school one (48%). Most of the teachers that stated that they use field activities mentioned that they promote one to three a year. Only in the secondary school group a few teachers (8%) mentioned that they use this type of activities more than three times a year. These results are consistent with those obtained by Han and Foskett (2007), with geography teachers, Dourado (2001), with natural sciences teachers, and Rebelo and Marques (2000), with geology teachers.

Table 2: Teachers' use of field activities (%)

(N=233)

Use of field activities		School level	
		Low Secondary (n=102)	Secondary (n=131)
Do not use		52	24
Use	1 to 3 times a year	48	68
	more than 3 times a year	0	8

Teachers that do not use field activities justified this fact based on three main groups of ideas. One of them is related to field trip management. According to these teachers: field activities require students' engagement which is hard to achieve with classes that include a large number of students; the syllabuses are very long and teachers have not enough time to perform field activities; to do field activities they would need to organize a field trip which has some costs that the school cannot afford to pay. As a teacher stated, "Field visits that require transportation are very hard to organize when school has no money for that and students' families cannot pay for it" (LS59). These results are consistent with those obtained by other authors that found that teachers mention difficulties related to: the length of the syllabuses (Michie, 1998; Anderson, Kisiel & Storksdieck, 2006); the cost of the field trip (Anderson, Kisiel & Storksdieck, 2006; Viveiro & Diniz, 2009; Michie, 1998; Zamalloa, Maguregi, Fernández, Echevarría & Sanz, 2014); the large number of students per class (Zamalloa, Maguregi, Fernández, Echevarría & Sanz, 2014).

The second one is related to students themselves. According to teachers: some students are busy after school and therefore they would not be able to go for a field trip; students are not interested in science and therefore it is not worth organizing such kind of activities; some students are immature and they conceptualise field trips as being leisure moments and misbehave during the field activities. As a teacher wrote: "Students do not always behave properly; this is especially true for the younger ones." (LS59). Viveiro and Diniz (2009) also report difficulties related to students misbehaviour.

The third one has to do with teachers themselves. According to these teachers: they do not feel motivated enough to organize field trips which are activities that require a lot of preparation; they do not know enough about the geology of the school environment so that they can organize a useful field trip. In fact, a teacher stated "I feel unsecure when thinking about going out with students for a field visit as I am aware that I have not enough training to do it" (S91), and another one stated "I am not familiar with the geological pathways of the area where I have been teaching" (LS95). Research results show that teachers seldom mention difficulties related to their knowledge and/or characteristics to justify the non-performance of field activities. However, these results are consistent with those obtained by Dourado (2001), as he found that about one third of the teachers that participated in the study he undertook stated that they were not used to carry out field activities as they did not know the place that should be the venue of the field trip.

Teachers that stated that they use field activities, gave reasons for it that depend on when they introduce the field activity in the teaching sequence. Those that use the field activity before the teaching of the related concept tend to justify it based on the idea of motivating students ("Usually to motivate students integrated in a problem based learning approach" (S117)). Those that use field activities during concept introduction they tend to state that they integrate both and do it in order to foster students' conceptual learning ("[If field activities are performed] During the teaching of the new concepts students may more easily integrate them some previous learning."

(S131)) . Finally, those that use field activities after teaching the related concepts mention that they do it in order to reinforce previously acquired knowledge ("I believe that it will be more easy for the students to understand geological processes or identify rocks [in the field] if they have study the concepts in advance" (LS94)).

Concept teaching and field activities performance

Teachers that stated that they use field activities seem to introduce them at different stages with regard to the related concept teaching (table 3). Some of them stated that they use them at a single stage, but others mentioned that they use them at two or three different stages. However, on one hand, there is a slight tendency for performance of field activities after concept teaching to prevail, whatever the teachers' group, even though these percentages are lower than those obtained by Scortegagna (2005), also with geology teachers. Those teachers believe that "Concept mastery is a previous condition for field activities to succeed." (LS43). On the other hand, only about one third of each group stated that they use field activities at the three different stages of the teaching sequence: before, during and after concept teaching. This finding is consistent with the existence of different types of field activities that have different performance requirements so that they can lead to different learning achievements. Thus, it may mean that these teachers may have clear ideas on how to use field activities so that students can take most profit from them. One of the teachers mentioned that:

> "When they are carried out before [teaching], they aim at raising students' curiosity an motivating them to study a given topic; if they are carried out during [teaching] then they offer a complement to learning that has just been done and give room for new learning to take place; when they are performed after teaching the concepts, then they reinforce learning that has already been done." (S110).

Table 3: Time relationship between field activities performance and concept teaching (%)

(N=149)

Field activities *versus* concept teaching	School level	
	Low Secondary (n=49)	Secondary (n=100)
Before	8	1
During	18	20
After	31	32
Before or during or after	23	21
Before or during	0	3
Before or after	10	7
During or after	10	16

The whole sample was asked about the ideal time for using field activities with regard to concept teaching if it was only up to the teachers to choose when to use them. As far as teachers that stated that they are used to use field activities are concerned, the percentage of teachers that would like to use this type of activities during concept teaching (table 4) almost doubled, in both school levels, when compared with the percentage given in table 3. This means that there are more field activities users' that value the use of field activities during concept teaching than those that use them in such way. This difference was not observed by Morcillo, Rodrigo, Centeno and Compiani (1998) that obtained similar percentages for the two cases. In addition, and opposite to what Morcillo, Rodrigo, Centeno and Compiani (1998) have concluded, the latter field activities users seem to practice field activities after teaching (table 3) more than they would like to (Table 4).

Table 4: Ideal time relationship between field activities performance and concept teaching (%)

(N=233)

Field activities versus concept teaching	Field activities users		Field activities non-users	
	Low Secondary (n=49)	Secondary (n=100)	Low Secondary (n=53)	Secondary (n=31)
Before	8	6	8	13
During	35	36	24	32
After	19	15	38	29
Before or during or after	16	26	13	13
Before or during	8	5	2	3
Before or after	6	5	9	3
During or after	8	7	6	7

Besides, the percentages of field activities non users that would like to use field activities during concept teaching are a bit smaller than those obtained for field activities users. In addition, the percentages of field

activities non-users that stated that they would use field activities after teaching the concepts are almost the double of those obtained for the field activities users. These results suggest that in the non-user group there are larger percentages of teachers acknowledging inductive ideas than in the user group.

The percentages of teachers that mentioned that they use (users) or would like to use (non-users) field activities before teaching are very limited. As far as the users group is concerned, this result is surprising because it inconsistent with results obtained by Morcillo, Rodrigo, Centeno and Compiani (1998). In fact, these authors found that the percentage of teachers that practice field activities before teaching is higher than that of teacher that would like to use field activities at that same stage.

Field activities users' level of satisfaction

Most of the teachers feel satisfied or completely satisfied with the field activities that they have been performing, whatever the school level (table 5).

Table 5: Field activities users' level of satisfaction with field activities performance (%)

(N=149)

Level of Satisfaction	School level	
	Low Secondary (n=49)	Secondary (n=100)
Completely satisfied	33	35
Satisfied	43	46
Moderately satisfied	24	18
Fairly satisfied	0	1
Unsatisfied	0	0

This would be a good result if teachers had reported that they use field activities often and if they were using them appropriately. As findings reported above suggest that this may not be the case, this high level of satisfaction among both groups of teachers is a cause for some concern because if teachers feel satisfied with their inadequate practices, they are not to be expected to feel the need to change them and consequently they would not be expected to look for either advice or training on how to improve their practices with regard to field activities use.

Field trip associated pedagogic activities

Several pedagogic activities may be carried out before, during and after a field trip. Field activities users were asked about whether or not they promote pedagogic activities in each one of these steps. All of them stated that they do it. However, some of the activities they put forwards are teacher centred and seem to be related to teacher class preparation activities rather than activities targeted to students (table 6). This is the case of activities design and/or planning that is the item mentioned by the largest percentage of teachers. Other activities are formulated from a teacher's point of view, as it is the case of concept teaching and problem presentation (which are tasks that the teacher is supposed to do). There is also an activity (Definition of assessment criteria) that was classified as teacher centred because it is usual to have teachers deciding on assessment criteria even though this sort of decisions should involve students too. However, it is not completely clear that it is a student's centred activity, as it may be illustrated by the following answer: "Elaboration of the evaluation process" (S126). As a matter of fact, this answer does not clearly show who is involved in the elaboration mentioned.

Table 6: Activities carried out before the field trip (%)

(N=149)

Responsible person	Activities	Low Secondary (n=49)	Secondary (n=100)
Teacher	Activities design and/or planning	14	50
	Problem presentation	6	1
	Concept teaching	18	15
	Definition of assessment criteria	6	7
Students participation	Knowledge about the place to visit including to its geology	27	21
	Definition of methodologies to be followed in the field	49	38
	Definition of safety rules	6	6
	Training of relevant skills	2	8

Some other activities are formulated by teachers in such a way that one can infer that students are involved into them. Those mentioned by the largest percentages of teachers focus on methodologies to be followed in the field

and on knowing the place to visit, including its geology. In fact, one of the teachers mentioned that he/she does activities aiming to "select and convey to students the goals of the activity; to prepare the field visit worksheet, together with students" (LS41) and another one mentioned that he/she wants "to make students familiar with the geology of the place to be visited." (S28). Participants in the study carried out by Zamalloa, Maguregi, Fernández, Echevarría and Sanz (2014) also reported that they prepare the field trip either by giving a sort of lecture on the theme or by showing a video, probably to make students familiar with the place to visit.

As far as activities carried out in the field are concerned, table 7 shows that teachers selected activities centred in the students as well as activities centred in themselves. With regard to the former, figures suggest that the percentages of teachers that selected the diverse levels of frequency of performance of each type of activity that can be carried out in the field are quite similar for the two school levels. However, the majority of teachers, of both groups, stated that students are asked to "Collect samples" and "Do measurements" in a few activities only. In addition, low secondary school teachers seem to ask students to Identify Problems in fewer activities than their counterparts do. In fact, 55% of the low secondary school teachers *versus* 44% of the secondary school teachers stated that they ask students to do it in none or in few activities. This may mean that teachers either conceptualise this task as less appropriate for younger than for older students or may feel that younger students are unable to perform it. As teachers stated: "I have been teaching in low secondary school: it is fully necessary to guide students in the activities they are asked to do" (LS76); "Students need to be guided and there are some contents that must be explained in the field because they are not able to discover them." (S48).

With regard to teacher centred activities, low secondary school teachers seem to give guidance, to explain and to ask question to students within the scope of fewer activities than their secondary school counterparts do. On the opposite, and as it should be expected, secondary school teachers tend to observe students in more activities than their low secondary school counterparts do. This may mean that secondary schools teachers have their students working in the field more autonomously than their low secondary school counterparts do. Besides, it may mean that there are several different causes for it, including the way they see students. As a teacher stated: "Depending on students' autonomy, I may allow them to carry out the activities on their own or not. However, I think that it is important to observe them and to ask questions to them in order to promote learning." (S74).

Table 7: Activities carried out in the field (%)

(N=149)

Responsible person	Activities	Proportion of field activities							
		None		A few		Most		All	
		LS	S	LS	S	LS	S	LS	S
Students	Carry out observations	0	0	0	6	22	12	78	82
	Identify Problems	0	1	55	43	45	41	0	15
	Collect samples	2	7	59	55	31	31	8	7
	Do measurements	2	7	59	65	31	24	8	4
	Make drawings/schemes	0	3	33	38	51	37	16	22
	Make photographs	0	1	0	10	33	25	67	64
Teachers	Guide students	0	1	0	17	31	27	69	55
	Explain to students	0	2	12	22	23	21	65	55
	Ask questions to students	0	1	6	16	20	21	74	62
	Observe students	0	1	2	4	22	10	76	85

Note: LS = Low Secondary school (49 teachers); S = Secondary school (100 teachers)

There are a few differences between the two groups of teachers, with regard to the activities performed after the field trip (table 8).

Table 8: Activities carried out after the field trip (%)

(N=149)

Responsible person	Activities	Proportion of field activities							
		None		A few		Most		All	
		LS	S	LS	S	LS	S	LS	S
Student	Report preparation	18	1	2	26	41	28	39	45
	Discussion on the activities	0	0	0	4	84	16	16	80
	Planning of new activities	49	38	33	51	4	8	14	3
	Problem-solving	47	4	4	53	16	31	33	12
Teacher	Teach new knowledge on activity	37	15	16	49	18	21	29	15
	Reinforce knowledge on the activities	14	1	2	17	57	30	27	52

Note: LS = Low Secondary school (49 teachers); S = Secondary school (100 teachers)

In fact, the percentages of low secondary school teachers that do not ask students to write a report, to do

problem-solving and to plan new follow-up activities for the activities performed are higher than the corresponding secondary school ones. Anyway, teachers in both groups seem to believe that students are not skilled enough to plan activities, as they state: "Designing new activities is not always an easy task for this grade level (7th grade)" (LS80); "Planning is teachers' responsibility" (S62). Teachers believe that reports are useful tools for learning and assessment. Therefore, they put forwards justifications including ideas like these: "Writing a report […] is useful to consolidate learning carried out during a field trip" (LS26) and "As far as reports are appropriately supervised, so that plagiarism is prevented, they are very important for the teacher to assess student' understanding of the field activity." (S9).

Besides, discussion of the activities carried out in the field seems to be the most popular student centred post field trip activity among both groups of teachers. Also, the majority of both groups seem to use knowledge reinforcement activities very often, that is in association with most or all field activities performed. To justify that, they argue that post field trip activities are useful "To remember, to consolidate, and to bridge theory and practice and to gain some feedback on the activities performed" (LS5) and "To consolidate acquired knowledge or competences" (S20). Finally, secondary school teachers seem to teach field activity related knowledge a bit more rarely than low secondary school counterparts do.

CONCLUSIONS AND IMPLICATIONS

It is commonly accepted that field activities may have high educational value. However, their real learning outcomes depend on the way they are structured and implemented. The results of this study show that, opposite to what happens in the secondary school, the majority of low secondary school teachers do not use field activities. Besides, the majority of field activities users promote less than four activities per year. In addition, most of them do not seem to have an appropriate understanding of how field activities should be used to become a valuable educational resource. This statement is based on the fact that the reasons they put forwards to justify the relationship between concept teaching and activity performance are not underlined by arguments showing neither an awareness of the diversity of types of field activities nor the necessary match between the learning objective to be attained and the structure of the activity to be performed. Besides, teachers do not trust too much students' ability to play an active role as learners, as they argue for teacher centred activities based either on the idea that students are not able to carry out the activity or on the belief that undertaking it is teachers' responsibility. Bearing in mind these results, the fact that the majority of teachers feel satisfied or even completely satisfied with the way they have been dealing with field activities is a striking issue. This suggests that teachers are not conscious about the inconsistencies of their practices with the state of the art regarding the use of field activities in science teaching. A consequence of this is that geology teachers' practices need to be improved. However, changing teachers' conceptions on the issue of using field activities for teaching geology seems to be a necessary condition for teachers' practices to become more consistent with research results on the topic. As a matter of fact, as teachers seem to value teacher centred approaches, students' engagement with field activities (that would lead them to develop in an integrated way practical, theoretical and reasoning competencies) is at risk. This means that in-service courses on the issue of this paper should be organized but they cannot focus on field activities related issues only. Rather, they should start with a discussion on the cognitive and affective aspects of the learning process so that teachers change the way they look at students' cognitive abilities and learn how to trust their learning competencies. Empirical information from student centred or active methods should be used to provide evidence of what students are able to do when they have the opportunity to play a central role in the learning process. Afterwards, an epistemological discussion to help teachers to overcome some myths about science (McComas, 2002) and to make it clear that there is a complex interplay between theory and practice (Leach, 1999) should be held. This would be important to argue against a single type of field activities as well as against a single way of relating theory and field activities. Finally, and based on this and other research results, it seems necessary to make teachers become aware not only of the types of tasks that can be performed before and after the field activities (Lopez, 2008; Rebelo, Marques & Costa, 2011) but also of the way they may fit with different the types of field activities (Dourado & Leite, 2013). The pre field tasks should prepare students for the field activity but they cannot provide information that negatively interferes with the desired students' engagement with the field activity (which, of course, depends on the type of activity). With regard to post field (follow-up) tasks, those that seem to be more neglected by teachers (Remmen & Frøyland, 2015) and researchers, it seems necessary to find out ways of making them to become an added value for students. This may require working from both tasks and learning that took place in the field and going a step further in a direction that may depend on what was done in the field as well as on the content and the school level that are at stake. In any case, decisions on hands-on, minds-on and hearts-on need to be balanced against the learning targets so that carrying out field activities can become an added value to science education in general and Geology education in particular.

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THE USE OF OLD COMPUTER AND PERIPHERAL ADS (1970-1990) IN TEACHING COMPUTER TECHNOLOGIES AND FOREIGN LANGUAGES

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ABSTRACT

This paper aims to investigate the potential of printed computer advertisements (between 1970 and 1990) in the development of communicative and written competence in English language along with teaching computer technologies. The research was conducted with 179 printed computer advertisements and the data was taken by the help of Abbyy Finereader and NoteTab software. The different words they contain were counted and grouped under the parts of speech. Findings have been compared to the same word count analysis conducted to French as a foreign language course book. The results show that the advertisements examined are very rich sources by means of linguistics and they can be employed in foreign language teaching classes as support material. At the same time, they can be used in technology classes as they contain chronological data.
Keywords: Advertisement, foreign, language, teaching computer, technology

INTRODUCTION

Derived from the Latin word "ad vertere", which means to turn toward, advertisement may not be considered as a new concept. Bhatia, (2000) claims that Egyptians used papyrus to make sales messages and wall posters. Commercial messages and political campaign displays have been found in the ruins of Pompeii and ancient Arabia. Lost and found advertising on papyrus was common in Ancient Greece and Ancient Rome.

Advertisements have changed form and objective when we were introduced to mass media. In 21st century, they are not just a tool of persuading potential customers to buy a product or service but also creating awareness or giving information about the products or service. According to James F. Kelly, advertising keeps a business's name in customers' minds, drives growth, builds the brand and has the potential to increase revenue.

Cook, (1992) states that advertisements is a communication tool in almost all the modern communities. It is estimated that an average individual in the British communities watches 150.000 ads until the age of 35, and this is equal to 75.000 minutes or, in other words, 2 months. These kinds of statistics can be considered to be sufficient to show that ads are powerful and appealing communication tools. This linguistically rich combination of texts, pictures and metaphors is among the important authentic materials in teaching foreign languages. Kress & van Leeuwen (2006) states that visual structures as well as linguistic structures signify a certain interpretation and social interaction while mentioning the existence of visual codes and visual linguistics. The linguistic density of ads is higher than any other systems of written communication since they are required to deliver many messages within a limited time period.

Kress and van Leeuwen (1996 cited by Najafian and Dabaghi, 2011) introduce the existence of a visual code or grammar of visual design. They believe that both visual structures and verbal structures can be used to express meanings drawn from common cultural sources. Like linguistic structures, visual structures point to particular interpretations of experience and forms of social interactions.

Photographs, used in print advertisements, work as a system of signs that gives form and meaning to consciousness and reality. There are always two modes of communication in a printed advertisement; a verbal mode and a visual one, and which interact together. These two modes can be expressed through the different signs utilized like colors, typed words, and photographs. The more these signs used effectively, the more powerful the language become. (Najafian and Dabaghi, 2011, cited by Abdelnal & Sase, 2014).

It is obvious that the recent studies on foreign language acquisition strategies focus on reinforcing learning by increasingly revealing the individual differences among students (Littlemore, 2001). In this regard, although

there are many ways to separate the students such as age, gender, motivation, type of learning, the practices concentrated on revealing these through visual and metaphorical intelligence are particularly emphasized. Informatics or foreign language as well as the use of visual materials are not new to the field of education and Pit Corder distinguished between the terms 'speaking about pictures' and 'speaking with pictures' with distinct examples. He preferred to use the picture for the language rather than use the language for the picture as in the classical approach. He supports the use of pictures to feature the language proficiency through questions such as 'Are you afraid of heights? or Have you ever been to the Eiffel Tower?' rather than a student holding a picture of the Eiffel Tower and forming classical and descriptive sentences such as 'This is the Eiffel Tower. It is located in Paris etc' (Wright, 1989). Mishan regards printed, audial and/or visual advertisements which provide visual and cognitive advantages depending on the statistical structure of the picture as authentic materials involving sociological and pragmatic language variety.

THE STUDY

In this quantitative study, 179 randomly chosen printed computer and peripherals advertisements were used as data sources then the scanned forms of these advertisements were processed thorough optical character recognition. (OCR) To establish the best quality output, industry leader Ocr software, like Abbyy Finereader, were employed in this stage of data collection. After the scanned images of advertisements has been transformed to text files, they have been processed in NoteTab software to find out the number of different words used in advertisement along with the number of total words and characters with their occurrence frequencies. For parts of the speech analysis Open Xerox Service has been used.

All of the advertisements chosen were suitable to be used as support materials in computer technology teaching classrooms as they share key information of their era. They may serve as good examples in the classroom especially in teaching computer history or chronology of a specific computer peripheral. Moreover, advertisements enable the students to observe how much the speed and ways of production have changed over the years as they offer extra information such as price, specifications, and areas of use.

FINDINGS

It is now obvious that natural language processing tools and automatically extracting linguistic information from a corpus text are very important elements of computational linguistics. In the past, part of speech tagging or word category disambiguation had to be done manually and that was a huge manual labor. Owing to improvements in software technology and powerful hardware of new computers, today it became a matter of seconds to gather the results from the part of speech tagging software.

Part of speech	Count	Occurrence	Frequency %
Different Adjectives	501	1725	17,266
Different Adverbs	117	578	5,785
Different Conjunctions	15	533	5,335
Different Nouns	1215	4015	40,186
Different Prepositions	36	1044	10,449
Different Pronouns	33	250	2,502
Different Verbs	495	1846	18,477
TOTAL	2412	9991	100

Table 1 Word counts and their occurrence rates for the advertisements.
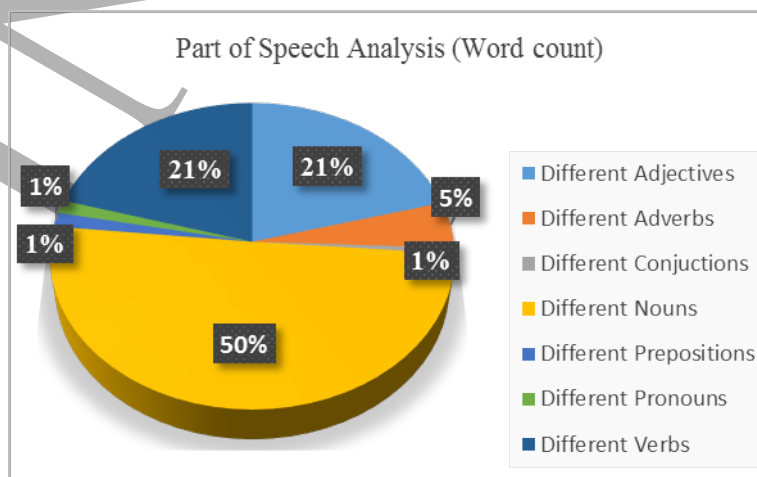
Graph 1 Graphic representation of parts of speech.

Table 1 and Graph 1 above show the word counts and their occurrence rates for the advertisements. It is found that 2412 of 9991 words included in advertisements were different from one another, thus the rate of unique words to the total is 24 % which can be accepted as high in terms of richness of a text. 50% of these unique words were found to be nouns, 21% were adjectives, 5% were adverbs, and the rate of prepositions were also 21%. One the counting and tagging completed, we then jump to search for the technical terms related only to computer and information technologies in the established wordlist.

Total of 233 unique words, which corresponds approximately 10% of the total words counted, were listed. 13% of these words were verbs, 21% were adjectives, 3% were adverbs and 63% were unique nouns.

Part of speech	Count	Occurrence	Frequency
Different Adjectives	49	163	16,684
Different Adverbs	6	9	0,921
Different Nouns	147	678	69,396
Different Verbs	31	127	12,999
TOTAL	233	977	100

Table 2 Word counts and their occurrence rates for computer and peripherals related technical terms

Graph 2 Graphic representation of part of speech

CONCLUSION

Since the advertisements are meant to express ideas and convince the target audience with as few words as possible, they are very rich patterns in terms of linguistics. They aim to include short and attention raising words which need to be easily kept in mind, so they contain a great deal of metaphors.
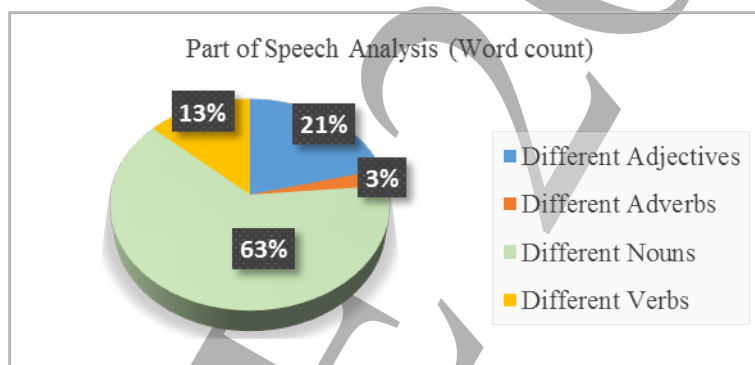
In this study, it is found out that the number of the different word items in the advertisements analyzed is higher than the word items in an old regular French course book. Moreover, each and every word item included in the advertisements is selected thoroughly after a meticulous process to have a great impact on the target audience. The linguistic richness is also provided by avoiding the repetition to be able to create a text lightweight in size but large in meaning.

According to The Common European Framework of Reference for Languages, teaching a foreign language is not limited to course books, methods or other materials specially designed to be used in the classroom. Thus, the use of authentic materials is highly encouraged. In this regard, advertisements are rich authentic materials not only in terms of linguistics but also in terms of culture. This study shows that they can be used as support materials in foreign language learning classes when organizing writing and speaking activities. On the other hand, as the number of the unique words in advertisements is very high, in our study it was 2412, they can also be employed in vocabulary teaching activities.

About 10% of the unique words in different categories of the advertisements used in our study were technical terms related to computer and peripherals which can support technology teaching in schools. The advertisements also provide a chronological and historical perspective that the students may compare with today's technological improvements.

This study reveals that, either in foreign language or technology teaching, the old printed advertisements still represent huge support resources.

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THE USE OF SMARTPHONES TO DEVELOP THE ABSTRACT REASONING OF PRESERVICE TEACHERS

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ABSTRACT

The familiarity of students with the electronic devices can be a great help in education. In fact, smartphones are one of the devices that can change the process of instruction (Eisele-Dyrli, 2011). For instance, in the United States, 98% of the students between 14 and 18 years old own a cell phone and 70% own a laptop, tablet, or netbook (Project Tomorrow, 2010). The experiment was a pre and posttest study with 17 preservice teachers. The test was the Test of Logical Thinking. The professor used the smartphones in the classroom during eight one hour-classes in order to promote the abstract reasoning with mathematics problems. The result was a gain of abstract reasoning of 0.21. Most of the students improved the abstract reasoning and it will be a help when they have to teach mathematics and science contents.

INTRODUCTION

Teachers of mathematics and science face a challenge when they enter the classroom. They have to help students get the most benefit possible out of limited instructional time. Therefore, teachers need to ensure that students are motivated so that they are better able to learn and participate in class. One of the most useful tools in education is the implementation of technology, and the addition of these new technologies into the classroom is often marked by improvement in students' learning and motivation (Méndez, 2012; 2013a).

Due to new advances and the proliferation of mobile devices, their use is widespread, natural, and quite intuitive. Most students if not all, own smartphones. The use of laptops is very common and the employment of tablets is increasing. Portability makes mobile devices very useful for educational purposes because students can access them and stay connected to others all the time (Melhuish & Falloon, 2010). The familiarity of students with the electronic devices can be a great help in education. In fact, smartphones are one of the devices that can change the process of instruction (Eisele-Dyrli, 2011). For instance, in the United States, 98% of the students between 14 and 18 years old own a cell phone and 70% own a laptop, tablet, or netbook (Project Tomorrow, 2010).

These technologies are attractive to students and promote motivation (Méndez & Slisko, 2013). Moreover, in the United States, "93 percent of parents like the idea of an online textbook and 47 percent feel that online textbooks would be a good investments for schools to make to improve student achievement" (Project Tomorrow, 2010, p. 25). The integration of information and communications technologies (ICTs) in the classroom can initially require some extra work and preparation for the teacher; however, long-term advantages are great and eventually result in the saving of time and increased efficiency. For example, there is no need to spend class time teaching students to use new instructional hardware and software (Kolb, 2011).

What Is Socrative?

There are several student response systems available on market that allow teachers to prepare educational exercises and games via smartphones, laptops, and tablets, test students, and receive immediate feedback and test results, for example, Poll Everywhere, Go Soapbox, and Socrative (Matthew, 2012). Socrative has the advantage of being free of charge.

You only need access to the Internet and a device like laptop, tablet, or smartphone in order to propose some questions and receive the answers of the students. Teachers design activities to do or problems to solve for students in class. They simply log in with their device and interact with the content in real time. Students' responses for multiple-choice and open-ended questions are visually represented on those student response systems. In case of pre-planned activities, a teacher can view reports online as a Google spreadsheet or as an Excel file.

These response programs have the following advantages:

1. They do not require any special or expensive software nor electronic device;

2. Devices that are accessible to anyone, such as the Internet and a smartphone with connection to the Internet, are the only prerequisites;

3. They are easy to implement in the classroom.

Regarding strategies of active learning, these tools can facilitate cooperative learning, a methodology that numerous educational institutions are promoting in science education (Eurydice, 2011). Moreover, they can be useful to improve understanding of the content explained in class, in particular those that require a lot of repetition, such as arithmetic calculations. A professor only needs to design an activity, give access to it to students, download excel sheets, and check the results.

Why Do We Use Smartphones?

Manuguerra and Petocz (2011) referred to mobile learning (M-learning) as a new concept which has followed E-learning. The use of smartphones and tablets can be very helpful for teachers in tracking and analyzing their students' learning and progress in real time. They can also be used as evaluation and assessment tools both of learning as well as teaching methods.

These are some other benefits of smartphones:

1. Teachers can easily design a series of knowledge- or opinion- based questions;

2. Students only need their smartphones and Internet access;

3. Teachers know the results of the tests immediately and all at once;

4. The results of the tests do not have to be public. They can only be known to the teacher and a chosen student.

Since smartphones are one of the most commonly used devices, we are going to focus on their integration in a classroom. The advantages are as follows (Attewell, 2005; Kolb, 2011; Duncan, Hoekstra, & Wilcox, 2012):

1. They can be used to encourage both independent and collaborative learning experiences;

2. They help to remove some of the formality from the learning experience and engage reluctant learners;

3. They help learners remain more focused for longer periods of time;

4. They help to raise self-esteem;

5. They help to combat resistance towards the use of ICTs and can help bridge the gap between mobile phone literacy and ICT literacy;

6. They are low cost or at no cost to educational institutions;

7. Students use them daily;

8. They can be used anytime, anywhere, from any source, at any pace;

9. They can empower students who are visually or hearing impaired;

10. They distract less than laptops.

To summarize, it is worth mentioning Prensky here who defined cell phones as "particularly useful computers that fit in your pocket, are always with you, and are always on" (Prensky, 2004, p. 3).

Formal reasoning

In general, the skill of formal reasoning is important not only at the moment of making and testing the predictions but also at every moment of learning physics. It is also true that the previous knowledge of every person and the effective use of logical rules of reasoning have a great effect in the learning (Mendez, 2013b; Pozo, 1988). In addition, there is also a partial dependence between the procedures of learning and the conceptual content. Therefore, the abstract reasoning is the skill that goes beyond the particular case and it is important to learn and understand, specially the abstract concepts (Tobin & Capie, 1982).

To get the measures of abstract reasoning levels and their changes, we applied the Test of logical thinking (TOLT), designed by Tobin and Capie (1982). In this study, the Spanish version of that test was used. The translation was done by the "Seminario Permanente de Investigación en Didáctica de las Ciencias" in Cadiz (Acevedo & Oliva, 1995).

To avoid the introduction of a new variable we will use the Spanish version, validated in a previous study. The TOLT, the Spanish and the original version, has been used in several investigations. Acevedo and Oliva (1995) measured the formal reasoning of 1400 students from 13 to 21 years. Valanides (1997, 1998) used the test with students from 13 to 17 years. The TOLT has been also applied to engineering students (Maris & Difabio, 2009), chemistry students (Gupta, 2012) and pre-service science secondary teachers (Hackling, Garnett &Dymond, 1990). There was also a research which had the goal to compare the effects in formal reasoning skills between a group with lab instruction and another one with traditional methodology (Koray & Koksal, 2009).

According to the level of formal reasoning, there are different ways of division. Some researchers consider that concrete level corresponds to a score from 0 to 3, transitional level from 4 to 6 and formal level 7 to 10 (Oliva, 2003). Valanides (1997) distinguished four levels: concrete (punctuation of 0 or 1), transitional (2 or

3), formal (4 to 7) and rigorous formal (8 to 10). The comparison is shown in the table 4. Surprisingly, Valanides (1998) made another division: concrete (0 and 1), transitional (2 and 3) and formal (from 4 to 10).

METHOD

A group of 17 preservice kindergarten teachers were working with their smartphones during eight one hour-classes in order to promote the abstract reasoning with mathematics problems. It was one hour to do the pretest. The preservice teachers worked mathematics problems for six hours and they had to answered with the smartphone. After each hour, the professor solved the doubts about the solution of the problems and he could focused on the difficulties because he knew the answers previously. Finally, they did the posttest.
The students had an hour to complete the tasks using also their own smartphones. For this purpose, the TOLT was loaded in a teacher's class in Socrative, and the room code was given to the students at the beginning of the session. This session remained open until the end of the class, which allowed the students to do the exercise from both inside and outside the classroom, minimising the problems associated with the face-to-face education.

FINDINGS/RESULTS

The main result was a gaining of abstract reasoning of 0.87/10. The mean of the pretest was 3.94 (standard deviation of 2,08), while the posttest mean reaches the 4.81 (standard deviation of 1,97).
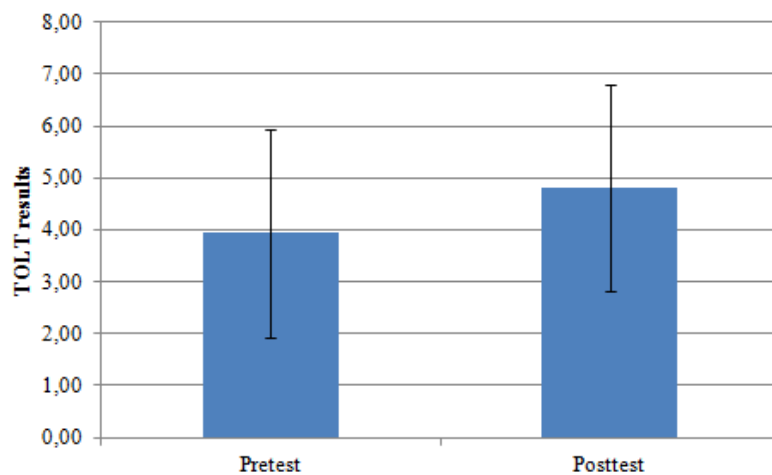
Figure 1: Mean and standard deviation of pretest and posttest

The average normalized gain G (Hake, 1998) is: G = (posttest-pretest) / (10-pretest)
The students have a mean G = 0.15, with an standard deviation of 0.29, which agains shows an increase in the reasoning skills of the preservice teachers which used screen methodologies in their reasoning learning.
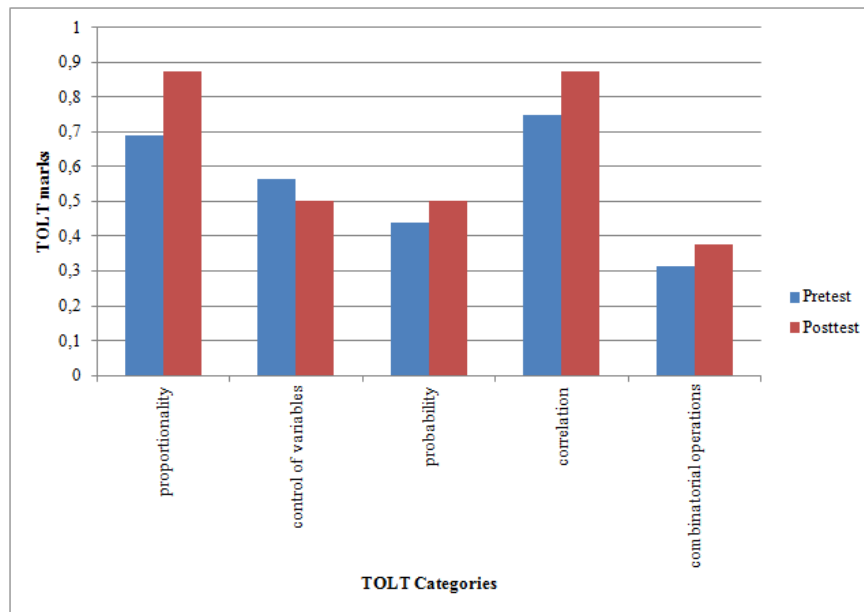
Figure 2: TOLT Categories results

An increase in four of the five TOLT categories can be observed in Fig 2. The "Control of variables" has been the only category in with the students have obtained worse results in the posttest than in the pretest.

CONCLUSIONS

With this experiment, the students have showed that it is very easy for them to use the smartphones in the classroom and they have been convinced that these are efficient tools in order to promote the learning and the development of several faculties, for instance in this experiment the abstract reasoning.

The students have developed the abstract reasoning with the help of the smartphones and they have got a good normalized gain. In comparison with other experiments but in a science subject, the results are worse, the gain was 0.4 with secondary students (Mendez & Souviron, 2015) and was 0.27 with preservice teachers (Mendez & Slisko, 2013b).

The students achieved a result in the pretest of 3.94 and in the posttest 4.81. Oliva (1997) got a result with 14 and 15 years old students of 2.87 and Aguilar et al. (2002) got with 15 and 16 years old students of 4.5. And Valanides (1997) got a result of 4.1 with students of 13 years old. For this reason, the results are useful because the students of this experiment are future teachers and they will have to prepare other students in order to have the ability of understand Mathematics and Science. With this experiment, it is possible to develop, perhaps if they continue with this kind of activities they will be able to develop the abstract reasoning more as it is necessary.

As it is possible to observe all the abilities that the test measures have improved -proportionality, probability, correlation and operations of combinatorial analysis- but control of variables, therefore this ability should be worked with more classes or with different activities.

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THE WORKS AND LIVES OF MIDDLE SCHOOL TEACHERS IN 'BOUNDARY' VIEW

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The purpose of this study is to investigate how teachers in middle schools psychologically perceive their works and lives in 'boundary' view. In order to accomplish this purpose, the data gathered through the interviews of 16 elementary school teachers were analyzed by using the concept of boundary. The results of this study were as follows: "boundary maintenance," in the aspect of teaching profession; "boundary integration," in the aspect of student development; and "boundary confusion," in the aspect of rewards and educational beliefs held by teachers.This study offers basic data that are necessary for improving teacher's happiness and forming a healthy school community by focusing on teachers' lives.

Keywords: boundary, middle school teacher, teacher's life

THEORY CRISIS IN THE FIELD OF EDUCATIONAL ADMINISTRATION

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The present study aims at discussing the theory crisis in the field of Educational Administration (EA). The main rationale why to study the theory crisis in EA in the present study is that almost all concepts and theories have been transferred from other similar fields, such as sociology, management, public administration, and industrial/organizational psychology etc. Therefore, it can also be argued that field of EA have been experiencing autonomy crisis since the departmentalization in Universities in the beginning of the twentieth century. The theories which are generally used in EA borrowed from sociology in general. One of them is *structural/functionalist theory (SFT)* which focuses on the structure and function of the organizations. SFT have been traditionally used the field of business management, since its main target is to explain why organizations exist and how they can be improved. Similarly, scholars of EA have used SFT for many years in their studies. For instance, those scholars have searched how to improve the schools, what are the determinants of effective schools, what type of leadership style best fits to the effective schools etc. The other theory regarding with the organizations was developed mainly by German sociologist including Marx and the representatives of Frankfurt School. This tradition namely "critical school" claims that the main function of societal organizations is to cover the unequal relations between ruling class and workers. The main argument of orthodox Marxism and critical theory is to uncover those unequal relations by using critical societal analysis. This theoretical framework has also influenced the EA scholars for many years. EA scholars who used the critical framework in their studies have asked such questions; "how the schools carry hegemonic ideas of the ruling class to students?" or "how the schooling in capitalistic societies help deepening the class divisions?" etc. As it can be seen both approach see the educational organizations from the lens of sociology. Therefore, it can be said that EA have not developed its own lens to describe, explain and control the administrative practices in educational settings. Based on this discussion it is concluded that as a relatively young field, EA needs to develop its own theory to become an autonomous field.

Keywords: Theory crises, educational administration,

THOSE BLESSED WITH MUSE ARE GIFTED IN TEACHING
"IN NEED OF MUSICIAN, ARTIST, SINGER, ACTOR AND DANCER TEACHERS"

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ABSTRACT

Is it an art or just a job? Born or made? Sufficient knowledge of subject, organization skills, patience or effective classroom management? The list goes on. Most of us have already been enlightened on and experienced about the qualities students or principals look for in a teacher that is in an effective teacher. What's more, in this world of teaching or more precisely the world of ELT, many of us have read, met, witnessed and acknowledged the privileged place and the features of inspiring teachers who are a few steps ahead in the path of success. Some of the features might be gained, improved and cultivated, some of them not. However, unlike the stereotyped attributions and characteristics, what makes a teacher an effective one is his/her being gifted which means a talent, bestowed on only a few, in any branch of art such as drama, music or dance... Through this paper the focus point is to shed light upon the redefinition of the word "effective teacher" which has come to light with the talented teachers' astounding performance in the classroom, in other words their stage, studio or shop where they craft, create, produce, but more importantly inspire while teaching, which makes them remarkably more effective teachers. The study will be supported with an interview with teachers so as to bring forefront their talents, if any, in any branch of art and to analyze their students' academic and personal development in the classroom in regard to teachers' performance accessorized with their talents.

Keywords: effective teacher, talent, any branch of art

INTRODUCTION

It is an undeniable fact that teaching requires skills and hard work to realize the real teaching and to foster students' learning. However, teaching can not be reduced to skills, techniques and labor (as cited in Fraser and Mcgee, 2011). Being "effective" and practice is a sine qua non in this profession. Walker (2008) defined the terms *effective* as a particular teacher who is the most successful in helping students to learn; *characteristics* as a particular teacher's special personal qualities that the students feel and enable the teachers to achieve success. Effective teacher and teaching has undergone a number of studies and researches that have brought many characteristics to forefront such as:

- Plays a central , dominant role in the classroom but involves student in planning and organization
- Sets high academic standards and communicates those standards to students
- Works mostly with the entire class but often with small groups, sometimes providing independent work
- Maintains a brisk of lesson pace requiring student participation
- Uses little criticism, shapes student responses so that they are correct
- Holds students responsible for their work
- Treats students equitably
- Sets and maintains clear rules for students' academic and social behavior

(Henson and Eller, 2012)

When what is described in effective teaching is closely examined, it can be stated that the behaviorist position of a teacher plays an important role which means teachers tells, does, demonstrates something and the learner responds and learning takes places. However, we can not say that this is adequate and accurate interpretation of an effective teacher. According to Westwood (1996), reciprocal and dynamic interactions between instructors and learners are sine quo non of learning and teaching (p. 68). Kraayenoord and Elkins have claimed that teaching encompasses interactive process and requires teacher's sensitivity towards the characteristics of the students, which means use of a wide variety of techniques (as cited in Westwood, 1996, 68).

Another study was carried out by Burns (2000) on the issue of the essential essence in excellent teaching which dwells on two approaches to elaborate the term. One is the balanced development of the teachers personally and intellectually. The other is the issue of effective teaching in the learning/understanding context (p. 64). In addition, it is interpreted that Burns (2000) touched upon the non-existence of reliable, objective and universal criteria of teacher effectiveness and the impact of socio-cultural and professional perspectives on judgment of effectiveness (p. 65). Furthermore Burn (2000) commented that the general theme substantially ignored is that: Effective teaching measured in terms of student performance or ratings by students of teachers appears to require

teachers who not only have command of and enthusiasm for their subject but who are also able to form satisfactory human relationships and create a warm supportive accepting classroom ethos (p. 67).

> Socrates: I will try and explain to you what excellent teaching is. What do you say to this answer ? *Excellent teaching is that which produces learning and understanding*. Will you be satisfied with it ?
> Meno: It is such a simple answer.
> Socrates: You have my answer, and if I am wrong, your business is to take up the argument and refute me.
>
> (as cited in Westwood, 1996, 66)

The major purpose of this paper is not to refute Socrates but to reframe and redefine the term "effective teacher". Nobody can deny the truth of these specific features of an effective teacher who is equipped with the characteristics mentioned above. However, it is not wrong to say that, the "effective teacher" is used in a much broader sense and redefined in this paper rather than the certain characteristics attributed to them and performed in the classrooms. In addition, in spite of the diverse studies on effective teaching/ teacher, there is a degree of consensus on genetic features of effective teaching (Alma, 1998). While the attributions to an effective teacher are highly appreciated, the underlying process and practice which are the inspiration they have innate or get from something and reflect it to their learners on their stages are equally significant. As Ward (as cited in Fred, 2010) perfectly stated in his quote:

> The mediocre teacher tells,
> The good teacher explains,
> The superior teacher demonstrates,
> The great teacher inspires.

"The great teachers inspires" is our focus in this paper in order to take the word "effective teacher" from a different perspective. The questions to be asked are if we are not inspired as teachers, can we still inspire or how is this inspiration activated in the classroom? The research based on the effective teacher/teaching has shed light on the innate talent or gift in any branch of art -music, drama, poetry- which seen as the source of inspiration. It is believed that teachers who have any talent bestowed on them by God can perform better as they have a different spirit, mental state and imagination. As human being, we all can't help being fascinated by musicians with their melodies, songs; artists with their thought provoking art of works-paintings; writers with their novels-power of story telling; poets with their emotional and touching poems-power of language use; actors/actresses with their breathtaking-real-like acting and performance. All these people whose lives are occupied with creativity and inspiration are looked with an admiration and wonder.

DEAD POET'S SOCIETY: TEACHER IN ACTION

As Kompf, Bond, Dworet and Boak (1996) defined the phrase "The Work of Art", as having two meanings: the first one is interpreted as the object created by any artists such Picasso, Monet or Beethoven; when it comes to the second one, it means the acts of artistry that are performed by someone in the course of doing one's work. Teachers are engaged in the latter rather than the former one. This is closely related to an actor or dancer's performance and a teacher's teaching where the art is. When a dancer finishes his/her performance, so does a teacher.

There are four specific tasks teachers are engaged in and artistry emerges within them; curriculum planning, explaining, interpersonal relationships and assessment. If we consider planning curricula, teachers make choices about the organization, modification of lesson and pace in order to fit the achievement of the class. This means creation new materials or design of the materials so that they suit better the student and the purpose of the teacher. This is a task which requires imagination-creativity-inspiration if done well (Kompf and et.al., 1996). This is unequivocally a task of art to me.

The second aspect of teaching which occupies a big place in the profession of teaching is explanation and it's friend narration. It is relatively important to explain the topic or sometimes relate the topic to a story with the purpose of arousing curiosity in learners and attract their attention. If there is no an ability to have a feel of language for its use, pacing and connotative meaning, is it that easy or possible for every teacher or just for those endowed with a talent? Therefore, both explanation and narration require creation and imagination to sustain attention and curiosity.

The other locales in which artistry of teaching have paramount importance are interpersonal relationship and assessment. In interpersonal relationships, Kompf, Bond, Dworet and Boak (1996) discuss that this is the interaction in the classroom to set a stage for engagement of the students for any type of communication

activities such debate, dialogue or role play. To make a productive discussions in a good way, a teacher can be perceived as a conductor of an orchestra; who is going to play which instrument and when s/he is going to play it. It is the teacher's role to decide if these moves are right, really work and the result is an amazing performance garnished with an aesthetic quality.

Artistry does not only mean the production of work of art such as painting, poem and play, it can also be thought of as an appreciation of the work, ideas created and the meanings of things conveyed by someone. The students' production and work of art to be exhibited are the sentences, ideas s/he articulates and expresses through interaction and writes on the exam paper. In short, teachers, if one of the gifted ones, knows how to read, listen and analyze the significant features of the work of art under consideration. Dewey says that someone has to go through the same experience and operation spiritually that the artist has gone through in the creation process to appreciate a work of art (as cited in Leddy, 2006). When we consider the assessment or evaluation, can we say that there is artistry in these areas? The answer is positive.

If we continue with another talent bestowed on some teachers, it might be acting. Actors and teachers have much in common such as impressing the audience, being heard by the people from the front row to the back, being seen and understood. When we scrutinize the teachers' acting, it occupies a huge place in a his/her life spent in the classroom. A teacher has to leave his/her personal problems out of the classroom which means acting. A teacher has to model any role play before his/her students which means acting. What's more, a teacher has to make use of his/her acting out talent to explain any vocabulary or s/he is expected to be active not stable in the classroom to keep students' interest up and awake which means a more vibrant atmosphere.

The movie Dead Poets Society is a fantastic example to have shot the teacher acting and in action. The teacher is John Keating whose artistry is displayed in his teaching. Mr. Keating is a young and exciting English and poetry teacher, who has a deep impact on his students and committed himself to teach them to live passionately. His most powerful weapon is his poetry to stimulate, encourage them to challenge the life. A poet's talent is to be able to create poems which is the bridge between him/her and the reader to communicate. A teacher's talent can be divided into two parts; the first one is to be able to write poems. You can find many inspirational tendencies in a teacher whose talent is in poetry in the aspect of motivating and encouraging students inspirationally like Mr. Keating stated: "Boys, you must strive to find your own voice. Because the longer you wait to begin, the less likely you are to find it at all. And he continues with Thoreau's saying: 'Most men lead lives of quiet desperation.' Don't be resigned to that. Break out!" (Haft&Weir, 1989). A teacher who is blessed with a muse is gifted in inspiring his/her students to have personal self-determination while teaching.

ASSOCIATING MUSICAL TALENT WITH LANGUAGE TEACHING

The other talent which is under scope is music. if a teacher is talented in playing any instrument, s/he is inspired inborn and can inspire students in the aspect of learning/ acquiring the language. As they have a higher intelligence and are engaged with musical activities, it is can not be denied that they have a huge impact upon their classroom performance and their students performance. The people who are talented in music; playing instrument, singing or composing any piece of music have a big portion of reasoning and critical thinking and come up with creative techniques. According to a study which aimed to analyze people who are naturally creative looking at problems which is described as thinking "out of box", musicians were studied. As part of this Folley, Gibson and Sohee said that (2009) :

> We studied musicians because creative thinking is part of their daily experience, and we found that there were qualitative differences in the types of answers they gave to problems and in their associated brain activity.

If we associate the outcomes of the study with the teachers and their classroom performance, there is no reason not to think that they can be more effective in classroom management if the classroom is defined as an orchestra and the teacher is a conductor.

BREED OR CREED?

When it comes to artists, we should ask first if it is a different breed or creed which is not very different from the question we pose for teachers "born or made? In reality this question must be asked for all the talents mentioned above if they are breed or creed or if it is creed, does it put the same effect on teaching practice?

When you visit an exhibition consisting of eye-pleasing paintings, you might stop in front of one of them for a while to make sense of and express your admiration for it. Many might also conclude that these creative

individuals are different from everyone else with their uncommon gift or brain wiring in a special way. Nobody can deny the fact that they are a different breed and go through their lives with different motivations.

The belief supported in this paper is the gifted teachers ,in any branch of art, are different in the classroom like artists, musicians, singer and dancers. So how can a teacher whose artistry is in painting be different from other teachers? S/he can bring this gift to light while standing on the stage and want to see the class in a harmony like colors. They might also show significantly more involvement with a range of activities that encapsulate the capacity to imagine and combine visual imagery. To illustrate, we can refer to Burmark's comments (as cited in Enhancing Teaching and Learning Through Visual Imagery, 2000): "When we use words, we leave a lot to interpretation" .

These teachers are the ones who are able to reach students much efficiently and effectively when they emphasize what they say with images that help learners to get the point and visualize the abstract words. The teachers who are gifted in painting can help students to acquire visual imagery and activate it when needed. This is just a different look at talented teachers' teaching through a more meaningful window.

Experts deliver speeches and publish articles on the stress-relief effects of art to encourage people to pick up a brush or enroll a dance or music course. With regular and long-term practice, you might develop these talents such as dancing, painting or playing any instrument but to me it is not as effective and natural as innately gifted. The difference between non-native and native English speaker might be a good example to better express our stance in this argument and to answer the questions posed at the very beginning of this part. Non-native English speaker have learnt/learns and improves this foreign language through practice, however native English speaker acquires and its his/her mother tongue. No matter how much practice a non-native speaker does, she/he can not go beyond being native-like. It is not very different for someone who desires to be "good enough" or "make it" as an artist, dancer, musician or actor who inspire and guide their activities. However, the gifted ones always will be one or two steps ahead.

VOICES OF GIFTED TEACHERS

The teachers who were interviewed work at universities located in Istanbul. A few questions were addressed to them to bring their talents to light and better understand how being gifted in any branch of art make them different and effective, also how it affects their students personal and academic achievement.

1. What is your artistic talent? In which branch of art do you think you are gifted?
2. Do you think that these talents have an impact on your teaching practice?
3. If yes, how?
4. As you know, your performance can not be divorced from your students' performance. So, do you think that this gift affects your students' academic and personal development?

The first interview was conducted with Gayane Pozharina who is an English teacher at Istanbul Aydın University for almost 4 years. Gayane shared her own talents and how it affects her teaching and her students' academic and personal development, achievement (personal communication, May 22, 2015). She is a singer, dancer and artist. She has been taking vocal lessons from Istanbul University, Conservatory Department. However, she said that she this is not because of the lessons she has taken, it is a gift. When she was very young, she realized that she could memorize the songs at first listening even if she couldn't speak or understand that language in which the song is sung. She continued with how she applies this talent in teaching. She uses drilling which is a technique in language teaching and places emphasis on repeating structural patterns through oral practice. If she teaches present perfect, she makes her students to repeat the sentences like the chorus of a song and they never forget this specific structure. As she is talented in this branch, she is a regular of concerts and she shares her experience with her students which attracts their attention. She also sings in the class from time to time to relax her students and creates a different atmosphere in the classroom.

The other two gifts bestowed on her are dancing and painting. It was really exciting to hear that she is very talented and reflect them into teaching. The classroom she teaches more is embellished with colorful posters and students' works. As mentioned above, the artistic people have visual imagery and want to see everything in an harmony. To exemplify, Gayane is using board very well and draws some shapes on the board to explain something or make her explanation more colorful. Also she is helping her students to acquire visual imagery and activating it while learning.

Gayane is also a dancer which is a gift makes her more active in the classroom. Another teacher named Eylem Altuntas who has been working at Ozyegin University as an English teacher (telephone communication, May 29,

2015). They both stated that this talent inside moves, motivates, directs and jumps them while teaching which makes them successful in classroom management. Using gestures, body language has become a significant part of their teaching instead standing and talking. As a result, their students are viral, lively and motivated enough while learning. They described their classroom as their stage where they perform and pursue their art.

With the help of all these artistic performance, it is inevitable for students to improve themselves academically and personally since they are being taught the lessons along with being enlightened on art knowledge. Gayane thinks that songs shelter cultural knowledge in them, she visits museums, art galleries, joins concerts and carries the world knowledge to the classroom to contribute to and sustain her students personal development in a way.

Another lecturer named Selçuk Bayram who has been working at Istanbul Aydın University for 4 years is one of those who is blessed with muse is believed to be gifted in teaching. Selçuk is a musician and he said that (personal communication, May 22, 2015) not only him but also his family members are interested in music. Defining it as an innate talent, he continues with the musical instruments he can play such as violin, guitar and oud. Musical talent played and plays an important role in his personal development before his teaching practice. People's admiration towards his talents made him a very self-confident person in many fields of life and a teacher in classroom.

As he is a musician, he attends social occasions which is an effective way to socialize. When he socializes, he is presented many chances to improve himself personally and have different perspectives of life. Musical talent has something to do with finding topics easily to talk with students or adapting the topics according students' needs and interests. Bayram also expanded the discussion adding creating good interpersonal communication with his students (personal communication, May 22, 2015). He stated that one of the reasons why he has good relationship with his students is his musical talent as it creates curiosity in students.

The reflection of this talent in teaching is his competency in making them involved in lessons that is one thing satisfying for him. In reality, he touched upon his being incompetent in nothing and good at handling the mishaps. He compares it with playing an instrument with an orchestra; he describes teaching as a collaborative profession done with learners who are the members of the orchestra. It also enables him to create an enjoyable atmosphere for learners to have fun.

CONCLUSION

The principles of effective teaching and teachers are reasonably known to professional educators and have been in ELT world for some time. However, my perception of an effective teacher is his/her being gifted in any branch of art which is the root and the source of inspiration, imagination and creativity. Conceiving and redefining effective teachers does not require us to give up scientific sources or pursuing the known features of effective teachers that are helpful. However, science, I mean the features of effective teachers mentioned in the previous parts of the paper does not tell the whole story. Artistic performance of teachers, in other word, artistry in teaching, provides us with a way of thinking and reflecting upon features of effective teachers we might not have thought about before. These gifted teachers' performance in the classroom might isolate the mechanistic approaches to the study of teaching.

Being gifted in or engaged with a branch of art encourages teachers to make their professional lives interesting as they are at their best and creates a different classroom environment for learners. Their teaching goes beyond routine and they better express themselves through their engagement in art and their artistic side. This is also reflected in their interpersonal relationships with students, curriculum design, assessment and explaining the subject in the classroom atmosphere.

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THOUGHTS ON KAZAKH AND KYRGYZ WORDS IN RADLOFF'S DICTIONARY AND DIFFERENT WORDS IN CONTEMPORARY KAZAKH AND KYRGZ

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Wilhelm Radolf, one of the founders of Turkology, published some Kyrgyz and Kazakh words in his work called *Opıt Slovarya Tyurskih Nareçiy* in the late 19 th century, which he compiled in the beginning of 19 th century. These words are not used in the dialects of Kazakh and Kyrgyz or we come across them with different structures.

The reason of these different words in Radolf's dictionary and contemporary Kyrgyz and Kazakh can not be explained with the ancientness or newness of the words. Because the period between the date that Radolf compiled the words and the date, which the dictionaries of contemporary Kazakh and Kyrgyz were prepared was not a long time as the discard of the words. The existence of these words depends on a more different reason.

In this study, some thoughts on the reasons of different words existence are presented and the foundation of these thoughts is put forward via scientific explanations.

Keywords: Wilhelm Radolff, Kyrgyz, Kazakh, Opıt Slovarya Tyurskih Nareçiy

TO PAIR OR NOT TO PAIR: INVESTIGATING THE DYNAMICS OF TEACHER-STUDENT INTERACTIONS IN DIFFERENT CLASSROOM SETTINGS

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ABSTRACT
In a 21st century classroom, the challenges that most teachers faced everyday are to cater to students with different levels of development or readiness. The aim of this descriptive study is to examine the dynamics of teacher-student interactions (or engagements) in two different classroom settings: individual setting and paired setting. A mixed method approach was employed for this study from a sample of Year 7 mixed-ability streamed mathematics class. The analyses of the data were extracted from the pre and post semi-structured interviews and the two video recordings of the two different settings. Based on the analyses, there were four common themes observed, the teacher's attention, the teacher's trails, the students' engagement and the nature of interruptions in the lesson. The teacher's perceptions and training also played an important role in the aspect of successful implementation of pair setting classroom. The findings in general revealed that the paired setting induced a more conducive classroom environment where the students have the opportunity to discuss mathematics with one another, and also to refine and critique each other's ideas and understandings of the given lesson tasks.

Keywords: Teacher-student interactions, Individual and paired settings, Engagements, Trails, Interruptions

INTRODUCTION

In a 21st century classroom, the students are so diverse in terms of their social background, abilities, behaviour and learning preferences (Hobgood & Ormsby, 2010). Consequently, the challenges that most teachers faced everyday are to cater to students with different levels of development or readiness. Most education system nowadays has succumbed to stream the students; the low ability students will be filtered into the low ability class whereas the high ability students will be placed in the high ability class. Some studies found that by streaming the students, the teacher can plan his or her lesson very easily since majority of the students are of equal ability, whilst for the students with low self-esteem can feel comfortable among their peers of equal ability. However, it is impossible to filter students of equal ability in one class (Di Martino & Miles, 2005). Instead, such streaming provide teachers the space to overestimate the students' ability in the high ability class and unconsciously restricting the students' learning in the low ability class due to underestimating their potential (Wiliam & Bartholomew, 2009).

According to Kilgour (2009), the impact of streaming students into the low ability class was found to be negative (Kilgour, 2009). However, even though streaming is typically done in the context of Brunei Darussalam, such as the study conducted by Yassin, Shahrill, Jaidin and Harun (2015), there are a lot of factors that could influence the students' learning and the most influential person is the teacher (Attard, 2009). Hence, teacher-student interactions drive the productivity of a lesson. This coincides with Hannah (2013) who stated that one of the ways in having a good teacher-student interaction is by fully utilising the classroom settings, one of which is in organising the desks appropriately. Consequently, the aim for this study is to distinguish the dynamics of the teacher-student interactions in a mathematics classroom using two different settings: (1) individual setting and (2) paired setting. Note that the interaction context in this present study is different from the studies conducted and reported in Salam and Shahrill (2014), Shahrill (2009), and Shahrill and Clarke (2014). Their studies specifically focused on the classroom interactions involving the exchange of 'talk' or discourse between the teacher and the students.

OCCURRENCES IN THE CLASSROOM

A study conducted by Pettigrew, Miller-Day, Shin, Hecht, Krieger and Graham (2012) confirmed the importance of a teacher's control. Their study specifically analysed teachers' control in the classroom and their respective students' engagement. The teacher control was coded as passive, strict and coordinated, whilst the student engagement was classified as disconnected, attentive and participatory. Some form of patterns was also discovered in the findings. Passive teachers were usually associated with attentive or disconnected students. On the other hand, coordinated teachers result in attentive or participatory students, and strict teachers result in attentive students.

Effective teacher-student interaction is crucial as it creates, firstly emotional support, which constitutes a positive relationship with one another, and secondly classroom organisation, from the aspect of well managed classrooms, as well as instructional support, interactions that teach the students to think, provide ongoing feedback and support, as well as facilitate language and vocabulary (University of Virginia, 2014).

According to Hiebert and colleagues (2003), there are five pedagogical features that influenced the lesson clarity and flow of the mathematics lesson sequences. The goal statements and lesson summary statements are the first and second features identified to influence the mathematics lessons as these enhances the clarity of the key ideas or major points given to the students during the lesson. While the three different kinds of interruptions, such as outside interruptions, engaging in non-mathematical activities and any off-topic public announcements may somehow break the flow of the mathematics lesson. In particular, there may be potentially frequent instances of uneven flow within the entire length of the mathematics lessons taught when outside interruptions simultaneously occurred. Several other findings reported by Leonard (2003), Foerde, Knowlton and Poldrack (2006), Shahrill (2009) and Shahrill and Clarke (2015) are such that students are sometimes distracted from the class activity, there is a decrease overall in the students' learning process, and the time spent in learning mathematics may be affected because the 'interrupted' lesson times could have been used effectively for instructional purposes.

Studies such as Anderson and Keith (1997) and Steinberg, Dornbusch and Brown (1992) indicated that one of the major predictors that contribute to poor academic performance is student engagement. According to Bonus and Riordan (1998) who conducted a study on changing and improving classroom seating arrangements to help children stay on task and reduce distractions. They concluded that the causes of students having trouble staying on task were related to seating arrangement, seating proximity to the teacher, ability levels, and lesson taught. In addition, the powerful effect of having peers in the experience of learning was discovered to have a positive impact on student academic motivation and achievement. This has led to the development of cooperative learning in classroom aimed to increase students' motivation and consequently, students' achievement.

COOPERATIVE LEARNING

In general, cooperative learning involves students working in groups to help one another in their learning process. According to Slavin (2010), cooperative learning can be categorised into two main bodies, structured team learning and informal group learning methods. Some examples of structured team learning are Student Team Learning (STL), Student Team-Achievement Division (STAD) and Peer-Assisted Learning Strategies (PALS), whilst informal group learning methods are jigsaw and group investigation. Upon implementing the cooperative learning strategy, two elements must be present in order for the learning to be effective. Firstly, group goals must be defined. An example of a group goal is to achieve a certification. Another element is individual accountability; the success of the learning must depend on the individual learning of all group members.

Extracted from Slavin (2010), Figure 1 shows the interdependent relationships among the components, which begin with a focus on group goals based on learning of all group members, followed with motivation. Motivation plays a big role in facilitating group interactions such as peer modelling, peer tutoring, cognitive elaboration, peer practice and peer assessment and correction, which result to enhance the students' learning.
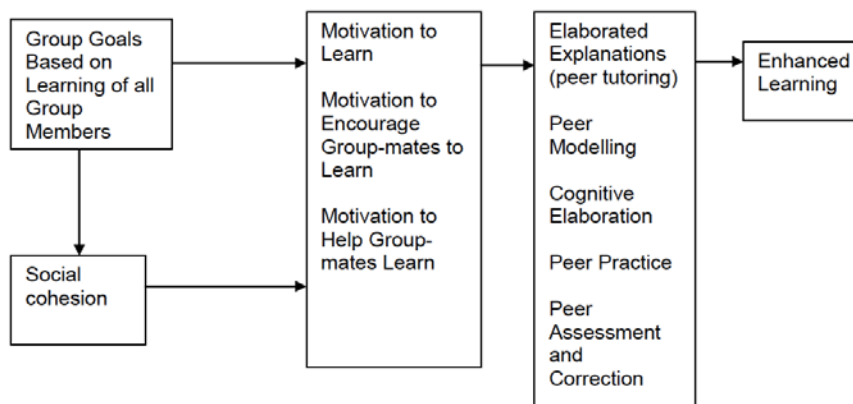
Figure 1: How cooperative improves learning (Slavin, 2010)

PEER-ASSISTED LEARNING STRATEGY (PALS) – 'TWO HEADS ARE BETTER THAN ONE'
Peer-assisted learning is a learning approach where learners pair up and take turns to role-play as teacher and learner. Various studies of this strategy have been done, especially in the area of reading in the elementary level (Rohrbeck, Ginsburg-Block, Fantuzzo & Miller, 2003; Patterson, 2013).

There are three main focus on PALS as mentioned by Fuchs, Fuchs, Hamlett, Phillips and Bentz (1994) in which PALS have the potential to: (1) meet the needs of all learners rather than just a few, (2) allow teachers to maintain a comfortable degree of control and (3) encourage students to take more responsibility for their own as well as for their peers' learning. It was also claimed that PALS could increase confidence amongst students, as well as to maintain students' retention of knowledge (Capstick, 2004). Another study by Kroeger and Kouche (2006) took place in a large middle school near a large city in the Midwest in which PALS were implemented in inclusive mathematics classrooms. The net result was increased engagement and positive response and confidence levels rise in many of lower ability students.

THE STUDY
Brunei Darussalam is a small country in Southeast Asia and it is the only sovereign country located on the Borneo Island. In 2009, the Ministry of Education officially implemented the reformation of the education system known as *Sistem Pendidikan Negara Abad ke-21* or SPN21, and translated in the English Language as the National Education System for the 21st Century (Ministry of Education, 2013).

In the SPN21 various programmes were introduced that aim to help students whom are at risk of failure. One of the programmes which was introduced was the *Pengukuhan Kemahiran Asas* Programme (also known as PEKA) or in English, the Basic Skills Strengthening Programme. PEKA programme is a six months intensive programme aims to improve the students' numeracy skills. The students were selected based on only having one or two passes in their *Penilaian Sekolah Rendah* (PSR) or the Primary School Assessment during their Year 6 (reported in the online news article of the Borneo Post "Special Attention on Weak Students" in 2012). These students were then given a numeracy diagnostic test during Year 7 and those who failed the test will be channeled into the PEKA programme.

The objective of this study is to analyse and compare the teacher and students' behaviour in the Individual Setting (IS) and the Paired Setting (PS). The sample used for this study is a convenient small-scale sample from the Year 7. There exists a conflict in the number of students between the settings, IS and PS. When the IS was conducted, the number of students that were present were 13 students, however, when the PS was implemented, there were a few absentees and thus, only 9 students were taken into account.

In Brunei Darussalam, the country stands on the principle of *Melayu Islam Beraja* (MIB) or the Malay Islamic Monarchy. Therefore, no pairing of mixed gender was typically allowed. This is a common practice for most secondary schools in Brunei Darussalam. Another limitation was the video recording where some of the scenes were not clear because of the camera positioning and the type of camera that was used during the study. Therefore, due to these factors, the results produced from this study may be affected in one-way or another.

METHODOLOGY

This study is descriptive which concerns with the existing conditions or attitudes and point of views happening in an event that results in the researchers to find the cause and effect prevailing in the norms (Best, 1970). Data collection comprised of qualitative and quantitative approaches.

Sample

The sample is a convenient sample of nine students from one Year 7 PEKA class in one of the secondary schools in Brunei Darussalam. One of the researchers was the teacher whereas the other was the observer. Due to time constraints, the video recordings were only conducted for one lesson with IS and another lesson with PS. The topic chosen to teach the students during both settings was a convenient topic called the multiples of any whole numbers.

Instruments

Data were collected using an audio recorder and two video recorders. The audio recorder was used to audio record the pre and post interviews. Both interviews were semi-structured interviews. The two video recorders were placed strategically where one was placed at the front of the class to capture the students' behaviour, whereas the other video recorder was placed at the back of the class facing the teacher so as to record the teacher's behaviours or gestures used during the lessons. The Paint application along with the QuickTime Player was used to record the teacher's movement, which was reenacted manually by the researchers based on the two videos from both settings playing 8 times the normal speed.

Analysis

The pre and post interviews were transcribed and analysed by searching for general and common themes. The two videos were systematically analysed using the steps shown in Figure 2. This should help to reduce biasness and increase the integrity of an individual's interpretation.
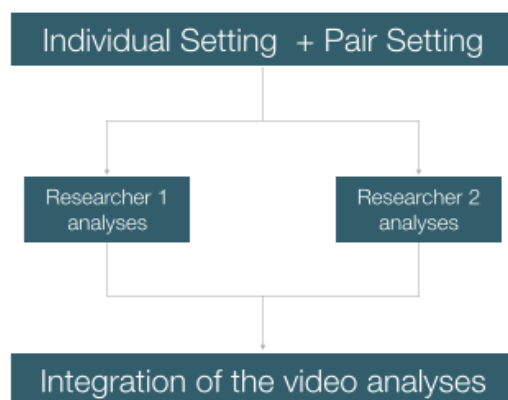
Figure 2: The systematical method of analysing the two videos

The two video recordings were analysed separately by two researchers. Subsequently, the two researchers met and shared their analyses. During such meeting, both researchers came to an agreement on the integration of the video analyses and found the general themes from the two settings. Meanwhile, in terms of the teacher's movement, since the researchers had post-recorded the movement of the teacher in both settings, it was analysed basing only on the contrast of the colour 'spray' used to reenact the teacher's movement in both settings, that is, the longer the teacher spent time in one particular area in the classroom, the darker the colour became.

Design Framework of the Study

Before the students were subjected into the research study, the teacher used the results from the three mental mathematics tests given to the students earlier during the school term. Since the topic of the study is of convenience (multiples of any whole number), the three test results assisted the teacher to identify the students' ability levels categorised as low, medium and high. This can be seen in Figure 3 below.
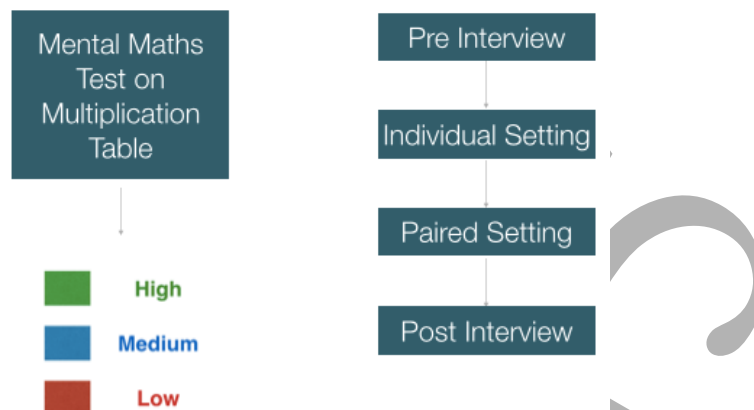
Figure 3: The design framework of the research

Based on Figure 3, after the teacher has identified the students' ability, the students were then interviewed individually. This was then followed by arranging the students to be seated according to the IS as shown in Figure 4.

Figure 4: The seating arrangement during the individual setting

Subsequently, the teacher used the pre-planned seating chart for the 13 students whom were present during the IS for the PS. One of the boys did not have a partner because from the pre-interview, he verbally requested not to be partnered with anyone else. For the remaining students, majority of them were being paired according to medium ability with the low ability. After the PS lesson, a post interview was conducted.

As was mentioned earlier, the study started with 13 students in IS, but only 9 students were present during the PS. And thus, a revised pre-planned seating chart was presented as shown in Figure 5 below.
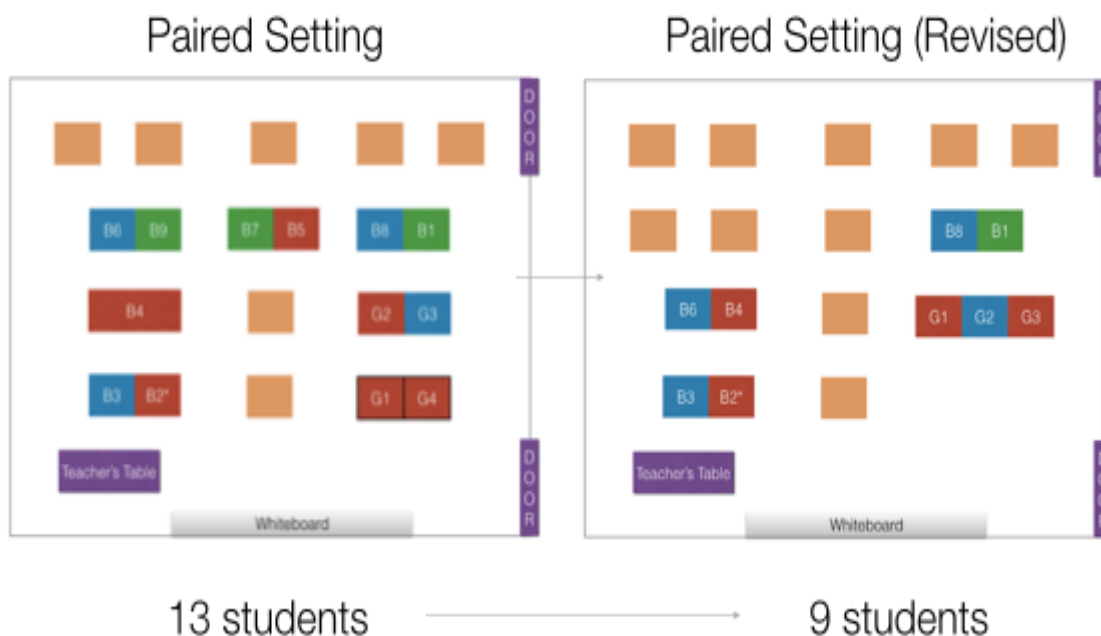
Figure 5: The pre-planned and revised paired seating arrangement settings

RESULTS AND FINDINGS

Video Analyses
When the analyses of the video recordings were completed, there were four occurrences that emerged from the two recordings.

Interruptions
In this section, the number of times the teacher interrupted her own lesson to call out students who were misbehaving were taken into account. The term 'misbehaving' here refers to students who were not paying attention, students who talk while the teacher was teaching, and students who disrupted their fellow peers from learning. It was found that there were more occurrences of misbehaviour in the IS than there were in the PS. In total, there were seven such occurrences in the IS in comparison to three occurrences in the PS.

At the beginning of the IS lesson, as was observed from the video recording, G4 (refer to Figure 5) was not paying attention because she was sitting near the window and her attention was diverted towards the happenings outside the classroom. The teacher did not realise this because her spatial view was limited towards the boys in which most responses came from them. However, when the teacher did notice G4's lack of attention, she had to pause the lesson and instructed G4 to listen. This interruption caused the other students' attention to move towards the said student and thus disrupted the flow of the lesson. The reason that there is room for disruption by G4 may be due to the lack of attention given by the teacher towards the girls in particular. Another similar interruption during IS lesson came from an unlikely source, which was from the high ability student, B7 (refer to Figure 5). This happened at the time when the teacher directed her attention to the girls, which immediately resulted in the boys to misbehave. Another factor that caused the interruption was that B7 completed his work earlier than the others. Hence, the major factors that clearly caused the interruption were due to the lack of balanced attention and providing challenging questions to higher ability students.

During the PS lesson, there were fewer interruptions because each individual was assigned with a partner. Since the teacher instructed the students to assist one another at the beginning of the lesson, they were observed to do so and hence were constantly occupied to do their work. However, there was an interruption that was not caused by misbehaviour but merely a student (B2) (refer to Figure 5) interrupting the teacher to seek help in how to respond to the work given. During that time, the teacher was helping a pair of students at the back of the class. This disrupted the teacher's explanation to the said pair.

Students' engagement

Based on the IS video recordings, it was observed that there were fewer students' engagement than the ones on the PS. The teacher gained more responses from different students in the PS as compared to the IS. When the students were placed in the IS arrangement, apart from seeking the teacher's attention, they alone were responsible for their own learning. Due to this, the students were less engaged. It became more apparent from the student (G1) (refer to Figure 5) who was perceived to have very low self-esteem. However, during the PS lesson, all the students were actively engaged in their learning and this may possibly be due to having a partner that kept themselves busy and constantly working instead of waiting for the teacher. Through their partners as well, they can expand their ideas and work together in solving the problems. By pairing up the students, it gave opportunities, especially for G1, to be more engaged in their learning.

Teacher's attention

As mentioned previously, during the IS lesson, it was observed that the teacher's attention was directed more towards the boys. This is because they were more active in answering the teacher's questions. Another possible factor may be due to the arrangement of the students' seating, boys on the left whilst girls on the right. Henceforth, this led the teacher to place two boys behind the girls' seats in the PS lesson. By doing this, the attention span the teacher gave became more divided. As a consequence, the girls participated more in the classroom by responding to the teacher, which was noticeably a rare occasion. A simple act in arranging how the students were seated thus brings about a huge difference in the students' behaviour in the classroom.

Teacher's trails

For this particular occurrence, the researchers used the Paint and QuickTime Player applications to reenact the teacher's trailing that has been visually recorded. In both lessons, the teacher taught the whole class in the beginning and then gave the students classwork to complete, whilst the teacher wandered around to check their progress as well as to answer students' questions. Hence, the time taken for the students to complete the classroom tasks was also recorded, and it was found out that 60.4% of the time was used to complete tasks in the IS whereas it took 57.5% in the PS. This shows that the duration on both settings is relatively similar and hence both the trailing is relatively comparable.

According to the Paint application, the colour of the spray gets darker if the spray stays in the same position. In other words, the darker the colour gets, the longer the teacher stays in that particular spot. In Figure 6, the brown colour spray represents the teacher's movement and these are the still images that came from the end of the video recordings.
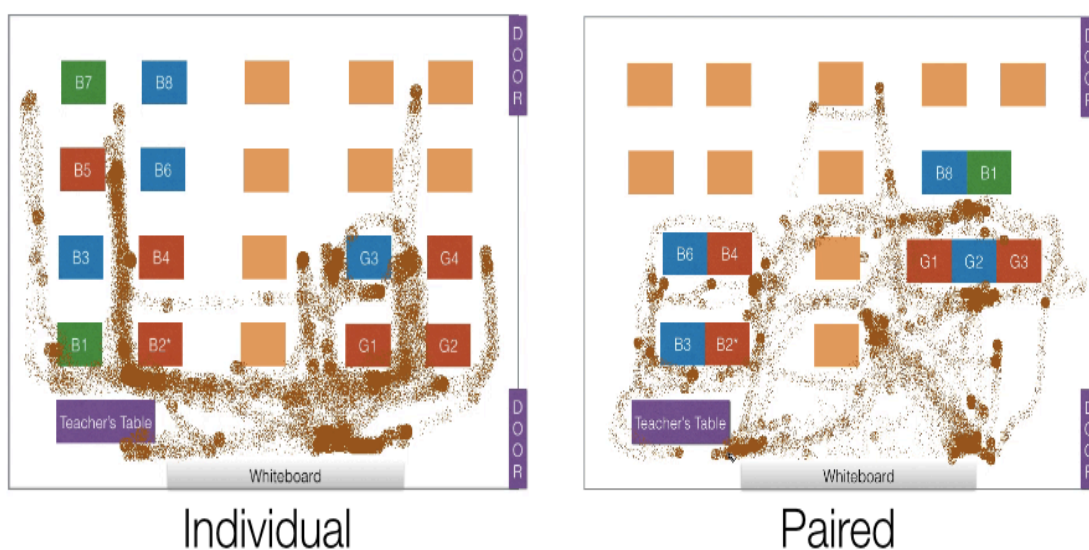
Figure 6: The teacher's movement between the IS and the PS

From Figure 6 above, it shows clearly that the teacher in the IS figure had a higher concentration in the colour of the spray as compared to the PS. This shows that the teacher spent too much time in giving a one-to-one tutorial for the students and simultaneously giving more individual attention to the students. In contrast to the PS image, the teacher

did not stay too long because by pairing the students, the teacher gained four new assistants. Hence, the PS lesson made the students to become independent (learner) from the teacher than in the IS.

Interviews
Only seven students were pre-interviewed; four low ability students, two medium ability students, and one student from the high ability category. Even though this was a low ability class, only two of the seven students did not like mathematics due to its difficult nature (G1), and poor experience with the previous mathematics teacher (B4). Coincidently, when questioned about their preferences in learning mathematics, B4 and G1 preferred to work alone. This was because of their individual personality. However, during the PS lesson, B4 was paired up with a medium ability student, B6 to even the pairing. Surprisingly, he admitted that he liked being paired and worked well together with B6.

For the post interview, only six students were selected. The two students with high (B1) and medium (B3) abilities were paired during the PS lesson. When B1 was questioned on whether he was more dominant than B3, B1 denied it and said that they came up with a system where they would exchange roles of leadership after each question, despite knowing their different ability. This shows the value of teamwork. They were willing to be fair with each other and to share their workload together. Another discovery was on a student's motivation to learn. She (G1) preferred to have a partner with a better ability in mathematics compared to her own. This indicated her perception on the aims of PALS, where perhaps it was to learn from her peers instead of learning from one another. On the other hand, teacher perceptions and training also play an important role in the aspect of successful implementation. It is vital that students' roles and expectations, as well as teacher roles are clearly understood.

CONCLUSIONS
This study confirms the advantages of PALS as claimed by previous studies as there were more positive traits in the PS rather than in the IS. Less interruptions of the lesson in the PS imply that the need to control the class significantly decreased, which is a good start to make the classroom environment to be more conducive to learning. More students' engagement and less teacher movement in class indicated that the students took more responsibility on their own and their peers' learning, which means that the strategy, PS, has the potential to train students to be independent learners. Through the PS, it was also discovered that dividing teacher's attention evenly to the students could lead to more responsive students. In other words, to have eye contact with students as much as possible during teaching is important to get the students to participate in the lesson.

Watcyn-Jones (2002) stressed that once the pair work activity has actually started, the students should work independently of the teacher and their own pace. The role of the teacher while this is going on is monitoring the students' progress by walking round the classroom pausing briefly beside each pair, listening to them and noting any problems which can be taken up later on with the whole class. Therefore, the teacher's role during pair work activity can be summarised as follows:
- The teacher needs to be 'well-organised' by giving clear and explicit instruction;
- To keep activities simple yet challenging;
- To carry out selective checking;
- To control the noise level as necessary; and also
- To provide feedback.

Regrettably for this study, the students' achievement was not measured due to the limited time frame and that the analyses were observation-based only, which is subjective. For future researchers who wish to pursue further in this area, it would be interesting to look into the themes for other forms of cooperative learning, for several times in different topics. Student-student interaction should also be the focus of future research. Another suggestion is to incorporate differentiated instruction alongside the cooperative learning. Differentiated instruction is an approach that requires the teacher to be flexible in their teaching and to modify their methods of presenting information to the students rather than making the students fit into the curriculum (Hall, 2002). By doing so, it may aim to maximise the students' learning in the classroom, especially in a mixed ability class.

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GENDER AND MEDIA LITERACY

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ABSTRACT

The position of the women in the social life has been one of the primary issues on which the academia makes discussions and studies especially since the 1970s. These studies which we can call gender studies are about how the women are positioned within both their daily life and different social practices, and whether they are exposed to negative practices due to their sex. In the gender studies, media analyses have a significant place. Gendered tendencies of the representations in the media and the factors affecting these representations have the leading significance for the women studies. Media literacy has an important role in the analyses of the media representations as it can indicate the difference between the reality and the fiction and raise the awareness of the individuals during the reception process. When the media literacy programs are reviewed from a gendered point of view and assume a cautionary attitude towards the gendered discourses, they will make a great contribution to the establishment of healthier media.

INTRODUCTION

Gender studies make an analysis of whether the power relations within the social life turn into an accepted inequality. Media is seen as the most important centre which affects the attitudes and behaviours of the people today. Directed by the power elites, media offer people the behaviour models, and affect their attitudes and action trends by transmitting the dominant ideologies. Affected by the stereotypes in the social life as well as affecting the social practices, media is the leading area in which the gender problems arise intensely. Especially when it is considered within the context of the influence of the mass media instruments, the sexist attitude of the media evidently affects many social practices. Accordingly, the reason why the media is seen in the centre of the gender studies today is clear. The presentation of the women in the centreline of specific stereotypes and dominant ideologies - when they are represented in the media- is highly important as this both determines the broadcasting policy of the media and helps some values settle within the society. Within this study, the relation between gender and media will be analysed, and a discussion on how the media literacy as an education program in essence may contribute to the reception of the secondary representation of the women.

GENDER STUDIES

The position of the women in the social life has been one of the primary issues on which the academia makes discussions and studies especially since the 1970s. These studies which we can call gender studies are about how the women are positioned within both their daily life and different social practices, and whether they are exposed to negative practices due to their sex. Gender studies make an analysis of whether the power relations within the social life turn into an accepted inequality. According to Serpil Sancar (2009: 176), "the gender concept points to the social meanings and contexts of the unequal relationships between the sexes, and rejects the perception of sex as only a biological feature". Similarly, Anthony Giddens states that gender doesn't underline the physical features differentiating between the women and men, but the features of women and men established by the society (2000: 621).

Three important progresses have been made in the gender studies carried out since 1970s: First one emphasized on the gender differences (woman-man). The researchers of this progress had the consensus that these differences derived from the biological features of the individuals. Second one focused on the learnt sex roles and socialisation. Gender was conceived as a product of specific social regulation (which didn't degrade the woman into an individual). And the last one indicated that gender has a central role in all the (limited and patriarchal) social systems. This means that gender has been analysed within many areas like paid-work, family, politics, daily life, economic development, law and education (Ecevit, 2011:4).

GENDER AND MEDIA

One of the areas in which the gender studies are carried out is media. Especially the positioning and presentation of the women in media have become one of the primary issues on which the academics of the women studies focus. According to these studies pointing at the sexism in the media, "the 'ideal' audience is accepted as the men by the media, and the woman image is offered in order to flatter their pride (Berger, 1995: 64)". While presenting the women in the media, the priorities of the men are looked for, and the women are defined sometimes as a presentation object, a sexual object or as social identities (wife, girlfriend, young girl, etc.) in line with the male-dominant patterns. Women identities created within the media are determined by the male-dominant discourses. The positioning and presentations of the women as either a worker in the background of

the media or a media "object" have been one of the primary issues on which the gender studies focus since 1970s up to now.

In the studies carried out since 1970s, it is understood that the different representation styles of the women in the media have been intensely discussed. This may be triggered by the fact that feminism gathered speed. For instance, in a study by Dominick and Rauch on American TV commercials in the early years of the 1970s, it was stated that the women were represented initially as house-wives, and they were characterised with the occupations which were described as "womanly occupations" like secretary, hostess and models. Furthermore, Butler and Paisley formulated a scale for sexism in 1980 about the women representation in the media as a holistic evaluation of the content analyses carried out within the areas like radio, television, daily newspapers, periodicals and the cinema. They specified five groups regarding the women representations based on this scale;

1. Women depicted as quintessential dumb blondes, sex objects, or victims
2. Women who are mothers, wives, secretaries, teachers, and nurses or who fill other traditionally feminine occupations
3. Women shown as wives and mothers, but are also portrayed as professionals
4. Women equal with the men (though these representations are rare and portrayed as single women)
5. Women are not portrayed based simply on their sex, but are shown as individuals, with common representations including what Butler and Paisley call role reversal and the unusual role (Tanrıöver, 2007: 155)."

According to a survey carried out in 76 countries in 2005 within the scope of the Global Media Monitoring Project run by World Association for Christian Communication (WACC) every five years since 1995, only 21 % of the news subjects in the media were female while 79% were male (Alankuş, 2012: 39).

In Turkey, in a study by Mine Gencel Bek and Mutlu Binark in 2000, it was found out that there are three different representation categories in Turkish media which are "woman as mother and wife", "woman as sexual object" and "woman as object of violence"; and that these different woman types on the common basis of femininity were analysed under the title of "advices to the women". According to this study, the representation style of the women in the TV programmes started to change slowly, and women were portrayed with the roles other than their traditional roles. However, their successes in their business life were shown as "extraordinary", "supernatural" examples, and they were portrayed as "super-women". While on the one hand, they are characterised with the qualities like authoritative, swift, meticulous, principled which are accepted to be normal for men, on the other hand, the qualities like extremely well-groomed, attractive, friendly and lovely which are accepted to be suitable for the women are attributed to the women. Successful women with a successful business life as well as being a good mother and wife are portrayed as "fully women". In this way, the visibility of the successful women in the society is presented as almost an exception (Gencel Bek & Binark, 2000). "Survey on Women Representation Styles in the Media" run by Hülya Tanrıöver and her team in 2008 for Mediz is an important study for the media and women studies. According to this study which investigated the way in which the women are represented in the newspapers, radio, internet and television, it was found out that women are portrayed as a melodramatic factor (third-page actor), a magazine item or an instrument for "visualisation" of any news ("wall-flower") in the mainstream media. Women are still the minority for the content processing. And they are seldom portrayed in the areas for idea production or discussion for the subjects setting the country's agenda. On the other side, the fact that the sexist stereotypes found for example in the copyright pages of the news websites on which the women are relatively highly represented couldn't be prevented points out that even the women working in these areas indigenise sexism in their daily routines which the occupational practices and overall discourse include.

Other studies within Turkey and abroad apart from the studies mentioned above put forth that women are rarely portrayed in the media, they are positioned after men, no equal representation is implemented, women are portrayed as a sexual pleasure and consumption object, inequality in the social structure is often ignored, and women don't have administrative roles in the media structure, but they are employed in the lower departments. Accordingly, women representation in the media comes first in the areas on which the communication sciences focus. Especially because the gendered perspectives become widespread, interest in this area grow bigger.

One of the areas in which the sexual discrimination is mostly seen in every area of the daily life is media. When the media is examined from the gender perspective, it transmits the social, political, cultural and economic roles and values to the women and men. These representations reproduce the cultural values and expectations for womanhood and manhood and the dominant gender roles. In this context, the womanhood and manhood descriptions of the media are important for the formation, pursuance or change of the gender descriptions which are commonly shared (Kaypakoğlu, 2004: 93-94). The presentation of the women in the centreline of specific

stereotypes and dominant ideologies - when they are represented in the media- is highly important as this both determines the broadcasting policy of the media and helps some values settle within the society.

MEDIA LITERACY AS A CONCEPT

Requiring the accessibility to media messages in various contexts and styles, the ability of correct reception and perception of these messages and the ability to produce the messages on one's own at the end, media literacy is a concept which gives the masses the power to control and which enables them realise the border between the real world and the world created by the media. One of the significant functions of the media literacy in the democratic societies is that it makes possible the political participation, social justice and critical citizen. According to Joseph Turow, "being media literate involves applying critical thinking skills to the mass media, and finding meanings beneath the surface of movies, ads, and other types of content. It also involves reasoning clearly about controversies that may involve the websites students use, the mobile devices they carry, the TV shows they watch, the music they hear, the magazines they read, and much more. It means becoming a more aware and responsible citizen— parent, voter, worker—in our media-driven society (Turow, 2003:26)."

James Potter claims that media-literacy skills give the individuals more control over and more defence against the potential effects of the media. Media literacy make great contributions for acquiring skills such as "making selections among the different meanings of the media messages, checking the accuracy of the information coming from different sources, and being aware of the media's influence on the believes, attitudes, behaviours and values of the individuals and the society (Potter, 2001: 25)". Potter emphasizes that media-literacy skills offer people the opportunity to avoid from the messages which they don't need while these skills also provide resistance to the media manipulations (Potter, 2004: 10). Moreover, media literacy aims at creating effective and critical media users who will demand the diversification of the media productions. In this era in which the symbolic visual quality has become more dominant, the individuals, especially the children and youngsters need to improve their skills to decipher the symbols and codes in order for them to understand the media and its productions. The target of the media literacy is not only to enable the individuals to acquire the skills and competences in order to cognitively eliminate the negative effects of the media; it aims at preserving the life space which is determined by the media more than ever before (Alver, 2006: 23).

Some critics claim that media literacy should be perceived as a philosophical and critical way of thinking. According to Hobbs, ""media literacy" is still an umbrella concept, with a wide spectrum of different educational philosophies, theories, frameworks, practices, settings, methods, goals and outcomes (Hobbs, 2004: 134)". The prominent theoreticians like Hobbs, Potter, Buckhingham and Aufderheide proposed different paths for reaching the desired results in the media literacy, which is to reach the critical audience; and they made various suggestions in order to reach effective results. While Hobbs mentions that the solution of the 7 irreconcilable issues in the media literacy (which are about whether it can protect the children, at which level the media production efficiency should be, its relationship with the popular culture, its ideological agenda, whether it can reach more students, whether economic support can be received from the media institutions, and whether it is a vehicle that can take to the result) (Hobbs, 2004) are important for shaping the future of the media literacy, Buckhingham claims that one should be informed about the media sector and its productions, media categories, media technologies, media languages, media audiences and media representations, and the strategies behind for efficient media literacy (Buckhingham, 1993: 132). Potter focuses on more information-gathering and perception-extension, and points at the necessity that one should have a comprehensive point of view about the effects of the media on the society, that one should know about the agreement of the creators of the media texts, that one should get to know the media industry, and that one should discover how the media executives view the audience (Potter, 1998: 261). Aufderheide lists the general principles of the media literacy and the perception level to be reached as follows;

- All media are constructions.
- The media construct reality.
- Audiences negotiate meaning in media.
- Media have commercial implications.
- Media contain ideological and value messages.
- Media have social and political implications.
- Form and content are closely related in media.
- Each medium has a unique aesthetic form. (Aufderheide, 1989: 27)

To sum up, media literacy is an effective tool which offers the cultural knowledge to the citizens in order for them to understand the features of different communication tools, the constructed world and lifestyles in the cultural texts, the structures of the relations of the production in the media sector, and the media's role in creating the collective memory through the communication tools (Binark and Bek, 2010: 109).

GENDER AND MEDIA LITERACY

It is possible through media literacy to raise awareness of the citizens towards the sexist attitude of the media and to draw attention to, even eliminate the inequality. In fact, the media literacy program renewed in 2014 aims at "creating a society member who has a high level awareness towards the media messages through the media literacy courses; who can critically approach the cases, events and contents in the media; who can take part in the media processes with the decisions taken at the same time; who behaves responsibly and ethically; who is aware of the Human Rights and Children Rights (prevention of the exploitation and participation); who has the vision of raising a media literate individual who respects the global and local values; who has the media culture and the need for access to the media; who makes an effort to understand (analyse and evaluate) the media; who acts with the awareness of the production of the media; who can develop targets and designs for the media and the future; who has acquired skills and behaviours for media consumption and production". Accordingly, a more elaborate program for the women representation in the media was proposed instead of a more equalitarian program.

Media literacy practices should target at enabling the individuals to become more informed about the power relations, to be respectful to the "other" and to be sensitive citizens, and should aim at transforming the alienating values and mechanisms (Binark and Gencel Bek, 2007: 209). Accordingly, viewing the media literacy from this perspective can offer an important opportunity for the gender equality to come true. For this purpose, reviewing the program from a more equalitarian perspective and purifying it from some sexist instruments can occur in different platforms.

The sub-committee, which gathered together under the Grand National Assembly of Turkey Committee on Equality of Opportunity for Women and Men in 2012, took an important step towards the equality of women and men, by offering discrimination or inequality symbols to be one of the "Smart Signs" by the Turkish Radio and Television Supreme Council. In the draft which pointed at the significance of an equalitarian and ethical media for the struggle against the women discrimination in Turkey, it is stated, "However, it is not realistic to expect that intellectual changes will happen at once, and that the media with more than one place and various backgrounds will change immediately tomorrow. But, just like the criteria of non-discrimination in terms of religion, race, sect and gender in the ethical principles adopted by all the media institutions are considerably obeyed with regard to racial, religious or sectarian discrimination, it is necessary to show the same sensitivity to eliminate the discrimination against women". In the draft which draws attention to the significance of an accurate analysis of the media for a democratic country, it is emphasized that the materials used for the media literacy courses at schools are inefficient, and that the teachers have a high level of pedagogical inadequacy. This draft, which suggests that a critical approach be adopted for the course contents, states "On the contrary, the dominant values are reinforced. However, media literacy practices should target at enabling the individuals to become more informed about the power relations, to be respectful to the "other" and to be sensitive citizens, and should aim at transforming the alienating values and mechanisms. Accordingly, viewing the media literacy from this perspective can offer an important opportunity for the gender equality to come true".

CONCLUSION

Media is seen as the most important centre which affects the attitudes and behaviours of the people today. Directed by the power elites, media offer people the behaviour models, and affect their attitudes and action trends by transmitting the dominant ideologies. Affected by the stereotypes in the social life as well as affecting the social practices, media is the leading area in which the gender problems arise intensely. Especially when it is considered within the context of the influence of the mass media instruments, the sexist attitude of the media evidently affects many social practices. Accordingly, the reason why the media is seen in the centre of the gender studies today is clear.

Media literacy, within the main lines, is an education program which aims at making the individuals aware of and resistant to the harmful effects of the media texts and invites the media institutions to act more carefully. As it is an education program, its target is to protect primarily the youngsters and children from the potential harmful effects of the media. Given the effects of the media especially on the children, the relationship between the media and the children is based on the assumption that the children are generally passive and open to being affected. For that reason, media literacy is a reading method, which the teachers instil the children, and which aims at minimising the harmful effects of the media.

Including the elements reinforcing the social equality into the media literacy program both enables monitoring of the media and eliminates the perception in the minds of the society which assumes that the women come second. Secondary positioning of the women and the dominance of the sexist view in both the media and the course-books can be taken to the agenda through an efficient media literacy program, and this can enable the youth to be healthier and equalitarian. For that purpose, though most of the media literacy studies focus on protecting the individuals from the effects of the media, secondary positioning of the women in the media portraying has become an important issue which draws attention of the academics who conduct surveys in this field.

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TOWARDS A RESILIENT WORLD

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ABSTRACT

The investigation is titled, 'A Study of Secondary School Students' Response to Adversity with certain Psychological and Performance Factors studied AQ (Adversity Quotient) with reference to Academic Motivation, Stress, Self-Esteem (Psychological Factors) and Academic Achievement (Performance Factor).The study is of descriptive-co-relational type. The sample for the study included 832 students of class IX studying in different boards of affiliations in Greater Mumbai. Descriptive analysis was carried out using Measures of Central Tendency and Variability. Inferential techniques used were ANOVA, t-Test, Pearson's Product Moment Co-relation. The findings suggest that the secondary school students had 'Low AQ'. The present paper focuses only on Adversity Quotient of Secondary School Students.

Keywords: Adversity, Resilience

INTRODUCTION

Education is under increasing pressure to create successful students. Education, in the present day context, is perhaps the single most important means for individuals to improve personal endowments, build capability levels, overcome constraints and, in the process, enlarge their available set of opportunities and choices for a sustained improvement in well-being. It is not only a means to enhance human capital and productivity but it is equally important for enabling the process of acquisition, assimilation and communication of information and knowledge, all of which augments a person's quality of life. It therefore plays a crucial role in shaping the citizens of tomorrow, citizens who are responsible, accountable, sincere, robust, emotionally healthy and resilient. 'Resilience' is one such virtue that needs to be acculturated in generation of today. Children of today are subjected to unpropitious or calamitous circumstances. These can occur at school, home, neighborhood or society. Events such as child abuse, bereavement, rape, Physical illness, marital separation or divorce of parents, unemployment, and homelessness are a regular feature these days. These situations also vary with gender, ethnic or racial background, and socioeconomic status and some types of adversity are precipitated by an individual's own actions. The level of resilience influences the personal and academic life of learners thus manifesting varied consequences on their personal and academic life. The study in its earnest spirit intends to gauge how the level of resilience is related to a learner's psychological and performance factors namely academic motivation, stress, self-esteem and academic achievement respectively.

1.1: Need and Significance of the Study

Different people respond to adversity differently. Also what is adverse for one person may not be adverse for another. Day in and day out, children all over the world face situations that are untowardly, unpleasant and least expected. Some face stresses such as failure or illness while others confront catastrophe — war, poverty, disease, famine, floods. Whether such experiences crush or strengthen an individual child depends, in part, on his or her resilience. Resilience is important because it is the human capacity to face, overcome and be strengthened by or even transformed by the adversities of life. Everyone faces adversities; no one is exempt. With resilience, children can triumph over trauma; without it, trauma (adversity) triumphs. The crises children face both within their families and in their communities can overwhelm them. While outside help is essential in times of trouble, it is insufficient. Along with food and shelter, children need love and trust, hope and autonomy. Along with safe havens, they need safe relationships that can foster friendships and commitment. They need the loving support and self-confidence, the faith in themselves and their world, all of which builds resilience. The manner in which an individual responds to adversity is based on the interrelatedness of several factors and adversity itself defines several factors and its effects on students. A very recent article by Kounteya Sinha captured the attention of the researcher. It indicated how changing society, stress, reducing social support and increasing adversities lead to non-fatal deliberations amongst individual of mean age of around 15 years. The story of the children in Mumbai is not different from the rest of the world. According to The Times of India, Mumbai for Kids Initiative, the face of Mumbai has changed within a generation. Low-rise residential colonies and open spaces have given way to clusters of building that soar above the city and shut it down. The effect on children

has been telling.**2** These facts are indicative of the conditions that children of today are growing up in and thus provide a very strong reason to take up research in the area of resilience. Research indicates that resilient students do well in school despite adversity, and that students thrive in a conducive environment. These conditions need to be investigated, to validate them for school students and hence justifies the need to conduct this research. On the other hand, the continuous need of performing well in school and the emerging competition makes the child succumb to disturbances and psychological problems, which in turn may affect their performance in schools. In schools as well as at home, children face number of predicaments such as learning difficulties, high expectations, adverse remarks, exclusion by peers, bullying and teasing are some to mention. Not all the humans, in this case students are capable of handling these adverse or not so favorable situations. Resiliency research offers the prevention, education, and youth development evidence for placing human development at the center of everything that humans do. With the expansion in the various modes of adversity like family adversity, workplace adversity and societal adversity, there is also an emergence of environmental adversities currently that include floods, earthquakes, cyclones, building collapses and so on. The city of Mumbai has witnessed many of such unpleasant and unexpected incidences. Every day school students encounter a vast array of adversities in Mumbai like uncalled strikes, violent attacks, terrorists' attacks, lack of healthy environment and poor infrastructure. The after effects of which are more dangerous to cope up with, than the adversity itself. Schools play a very important role in such situations. There are several implications that can be drawn from the present research to inform practice for the various stakeholders in the educational fraternity. The next section looks at the level of Resilience(AQ) of School Students through descriptive and inferential analysis.

1.3: Levels of AQ (Based on Mean Scores)

Table: 1.1
Levels of Adversity Quotient
of Secondary School Students of Mumbai

Group	Mean AQ Scores	AQ Level
Total	121	Low
Gender wise		
Male	121	Low
Female	121	Low
School Types		
CBSE	120	Low
ICSE	119.04	Low
SSC	122.71	Low

(CBSE: Central Board of Secondary Education)
(ICSE: Indian Council of Secondary Education)
(SSC: State Board of Secondary Education)

Table: 1.1 indicates that, the secondary school students mean AQ score is low for the total sample and on the basis of gender and school types. With their respective mean scores, the total sample, Male and female secondary students and students belonging to different boards are in the category of low AQ. This is reflective of the lack of protection factors related to family, school and community which are unable to develop the power of resilience among children to the desired extent. A recent article in The Times of India reported how a standard IX student of a Chennai based school stabbed his teacher to death as he could not handle her adverse remarks against him and the constant adverse reports send by her to his parents. This indeed can be looked as a consequence of low resilience in today's generation of school children and their ability to deal with it in the goriest manner. School children face a number of critical situations in the life in varied form ranging from ragging, bullying to undue influence of peers. A recent article in the DNA reported how cyber-bullying largely considered a western phenomenon is making its dubious mark in India. Children of today are not fully equipped to tackle such adverse conditions and this is indicative of their low resilience.

1.4: Levels of AQ (Based on Percentage)

Figure: 1.1
Bar Graph of the % of Students' AQ Levels for
Total sample and on the Basis of Gender

	Low .AQ	Below Avg.AQ	Average AQ
Total	86	10	4
Male	85	12	3
Female	86	10	4
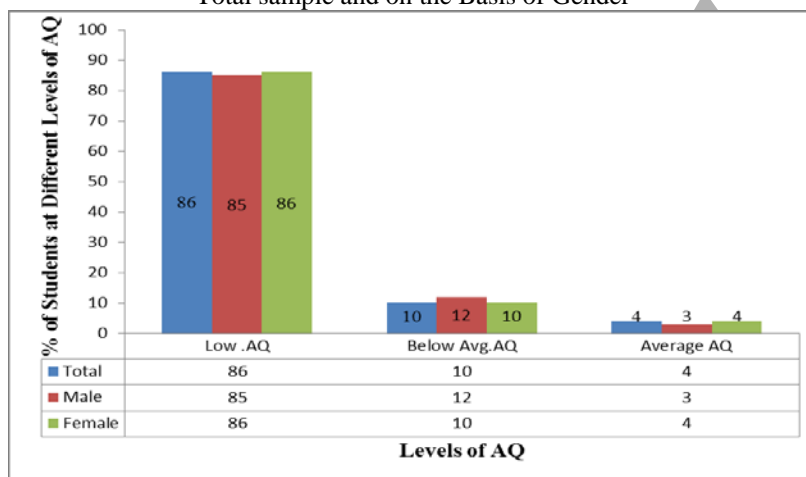
Figure: 1.1 indicates that, the percentage of secondary school students with low AQ is the highest followed by below average AQ and average AQ for total sample. Majority of the male and female secondary school students have low AQ. This indeed is a critical condition as of today. Both boys and girls face a number of critical situations in their daily life which occur in school or at home. These include uncaring attitude of parents and teachers, more than high expectations, competition, less time for recreation or virtual absence of it are some to mention. These situations are common to both boys and girls. At times these adversities overpower children resulting in unexpected outcomes ranging from self-harm to suicidal tendencies. Inexplicably, teenage suicides have become an almost daily occurrence in Mumbai. The toll of teenage suicides from the beginning of the year until 26 January 2010 stood at 32, which is more than one a day. Consequences of low resilience are even seen in the form of carnages by school and college students.

Figure: 1.2
Bar Graph of the % of Students' AQ Levels
the Basis of School Types

	Low.AQ	Below Avg.AQ	Average AQ
CBSE	87	9	4
ICSE	90	8	2
SSC	82	13	6
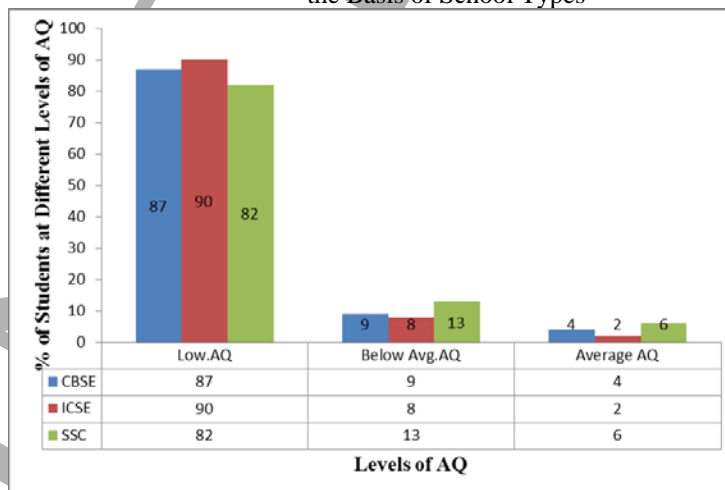
Figure: 1.2 indicates that, majority students from the CBSE, ICSE and SSC schools have low AQ. The percentage of students with below average and average AQ is highest for the SSC school type followed by the ICSE and the CBSE school types. The percentage of students with average AQ is highest for the SSC followed by CBSE and ICSE school types. Students face number of adversities in schools irrespective of the school type which include, uncaring attitude

of teachers and heads of the schools, constant fear of being reprimanded for one's actions, adverse reports by teachers, biases of different kinds against the student, teasing and bullying by peers are some to mention.

1.5 Testing of Hypothesis

Hypothesis states that there is no significant difference in the secondary school students' response to adversity on the basis of
i. Gender
ii. School Types

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Table: 1.2
t-ratio for AQ Scores of Secondary School students on the Basis of Gender

Groups	N	Mean	S.D	t-ratio	L.O.S
Male	439	121	13	0.932	Not Significant
Female	393	121	12.4		

 (**Critical value of t at 0.01 and 0.05 LOS is 2.58 and 1.96 respectively**)

*From Table: 1.2, **No significant difference*** was found in the secondary school students' response to adversity on the **basis of gender**. The mean AQ scores indicate that the male and female secondary school students respond to adversity in the same manner. This means that both the boys and girls perceive themselves to be in control of adverse events and take responsibility for its outcomes to the same extent. They perceive good bad events reaching into other areas of life and the time frame of these good and bad events to the same extent. This is because both male and female students face adversities, the strength and magnitude of which may differ. In today's world both boys and girls are provided with similar environment at home and school. The gender roles are more or less similar which results in the males and females to face almost similar challenges, the form of which may differ. This is also indicative of the reduction in gender biases in the society, where earlier gender roles were stereotyped.

Table: 1.3
Analysis of Variance of AQ Scores of Secondary School Students on the Basis of School Types

Source of Variation	Sum of Squares	df	Mean Sum of Squares	F ratio	Level of Significance
Between Groups (SSb)	1933	2	966.5	6.012	0.01
Within Groups (SSw)	1.3326E+05	829	160.8		

(**Critical value of F for df1=2 and df2 = 829 at 0.01 LOS is 4.61**)

Table: 1.4
t-ratio for AQ Scores of Secondary School Students on the Basis of School Types

Groups	N	Mean	S.D	t-ratio	Level of Significance
CBSE	290	120	12.6	1.10	Not Significant
ICSE	197	119.04	11		
CBSE	290	120	12.6	2.35	0.05
SSC	345	122.71	13.7		
SSC	345	122.	13.7	3.23	0.01
ICSE	197	119.04	11		

(Critical value of t at 0.01 and 0.05 LOS is 2.58 and 1.96 respectively)

From Table: 1.3 and Table: 1.4, There was a *significant difference* found in the secondary school students' response to adversity on the **basis of school types**. No significant difference was found in the AQ for the students of the CBSE-ICSE school types. But a significant difference was found in the AQ for students of CBSE-SSC and SSC-ICSE school Types Mean scores indicate that the secondary school students belonging to the SSC school type have higher AQ than the students of the CBSE and the ICSE school types. This means that they perceive more control, ownership, reach and endurance as compared to the CBSE and ICSE school students. The higher AQ of SSC students can be attributed to the notion that explains how risk and protection factors affect the power of resilience. School education has undergone a tremendous transformation in recent years. Schools now willingly want to improve and enhance the protective factors that nurture children. This development has also been seen in the SSC board schools, which were once labeled as not being at par with the current trends in education as the CBSE and the ICSE school types. SSC schools now provide a number of protective factors and mechanisms that contribute to the development of resilience through a more comprehensive curriculum and upgradation of its physical and human resources. Also the students of the SSC schools come from a more humble background which provides them with a number of challenging situations thus enabling them to develop mechanisms to deal with them. The AQ of students belonging to the CBSE-ICSE school type does not differ significantly. This may be because of the near similar curriculum that these schools provide. The students of the CBSE-ICSE schools are relatively similar as far as their familial factors are concerned in terms of the social status they enjoy and the economic stability in their families resulting from their parent's profession. The dynamics of these socio-economic-cultural factors result into them responding to adversities in a similar way.

1.6: Educational Implications

1. The findings of the study reveal that the secondary school students are at a level of AQ that can be described as low. This implies an immediate inclusion of programmes that can enhance AQ for these students. A shift of approach to practical life-skill based learning is advisable for the students to surpass adversities with success.

2. The school curriculum for all the three boards can include AQ development and enhancement programs. This can be implemented through the syllabus, co-curricular and the hidden curricular. activities that bring students closer to people having experienced adversities should be included in the form of social and community service. Children should be provided with an opportunity to contribute to the school environment and the larger community, within their capacity. Research has shown that children, who are given such opportunities, are less likely to show problematic behavior as they get older, when compared with matched peers.

3. Developing and implementing educational experiences that foster AQ can be as easy as gaining a new perspective on traditional academic activities. The use of more contemporary text books catering to different cultures, ethnic backgrounds should be referred to apart from the prescribed text books.

4. Teachers can infuse the varied themes of resilience into everyday academic instruction across subject areas, either as repeated learning experiences or as themes for long-term group and class projects.

5. The curriculum should teach social and other life skills such as active listening, friendship making, decision making, problem solving and assertiveness.

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TOWARDS AN OPEN ACCESS INSTITUTIONAL REPOSITORY FOR LEARNING OBJECTS: THE UNIVERSITY OF COLIMA EXPERIENCE

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ABSTRACT

This paper presents an institutional proposal for the developing of a learning objects repository, based on the open access model. This repository will be a place for storage of the educational materials produced by academics and researches of the University of Colima in Mexico.

Interoperability is one of the main issues in creating a learning objects repository; our project will work holistic with the other educational software platforms of our institution, as the libraries system (SIABUC) and the distance education platform (EDUC). In addition, the learning objects on the repository will be standardized in order to use them on courses with external Learning Management Systems (LMS).

Keywords:

INTRODUCTION

In this document, part of the experience of building a repository for learning objects (LO) in the University of Colima is explained. The objective of the repository is to encourage the usage of learning objects by teachers and students of high school and higher education in our institution. With this, it seeks to strengthen the involvement of Information Technology and Communication in the process of teaching and learning by establishing a broader number of alternatives through the potential of learning objects as didactic support.

A learning object can be defined as "a pedagogical mediator that has been intentionally design for a learning purpose and serves actors in various educational modalities" (Nuevas formas de enseñar y aprender; Ministerio de Educación Nacional, s/f), besides, it can be considered that this objects are constituted as a "digital or non-digital entity that can be used, re-used or referred for the learning supported on technology" (Callejas, Hernández, & Pinzón, 2011).

With the goal of optimization the reutilization of learning objects it is necessary to count with a space "destined for its storage and classification to facilitate later maintenance, localization and, possibly, sharing the LO with other systems in diverse applications" (López, 2005), the space that fulfills this objective is known as a repository of learning objects.

METHODOLOGY

The results presented are derived of a progressive work that contributed to clarify the general characteristics, as well as the procedure to follow for the elaboration of learning objects that considers the characteristics of our institution.

Some of the moments that were part of the definition of such procedure were: the documental review of the concept of learning objects, several repositories (national and international) of learning objects and the analysis of processes and procedures in order to design the specific process for designing and making LO.

National repositories were reviewed: Technological Institute of Sonora (Instituto Tecnológico de Sonora, s/f), the Center of Resources for Teaching and Learning (CREA for its acronym in Spanish) of the Center of Economical Administrative Sciences of the University of Guadalajara (Universidad de Guadalajara, s/f); the institutional

repository of the Network of Digital Collections of the National Autonomous University of Mexico (UNAM, s/f). In the international level we considered: Bdigital, institutional repository of the National University of Colombia (UNAL, s/f); the Bank of Learning Objects and Information of the University of Antioquia (UDEA, s/f); also the Multimedia Educational Resource for Learning and Online Teaching (MERLOT, s/f) and finally AGREGA2 (Agrega, s/f).

The analysis of processes and procedures implied the review of a certified process and specific to the sub process of Design and Development of Educational Solutions Based on IT, in function on the participation of key actors that intervene in the development of learning objects.

FINDINGS

In order to define the appropriate procedure for the design and development of learning objects, an exercise in integration of procedures was performed.

In order to develop this repository we are working with the General Direction of Educational Resources at the University of Colima, they have an ISO-9001 certified process in the Management of Information Technology and Communication, in the sub process of Design and Development of Educational Solutions Based on IT, so it was decided to consider the requirements of this sub process and integrate the needs arising from the design, construction and evaluation of learning objects to a new process.

The certified sub process considers three key actors:

    a) The client,
    b) The responsible for customer service and,
    c) The personal dedicated to design and development.

Nevertheless, as part of the proposal for the elaboration of learning objects in our institution, it was considered necessary the definition of the participation of teachers, educational counselors and advisers of the General Coordination of Teaching that would be involved in the development of learning objects. At this new design, these actors have specific functions:

- *Teachers*: With the teacher begins the development of learning objects, as this is the person making the request to register a new learning object, also is responsible of the didactical design that will support the learning object. An essential task for the teacher is the development of thematic content because he is who holds the domain of his discipline.
- *Pedagogical Advisor*: The pedagogical advisor plays an support role in the didactical design of the object, he is responsible for reviewing, giving feedback and approving the didactical design of the learning object; therefore it belongs to him the first contact with the professor interested in the design of a new object.
- *Academic Advisor*: The academic advisor has two specific functions. First, he checks that the didactical design complies with the established requirements, he is also who makes the application to the General Direction of Educational Resources to start the development of the object corresponding to the technological dimension.
- *General Direction of Educational Resources*: Once the teacher, pedagogical advisor and CGD advisor have worked in the pedagogical dimension, the General Direction of Educational Resources is the responsible of the technological development which implies the development of the application, verification of prototype, evaluation of the teacher's satisfaction with the learning object, publication of the object, and finally, perform the monitoring and evaluation of the learning object.

In Figure 1 can be observed the defined procedure, considering the requirements of the certified sub process and the new needs related to the elaboration of the learning objects.
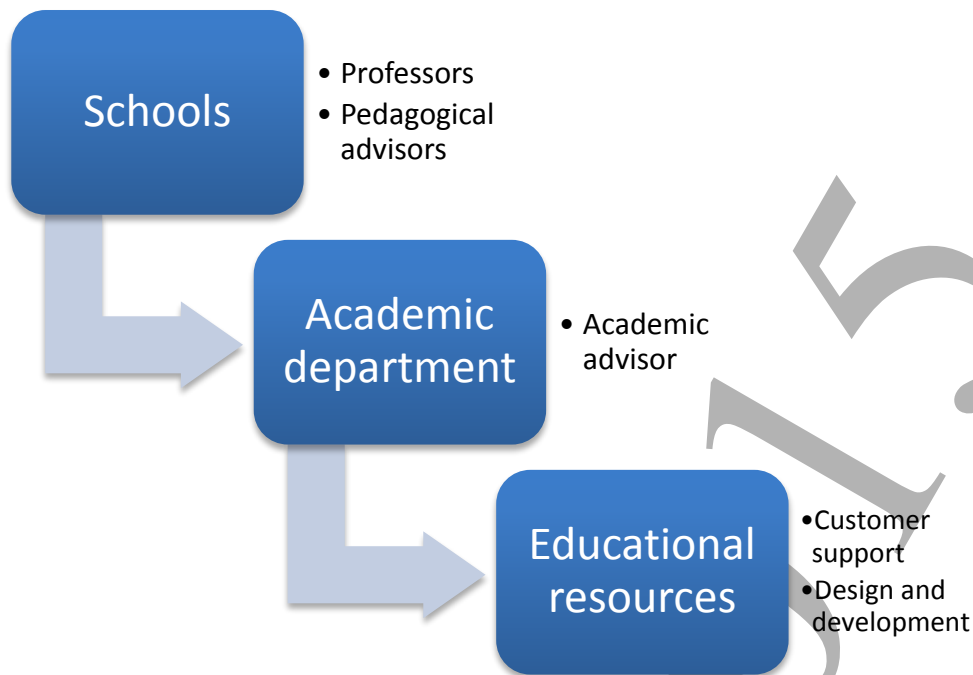
Figure 1: Flow for the development of a learning object.

By defining the above procedure, we seek to have multiple revisions of the learning object, prior to publication: first, by the pedagogical advisor, with emphasis on the didactical design; the second, by the CGD advisor, that will verify that all the requested elements have been considered for the development of the object; thirdly, the design and development team will verify the object as well as support the validation made by the teacher. This scheme is proposed to strengthen the quality of the learning objects that will be published in the institutional repository.

DISCUSSION

The University of Colima aware of the importance of learning objects in the teaching-learning process has developed through different stages of time, projects of this nature (Galeana, 2003), (Farias, Cruz, Ceja, Diaz, & Macias, 2006) and (Enríquez, 2006). Besides of a number of developments to automate various teaching processes, the most important are the libraries system (SIABUC) and the distance education platform (EDUC). Our repository will work holistic with those software platforms, because the interoperability is one of the main objectives in creating our learning objects repository. In addition, the learning objects on the repository will be standardized in order to use them on courses with external Learning Management Systems (LMS).

To this end, cataloging and packaging standards are fundamental in the process of assembly and distribution of existing instructional resources. The most representative in the field of e-Learning are the IEEE-LOM standard and the ADL-SCORM specification.

The IEEE-LOM (Learning Object Metadata) standard (IEEE, 2002) defines the syntax and semantics of Learning Object Metadata, which facilitates classification. It consists of over sixty descriptors grouped in a conceptual scheme of nine categories: general, life cycle, metadata, technical, educational, rights, relation, annotation and classification.

The ADL-SCORM (ADL, 2004) specification uses the IEEE-LOM standard for describing learning resources. It provides oriented guidelines interoperability between different e-Learning solutions. It consists of content packaging standards in order to create hierarchical structures that are interchangeable. Defines a protocol for communication between the user and a LMS, like one for the record of the actions performed by the user.

CONCLUSIONS

This paper presents the proposed establishment of an institutional repository of learning objects for the University of Colima, a platform that considers a group of interrelated services for the management of Learning Objects, from platforms with instructional resources of the institution.

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TOWARDS MARGINALIZING DYSFUNCTIONS IN THE CONDUCT OF ELECTIONS: THE ELECTORATES' OBSERVATIONS & PERCEPTIONS

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Using an ex post facto quantitative-qualitative design, this study sought to explore the observations and perceptions of the 665 members of the electorate who participated on the automated elections, their views on whether it worked towards marginalizing dysfunctions in the conduct of elections. The objective was to determine the observations and perceptions of the various groups of the electorate on the technical reliability, acceptability of administrative procedures, confidence and attitudes towards automated elections, and attitudes towards the COMELEC as an institution to administer elections.

A validated researcher-designed survey questionnaire of the Likert type scale, with a reliability coefficient of $\alpha = 0.96$, was used to gather data.

The gathered results show that the various groups of the electorate have a positive attitude towards automated elections, providing an optimistic view of their capability to adapt to change towards using automated elections in marginalizing the dysfunctions of election. It also indicated that confidence of voters in the election process and social acceptability of the use of automated mechanisms.

Keywords: democRACY EDUCATİON

TRADITIONAL TOY AND ITS SIGNIFICANCE TO A CHILD

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ABSTRACT

The article is concerned with the pedagogical question associated with the significance of a traditional toy for a kid. A toy has gone through many historical changes throughout its evolution and even at the present time it has an irreplaceable significance because its nature stays the same. When a child plays with a toy, it positively contributes to the cognitive, emotional and physical development of a child. In the article we are also concerned with the criteria for the quality of toys.

Keywords: concern, historical changes

INTRODUCTION

Most of the games need a material impulse – a physical object, a real thing from the surroundings of a child or an object specially made for a play – a toy. For a child a toy represents the world in a realistic or stylized way, the world which surrounds them, motivates their activity, living and acting. During a play the children use toys which define the type, manner and richness of their playing activities. Actually, a toy defines, influences and develops a playing activity and because of that a variety of toys and its social, art and creative value is important. A play with a good, functional toy encourages the fantasy and creative thinking, it supports the physical development and it helps a child to integrate into the world of other people and into their present and future life.

The disciplines which are concerned with the study of a toy are ethnography, archaeology, pedagogy, psychology and cultural anthropology. From their findings it results that the basic repertory of toys in different historical eras has not essentially changed. It differed only in the level of visual realization and the quality of the used materials. The toys were almost exclusively the miniaturized objects from the working area, family life, combat activities, taking care of a family or human amusement. Such toys fulfilled the didactic and socializing function, they reflected the real life and they helped children to be prepared for it.

There is a number of time-proved toys. The requirements for a good toy come from the fact that through them the motional, sensorial, mental and emotional development of a child should be encouraged. The social attitudes and habits of a child should also be developed and the fantasy of a child should be encouraged. The requirements for the hygienic and safety-related quality of the toys and their aesthetic level are also non-negligible. A toy should also be durable and safe and the price of a toy is also important.

In the most cases, the choice of a toy is not given to the children. Exceptions are the cases when a child chooses an object from the surroundings, an object which is not primarily meant to be a toy.

SIGNIFICANCE OF A TOY TO A CHILD

Parents and the relatives who buy the toys have the impact on how valuable and beneficial is the toy in the didactic, artistic and emotional respect. Duplinský (1993) cites the American research which shows that a child has an opportunity to choose a toy in only 20 % of the cases. In 40 % of the cases a toy is picked by the parents with intention to amuse the child and so that the children do not disturb them. 87 % of the parents are willing to buy a militaristic toy. Only a third of the parents (with a higher education) state that the educational aspect of a toy is more important to them.

This many requirements on the quality and the level of the toy of course make it harder for the parents to choose a proper toy, mainly when they also need to take into account the developing and psychological aspect. The role of the teachers, psychologists and nursery teachers steps forward so that they make sure that they choose toys which are suitable for the specific age of the children. Very important is also the role of the mainstream effect on the parenting society so that they don't choose the toys only according to the market and financial mechanisms.

Children should get their toys in an appropriate age. In this regard, Zdeněk Matějíček (1995) defines two meanings of a toy – developmental and stimulating, whereby he finds the developmental meaning as the crucial one. He definitely insists on the fact that "a toy needs to match the mental age of a child" and he criticizes the situation when the manufacturer states on the packaging of toy a very vague information as "recommended age is from 3 to 8 years", whereby this interval covers four different development stages. On the spread idea that the toys suitable for older kids stimulate and accelerate their development he reacts "…we do not give simpler toys to small children because we think they are too stupid for them, but simply because their nervous system needs them at the given development stage…the most modern toys are very perfect but rather monothematic and that fact takes away the possibility from children to use their own creativity.

Also Stoppard says that adequacy of a toy to age plays an important role when choosing the right toy. She emphasizes the importance of a stimulating environment for a realization of a play that means enjoyable and for

a child attractive environment, organization and presentation of the toys should not be in boxes or on a pile but in the motivating configurations and positions, in the situations which stimulate the imagination and creativity of a child (Stoppardová, 1992).

E. Opravilová (1995) and A. M. Dostál (1988) are of the same opinion: "Continual integration of the children to the world of adults secured by educational influence in the broadest sense (but of course also by a toy) takes for granted the existence of an environment, where a child can play in the manner of what the patterns of their mental and physical development demand.

In the conditions of a nursery it is a question of so called pedagogically adapted environment, that means it is adjusted so that a child has a constant opportunity to a rich and stimulating playful activity and a sufficiency of toys and game impulses. In the conditions of a family it is also a question of where and how to place the toys so that they are not dead and expensive investment but so that they are always pedagogically and motivationally accessible and ready to use. In the both environments a child should have a freedom of movement and they should not be restricted by anything else but safety aspects.

The price of a toy is not a crucial aspect for a success of a toy with kids. The children play with a toy, they are satisfied with it, they are focused and they develop if the toy meets the criteria of the age suitability, i.e. an appropriate period to give the toy. In the connection with this M. Stoppard (1992) states the experience of most of the parents, that a child often plays with an object that is not a toy, that is not made for playing but a child is interested and fascinated by it and returns to it. The fact that a child wants to imitate the role of the adults probably also plays a role and maybe the objects of normal use should be used as toys and they should supplement the set of the "main" pedagogically and psychologically important toys.

Whichever object from the surroundings of a child hides a potential to become a toy. Such a toy helps to gain experience of the real world, development of the fantasy and to a natural integration to the world of the adults. However, it is not possible to agree with an opinion that "the children mostly make the toys themselves." (Vocilka, 1995)

It is mostly said about a toy that it is a miniaturized or stylized object from the real world and through it the children gain knowledge about the reality by which they are not surrounded at the moment. From this point of view there are two possible levels of understanding a toy. A child can either choose an object as a toy (its purpose is different) itself, - Dostál calls this level the primary function of a toy or a child chooses a toy, which is an object directly made for a play, when the choice and schematization is made by an adult. Then the same author speaks of the secondary function of a toy. (Dostál, Opravilová,1988)

Very little children (until the age of 1) need such toys that develop all of the five senses. Because of that the toys which offer enough experiences with the knowing of colours, surfaces, materials, shapes and sounds are considered to be appropriate and age suitable toys. By the toddlers the age suitable games are for "putting things in and out" so cubes, circles which are put on a vertical sticks, pyramid puzzles can be used.

Children around the age of two are adopting the ability to rotate their wrists, which enables them to rotate things, unscrew the caps, and open the doors. Because of this such a toy is suitable, which enables such a manipulation – shapes which fit into each other, differently shaped blocks which fit only into specific shapes, planks in different shapes and plates.

Despite the development of technology and modernisation of the toys and against the expectations of the parents it is a known fact that the less shaped and simpler toy is handled to a child, the more opportunities it offers to the child´s imagination. A piece of wood can represent to a preschool aged child a sword, a magic wand, a baton, a tower, an object for passing, a bridge across a river, a tollgate and many other things, while for example a costly dressed and even a talking and walking doll, which is mostly more expensive, has only one function (Stoppardová, 1992).

When choosing a toy a parent or a tutor should ask these kinds of questions: is the toy safe, is it stimulating, is it worth the play, is it universal enough so that it suits more types of games, will it "grow" with a child, is it fun to play with? Ideally a box (set, collection) of blocks which spans a longer age period and it stimulates the imagination and activity meets these criteria. Mechanical toys are in this aspect very often a let-down because their use is very often one-sided, unrepeated and the children often get bored because their imagination is not activated.

Otokar Chlup (Chlup, Kubálek, 1938) emphasized (same like Matějček, 1995) the importance of choosing the toy by a child itself and he dealt with the question of suitability of toys and their adequacy to age and development stage of a child. He also says that there is no need for the redundancy of toys, too big selection of toys rather distresses a child than pleases. Further he says that the toys should be made from a proper material and "they should not imitate other material from which they are made" – as if he anticipated the later era of plastic, which "looked" differently, than the artificial material should or they substituted other material. He emphasizes the level and quality of folk toys unlike many industrially made toys. He states that the toys do not only occupy the children but they also train and educate them in many ways. They develop a child´s memory, attention and fantasy. Because of that mainly very simple but thorough and solid toys are the most favourite ones with the children. According to Chlup, the toys which a child can observe and use only in the presence of an

adult or toys which seduce to vulgarity or brutality are totally inappropriate. Toys which offer to children an opportunity to act superior above other children, do not have a good educational influence on them.

ABOUT THE MEANING OF THE WORD TOY AND CATEGORIZATION OF TOYS
In the broader sense of a word we can call a toy anything that a child uses during a play. A child can play with nearly everything, with every object of daily need; they sometimes even prefer these objects to the real and costly toys. The toys in real sense of the word are the objects, specially made for children playing activity. The toys can be made of various materials – wood, plastic, paper, textile and others. If we talk about the industrially or handily made objects, Mišurcová (Mišurcová, Fišer, Fixl, 1980) states these toys as suitable ones for the category of preschool children.

- A doll with accessories (clothes, toiletries, a bed, a stroller, a room, a medical bag),
- A miniature doll with travelling equipment,
- A dummy, teddy bear or other textile animal,
- Puppets, or puppet theatre, building blocks (constructive, consisting of wooden cubes, plastic),
- Thematic toys (cities, villages),
- Vehicles (a train, a truck, a crane truck, miniature cars),
- Board games (domino, bingo, flashcards, mosaics, shape sorters, picture puzzle),
- Motion toys (a ball, a hoop, a jump rope, circles for throwing, ninepins, a windmill, a rocking-horse, tricycle, a scooter, children bicycle, roller-skates, sledge, skates, bobsled, skis),
- Creative toys (black boards, chalks, crayons, tempera paints, pencils, brushes, modelling materials, modelling clay, cut-outs, colouring books, magnetic board, stringing beads and shapes),
- Work tools (a hammer, pliers)
- Gardening tools (a spade, a rake, a shovel, watering-can),
- Toys for a sandbox (a pail, a scoop, shapes, trolley for sand)
- Toys to water (plastic and rubber animals, inflatable toys),
- Sound toys (drums, a whistle, a trumpet, xylophone, triangle).

This list is of course only informative, i tis aimed to educative influence in the nurseries and it would be possible to add new types of toys (Duplo, Lego) or to divide the desirable (possible) set of toys according to shorter age periods. For example like this:

Toys for babies until 6 months:
- Hanging toys moving with the airflow,
- Toys which can be squeezed or sucked on,
- Soft toys and balloons,
- Rattles, bells, squeaking toys.

Toys for babies from 7 to 12 months:
- Standing rattles,
- Books made of hard paper, textile, wood or vinyl,
- Balls,
- Motion toys,
- Big, soft cubes,
- Stuffed animals,
- Buckets, forms and toys to water.

Toys for toddlers from 12 to 18 months:
- Picture books with variously adjusted surface,
- Music toys,
- Puzzles,
- Cars,
- Things for colouring and colouring books,
- Toys which fit into each other,
- Toys for putting on each other,
- Toys which are pulled.

Toys for toddlers from 18 months to 2 years:
- Dolls,
- Toys that can be hit, sorting and stringing toys,
- Toys with wheels,
- Child mobile phone,
- Music toys.

Toys for children from 2 to 3,5 years:

- Changing clothes of the dolls,
- Tempera pains or water paints and pieces of paper,
- Building blocks of many kinds
- Simple games and puzzles,
- Manipulating toys,
- Tools and objects of daily need in the household.

Toys for children from 3,5 to 5 years:

- Set of various constructing models and cars,
- Magnetic or flannel boards,
- Miniature situational models (a house for dolls, game on a shop),
- Sport equipment in children modification,
- Books, gramophone, tape recorder, magnifying glass, binoculars.

Toys for children from 5 to 7 years:

- Dressing dolls,
- Miniaturized machines from the adult world (cash registers, typewriters, a simple camera),
- Simple handicraft tools,
- Trains, cars
- Books with several chapters, musical instruments (a flute, a mouth organ),
- Group games. (Stoppardová, 1992)

QUALITY OF THE TOYS

There are many attempts in the literature to define a set of toys that are necessary to secure an opportunity for versatile psychological development of a child. Besides the two above stated it is O. Elmanová (1964), activities of the international organization ICCP (International Council for Children´s Play) – founded in Ulm already in 1959. This organization defined the criteria and requirements for a good toy. The aspects of academic disciplines which are concerned with a play and a toy as well as the aspects and requirements of practical disciplines which are concerned with a toy are contained in these criteria:

- The age of a child for which the toys are suitable, so that a toy is up-to-date from the aspect of current development stage of a child;
- The necessity of a full usage of child´s imagination when playing – if a child learns from a young age to use simple objects and shapes with which the imagination must be used, it can later better and more creatively manipulate with the miniaturized and stylized toys, to take more out of them;
- The variability or the multitude of playing possibilities. The more possibilities a toy offers the more interesting i tis for a child and the more developing value it has. Single use toy can tire soon and it creates disinterest and passivity;
- Comprehensibility of a toy – the design and shape design of a toy contain an information, which should be comprehensible mainly during the first phase of contact of a child with a toy;
- The size of a toy – a younger child needs for example with a construction toy bigger parts because its motor skills are not evolved enough to manipulate with smaller parts;
- Number and composition of toys – the selection of toys in families is random and in the nurseries i tis controlled in so that the number of toys is not abundant or insufficient;
- Suitability of the materials – for every toy a different material is suitable and typical. It should correspond to aesthetical and pedagogical purpose of a toy, its function and character;
- Shape and colour of a toy – which play role by the acceptance of a toy by a child; an opinion that a child clearly prefers bright colours is not really proven; experiences from the practice indicates that bright brown tones (natural wood) are optimal, supplemented with areas of bright saturated colours (white, yellow, red); a colour does not have to match the reality;
- Solidity and durability of a toy – it is important mainly by the toys which are with a child for a longer period (a doll, a teddy bear, a puppet) or by a construction toys, which is being dismantled by a child in the analytical age;
- Construction and mechanics with regard to comprehensibility of a toy; comprehensible toy is the one which is well and logically constructed; a technical complexity of a toy is a mistake in regard of young age of a child
- Safety of a toy – nontoxicity of the paints, resistance saliva and sweat, resistance to fire, sanitariness, a safe size of a toy and its parts, roundedness;
- Price of a toy – it needs to be viewed with regard to its playing meaning, durability and life span. (Dostál, Opravilová, 1988)

It is interesting that the especially defined pedagogical value of a toy, latently hidden in the manner of presentation of a toy to a child is not stated or it is stated in different context than the criteria of quality and selection of toys. In this regard we must realize the danger of two extremes – excessive control over the child playing activities on one hand and complete freedom for a child during the manipulation with a toy on the other hand. Both extremes occur in dependence on whether a child play in a nursery or at home, whether the parents are pedagogically informed or not, whether they devote more or less time to a child, whether a child has the majority of toys that are artificially made or most of the toys are made by a child using the objects of a daily use and using the imagination. Social environment of a child is important for its development stage. A good parent and of course a good teacher tries to find a reasonable degree of controlling and influencing of the child playing spontaneity.

Almost the whole nonfiction literature agrees on the opinion that a toy is irreplaceable in the development of a child and in the pedagogical and educational work of the teachers in the nurseries. It must be stated that there is also a controversial opinion which (maybe in the connection with antipedagogics) denies the role of a toy. For example, there is a project called "A nursery without toys" which comes from a massive preference of imaginative abilities of a child. It claims that taking the toys away from the children, makes them more creative. In this project a child makes toys out of ordinary objects, instead of taking an intentionally methodically offered toy. A theoretical way out of this approach is an opinion (maybe even reality) that a child mostly reaches for an attractive thing instead of a pedagogically, ethically or life beneficial object – so at older age a child can reach for a drug, for example. However, according to the authors of the project if a child is from the beginning systematically led to creating an own world and own values through the objects of the surroundings and own abilities, under inconspicuous and indirect leadership and influence, without any purposeful manipulation by a pedagogue, it will not create a harmful and wrong values and it will not reach for a drug or any other dangerous objects. Only one thing needs to be added to this opinion and that is the fact that it is in the stage of tests and verification and here not even these tendencies are visible.

Of course not even in the ideal case it cannot mean that a child under a kind oversight of a teacher only plays on its own and "creates its own world". And also it cannot mean that the work of the teachers would be easier in this case. It is much more effective to work with a child according to pre-made plan with the use of toys, or eventually didactic materials and to, as Opravilová says "manipulate" a child in some way for a good and pedagogically and human justified purpose, than to "bring every single child to a self-realization and a self-expression in a play", to analyse its actions and build upon that with some indirect, but creative, however unsystematical creating of its individuality. (Opravilová, 1994)

The basic question for classification of toys from the aspect of the type and kind of a toy in the connection with the age and development aspect is "with what and when to play?" This question is asked by Opravilová and it connects the adequate (recommended) age of a child with a type of a toy, not with a specific toy like Stoppard (1992).

The significance of a toy lies in the development of various aspects of child´s psychic, knowledge and socializing processes, in the process of maturing and learning, in the development of independence, in gaining the sensual experiences, experiences in movement in the room, in discovering and searching of the new by means of a playing activity, in adopting the surrounding world and the world yet hidden to a child.

The most appropriate classification of toys with the acceptance of generally known and proven influences which a toy has on a child, like: growth of the needs of a child, its socialization, influencing the maturing and learning, gaining the sensual experiences, growing of independence, gaining experiences in movement in the room, growing fine motor skills, searching and discovering in a creative activity, seems to be the one made by Opravilová, which comes from an older concept (H. S. Hertzke 1964), whose main criteria is the development of a child and a link-up of this activity on the process of knowing.

Because of that Opravilová (Dostál, Opravilová, 1988) sorts the toys into twelve basic categories:

1. First toys (2 to 9 months) – objects for hanging above the crib, circles, a rattle, simple animals, hygienic materials, polished wood, plastic.
2. Hollow forms (till 2,5 years) – versatile usage, they strengthen and exercise the grip of a hand and an arm of a child and coordination of both hands, they soften the movements and muscles of fingers. Joining of the hollow forms with water and sand is proving well. Material: wood with a natural colour or lively varnished, perhaps even simply ornamented with stylized pictures.
3. Forms, shapes and stringing games (1,5 to 4 years) – around the second year a child gains an ability to make simple shapes, put various pieces together and take them back to pieces. Inserting of objects into holes and delicate manipulation with material exercises the position of fingers against each other. A colour and shape differentiation also comes later. Choosing of puzzles, stringing and pyramid shapes, assembling figures, cars, trains, trolleys or even bigger shaped mosaics offer a vast range of opportunities for a child´s activity.

4. Spinning and screwing (1,5 to 4 years). Around the second year a child begins to orientate itself for searching of belonging shapes and pieces. That is a great exercise for cooperation between both hands and motion coordination. Various assembling and screwing dolls and figures, boxes and plates with a possibility to screw various shapes on them belong here.

5. Building and constructing (1,5 to 4,5 years). Approximately from 7 months a child can hold two things at the same time and later it can place them on each other. That is a basis for building for which highly coordinated movements are needed. A natural wood with simple shaping is the most suitable material for building blocks. Plastic is not so convenient, because it has smaller surface roughness and with that a smaller static balance and stability.

6. Balls and throwing (1 to 7 years, later balls specific for a sport activity). A ball accompanies a child throughout the whole childhood. It should be optimised with its size to the age of a child. A ball can be used since year one for practicing the coordination of muscle movements on hands, fingers, arms. Balls, ninepins, hoops and throwing rings has a special significance for children with eye defects and lack of motion coordination because they help with removing the spatial uncertainty of a child.

7. Dolls, animals, villages, cities (6 months to 7 years). Since a young age there are miniaturized objects which accompany a child. They enable them to live through relations which a child in reality only sees as a spectator. By means of these toys a child can reproduce all of its experiences. The toys themselves are not the only important thing but also other additional accessories, mainly if they are made by the children itself or with a help from an adult: clothes for dolls, accessories for an apartment, shop, household. For children who are limited in movement, have a long term illness, live in an institutional environment has this category a value in helping them to mediate many impressions which they cannot experience themselves. V. Borecký (1982) notices a special meaning of these kinds of toys that are being applied in so called mimetic (displaying) plays. He also suggests the possibility to diagnose the educational problems with the help of these plays, where a child combines the pieces into a picture of the world in the way it comprehences and understands the world.

8. The first mechanics (15 months to 4 years). One of the main principles for this kind of toys is that they should be constructed in a way that a child can control their functions and motional mechanism. We find various types of these toys in the folk creations – pecking chicken, a fight of two bears, working craftsmen or a figurine with moving limbs and they are represented in almost all cultures. Various pulling toys and rollers are industrially made. A child brings them into motion by pulling it behind, or the better option is if the children push it in front on a stick so that they can watch the movement.

9. The first machines (1,5 to 6 years). The principle of mechanism should also be available to a child. It is not necessary to imitate the reality perfectly, i tis enough to represent the typical features. A correct functionality and durability is important with these toys, because a quick malfunction of the mechanism can discourage a child from this toy. More complicated mechanical toys – trains, remote control cars, electronic building kit, planes, and models of ships belong to the much older children, where a elementary understanding of the principle of movement is presumed. Simple wooden cars, cranes, a lift, a digger on which they can load things, transport and control them are the first machines that will serve to pre-school children.

10. The first working material (1,5 to 7 years). A possibility to have a contact with water and sand is one of the most important conditions of the upbringing of a young child. A possibility to manipulate with them should be everywhere, where are the children. The same goes for drawing, painting and the whole artistic expressing, clay or plasticine modelling, cutting out and making collages. For these activities there are various kinds of colours, first the ones that a child can put right on the fingers, later use a brush or a stick, crayons, chalks and various boards and surfaces where a child can perform these artistic activities.

11. Placing and assembling (1,5 to 7 years). A special didactic significance has always been given to these activities in theory and in practice as well. Searching for specific geometrical shapes, inserting of specific shapes to exact holes, assembling a whole out of parts, so called jigsaw puzzle belong to this category. Unlike from sooner, where more abstract shapes were used (e.g. by Montessori), these shapes are coming closer to real objects in contemporary approach, and there is an effort to keep not only the shape but also a logical context (e.g. a triangle as a traffic sign). These activities are offered to a child in the form of board games, dominos, puzzles and mosaics.

12. Various (1,5 to 7 years). A number of small things belong to this category, which are intended mainly for the joy and amusement of a child, but that can also lead to practicing of some of the functions. Examples are windmills, soap bubbles, inflatable balloons, marbles, yoyo, brain-teasers, card pairs and triplets, cut-outs, colouring books and object made to create collections. It is also important to leave time and space to a child for these objects and their arrangement. Buttons, match boxes, stickers from cheeses, chewing

gum and chocolate wrappers can also be very good materials, because also with these a child can learn a formal operation of sorting.

Jarmila Svobodová (1989) suggests a simple but also well-arranged and methodically interesting proposal for assortment of toys for pre-school children, where she takes in account the age and related abilities of a child:

Toys for 0 – 6 months old:
- Toys for sensomotorics games – for development of visual perception, hearing perception, tactile perception, for development of gross motor skills (motional), manipulative toys – (toys for hanging into the field of vision, a hanging bar for the crib, rattles, rubber toys with sound, inflatable animals, figurines, hollow forms, first building kits, cubes),
- Toys developing emotional and aesthetic experiencing (first dolls, soft toys),
- Toys for sensomotoric games – fine motor skills, hearing perception, gross motor skills – (cubes, hollow forms, inserting cubes with holes, toys for spinning and screwing, puzzles, jigsaw puzzles, vehicles, cars, trains, balls, ninepins, scooter, tricycle),
- Toys for development of intelligence and personality – constructive toys, toys for imitative games, creative games – (the first building kit, children dishes, vehicles, kitchens, objects from household, working tools, toys for a play in the sand),
- Toys developing emotional and aesthetic experiencing (dolls, puppets, marionettes, textile and plush toy to a crib, first mechanical toys).

Toys for 3 – 6 years old:
- Toys for imitative and sensory games – gross motor skills, fine motor skills, visual perception – (see previous period, throwing rings, ninepins, toys for a play in the water, a jump rope, mosaic building kits, stringing and slip-on shapes and beads, marbles, simple musical instruments),
- Toys for development of intelligence and personality – constructive toys, toys for thematic games, toys for creative games – (building kits with various types of materials, sets for imitating various occupations, miniatures of objects, houses, work machines and tools, figures of animals and figurines, sets of materials and additional objects),
- Toys developing emotional and aesthetical experiencing (plush, textile toys, sets for completion, sets for dramatizing and role plays, toys for joy and amusement),
- Toys for group games (board games, picture dominos, Ludo, sets of games).

Svobodová in this summary states to every type of a toy also its characteristics and main contribution for the development of a child including the appropriate time specification for the usage of the individual toys, their presumable psychological influences and material or technical execution of the toys.

Any list of all the possible types of toys in connection with an adequate child´s activity is not and never can be entirely complete. One of the reasons is that the market, inventiveness of the toy makers, industrial production and advance in technology is bringing and will always be bringing new toys corresponding to the state of technological development of society. In connection with scientific and technological development, for example electronic toys, models, remote control vehicles, electronic building kits (Logotronik, Elektronik), computer games are penetrating into the market and also into the educational practice.

DISCUSSION AND CONCLUSION

Ethical, pedagogical and communicative problems emerging with the use of electronic toys are usually pushed back by unquestionable significance of these toys for the development of cognitive processes. Electronic toys have besides the informatively cognitive value some danger in the fact that they strengthen the bond with the audio-visual resources too much and they push back the primary life experience and they limit the interpersonal communication. A question thus emerges – how and to what extent shall we use the electronic toys, so that the rate of development of children´s cognition would guarantee an advance in technology of the mankind in the future and at the same time it would not mean the loss of specifically human dimension of communication, contact, understanding and experiencing. Contemporary opinions of the experts say that the electronic toys are suitable for children older than the pre-school age, even though in the future there probably will be logical, programmable machines also in the nurseries, on which the children will practice the speed of thinking, readiness and decision making activities.

The second and it appears that more serious reason, that a clear classification of toys is difficult is, that a toy as an object and a play as an activity are very changing variables and the relationship of a child to a toy is itself a phenomenon very difficult to grasp. Josef Duplinský even eliminates such an option and says: "… a child is the only real expert in the domain of a play and a toy on one side and a specific toy on the other side, because a toy is an emotional phenomenon and it also emotionally affects a child in the play…the play expressions of a child and its virtuosity and the situational varying of the play expressions exceed the professionally accustomed schemes very often…a very inappropriate term standard child is used when trying to make a classification of

toys". This author is because of that sceptical about the classification of toys and he only accepts the following principles:

- A toy should only be developed in the presence of the children and in social interaction with them,
- A toy must be multidimensionally reviewed from different aspects,
- It is necessary to respect the circumstances, under which the toy is really used,
- Repeated and long-term observation of the specific playing activities with a toy and their consequences plays an important role,
- A toy must correspond to the physical and mental abilities of a child,
- A toy should invoke a positive emotional satisfaction,
- A toy should include a certain educational effect in some playful form. (Duplinský, 1991)

However, a human factor and a role of pedagogically adapted environment will not (hopefully) lose its significance in the future, because the development of the intelligence is besides the genetic sources also dependant on emotional sources, which cannot be fully replaced by an electronic toy.

Similarly disputable toy is the Barbie doll, when the originally good intention was almost completely destroyed by the mechanism of the market. We can also discuss the combat and war toys from many points of view. However, if a toy is a representation and reflection of reality, then also the war toy has its justification.

A basic characteristic of a pre-school age is spontaneity and liveliness. The effort of the teachers is resolution and directedness of the development of motor, perceptual and cognitive functions, which make the socially adaptable behaviour easier. A child should for its own sake and for the sake of the society, of which it is a member, adopt the physical agility, skilfulness, swiftness, fine muscle coordination, ability to observe, sort and evaluate, social literacy and communication skills and many other mental and physical operations. Due to the age of the pre-school children and to their intellectual level, there is no other option to implement these goals than a purposeful, directed, but natural play with the use of appropriate, motivating, didactically, emotionally and aesthetically important toys that are correctly and sensitively used. This applies mainly to the environment of a nursery, where by the means of intentional and planned choice of the object made specifically for that, toys and other additional objects, a playing activity is directed in a way that it fulfils educative goals, mainly from the aspect of gaining the experiences needed for the future life of a child. Also because of that, all of the premises of a pre-school facility should be adjusted in a way that a child has a constant and permanent opportunity to rich and stimulating playing activities, to which a child is encouraged by a toy.

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TRAINING OF ENGINEERS IN THE AEROSPACE UNIVERSITY WITH APPLICATION OF TECHNOLOGY RESEARCH AND EDUCATION CENTERS

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ABSTRACT

The issues of engineers training in the aerospace university on the base of Research and Educational Centers (REC) are discussed. In order to improve the quality of education in the Siberian State Aerospace University the research work of students, as well as the practice-oriented training of engineers are introduced in the educational process. It was made possible as a result of joint efforts of university with research institutes of the Russian Academy of Science and industrial enterprises. The features of the engineers training are discussed on the example of a jointly created with JSC "Information Satellite Systems", JSC "Krasnoyarsk Machine Building Plant" and the Krasnoyarsk Scientific Center of the Siberian Branch of the Russian Academy of Science the research and educational centers such as REC "Space Research Institute and High-tech", REC "Space Systems and Technology", REC "Closed Space Systems" and the REC "Rocket and Space Technology". The use of learning technologies based on the scientific and educational centers allows improving the quality of engineers training for aerospace industry and the efficiency of joint research work on the development of new techniques and technologies through the development of scientific, educational and industrial potential of participants. Within the framework of research and education centers the students perform researches, diploma works and master's theses; the postgraduates are trained in advanced scientific and technical areas of enterprise development.

Keywords: Aerospace engineering, engineering education

INTRODUCTION

The innovative development of the territory is impossible without the support of high-quality vocational education. This involves the development of the university innovative educational technologies and the formation of a unified system of continuous education, increase design and research development and the achievement of the desired concentration of highly qualified teaching and research staff. The current conditions require improving the quality of education and related to the introduction in the educational process the research component, as well as practice-oriented training. This is possible as a result of joint efforts of the state educational institutions of higher education in Russia with the research institutes of the Russian Academy of Sciences and industry.

TRAINING OF ENGINEERS IN THE SIBERIAN STATE AEROSPACE UNIVERSITY ON THE BASE OF RESEARCH AND EDUCATION CENTERS

The Siberian State Aerospace University (SibSAU) for many years trains engineers for the aerospace industry. Here are the main competitive advantages of the University:

- Unique location of the university in the Siberian center of satellites production and developed relations of the University with the space enterprises;
- Presence of all levels of vocational education including secondary, higher, additional and postgraduate;
- Wide range of educational programs that meet the main objectives of the space industry development;
- Integrated system of aerospace education, based on a combination of theoretical study and production work on the base enterprises or research work in academic institutions, have proven very effective and adapted to modern educational standards and market conditions;
- Wide range of the scientific fields of fundamental and applied research on the creation of advanced space systems; the presence of leading scientific schools in the main areas of research and development;
- Presence in SibSAU required production and test facilities for the development and manufacture of spacecraft.

The scientific research in SibSAU focused primarily on solving the problems of rocket and space industry. The subjects of scientific solutions and technical problems, directions and specialty of training included in the promising areas of the University and justified the tasks set by the Federal Space Program and tasks assigned to space industry. The most important element of adopted in the university training system is the integration of the University with research institutes of the Russian Academy of Science (RAS). The strategic partnership agreement concluded between SibSAU and Krasnoyarsk Scientific Center of the Siberian Branch of Russian Academy of Sciences (KSC SB RAS), has allowed at qualitatively new level create a system of joint scientific and educational activities, attracting potentials of the RAS institutes, on the basis of which the scientific and educational departments of the university were created (Kovalev, Loginov & Zelenkov, 2015).

The "Space information systems" is the main priority, in which the University holds a leading position in Russia in training and research related to the development and modernization of the domestic space information systems, improvement of spacecrafts, systems and complexes for various purposes, fixed and mobile communications, television, navigation, geodesy and retransmission. The University conducts applied research in the design and development of advanced platforms unmanned spacecrafts, small satellites; spacecraft control systems in orbit and methods of use of space-based information systems.

A special place in the university activity occupy jointly created with base enterprises and institutions of RAS *The Scientific and Educational Centers* (SEC) "Institute of Space Research and high-tech" (SEC ISRHT), "Space systems and technology" (SEC SST), "Closed space systems" (SEC CSS), "Management of space systems" (SEC MSS) and "Rocket and space technologies" (SEC RST).

THE SCIENTIFIC AND EDUCATIONAL CENTER "SPACE RESEARCH INSTITUTE AND HIGH TECHNOLOGIES"

The Space Research Institute and High Technologies SEC was created in cooperation with KSC SB RAS and JSC "Information Satellite Systems". The center consists of the department of Technical physics, Space materials and technologies, Space and technology, Space monitoring center and space research, laboratory of Nanotechnology and space materials, Physical properties of semiconductors and nanomaterials with modern research and analytical equipment. In SEC ISHRT provides training in the field of "Study of natural resources by aerospace methods" and "Physics". The scientific work of the students is organized on the basis of joint scientific laboratories SibSAU and institutes of KSC SB RAS under the personal guidance of leading scientists. To solve the problems of applied scientific observation and determine the orbits of satellites and asteroids in the university operates the center of space exploration and the observatory with two telescopes. The staff of SibSAU created the telescope remote control system and digital images delivery via the Internet (sky.sibsau.ru). The Centre is part of the international cooperation within the framework of a scientific network of optical instruments for astrometric and photometric observations, which brings together 18 research institutions and observatories from 9 countries. The observatory of Center officially registered in the International Minor Planet Center at Harvard with the assignment of code - C06. On this basis, the educational process for students of natural science and engineering disciplines are organized. The observations and research are conducted in the field of astronomy in cooperation with the State Sternberg Astronomical Institute of Moscow State University and the Institute of Astronomy RAS. In order to use the results of space activities for socio-economic development of the region at the University in 2013 established the Regional scientific and technological center of space services. The equipment for remote sensing data from space is installed and functioning on the basis of SibSAU and Siberian Federal University. This is a promising new research and innovation activities of the University, which is currently being actively developed in close cooperation with academic institutions of RAS. In the field the students, graduate students and staff participate in the development of methods to improve the accuracy characteristics of GLONASS / GPS, development of tools and methods for monitoring natural resources and remote sensing, as well as radar and radio thermal sensing from space. The university staff together with the JSC "Information Satellite Systems" developed a methodology for the use of GLONASS for remote sensing of humidity and identification of frozen or thawed state of the soil cover surface using small LEO spacecraft. The students participate in ground and flight testing, testing equipment in order to clarify uncertainties and spatial resolution data sensing. The Centre carries out works on the development of GIS and image processing techniques from satellites of Russia, the US, Israel and other countries, develops methods of fire detection and determination of forest fire danger based on satellite imagery. The objectives of the center are also the evaluation of air pollution, the forecast meteorological state of the atmosphere, the study of snow cover.

The logical development work in the field of space activity results is yet another new direction in the University associated with entry of SibSAU into a major international project to create the International Global Monitoring Aerospace System (Kovalev & Loginov, 2012). Currently, under the auspices of the International Academy of Astronautics started practical implementation of large-scale project of the International Global Monitoring Aerospace System - a system for effective and adequate forecasting of natural and man-made situations, through

the integration of all available information on the monitoring of the ionosphere, atmosphere and lithosphere, as well as near-Earth space (Menshikov, 2010).

THE SCIENTIFIC AND EDUCATIONAL CENTER "SPACE SYSTEMS AND TECHNOLOGY"

The Space Systems and Technology SEC developed in cooperation with the JSC "Information Satellite Systems". The center implements an innovative training program of engineers for JSC "ISS" on the basis of project-oriented learning technologies. JSC "ISS" is one of the leading enterprises of the Russian space industry and has a technology of complete cycle of space systems creation from design to control automatic spacecraft in all orbits - from low circular to geostationary.

The Space Systems and Technologies SEC has been engaged in the design and assembly of a series of scientific and educational small satellites (SmallSat) for a number of years. The project is carried out by a team of students, postgraduate students, young scientists, and specialists of JSC ISS; the team is also responsible for conducting scientific and technological experiments in space. The SEC includes the Student Design Bureau for the design of small satellites, "clean room" for the assembly and testing of small satellites, laboratory of prototyping and satellite electronic systems, laboratory of mechatronic systems and precision mechanics, which equipped with modern high-precision control, measuring and test equipment. The SEC's equipment enables the assembly and testing of satellite mechanical systems, electronic equipment prototyping, conducting vacuum and climate tests, researching spacecraft electronic equipment.

The development of program on creation a series of technological, scientific and educational small spacecrafts provides to undergraduate and graduate students an unique opportunity to take part in the development, design and assembly of satellites in the development of new engineering solutions, creating elements of space systems and space experiments. In the field of development and improvement of spacecraft's elements and nodes the University actively participates in the development and testing of advanced integrated onboard systems control, improvement of on-board power supply system of spacecrafts and developing large-scale transformable satellite structures (Kovalev & Loginov, 2011).

Here are the objectives and tasks of the program for building a series of scientific, educational, and technological microsatellites:

- Development of an integrated system of engineering education (distance learning systems, laboratory sessions, using special control ground stations designed for the microsatellites, etc.);
- Implementation of a design-oriented educational technology for the preparation of aerospace engineers; forming their professional competencies (student participation in the design and assembly of satellites, service systems, and scientific instruments);
- Scientific experimentation in space (space methods for monitoring the Earth's natural resources, multifunctional nanomaterials, exploitation of high-temperature superconductors and other smart materials in space);
- Technological development: obtaining flight qualification for advanced service systems, instruments and satellite elements (attitude determination and control subsystem, electric power subsystem, thermal control subsystem, and other subsystems with an increased lifetime).

Currently, on the Earth's orbit are two student satellites "Yubileyniy" and "MiR" (Figure 1).
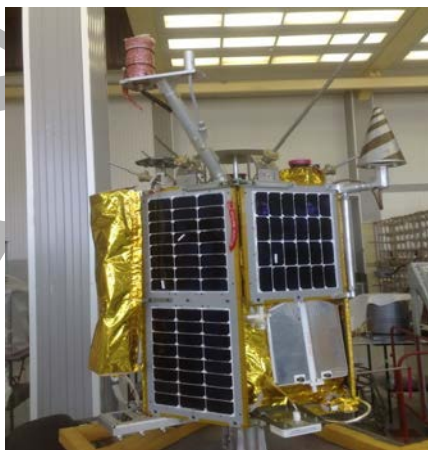

Figure 1. Small satellite "MiR"

All organizations that participated in the development and assembly of the small satellite acquired significant technological experience for future contribution to the training of engineers for the national space industry.

The monitoring and operational control of the small satellites is performed at the students' Satellite Control Center (SCC), which is located at the university. Students obtain telemetry data from the satellite in a real-time mode, learning to decode it and control the satellite. During their course, engineering students have a unique opportunity to directly control, receive, and process telemetry from the following Russian small satellites – *YUBILEYNIY*, *MOZHAETS*, *CHIBIS*, *BAUMANETS-2* and satellites of the Technical University of Berlin – *DLRSAT*, *TUBSAT*. The Control Center also provides access to the *Express-AM* program simulator, imitating the flight of a modern functioning telecommunication satellite. The simulator completely imitates the operation of all service subsystems of *Express-AM* and is used for conducting tests on the onboard control system, learning how to operate a real satellite. This is a joint development of SibSAU and JSC ISS. The students' SCC is an essential ground segment for the orbital group of technological, research, and educational small satellites, assembled by the university and its partners.

Besides accomplishing existing scientific-technical and experimental tasks, the small satellites are designed to perform an educational function, which is just as significant as the scientific investigation. The production process of these satellites is essential for the preparation of aerospace engineering specialists, who undergo training through a project-oriented educational technology course. This is the first time such a course is introduced at a Russian aerospace university. It has been mentioned that students of SibSAU take part in all stages of satellite production, from writing design documentation to controlling the satellite's orbital path. Implementing the project allows to identify the students who have shown their best effort and enjoyed laboratory work not only during their main curricula, but in related extracurricular activities. This experience shows that such students subsequently become the most qualified and responsible professionals.

The construction project of the students' satellite is divided into twelve directions. This models the number of main satellite subsystems – the thermal control subsystem, the electric power subsystem, the attitude determination and control subsystem, etc. The scientific work of each member of the student team must be done in one of these areas. When the student accomplishes his first year on the project, he or she becomes a tutor for younger student of the same direction, sharing the acquired experience. The final results of the student's scientific work in the selected direction, including the graduation project and diploma thesis, is the design and manufacturing of a functional satellite component or constructional element. This part will be installed inside an actual satellite, which will be then launched into space. One of the major projects in 2014, which was attended by students, has been associated with the production of precision structural elements of telecommunications satellites with high-modulus composite materials geometrically stable in space (Figure 2).

Figure 2. Student participation in the fabrication of dimensionally and weight models of spacecraft

A specialized internet-portal has been developed at *www.smka.sibsau.ru* along with a projects management system for project monitoring. This enables the remote coordination of joint projects between different higher education facilities, bringing together students from different cities. The project-and-team education technology enables the student to acquire a high degree of preparation, guaranteeing the alumni will have significant competitive advantages on the labor market as effective workforce at space engineering and high-technology

manufacturing enterprises. Typically, after finishing the course most of the graduates are offered employment in the field of their specialization.

In the process realization of scientific and educational projects becomes important the inter-university cooperation with other aerospace universities. Each of the participants, solving their specific problems, contributes to the common fund their experience and their achievements. The inter-university partnership has great potential for expansion of tasks and enhances the level of student training of different specialties. As a result of inter-university collaboration the tasks in the organization of promising scientific and educational spacecraft and satellite systems are solved. The joint development and manufacture of the satellite, its service systems, special and scientific equipment are discussed. Takes place the joint satellite control, the preparation and use of satellite data in the educational and research processes. The block diagram of the ground control of the educational satellite group is shown in Figure 3.
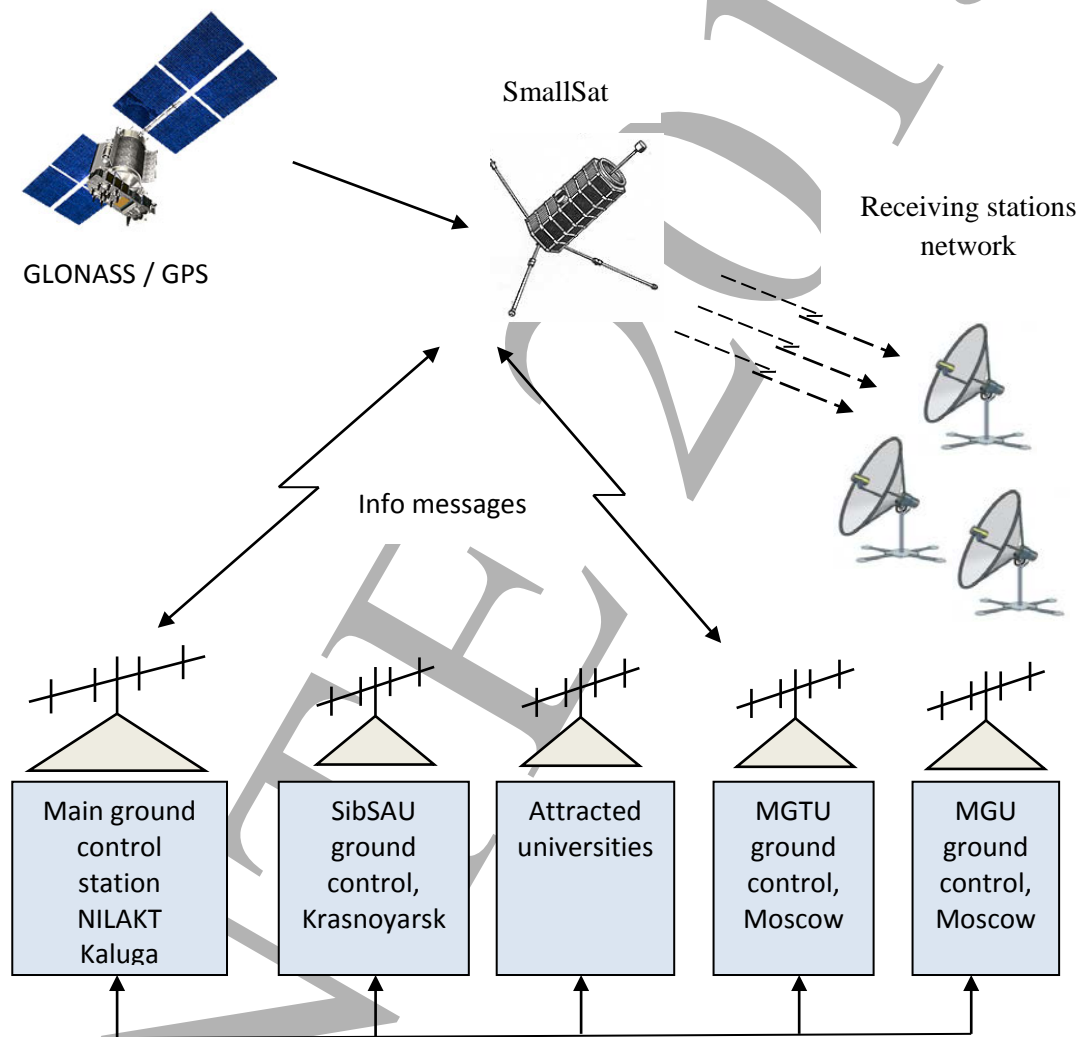
Figure 3. Block diagram of the ground control system of research and educational satellites

The experience of creating and using Russian scientific and educational satellites shows great potential and importance of the inter-university partnerships development in these activities. Significant potential of university research combined with creative energy, innovative thinking of students and a good command of modern computer technologies can give new impetus to the development of the national space exploration. Immediate participation of students in the practical work on the design, construction, testing, preparation for the launch and flight control the research and educational satellites significantly increases the level of engineers training to work in the aerospace industry and reduces the risks of care of young professionals in other fields of activity. The practical experience gained by students in the process of work on the creation of university satellites

significantly reduces the time to adapt them to perform specific industrial problems on the space industry and the formation of the young specialist as an authoritative member of the labor collectives.

THE SCIENTIFIC AND EDUCATIONAL CENTER "MANAGEMENT OF SPACE SYSTEMS"

The Management of Space Systems SEC was created in order to integrate the scientific and educational potential of SibSAU and the Institute of Control Sciences RAS for implementation of innovative projects, training of masters, postgraduate and doctoral students, practical training, carrying out research in the field of mathematical, algorithmic and instrumental providing of the spacecraft control systems of a new generation.

THE SCIENTIFIC AND EDUCATIONAL CENTER "CLOSED SPACE SYSTEMS"

The Closed Space Systems SEC was created in collaboration with the Institute of Biophysics. The SEC trains scientists and engineers, engaged in the scientific and technological development of a new generation life-support system, based on the unique BIOS-3 simulator; it simulated mass transfer processes during a high degree of isolation, imitating potential long-term space flights and life at stationary space stations on the Moon and Mars. By now, among all the artificial bio-technical life-support systems, which were created earlier, only the system BIOS-3, working on the base of Institute of Biophysics SB RAS, allowed to support life independently of 2-3 men during 4-6 months through cycle closure of water and gas almost to 100% and of food – more than 70% (Tikhomirov, Ushakova and et al., 2007). BIOS-3 is an experimental complex, simulating closed ecological life-support system with independent control, and it represents 315 m³ air-tight space, divided into 4 units: orangery, residential cabins, kitchen and work zone (Gitelson, Lisovsky & MacElroy, 2003).

The structure of SEC includes basic departments "Closed Ecosystems" and "Security of Engineering Systems", which together with the department of "Information Control Systems" are involved in the training of graduate and postgraduate students. During training the undergraduate and graduate students need to create an information environment, automate the receipt and storage of databases, computerize a control system of environment, organize remote monitoring of the experiment from anywhere in the world. The variety of scientific problems and directions of the educational process create favorable conditions for attracting on the basis of BIOS-3, on the one hand, scientists from different directions in the field of environmental biophysics, and on the other hand, students and postgraduates from SibSAU. This ensures an integrated approach to addressing the creation of a new generation of closed life support systems and the involvement of young researchers in the process of scientific and engineering creativity.

THE SCIENTIFIC AND EDUCATIONAL CENTER "ROCKET AND SPACE TECHNOLOGIES"

The Rocket and Space Technologies SEC is formed on the basis of long-term integrated system of engineers training for JSC "Krasmash", as well as research and applications in the field of space engineering and technology. The purpose of the SEC RST is to further improve the quality and structure of the engineers training in accordance with the needs of the aerospace industry in contemporary conditions, as well as improve the efficiency of joint research work on the development of new techniques and technologies through the integration of scientific, educational and industrial potential of participants.

Here are the main tasks of the SEC RST:
- Development of new methods and forms of educational activities, including on the basis of a design-oriented educational technology for the preparation of aerospace engineers, identifying promising areas of specialization and training of qualified personnel for JSC "Krasmash" and other industrial enterprises, research institutions and universities;
- Coordination the work of departments and other units of SibSAU to ensure the educational process in workshops and departments of JSC "Krasmash" in accordance with the needs of the target training and effective use of scientific and industrial potential of the university and the company, including the coordination of practical training of students and graduates employment;
- Obtaining a new scientific knowledge, execution of joint research and their use in the educational process during the preparation of highly qualified specialists;
- Organization of special workshops, implementation of research papers and dissertations, master's theses, training of graduate students and doctoral students on advanced scientific and technical directions of "Krasmash" development;
- Implementation of joint research and development, the implementation of innovative scientific, technical and educational projects, participation in industry and federal target programs, contests Russian and international funds;
- Creating conditions for the participation of young scientists and students in research, attracting talented young people to work in the scientific and educational center, ensuring their further work in the area of industry, science and higher education.

The structure of SEC RST includes academic and industrial divisions of participants on the basis of which carries out scientific and educational activities of the center. The Coordinating Council of SEC RST defines promising areas of training and scientific and technological research, as well as reviews and approves the plans and results of joint research projects.

CONCLUSION

Thus, the university established a successful integrated system of training engineers for the space industry on the basis of scientific and educational centers using the unique technologies of project-and-team students' work, balancing between innovations and traditions, education and scientific research and maintaining the flexibility in educational trajectory construction. A high level of specialist training, extensive development of fundamental and applied sciences in collaboration with the research institutes of RAS and the high technology enterprises of space industry allow the university to lead the engineers training for aerospace industry and other high-tech enterprises. The dynamic development of the university and increasing the quality of engineers training provided by continuous improvement the educational process, the implementation of modern educational technologies, the development of basic and applied scientific research and using them in educational activities.

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TRANSFORMATION OF INSTRUCTIONAL AND LEARNING PARADIGM IN DIGITAL AGE: SOCIAL NETWORKING PRACTICES AND ACADEMIC EXPECTATIONS OF HIGHER EDUCATION STUDENTS IN TURKEY

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ABSTRACT

New technologies have transformed profoundly the way in which people live, communicate and work. One of the main areas which was affected by the development of new media technologies is higher education. Academic institutions of today's knowledge societies are embracing some transformational benefits like distance education, using podcasts and blogging practices which put education within reach of many more individuals around the world. The new technology savvy digital-age generation in higher education today, are living online with their different mobile tools most of the day and use the social networking sites effectively. Accordingly instructional paradigms are expected to shift from one way lecturing to two way interactive learning process which requires using new media tools and networks. There are studies proposing the use of social media and blogging as supportive and effective educational learning in the digital era.

This study tries to determine how social media is being used by the communication faculty students in Turkey as a daily practice and for academic purposes to support educational and cooperative learning. The main reason of choosing communication students is because there are courses about new media and new media literacy at these faculties. Therefore it is also aimed to find out the new media skills and habits of both scholars and students in this field. The study was designed as an exploratory online survey and shared in student facebook groups of communication faculties between 1-30 April 2015 to adress the questions which were central for the perception, practice, expectations of the students' social media use and the way of academic interactions with their scholars on social media. The paper discusses the instructional and learning benefits of social media use for academic purposes.

Key Words: social media, higher education, digital-age students, interactive learning

INTRODUCTION

Higher education practices have evolved from blackboard mediated to internet mediated education with the emergence of media richness during the last century. Information and communication technology (ICT) is progressively getting more prevalent and used in educational process as well as in other organizational sectors (Keller & Cernerud, 2002).

While the Internet has been praised as an instructional tool, it is also a strong contrivance for transforming the teaching-learning process in new and powerful ways. Nations across the world have found this tool most useful and most of them have collectively moved the power of the Internet for learning from promise to practice (Web-based Education Commission, 2000).

Internet based tools and methods are being expanded to support the educational system, both campus- and distance-based since the 1980s. A large number of studies acknowledge computer-supported collaborative learning (CSCL) as a vital part of effective learning, makes learners able to communicate with each other through social media (Weinberger & Fischer, 2006).

Over the years it has become increasingly important for academic lecturers working in higher education to explore the exciting opportunities new technologies bring to institutions, educators and students. Along with the popularity of personal use, social media is becoming a vital part of academic practice. The literature and a large number of studies carried out in universities all over the World demonstrate advantages and challenges associated with social networking.

Using social media technologies has been considered as offering significant advantages in higher education as to support traditional teaching methods, enhance the learning environment and build a new type of engagement

among educators and students in all levels of education. It is becoming a viable supplement to the traditional learning environment (Ebner, Lienhardt, Rohs, & Meyer, 2010).

To this end, this study targets to portray the place of social media in higher education students and their acaemic lecturers by investigating the communication faculty students to find out their social media use practices, perception and opinions of integrating social media into their educational learning with collaboration the academic lecturers and also their way of online interaction with them.

USING SOCIAL MEDIA IN HIGHER EDUCATION

Social media have rapidly become a part of many people's everyday lives, but especially for the generations who have grown up with technology. A number of authors illustrate that the young generation are frequently using social media technologies for communication and collaboration (Smith & Curtin,1988). In the last quarter-century, as Andone et al. (2006a) state, virtually digitalizing of all life aspects is the most significant impact on learners' life. In this respect, Smith and Curtin (1998) discuss that ICT technologies support education by assisting young people to live in an information-rich technology world.

Poelhuber & Anderson (2011) argue the effective use of social media as it offers new educational affordances that can be exploited in formal learning besides its considered primary use of informal and recreational use. Formerly, Richardson (2006) pointed out the increase of educational use of wikis and blogs as well.

Social media plays a crucial role in the lives of networked teens. Although the specific technologies change, they collectively provide teens with a space to hang out and connect with friends. And because of a variety of social and cultural factors, social media has become an important public space where teens can gather and socialize broadly with peers in an informal way. Teens are looking for a place of their own to make sense of the world beyond their bedrooms. Social media has enabled them to participate in and help create what Boyd call (2014; 5) "networked publics".

The generation born after 1980, mainly the current higher education students, is an even more digital age group (Andone et al., 2006b). To this generation, the digital world is more permeating than for other generations and technology is a world that they know and live in.

It has been claimed by Andone et al. (2006a) that digital age students who grown up with ICT, have special characteristics and different learning habits that lead them to use technology differently. In accordance, Prenksy (2001) notes this group as a generation with different technology skills and completely new set of cognitive capabilities.

Kaplan and Haenlein, (2010) also note that the younger generation has considerable technical knowledge and tendency to engage online technology use, which in essence makes media usage different from other eras.

Students use social networking sites not only for leisure and personal socialization but also as a platform for more meaningful and serious deliberations, and students are using social networking for making friends, sharing links, online learning, finding jobs to accomplish their economic, educational, political and social being. Researchers have fast realize the need to incorporate this into the educational faculties, as a resource to support the educational communications between student and faculties, even though institutions of higher learning have tried preventing students from accessing technologies which is of less important to their academic benefit.

When we review the literatüre it can be seen that there are quite a lot of studies suggesting use of social media which is useful and important at higher education when it is integrated into learning process, where we can read the reports as social media holds promise for academia. Accordingly many researches acknowledge students'beliefs, perceptions and experiences with regard to social media technologies and their willingness to incorporate social media into their learning experiences. Using social media technologies in higher education support traditional teaching methods, enhance the learning environment and build a new type of engagement among educators and students in all levels of education. It is becoming a viable supplement to the traditional learning environment (Ebner, et al 2010; Poellhuber & Anderson 2011).

According to Aghaee (2010) most significant benefits gained by using social media for students are ; interactions with course participants and educators, having access to educators' shares (lecture notes, assignments, labs' information and instructions..) any time/anywhere, finding related documents through search engines or using online video-based resources, some versions of tutorial-videos/-clips which are helpful to understand the topic better, rather than reading the boks, time saving, convenience, being free or cheap, mass info-sharing, flexible, faster, regular updates and interaction, efficient since users have time to think and answer, independency.

OBJECTIVES OF THE STUDY & RESEARCH METHODOLObjectives of the Study and Research Methodology

The purpose of this study is to find out the university students' SNS practices as well as their interaction with lecturers, perceptions and opinions about adoption of SNSs as tools to enhance educational activities in higher

education. One of the main objective of this research was to see the interest of the students to make effective use of social media in academic learning practices and interaction with lecturers.

Communication Faculty students in Turkey were choosen as sample for this research. Instead of random subject disciplines, this survey was conducted with communication faculty students to see the use of SNS practices in educationas there are courses like "new media" and "new media literacy" at these faculties.

The study was designed as an exploratory online survey including 21 questions in total and shared in student facebook groups of communication faculties in Turkey, between 1-30 April 2015. to adress the questions which were central for the perception, practice, expectations of the students' social media use and the way of academic interactions with their scholars on social media.

FINDINGS OF THE SURVEY

Survey included 21 questions beginning with demographic investigation. Included undergraduate and post graduate students of communication science faculties in Turkey. The basic departments of communcation faculties in Turkey are given as departmental question's choices which are ; Journalism, Public Relations, Advertising, Radio-TV-Cinema, Visual Communication, New Media, and also "other" choice" is included. Students were asked about the technological devices they own, ways of İnternet access and the time they're online daily, the SNSs they use and reasons of this, social media interactions with academic lecturers, their awareness, practices and opinion about using podcasts, wikis and blogs as an educational objectives besides their heavy use of SNSs like Facebook, Twitter, YouTube and Instagram.

Demographic Findings;

- The survey was completed by 324 students in total.
- Male students constituted 54,94 % of the sample respondents.
- % 68,21 of respondents aged between the group 21-25.
- % 44,75 have been using computer since 6-10 years while % 33 more than 10 years.
- % 83,64 undergraduate students.
- %73,15 are Public Relations & Publicity department students.
- Main devices students own personally are smart phones (91 %), then comes laptop (84 %). PC desktop is the less used computer technology among the participant students [Figure 1]. This result clearly indicate that the young adults are using mobile internet technologies which can facilitate their access to learning material contents and also provide interaction with lecturers, class mates anytime/anywhere.
- It is obvious that young adults are living online, as they reported of being online most of the day (62,65 %), and several times a day (33,64) which makes totally 96,29 %. [Figure 2]

Figure 1. Technological Devices Students Own

Which of the devices you own personally?

Smart Phone - 295   Laptop - 270   Tablet - 110   PC Desktop - 100

Figure 2. Frequency of Internet Access
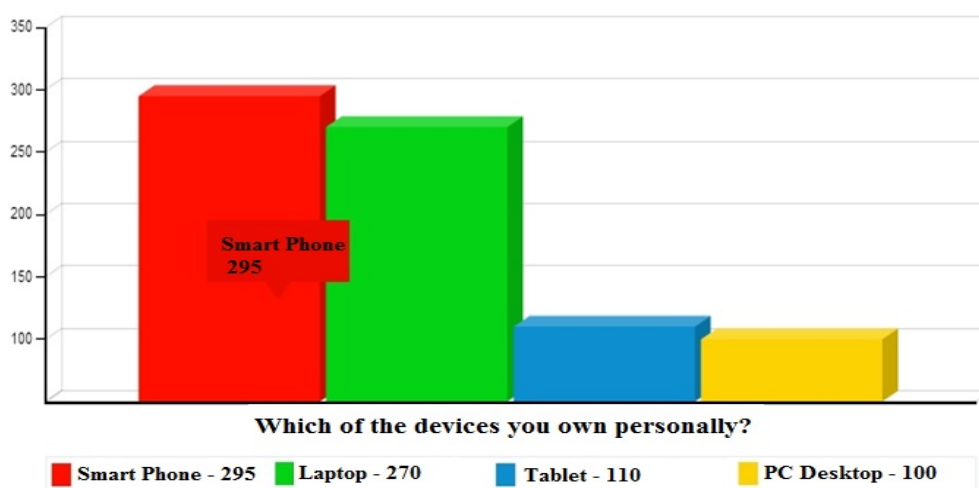
Figure 2. Frequency of Internet Access
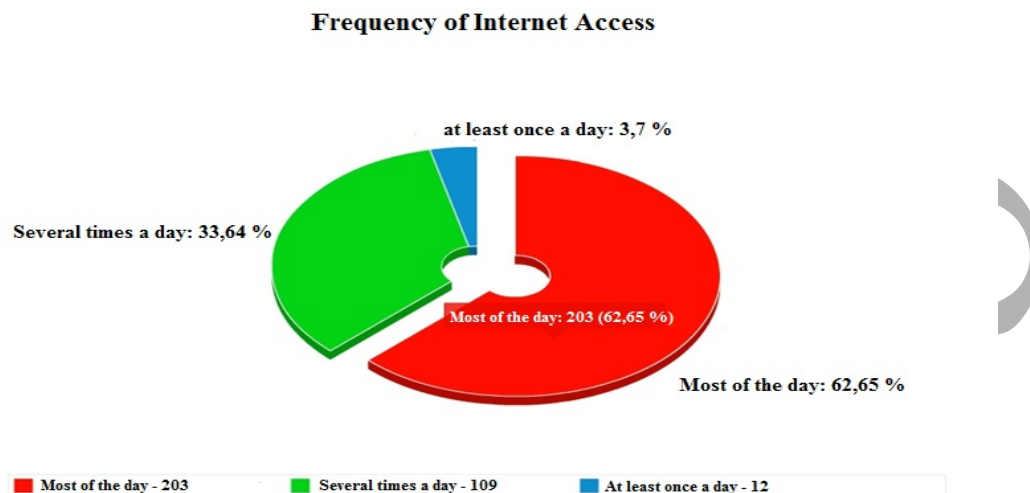
- **The reasons of using social media [Figure 4]**
  - ➢ 84 % of students use social media to 'connect with friends/ to chat with them'
  - ➢ 77 % to follow agenda/news media,
  - ➢ 71 % to see shared course materials and to connect with class mates
  - ➢ 67 % follow common interest groups and pages
  - ➢ 67 % for video/photograph sharings
  - ➢ 42 % follow blogs and interact with them

Of the choices offered in the survey, by far the most commonly selected reason for social media usage was 'to connect with the friends/to chat with them' and than comes 'following agenda/news media' which can also be read as to keep up to date. The third most common reason for social media usage was 'to reach the university course materials which are shared in their group pages and still connecting with class mates. Those leading reasons of using social media for the students indicate the communication, interactivity and socialization function of social networking sites. Entertainment-based reasons are following the first three options.

- Students have interaction with instuctors predominantly on Facebook 89 %, then Twitter 45 %, Instagram 28 % and LinkedIn 15 %
- When it comes to using social media for teaching & learning purposes, students point Facebook (64 %) and Blogs (62 %). Then comes ,YouTube (48 %), Twitter (43 %).
- While Facebook is still the most used SNS (88 %) ,Youtube (78 %) and Instagram (77 %) are closely following Facebook. Twitter (70 %) ranked as the fourth SNS. [Figure 3]
- For İnternet access participants reported that they use their smart phones the most (75%). While mobile use for internet access is 94,75 % in total (including smart phone, laptop and tablet), Desktop PC remains only at 5,25 %
- 78 % students state that instructors use their class facebook page to share information about courses, lecture notes, assignments

In accordance with the theoretical frameworks, almost all students believe that social media should be used in educational learning.

Figure 3. Social Networking Sites Students Use
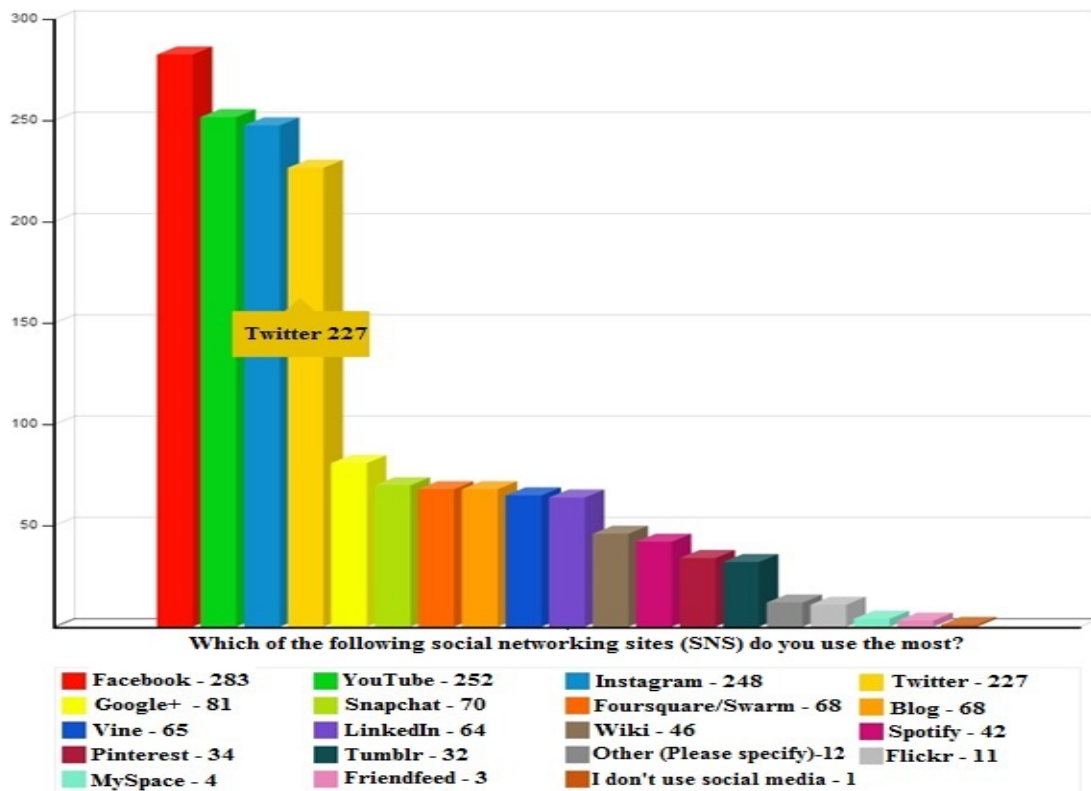
Figure 4. Reasons of Using SNSs
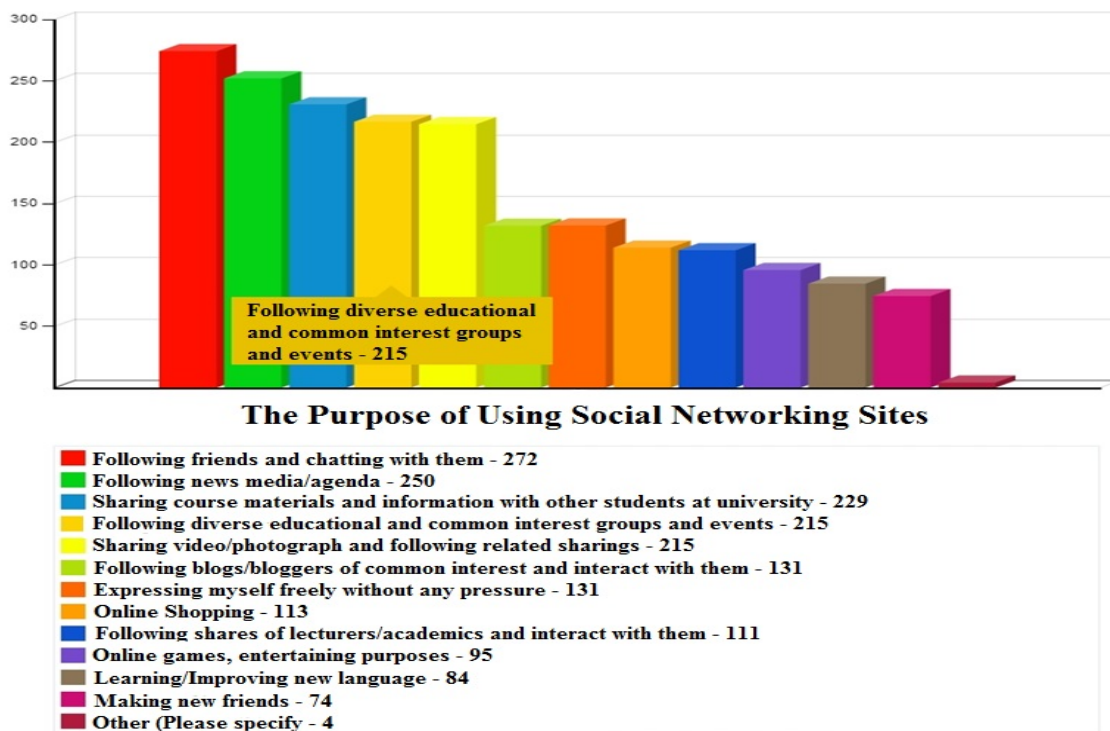
Figure 5. Social Media Interaction with Lecturers

On Which SNSs do you have interaction with the lecturers?

Facebook - 288	Twitter - 146	Instagram - 92	LinkedIn - 48
Youtube - 20	Blog - 20	Foursquare/Swarm - 16	Other - 12
Snapchat - 10	Vine - 5	MySpace - 4	Spotify - 3
Podcast - 3	Friendfeed - 3	Wiki - 2	Tumblr - 2
Pinterest - 2	I don't use social media - 2		
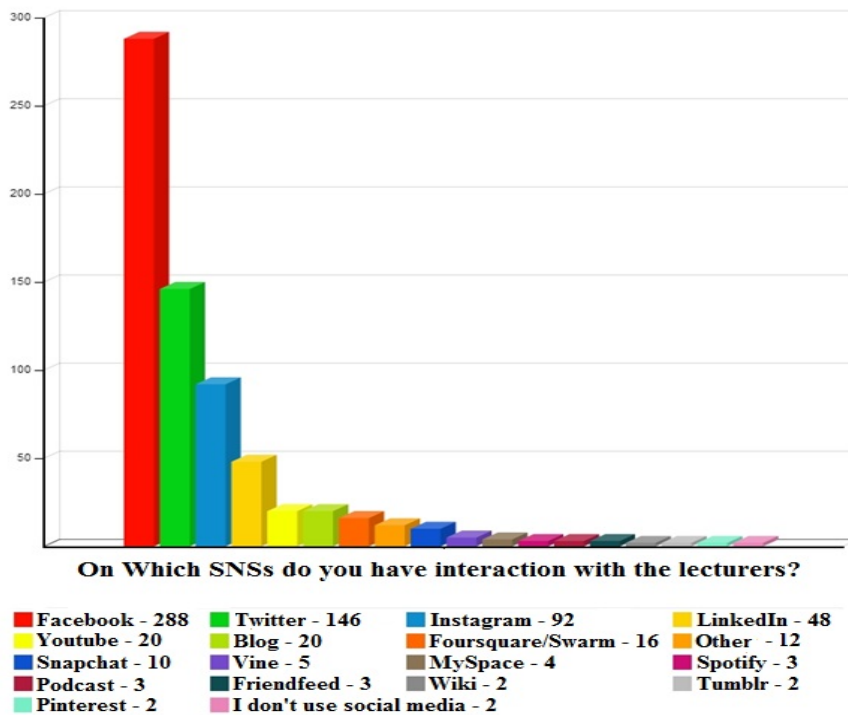
Figure 6. Opinions about Educational Supportive SNSs

Blog - 199

Which of the SNSs do you think should be used to support educational learning/interaction?

Facebook - 207	Blog - 199	Youtube - 157	Twitter - 138
Wiki - 54	LinkedIn - 46	Instagram - 46	Podcast - 37
Tumblr - 24	Pinterest - 9	MySpace - 6	Flickr - 6
Other (Please specify) - 4	Friendfeed - 2		
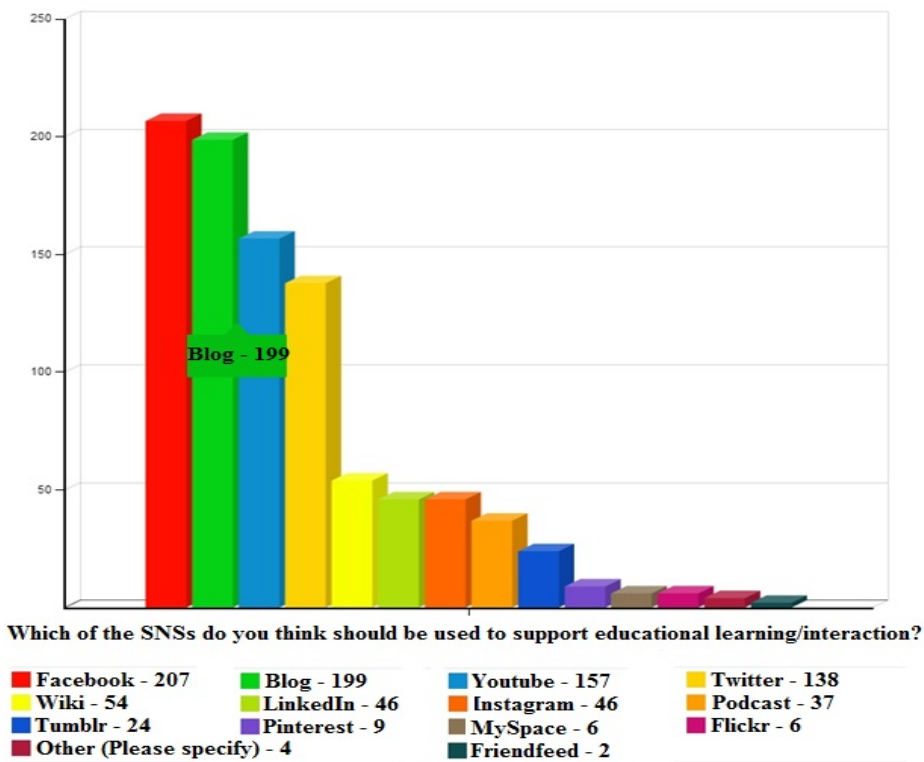
Figure 7. Web tools Lecturers Use for Educational Interaction

Which of the web tools your lecturers use to support educational interaction?

- Lecturers are in our class facebook groups, they share information about courses,lecture notes,assignments -253
- We have direct contact in person via e-mail with lecturers - 156
- Lecturers use Twitter for educational interaction, information shares, announcements - 57
- We have a group e-mail contact with our lecturers - 46
- Lecturers from virtual classes which provide interaction among us, facilitate course learning - 24
- None of our lecturers use social media sites for educational purposes - 18
- Lecturers don't use any web tools (e-mail, social media site) at all for educational purposes - 14
- Lecturers use educational podcast - 11
- Lecturers share course materials, make announcements, enhance interaction and learning via their own blogs - 8
- Other (please specify) - 4

CONCLUSION

The results obtained from this study have shown that almost all the respondents of Communication Faculty students are using the social networking sites, they are living online with their mobile devices primarily smart phones.

Research also tells us that communication educators at universities in Turkey have not widely embraced social media for teaching purposes. They have contacts and interactions with their students overwhelmingly at Facebook,and they don't use podcasts, wikis, blogs as to enhance teaching and learning practices in higher education.

In conclusion, social media can be a complement tool to the traditional educational system in higher education. There are significant advantages to motivate academia to adopt using social media to reduce geographical dispersions, support studies, and to attract the online living students. The result of this study shows, almost all learners are frequent users of online technology and they all use social media in a similar way to interact with other engaged factors. Moreover, the usage of social media to support student' collaborative and cooperative learning is guided by the teaching strategies and other influential factors.

For long years traditional educational learning system has been usually experienced in a one-way communicative manner which can be considered as knowledge and information transfer with physical lectures. The appearance of internet based technologies and social media platforms today offer vast opportunities to academic teaching and learning processes. The main problem at his point is to convince academic educators and learners to adopt new ways of social media interactions to support educational learning. Because large numbers of researches about practices report that social media sites are valuable tools for teaching and collaborative learning.

Social media provides conversation which is core for education process and is distinguishable from many other Web tools especially because it provides a two-way dialogue and allows for real discussion. Not only SNSs like Facebook and Twitter, Blogs are also examples of getting into the conversation. Though they're not real-time, blogs provide a format for dialogue via comments. During the school year, the University of Texas hosted student blogs called "Longhorn Confidential" in which two students from each grade level blogged about their experiences at school. The public could respond to each post via comments, and often did. "It served as not only a story-telling format, but created dialogue as well," said Corley, the school's public affairs social media manager.

This survey is recommended to be repeated every year to see if the communication instuctors and students are expanding their use use of social media for educational purposes but also if they are also becoming more sophisticated in their use, or if their being back from full adoption remains the same.

Social media technologies can provide new opportunities to engage learners, and are discovering impactful strategies for using them in face-to-face, blended and online classrooms. To this end educators and students need motivation and a model to use social media platforms to render the education process more efficient. Web 2.0 technologies have opened doors to highly interactive online communication and opportunities for user-generated content across a number of types of media.

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TRIANGLE DISTRIBUTION FOR POSITIVELY SKEWED DATA

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The triangular distribution is bounded by the maximum, minimum and specified by the maximum, minimum and target values.This distribution could be a very useful for exercises and learning experiences in education. In some analysis, employing the normal distribution can give results outside the range because of the theoretical properties in symmetric sense. Triangular distribution is particularly a straightforward tool for the positive skewed data. In this paper how to use the triangular distribution as an alternative to the normal distribution to determine the probability that the random variable falls in a particular range is shown on some education related examples.The triangular distribution is bounded by the maximum, minimum and specified by the maximum, minimum and target values.This distribution could be a very useful for exercises and learning experiences in education. In some analysis, employing the normal distribution can give results outside the range because of the theoretical properties in symmetric sense. Triangular distribution is particularly a straightforward tool for the positive skewed data. In this paper how to use the triangular distribution as an alternative to the normal distribution to determine the probability that the random variable falls in a particular range is shown on some education related examples.The triangular distribution is bounded by the maximum, minimum and specified by the maximum, minimum and target values.This distribution could be a very useful for exercises and learning experiences in education. In some analysis, employing the normal distribution can give results outside the range because of the theoretical properties in symmetric sense. Triangular distribution is particularly a straightforward tool for the positive skewed data. In this paper how to use the triangular distribution as an alternative to the normal distribution to determine the probability that the random variable falls in a particular range is shown on some education related examples.The triangular distribution is bounded by the maximum, minimum and specified by the maximum, minimum and target values.This distribution could be a very useful for exercises and learning experiences in education. In some analysis, employing the normal distribution can give results outside the range because of the theoretical properties in symmetric sense. Triangular distribution is particularly a straightforward tool for the positive skewed data. In this paper how to use the triangular distribution as an alternative to the normal distribution to determine the probability that the random variable falls in a particular range is shown on some education related examples.The triangular distribution is bounded by the maximum, minimum and

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Keywords: Probability distribution, triangular distribution, normal distribution

TÜRK HALK KÜLTÜRÜNÜ TEMSİL ETMEDE ÂŞIK ŞİİRİRNİN "İNANIŞLAR" AÇISINDAN DEĞERLENDİRİLMESİ

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Âşık Şiiri, Halk Kültürü araştırmalarında, kültürel belleğin en zengin kaynaklarını içerisinde barındırması açısından çok önemli bir yere sahiptir.

 Kültür araştırmalarında, sözlü küşltür ürünlerini, kültürü taşıma özelliğinden dolayı gerek bölgelere gerekse dönemlere göre derleme çalışmalarına ışık tutmaktadır.

 Aşık şiirleri, Türkçenin dönemler içerisinde karşılaştığı değişim ve başkalaşım süreçlerinde dahi en sade örneklerini vermiştir. Aynı zamanda bu örnekler, dil özelliklerini yansıtmanın yanı sıra kültür örüntülerinin de bozulmadan günümüze taşınmasına aracı olmuştur.

 Türk halkının inanışları ve inanışların günlük yaşama yansımasına Âşık Şiiri örneklerinde rastlıyoruz.

"İnanışlar" ve inanç kültürünün Âşık şiirinde örneklendirilmesi, Türk kültüründe inançların gelenekte yaşatıldığını ve kültürel bellek olarak önem kazandığı söylenebilir.

Keywords: Aşıkı şiiri, kültür, inanç-inanış

THE VIEWS OF EXPERTS IN THE FIELD ON THE EFFECTS OF MULTI-STIMULANT TURKISH LANGUAGE LEARNING ENVIRONMENTS ON LEARNER'S LANGUAGE SKILL

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SUMMARY

The goal in teaching first language is to teach various skills to the learners in order to use the language correctly rather than transferring knowledge. The usage of language is possible through acquiring fundamental language skills. These skills are; listening, speaking, reading and writing. The goal in the educational environment is the teaching and learning of these skills. Various applications are used to ensure that students participate in the learning process of acquiring the fundamental skills to attain the goals. Some of these stimuli that accompany education are artistic stimulants like art, music, theatre, drama, riddles, tongue twisters, caricature and short films. This study aims to analyze academic perspectives on educational environments with multi stimulants in Turkish language teaching. The study is a qualitative research based on semi-structured interviews. The participants are 8 academicians who are experts in language teaching in the Turkish Republic of Northern Cyprus. The outcomes of the study indicate a positive attitude on language education environments for incorporating multi stimulants.

Keywords: Language Skills, Multi-stimulated educational environment

1. INTRODUCTION

The general purpose of the Turkish Language Teaching is to train students to become sensitive individuals who are able think and are endowed with good receptive and productive skills. Listening, Reading, Speaking and Writing skills can be developed with language activities focusing on the reception. Production becomes possible by orienting the educational environment to the desired goals. (Sever, 2007:222) Language is learnt under the complementary relation of these four language skills. A balanced development of these four skills is a fundamental measure in the acquisition and learning of the mother-tongue. The Turkish Language is a total of the activities that endow learners with listening, speaking, reading and writing skills and therefore is not a subject centered on transferring information but rather it is a lesson where skills are trained and acquired. This stance informs us that the lessons are applied in the educational environment in relation to the education levels of the learners. (Sever 2011:10).

According to the constructivist attitude adopted by the Ministry of Education in 2015 in Turkish language curriculum, the learning environments are established with activities adapted to the abilities of the target participants. Thematic and activity oriented education environment will not only constitute warmer teacher-student relations, but also student-student-teacher relations will be more positively established. (Ozbay, 2010:247). This goal is attainable with the teacher.

According to Brooks and Brooks, constructivist teachers "Create individual oriented activities, encourage communication amongst peers and teacher and provide an environment where learners can freely express their thoughts and ask questions." (Brooks and Brooks, 2001: 103). There is a clear emphasis on the role of teacher in an educational environment. In Turkish language lessons the teacher's responsibility is not only to check for understanding in receptive skills (listening, reading) and productive skills (speaking, writing) in relation to the grammar point by asking questions. It is also the responsibility of the teacher to endow the students with the students with the critical skills to be able to engage what they read and listen, as well as facilitate the students to ask questions on passages as well as contemplate on the subject and evaluate it. (Sever, Kaya and Aslan, 2011: 27).

The students need to be given responsibility in the development of their receptive and productive skills in Turkish Language teaching. According to Kavcar (1999: 129) "the efficiency and success of students equally depend on the active participation of students in the classroom, as well as the activation of student's sense organs. Techniques and procedures such as group work, dramatization, demonstration, gamification needs to be used alongside the more traditional techniques and procedures of production, question-answer and decoding.

Learning needs to be centered on performing according to their experiences and not looking according to their experiences; importance needs to be given not to a single method of teaching but to the richness of methodologies used in learning."

It is a necessity to provide students with an environment in which they can share their students' feelings and thoughts and the use of artistic stimulants to learning and teaching processes as a tool which will actualize the Turkish Language teaching principles.

One of the fundamental principles of Turkish Language teaching is to discover students' skills. Turkish language teaching that is performed solely by using the book does not achieve this goal. (Demirel, 1998; Sever, 2007). Similarly, be it known that language classes where the flow of information causes the learning level to decrease, will lower the concentration span, will prevent interaction and most importantly, will also prevent the students from thinking on the subject. (Cited in Güneyli, 2007:34). The stimulants which breed creativity, not only to the student, but also to the teacher, and enhance students' language skills are the artistic elements of art, music, theatre, drama, riddles, tongue twisters, caricatures and short films etc.

The sense of hearing and sight has key positions in the development of language skills. Therefore, the implementation of hearing and sight stimulants into language education will aid students in their learning process and help them to think in various dimensions. Instruments and equipments such as graphics, maps, writing board, pictures, photographs, slides, signboards, signs, overhead projectors, radio, cassette-player, soundtracks, videos, CDs, MP3 appeals to students' hearing and sight senses (Cited in Aslan 2011:193, Demirel, 2002; Sever, Kaya and Aslan, 2006). In addition the fundamental tools of education are literary and informative materials. The students' language skills and their competency in the specifics of expressing themselves in their first language need to be thought of using these materials. However, Turkish language teaching must not be limited to one resource, but must be supported by equipped educational environment to enhance language skills through a multitude of stimuli. In order to achieve the desired student behavior, the educational environment needs to deal with quality and multi-stimulated lessons.

They gained the ability to think and to endow students with awareness and sensitivity is important in language education. The goal of training sensitive critical individuals only possible with multi-stimulated educational environment which aims to make individuals with an emphasis on the creation of feelings and thoughts. Technologically equipped modern education environments are required to be able to make students display their skills and their potentials through multi stimulant activities. This environment is the space in which the students can express themselves freely (Sever, Kaya ve Aslan, 2006: 28).

The students who are educated in an active environment who aim to develop creativity and thinking skills, in relation to more conservative environments with their limitations, positively influences student happiness and learning efficiency. In an age where science and technology are the ultimate tools for development, any nation requires happy, independent, democratic, innovative and creative individuals prosper. (Üstündağ 2003: 130).

2. METHOD

In this research, a qualitative model of research is used. It aims to uncover the academic outlook on multi-stimulated environments with regard to language education. The qualitative research is observation, interview and document analysis to gather information qualitatively. Qualitative research, " using observation, interviews and document analysis for qualitative data collection methods, such as perception and events in the natural environment in order to be able to gather data in a realistic and holistic way " (Yıldırım and Şimşek, 2004) is a definition of this methodology. To analyze the data gathered in qualitative research relevant templates, thoughts, reveals the descriptions and definitions are made (Büyüköztürk *et. al*., 2009). Data obtained in descriptive analysis are summarized and interpreted, under predetermined titles (e.g., themes). Data can be classified according to their research questions, such as data collection stages (observation or interviews) or can be edited in the light of the preliminary information obtained. (Altunışık *et. al*., 2001: 222).

2.1. Study Group

The study group's research universities in the Turkish Republic of Northern Cyprus constitute working in eight academic year 2014-2015 faculty member. North Cyprus Turkish Education of universities in the Turkish Republic and the Turkish Language Department will participate in the research experts from academia, "snowball / chain sampling " was selected using. With a total of eight experts in the field, including 4 women and 4 men in the study were interviewed. The study group of the research compromised of 8 academic members of faculty working in universities in the Turkish Republic of Northern Cyprus in the academic year 2014-2015. The academicians from Turkish Education and Turkish Language department from the Turkish Republic of

Northern Cyprus were chosen and sampled using "snowball / chain sampling". With a total of eight experts in the field, including 4 women and 4 men were interviewed in the study.

2.2. Data Collection Tools and Analysis

The collection of data consisted of 11 questions, "a semi-structured interview form" was used. The data obtained from the literature review and expert opinions constituted the basis of the preparation of forms. The qualitative data were gathered from the Faculty of Education, Turkish Language Department as well as the Faculty of Arts and Education, Turkish Language and Literature Department from 8 academic experts in the field.

After the first part of personal semi-structured questionnaire where the participants filled out the information section, consisting of 11 open-ended questions structured and semi-structured interview questions were posed to the academics. Data were recorded with a voice recorder, with the permission of the participants through a semi-structured questionnaire held face to face with them. The descriptive analysis technique was used to analyze these data. The data obtained from interviews, analysis of data collected in this study were described then synthesized and summarized and interpreted. The data obtained from interviews were analyzed using descriptive analysis; the data collected in this study were described then synthesized, summarized and interpreted. The interviewees were coded as "S" refers to a specialist.

3. FINDINGS
3.1. Findings on the Necessity of Multi-stimulated Educational Environments

The experts in the field of Turkish Language teaching multi-stimulated educational environment were asked the following question to be able to assess its necessity. In Turkish lessons, as language skills are gained do you think it is necessary to occasionally use pictures, music, riddles, rhymes, short film, theater, drama and so audio-visual stimulus, as teaching aids?

All the academics surveyed stated that multi-stimulated environment was very important and a requirement for the educational environment in teaching Turkish Language. In justification, it was argued that the students could be given the responsibility to hear and think and showed the understanding of contemporary education. Some of the responses of the academicians to the necessity of multi-stimulated educational environment are as follows:

"Students need to implement the gained skills to understand and express. Given the responsibility of hearing and thinking visual and linguistic stimuli in according to age and level, by doing so assume important functions by promoting the acquisition in real life context" (S8)

"Yes, it is absolutely essential. The development of language education and language skills in the students' learning environment could be made more effective if the sense organs are stimulated. In addition, multi-stimuli education environment prevents Turkish lessons from becoming monotonous, attracts students' attention and enables them to experience and learn the various points."(S5)

"... I see great benefits in the introduction of this kind of stimulus in terms of phonology, language acquisition, and learning and in terms of better self-expression of students.(S2)

Field experts also expressed that during the execution of multi stimulant in the education environment, the stimulus has to take into account the level of the students.

"I think the level of students is very important. Primary education as the first period of Piaget's Concrete Operational Stage should be made concrete within the period. In later periods, the weight could be given to abstract issues. For example, if a cartoon is to be used in the primary period, then the chosen topic must be on a concrete expression. Abstract topics and places in the narrative are to be given later. In summary, if you need to specify all of the stimuli (pictures, theatre, music, film, etc.), the organization should be used unchanged up to high school period from primary education; but it must be appropriate to the subject matter and student level. "(S5)

"Absolutely. We need to target levels. For example, do not set the puzzle according to the student's level. It must be able to generate curiosity for discovery. All stimuli must be adjusted according to the level of difficulty. Each stimulus can be used. "(S1)

Under these findings, all of the experts stress that multi-stimulated educational environment should be used and emphasized that modern education could be provided in such circumstances.

"Contemporary Turkish education; is based on student needs, with the aims to develop students' artistic awareness, precision in language and awareness must be founded on love and understanding. All of these objectives to take place in the classroom under the guidance of a single first language teacher is not possible; the teaching - learning environment should be supported by audio-visual stimuli. Contemporary Turkish teaching purposes; language skills, writing and language awareness - sensitivity should aim to develop students' competency."(S5)

"In order to nurture critical, sensitive readers, it is the primary goal of the modern Turkish language education and to achieve this goal, students must be turned into subjects within the teaching-learning process. For this, they require stimuli which set their emotional perception and thinking into motion."(S8)

"To be contemporary is to present thought and criticism. Training students to be apt to the challenge of resisting whatever they listen and to learn how to think, are among the most important tasks to teach in Turkish language teaching. We need to teach critical element of thinking, although the attempt is to create a community of allegiance by many, our students should be able to say I have my own ideas within the society... "(S2)

One of the experts reinforced that the understanding of contemporary education as necessary, despite expressing that although there is a contemporary approach to education, noted that it is not applied.

"Available in theory, but not practice- there is no modern education. To know something does not mean it is applied or done. Currently we do not portray a contemporary approach stance."(S1)

3.2. Findings on Student's Learning Experiences

In this part of the findings, experts were asked to respond to the question; how much do multi-stimulated educational environments affect students' learning experiences in Turkish language? One of the findings to this question is that providing multi-stimulated learning environment, and incorporating music, pictures, cartoons, short films, nursery rhymes, the use of artistic stimuli such as a puzzle that facilitates the learning by making it easier, accelerate their learning processes by making it more enjoyable and long-lasting.

"Turkish teaching with the multi- stimulant environment is to avoid becoming dependent on textbooks; improving the thinking capability of students who have different interests, allowing them to be more imaginative."(S8)

"It affects it too much. Firstly, it makes things easier. Lessons are always boring, even if the students are a primary school, undergraduate or graduate, no matter what level. Such applications enhance motivation. It is very crucial to add color to the lesson. The effort to learn something important is not mostly fun, so adding color is important... It can enhance meaningful learning within the course, and the information can be made to retain their permanently."(S1)

"We will learn while having fun. We need to make education fun and fun will bring about learning."(S2)

"It is worth noting that permanent learning takes place. In multi-stimulant education environments, students learn by having fun, discussing, commenting, evaluating, exploring and so on. They learn."(S5)

Two of the experts who participated in the research pointed out that the stimuli need to be in accordance with students' learning experience and has emphasized the need to have a good selection and quality of stimuli.

" ...Good examples need to be brought to the class. We should not bring any stimulus to class just because we want to create multi-stimulated educational environment... we need to bring all the stimuli that have examples of correct usage of Turkish" (S4)

3.3. Findings on the Development of Language Skills

Research findings on the Turkish multiple stimulated education environment suggest that students' language skills improve and the findings based on the questions they have answered below.

a. In Turkish courses (training environments), is there any development observed in the students' language skills if the lessons are supported by audio-visual items?
b. Which of the above mentioned audio-visual stimuli do you use the most? Which of the stimuli can you choose as the one most efficient in the development of language skills?
c. What kind of activities could be performed by using multiple- stimuli for the development of language skills conducted in such environment?
d. In your opinion, which of language skills are the most difficult to improve? Which stimuli do you think should be added for the purpose of enhancing of that skill?

6 participants from field experts have emphasized that they use multi-stimuli to enhanced students' understanding and expression and enabled the application of skills effectively by enabling continuous improvement. Stated that they use artistic stimuli that increased students' mobility, made them livelier, and increased students' participation.

"I think that it caused development of all language skills. Audio-visual elements allow students to use their skills to understand and explain more effectively. It must also be noted that students actively participated in the course"(S5)

"The students are more interested in the lesson. Theoretical things are more boring, but when it comes to practice the student's attendance and attention increase, so we observe some differences in learning."(S2)

6 experts from participating in the research stated that they enhance the development of students' language skills in a variety of stimuli expressed. 2 of the experts stated that they use artistic stimuli different from that stated ones and they usually use the presentation as stimuli.

"... Of course talking about children's literature in the context of the tales I read them, I share plenty of images regarding the tales to illustrate the fairy tale characters. At the same time the child must not lose the visual aesthetic pleasure... I think sound stimuli would be more effective. Nursery rhymes, riddles, but also theatrical applications are more effective for the development of language. "(S2)

"I benefit from the many short films. Short films that improve their listening and speaking skills, and I think that it contributes to their lexical knowledge. "(S4)

"I usually use PowerPoint-presentation or computer... My purpose is to make them see it in real form to facilitate the lecture. Students are sometimes genuinely interested. However, with PowerPoint compared to other stimuli we think there is a lot more visual and auditory stimuli that could be more effective. "(S1)

Field experts have exemplified the kind of activities that can be prepared in light of artistic stimulus that allows students to improve their language skills educational settings.

"Using cartoons to write compositions, followed by speaking, having tongue twister competitions, using short film to develop listening and speaking skill development."(S6)

"... I use an object for the students to describe. Especially using visual imagery of dustbin to get them to describe..."(S1)

"I read poetry in theater performance classes, I especially choose monologue, and I share poems. I myself read it first and indulge them in writing the first monologue or I get a prepared monologue and ask them to voice them. So I'm trying to correct the errors they make when reading their text. "(S7)

2 of the research participant experts expressed that students acquired listening / speaking skills later as they are more difficult. 6 of the participants stated that writing is a much more difficult skill to obtain and have made recommendations for the development of the mentioned skills. One of the experts who expressed that writing is

more difficult to obtain stated that the problems in writing skills is due to the problems in the acquisition of the four basic language skills.

> *"Often teachers' complaints and witness cases, that writing is the problem which might take a little bit more time than others in becoming proficient in it. In the process of teaching writing every available stimulus must be used. Here, the basic responsibility falls on the teacher. The work should not be undertaken without a conceptual plan to guide writing."(S3)*

> *"They have difficulty in acquiring listening skills... I think that has more to do with the audio stimulus for this skill. We should use audio tools, more... I usually choose to watch movies on the road. The film I wanted to make them watch was cut in half so I was speaking stimulus with films."(S1)*

> *"Neglected skill is the ability to write. We love writing essays in the space of the home. Whereas we should be able to think critically with students and make them transfer it onto a piece of sheet... We do not have a systematic approach to create paragraphs. Writing skill is not a mechanical process. The importance of critical thinking, analytical thinking and the ability to import, transfer it correctly... It is clear that in every way the problem is with four language skills."(S6)*

3.4. Findings on the usage of multi-stimuli in language teaching

The findings in this part of the research were made up of the answer participants gave to the question; do you think those multi-stimulated educational environments are currently used in modern language teaching classes?

According to the participants 6 said that while the uses of multi-stimulated classroom are not used in today's language classes. 2 of the participants expressed that there was some usage of multi-stimuli in today's educational environment:

> *"No, I do not think so. Few teachers use it creatively and I keep them out of this equation on the application."(S6)*

> *"I do not think it is being used enough. We are progressing in the right direction, but we do not use it enough. Because there are no necessary material, the lack of materials and therefore lack of its application persists. Universities have the upper hand on resources and in its applications that are more fortunate in this respect. But basically students cannot meet the needs of such stimuli because they have not been educated in this manner of expressing his own thoughts, and the adaptation period comes later. If students were aware of the ability to express their thoughts through visuals and if such an attitude was adapted then students would be much quicker in understanding their deficiencies and hasten to success."(S7)*

> *"Turkish teachers, despite knowing the importance of the training environment to stimulate students, they tend not use them. It is easier for teachers maintain traditional education; in order to become more successful requires a preparedness to use audiovisual tools. If multi-stimuli educational environment are created to support the development of students is evident in this case."(S5)*

According to the opinion of the participating experts, there are a variety of reasons why the multi-stimulated educational environments are used or not.

> *"... I take it there are economic difficulties and cannot afford to provide some of the stimuli. I cannot bring stimuli into the classroom to stimulate students because of the necessitated preparations..." (S1)*

> *"Providing such media requires a certain amount of time and has a certain amount of cost. It is also important for teachers to gain professional competence of teachers..." (S6)*

> *"We need a little more awareness. Our teachers need to be trained very well. In-service training must be given. We can also meet with teachers who do not know the language rules. There are teachers who are not aware of the richness of the Turkish vocabulary; Turkish language and we need to train teachers, especially sensitive to this issue."(S3)*

The finding also provides us with the advice to internalize and achieve the main objective of the multi-stimulated educational environments. Some of these proposals are:

"In-service teacher training seminars could be organized in order to use the stimuli effectively."(S7)

"...We need to make the school experience meaningful. The national education and academic environments need to study the correlation in relation to this study. Visual and auditory stimuli have to be implemented by the teachers. Ministries of Education need to be guided by noticing the benefits of implementing the promotion of academic work and must not aware of this work."(S1)

4. CONCLUSION, DISCUSSIONS and SUGGESTIONS

This research that seeks to analyze the opinions of professionals on the effects of the multi-stimulative educational environment on the development of the language skills of Turkish learners has expressed positive opinion that introducing multi stimuli into the education environment developed the language skills of students. Giving students listening and thinking tasks through multi stimulated educational environments and providing students the possibility to develop in a contemporary educational understanding is established.

It has been concluded that using qualified artistic stimuli chosen specifically to purpose and level of the students provide better possibilities for language development and that it has a significant importance in experiencing through doing and living. According to Sever (2007), for those students whom are willing to express their views on the evokings of a picture or a short film, education becomes a series of fun activities and become an encouraging factor for students to develop their comprehension and expression.

It was concluded that creating a learning environment with artistic stimuli to meet the needs of reading, listening, speaking and writing in the mother tongue learning and helps the individual in becoming a subject supporting contemporary Turkish teaching. An educational environment emancipated from a traditional class structure where only the teacher is active, artistic stimuli along with written texts should be introduced to the students living space. According to Sever (2011), in an educational environment that has reached a multi-stimulative quality through visual, lingual and audial tools, students cease to be the objects of theoretic teachings and become active subjects that can test, implement and develop their thoughts and feelings.

With this research, the need for multi-stimulated educational environments in Turkish teaching and student's language skill improvements had been revealed. The texts published on the subject seem to support these findings. In the research conducted, it was emphasized that Turkish lessons carried out with visual and audial stimuli make it easier for students to learn and help them to think multi dimensional (Aslan 2011:193, Demirel, 2002; Özbay, 2006; Sever, Kaya ve Aslan 2006). In accordance with the findings of the research on the effects of multi-stimulated educational environments for students, the following suggestions can be made:

- Turkish language teaching should internalize the main aim of the lesson and should research and renew itself continuously to reach this goal.
- For sensitive education, consciousness is a must. Teachers aware of the importance of stimuli and technologies and they need to be conscious and to be trained.
- In-service training seminars can be organized to help teachers use the stimuli mentioned.

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WHY AND HOW SHOULD TURKEY BUILD THE NATION BRAND?

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ABSTRACT

To be esteemed and reliable, countries must build their own "nation values" in the 21st century. Therefore, countries gain many advantageous in the political, social and cultural fields as well as being an attraction center. This paper analyses underlines the necessary steps for building nation brand and makes offers for the future.

INTRODUCTION

The notion of nation brand becoming prominent in the 21st century has made contributions to the competition between countries in the fields of economy, politic, society and culture. Countries building brand value will lose power in competition if they fail to build their own brand and exhibit difference while becoming an "attraction center". As Anholt underlines, world is a market area and each country must compete to share trade, policy and socio-cultural events of the world. Have a brand in such a market is crucially important for countries (2008: 31).Countries fail to build a brand could not draw the foreign invest and tourists, increase the exports and living standards (Gilboa, 2008: 67). It is observed that the image and reputation of country manage the strategic communication process properly and take the support of foreign public opinion, have developed positively in the international environment (İnan, 2012:66). This positive message enhances the nation values of countries.

Big brands and business always search new regions to produce goods more cheaply. On the other hand, underdeveloped and developing countries lean towards the foreign invest as new working opportunities will emerge and so employment will increase through the foreign investors. For big brands and producers the tax practices, transportation facilities and regulations of countries in which they make investment have great importance. Moreover, political and economic stability and smooth and free competition area are crucial for the foreign investors. These are among the obstacles that stop the foreign capital flow; unfair competition environment caused by changing practices according to people or terms, red-tapes, unrecorded economy, unequal and inconsistent practices. However, while the foreign investors are choosing the country for making investment, they have been influenced by the image and perception of countries in the world scene either positively or negatively. On the other hand, tourism- as a 4th great sector of the world- is an effective field to promote countries. It should be clearly said that only sea, sand and sun are not enough to draw satisfied number of tourists. Thus, countries should create a new branding strategy with different elements by using their present potential (Yıldırım, 2014: 157).

THE CONCEPT OF NATİON BRANDİNG

In today's world, countries fiercely compete with each other for the direct foreign investment, brand export and tourism. Countries are recalled by their brands and if these brands are demanded and used by big masses so the image of these countries gains advantageous (Olins, 2007: 172). With the studies of nation brand, image of countries is reshaped, through this image a new identity perception is gained and reflected on overseas. This process requires a long term, determined and patient study (Melissen, 2007: 21).

Countries, built the nation value and gained an esteemed, reputable and reliable identity have a key to open doors in many fields ranging from economy to policy. Anholt explains the importance and gains of nation brand that (Anholt, 2014: 296): settlements take the brands not from the marketer of government but the public opinion. In busy and crowded world, many of us have no time to learn how other places look like. Within the modern world complexity, even we could not confess to ourselves, we survive unconsciously by adopting some simple clichés. Thus, Paris means trend, Japan means technology, Sweden means richness and sensibility, Rio de Janeiro means carnival and football, Tuscany means good life and African countries mean poverty, corruption, war, famine and illness. Many of us are so deeply anxious about own country that we could not make much effort to have accurate, impartial and information based opinions about the rest 6 billion people and almost other 200 countries. Either positive or negative, real or unreal, these clichés and stereotyped opinions influence our attitude towards other settlements, people or goods. National image is important. This importance will increase as long as the world becomes more connected, the globalization of society, communication, trade, education and policies continues. Governments or citizens of countries, regions or cities which are lucky or talented to have a good reputation could more easily take place in the global scene: their nation brand is like a business card which goes before them , opens the door, creates trust and respect while increasing the expectation about quality, competence and integrity."

Many of countries communicate with foreign societies and create their image in other's mind. The image and perception in the mind are mostly supported by these 6 fields of activity (Anholt, 2014: 298):

-Tourism; Like tourism promotion, it is important that people as tourist or for business trips come and see the country. The positive impression of people coming and having chance to see the country is dramatically important. Tourism agencies have strategic importance for the promotion of countries and creating positive impression.

-Export of good and service; Goods and services exported to other countries could have role like embassies. Used and demanded goods and services make great contributions to the nation brand value.

-Government policy; commonsensical, pro-peace, ethical and legal policies implemented by governments in both national and international area are followed and watched by public opinions. This also makes great contributions that the media is interested in these policies; puts on the agenda.

-Foreign investment; this is dramatically important development that a country convinces the foreign capital to make investment and draws foreign talents to the country. If foreign capital and employees choose a country this shows economic, political and social indicators are in a good level. This positive perception leads that nation value of country is understood positively.

-Culture; Cultural fields are important for the promotion of country and creation of sympathy and intimacy. Societies exporting their cultural values to other countries could build strong bonds. This bond creates common sense and increase the brand value.

-People; the human sources of a country, world-famous, artist, sportsman, scientist, culturist make important contributions to the positive perception of country and creates respect and reputation. These values reflect on brand value positively.

As it is seen, there are many instruments to use for nation branding. Naturally there have been differences between possibilities and potential of each country. Countries firstly should become aware of their present potential, emphasize on the strong points and enhance the weak ones. To sum up, they should understand to gain respect, reputation and reliability; strong and effective nation branding is a must.

TURKEY AND NATION BRAND

Turkey has an important potential to create brand value with the present historical, cultural values and human sources. However, this potential could not be utilized enough to build nation brand and there is no strategic plan or study for the future. This is a big problem that foreign public opinions misunderstand Turkey. Through various channels, wrong or incomplete information about Turkey has come out and consequently this wrong information has changed into "misperceptions". For countries, eliminating these misperceptions requires a long time. The present picture of Turkey shows us the fact that the image of Turkey is not managed with strategic and integrative perspective. The misperceptions and wrong information are could only be influenced positively through long term planning and opportunities emerged from strategic communication management. Especially in the EU membership process, eliminating the misperceptions and wrong information is primarily important (Özkan, 2015).

WHY SHOULD TURKEY BUILD THE NATION BRAND?

Unfortunately, Turkey is one of the countries which understand the importance of nation brand very late. In the new century countries has so much power with their brands. Thus, Turkey requires serious branding efforts and management in goods and services. "The Brand Council" is established to spread this need in society is an important step. To take part in the competition, this council aims to increase the brand accumulation of Turkey and enhancing the marketing eco-system and increase the contribution of branding to economy. These are among the goals of brand council which desires to have "Valuable Global Brands" in Turkey to lead business world and public institutions, creating a vision and encouraging.

Brand Council Chairman Güven Borça told that Turkey is ranked at 19th in the world and 9th in Europe with 251 billion dollar brand value according to the data of Brand Finance 2014. He also said about why Turkey needs to focus on branding much more: "Turkey is a country with 77.6 dynamic populations, 820 billion dollar national income and over 400 billion dollar foreign trade volume. However, the total value of the most valuable 100 brands is 30.8 billion dollar. The number is not as valuable as single Japanese auto brand. According to the Brand Finance list, there is no Turkish brand in first 500. The total export is not even equal to intermediate goods import and moreover the export dependent on import has been increasing. To eliminate the deficit, we should export the branded product. Without branding, we experience two losses. First, increasing export-import deficit and increasing import item. Second, selling our brands for little money we could not increase our brands' value …(Sabah, 2015).

As Borça underlines, countries fail to build brand value have experienced a great economic loss. Besides this loss, this brings about political, social and cultural loss when the nation brand is considered. To prevent this,

Turkey should build a strong, reputable and respectable nation brand.

Wally Olins, the Founding Chairman of Saffron Brand Consultants working on nation and city image/brand says in his interview in 'The Brand Age' magazine "Turkey makes efforts to increase brand value but there is no meaningful frame for these efforts". He also explains his strange determinations that: "You witness the political and economical development of Turkey. However there is no integrity or national branding policy. Tourism and policy are very different topics. Turkey seriously requires a coherent attitude and national branding policy. This should be underline that Turkey is a Muslim country that has shown tolerance towards religions and ethnic origins from past to present. We are talking about such a country that has connection both with Europe and the Middle East. There will emerge more clear and understandable perception if Turkey could explain itself successfully through tourism and economy policies. Turkey has an opportunity to change rapidly and manipulate the perceptions. The reality of Turkey is now changing but perceptions could not keep up this change. Turkey needs to build a clear brand policy" (The Brand Age, 2015).

Olins also interprets how Turkey's image in overseas reflects on the brand value that: "from the view of tourism, Turkey has an important position as tourism country as it is very nice place for holiday. Thus, "as a tourism brand" Turkey is a reputable brand. Unfortunately, the brand perception about Turkish goods is not as effective as tourism. When considered the advanced technology and goods with high added value, people are not aware that Turkey is a brand or producer. For this reason, I could say that the reputation in overseas changes according to the field of activity. The level of brand perception in one field might be high while it might be low in the other field (The Brand Age, 2015). The points emphasized by Olins explain us why Turkey should immediately begin to work for building nation brand. Turkey should firstly create "a national branding policy" and so a basic road-map with strategic vision.

HOW SHOULD TURKEY BUILD THE NATION BRAND?

To build the nation brand and enhance the image, Turkey should primarily initiate an exclusive study to determine the mistakes, needs and perception in the world public opinion. In other words, Turkey should assess the extent of the damage. Turkey should do this honestly and sincerely and all mistakes and needs should be revealed. Not only the needs and mistakes but also the successful studies and right efforts should be determined. "Assessing the extent of the damage" is important to "diagnose". After finding the problem with multi-dimensional and exclusive study, a vision including all class of the society should be created. Before, this should be understood that building the nation brand is not only the responsibility of "the government or government agencies". The artist, academicians, sportsman and NGOs make great contributions to build an effective and strong nation brand. Turkey should create a frame to be understood correctly by using the present human source potential (Özkan, 2015).

With opportunities of the strategic communication management, Turkey should determine properly the target audience and message as well as the instruments for reaching to the target audiences successfully. Turkey should focus on the distinctive conditions of each society or country. This means Turkey should have a sophistical approach rather than wholesale one. Turkey needs a "strategic communication plan" as a road-map in the globalizing world. This plan, having a guiding role, should be drawn up considering the potential, facilities and priorities of Turkey and it should also enable the society to protect the goals and strategic plan. To have a success from the practice of goals, the social support is essential (Özkan, 2015).

The founding Chairman of Saffron Brand Consultants Wally Olins explains what Turkey primarily needs while building the nation brand: "You have to be aware of your target audience for place building. You have to know distinctive characteristics differing you from others and making you attractive. If a topic is mentioned before, you have to prevent the misunderstandings about it in another time or place. Unfortunately, in Turkey sample, there is no understandable or clear 'brand communication'. The communications used in the field of tourism or culture and the commodity export are different. Turkey, basically, needs this. Turkey needs a view and determination. Turkey could draw the attention of the whole world if views making it attractive are explained (The Brand Age, 2015). "Big and attractive idea", underlined by Olins, and skill of conveying this idea clearly and apprehensibly give clues about how Turkey should build the nation brand.

Turkey needs to build the nation brand on his own basic story. "Big and attractive idea" will be included in this story. This story should be based on history, civilization values, culture, literature, poem, belief, tolerance and international values, enriching the humanity. All these values should create the big and attractive idea. This story should include the whole Turkey and different views, ethnics, belief and cultures that could freely express themselves. This story should have peace, brotherhood, freedom, love, tolerance, fair, equality and mercy and sincerity as well as being inclusive. Turkey should also manage to tell this story to other societies/countries

properly, effectively, decisively and convincingly. Thus, the effective strategic communication methods, techniques and opportunities of advanced technology should be utilized and Turkey should be understandable and convincing as far as possible. If a good story could be told audiences with a proper communication strategy and effective instruments Turkey will have certainly successful results. Turkey should follow such a way while building the nation brand. Working so much and being patient and decisive should always be in minds.

CONCLUSION
Turkey, aiming to be a reputable and reliable in the region and to establish permanent relations with foreign societies by using soft power effectively and willing to focus on the fields of economic, policy, society and culture should primarily build the nation brand in the new century. It should be understood that a valuable and strong nation brand is like a magic key that could open all the doors easily and a strategic vision to mobilize the present potential of Turkey should be created. Turkey should build "the nation brand" with the conscious of mass mobilization and create awareness in every segment of society. In addition, a policy including the whole country should be followed. Every segment of society should also contribute to the national brand and communication strategy of Turkey as well as adopting the road-map. This road-map, not changing according to the government and being created by a supra political perception, will be milestone for building a strong, reputable, reliable and prestigious Turkey.

Turkey should adopt a holistic approach and build a structure which enable to control strategic communication management centrally, as the base of nation building. This structure might be "ministry of communication". Focusing on communication management in the ministry level will make the strategic efforts more planned, systematical, effective and permanent. Today, many institutions and agencies are responsible for the communication activities of Turkey. However, sometimes these institutions fail to communicate and they could face to different views. To prevent this trouble, ambiguity and different discourses, ministry of communication as a high authority could be established and so the whole communication activities could be followed with other partners (NGOs, universities, political parties, media, experts, opinion leaders and etc.) in the frame of determined strategic plan. Turkey should always prioritize the policies based on fair, peace, brotherhood and equality, protect the belief on the international values and the rule of law, underline the goodness, welfare and happiness of humanity and defend the human rights and freedom.

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TÜRKİYE İLE ALMANYA SOSYAL BİLGİLER ÖĞRETİM PROGRAMINDA YER ALAN DEMOKRASİ KAVRAMI İLE İLİŞKİLİ ÜNİTE KAZANIMLARININ ÖZ-DÜZENLEME STRATEJİLERİ AÇISINDAN KARŞILAŞTIRMALI OLARAK İNCELENMESİ

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Çalışmanın amacı, Türkiye' de 7. Sınıf sosyal bilgiler dersi öğretim Programında yer alan "Yaşayan Demokrasi" ünitesi kazanımları ile Almanya' da 8. Sınıf sosyal bilgiler dersi öğretim programında yer alan "Demokrasi nasıl işler?" ünitesi kazanımlarını öz- düzenleme stratejileri açısından karşılaştırmaktır. Örneklem olarak uluslarası öneme sahip "demokrasi" kavramı ile ilişkili ünite seçilmiştir. Bu doğrultuda, sosyal bilgiler dersi öğretim programını eyalet meclisi kararıyla uyguladığı belirlenen ve Almanya'nın en kalabalık eyaleti olan Kuzey Ren Westfalya Eyaleti (KRWE) öğretim programı ele alınmıştır. Araştırmada sosyal bilgiler dersi öğretim programında belirtilen ünite kazanımları, Zimmerman (1998) ve Pintrich (1999)' in öz düzenlemeye dayalı öğrenme modeli kapsamında ortaya koydukları öz düzenleme stratejileri birleştirilerek incelenmiştir. Çalışma doküman incelemesine dayalı olarak yapılmıştır.

 Çalışmanın sonucunda; her iki ülkenin sosyal bilgiler öğretim programlarının öz-düzenleme stratejilerinin kazandırılmasına yönelik kazanımlar içerdiği belirlenmiştir. Türkiye "Eklemleme ve anlamlandırma" stratejilerini kazandırmaya yönelik kazanım sayısı fazla iken, Almanya' da "izleme ve öz değerlendirme" ile "motivasyon" stratejilerini kazandırmaya yönelik kazanımların fazla olduğu tespit edilmiştir.

Keywords: Karşılaştırmalı Eğitim, Türkiye ve Almanya Sosyal Bilgiler Programı, Öz-düzenleme.

TÜRKIYE'DEKI İLETIŞIM FAKÜLTESI ÖĞRENCILERININ YÜKSEK ÖĞRETIMDE MEDYA OKURYAZARLIĞI DERSININ ÖNEMINE İLIŞKIN ALGI ARAŞTIRMASI

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Keywords: medya okuryazarlığı

TÜRKİYE'DE MESLEKİ VE TEKNİK EĞİTİMLE İLGİLİ SÜRELİ YAYINLARA YANSIYAN MAKALELERİN DEĞERLENDİRİLMESİ: MESLEKİ VE TEKNİK EĞİTİM DERGİSİ ÖRNEĞİ

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Mesleki ve Teknik Öğretim Dergisi 1952 ve 1982 yılları arasında Türk Milli Eğitim Bakanlığı tarafından yayımlanmıştır. Yaklaşık 30 yıl yayın faaliyetlerini sürdüren dergi 348 sayı olarak yayımlanmıştır. Dergide eğitim ve teknik konular yanında çok sayıda pratik konulara da yer verilmiştir. Bu alanlardan birisi de mesleki ve teknik eğitimle ilgilidir. Bu araştırmada Mesleki ve Teknik Öğretim Dergisinde ele alınan mesleki ve teknik eğitimle ilgili konuların değerlendirilmesi, günümüz eğitim anlayış ve uygulamalarına ışık tutulması hedeflenmiştir. Bu amaç çerçevesinde dergilerin tamamı incelenmiş, amaca uygun makaleler betimsel analiz yoluyla analiz edilmiştir. Araştır sonunda dergide mesleki ve teknik öğretimle ilgili sorunlara, okullarda uygulanmakta olan programlara ve önerilere yer verildiği görülmüştür.

Keywords: Dergi, Mesleki ve Teknik Eğitim, Türkiye, Eğitim Programı

TÜRKİYEDE MEDYA OKURYAZARLIĞININ TARİHSEL GELİŞİMİ

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Medya okuryazarlığı, ana hatlarıyla medya metinlerine karşı bireylerin bilgi sahibi kılınıp, olası zararlı etkilerine karşı daha dirençli olmalarını sağlayan, bireyleri bilinçlendirerek medya kuruluşlarını daha dikkatli olmaya davet eden bir eğitim programıdır. Bir eğitim programı olduğu için de öncelikle gençleri ve çocukları medyanın olası zararlı etkilerinden korumayı hedefler. Medya ve çocuk ilişkisi, özellikle televizyonun çocuklar üzerindeki etkileri göz önüne alındığında, genellikle çocukların etkiye açık ve pasif oldukları varsayımına dayanır. Medya okuryazarlığı da bu anlamda, öğretmenlerin öğrencilere öğrettiği ve medyanın zararlı etkileri en aza indirmeyi amaçlayan, bir okuma yöntemidir. Medya okuryazarlığının çocukları ve gençleri medyanın olumsuz etkilerinden koruyabileceğine yönelik yürütülen tartışmalar ülkemizde de yankı bulmuş ve akademik düzeyde gerekli çalışmalar başlatılmıştır. Türkiye'de bu yöndeki çalışmalar 2000'li yılların ortasıyla birlikte hareketlenmiştir. Akademik alanda konuya dönük çalışma yapan iletişim bilimciler medya okuryazarlığı kavramını bilimsel platformlarda tartışmaya başlamış ve RTÜK de 2005 yılından itibaren medya okuryazarlığını gündemine almıştır. Bu çalışmada Türkiye'de medya okuryazarlığının gelişimindeki temel dinamikler tartışılacak ve günümüzde karşı karşıya kalınan problemler işaret edilmeye çalışılacaktır.

Keywords: Medya, medya okuryazarlığı, tarihsel gelişim

TÜRKİYE'DEKİ ÇOCUK DERGİLERİNİN EĞİTİMDEKİ İŞLEVİ VE ÖNEMİ: BİLİM ÇOCUK DERGİSİ VE BARBİE DERGİSİ ÖRNEĞİ

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ÖZET

Dergicilik olgusu gerek ülkemizde gerekse dünyada yazılı basın alanında önemli bir yere sahiptir. Günümüzde neredeyse her konuyla ilgili giderek artan sayıda, kalitede ve farklı hedef kitlelere seslenen dergi yayımlanmaktadır. Çocukları eğlendirmek, bilgilendirmek ve onlara okuma alışkanlığı kazandırabilmek amacıyla günümüze dek birçok dergi yayımlanmıştır. Bu çalışma kapsamında günümüzde yayın hayatını sürdüren çocuk dergilerinden olan Bilim Çocuk Dergisi'nin ve Barbie Dergisi'nin 2015 yılı Nisan ayı sayıları ele alınacak, yer verdikleri konular bağlamında içerik analizi yöntemi ile değerlendirmeleri yapılacaktır.

Yayın hayatlarına eğitici amaçlarla başlayan çocuk dergilerinin tüketim kültürünün de etkisiyle giderek eğlendirici içeriklere daha fazla yer ayırdığı görülmektedir. Bu çalışmada satış rakamları göz önünde bulundurulduğunda en çok satan ilk 2 derginin içeriklerinin eğitici mi yoksa eğlendirici nitelikli mi olduğunun belirlenmesi amaçlanmaktadır.

Anahtar kelimeler: çocuk, çocuk dergisi, dergi içerikleri, eğitim

THE FUNCTION AND IMPORTANCE OF CHILDREN'S MAGAZINES IN TURKEY IN EDUCATION:A STUDY ON *BİLİM COCUK* AND *BARBİE*

ABSTRACT

Magazine publishing has an important place both in Turkey and in the world in the field of printed media. Today a growing number of magazines in different qualities are published on a wide variety of topics, aiming different target groups. Several magazines have been published so far in order to entertaining and inform children as well as get them used to reading. In this study, the April 2015 issues of *Bilim Cocuk* and *Barbie* Children's Magazines will be examined through content analysis method with respect to the topics they include.

It is observed that the children's magazines that began to be published with educational purposes, has in time given more space to entertaining content along with the influence of consumption culture. The purpose of this study is to determine whether the contents of the top two magazines having the highest circulation rates are entertaining or educative.

Key Words: child, children's magazines, magazine contents, education

1.GİRİŞ

Aile ve çevrenin yanı sıra çocuklara yönelik süreli yayınların çocukların sosyalleşme sürecinde büyük önem taşıdıkları görülmektedir. Süreli yayın olarak kabul edilen çocuk dergilerinin kitle iletişim araçları arasında önemli bir yeri vardır. Tanzimat dönemiyle birlikte Batılılaşma çabalarının başlamasıyla çocuklar için süreli yayınların ilk örnekleri ortaya çıkmıştır.

Çocukların yaşamı anlama ve anlamlandırmalarında önemli bir işlev üstlenen ve çocuklar için bilgi kaynağı niteliği taşıyan çocuk dergileri; günümüzde çocukları eğlendirerek eğitme misyonu taşımaktadırlar. Bu dergiler sayesinde çocuklar birçok yeni kavramla tanışarak küçük yaşlardan itibaren bilgi dağarcıklarını geliştirmekte ve böylece sosyalleşme sürecine hızlı bir biçimde uyum sağlayabilmektedirler.

1.1 Dünyada ve Türkiye'deki Çocuk Dergilerinin Gelişim Sürecine Genel Bir Bakış

Çocukları bilgilendirmek, eğlendirmek ve onlara okuma alışkanlığı kazandırabilmek amacıyla ortaya çıkan dergilerin doğuşuna dünyada ilk olarak Batı'da rastlanmaktadır. Çocuk dergiciliğinin ilk örneği Almanya'nın Leipzig şehrinde çıkarılan 'Leipziger Wochenblatt für Kinder'(1722) adlı dergidir. "Bu ilk derginin içeriğini hikayeler, fabllar, tabiat bilgisi konuları, mektuplar ve birtakım temsiller oluşturmaktaydı."(Şahinbaş, 1991:77) İngiltere'de ise ilk olarak 'Juvenile Magazine' (1788) adlı çocuk dergisi yayınlanmaya başlamıştır.

"1824'te 'The Child's Companion' adıyla yayınlanan ilk çocuk dergisi XIX.yüzyılın ilk çocuk dergisi olması yanında en uzun yayınlanan dergi unvanına sahiptir. Bu dergi, yaklaşık yüz yıl süreyle yayınlanmıştır. XIX. yy'da Amerika Birleşik Devletleri'nde yayınlanan önemli çocuk dergileri ise 1826'da yayınlanan The Jeveile Miscellany ve 1829'da yayınlanan The Childers Magazine adlı dergileridir. Aynı dönem Fransa'da ise de Musse de Familes ve Magazine de' Education et de Rec're'ation adlı dergiler yayınlanmıştır."(Şimşek, 2006)

Osmanlı döneminde Batılılaşma hareketleri birçok alanda olduğu gibi eğitim alanında da kendini göstermiştir. Bu dönemde meydana gelen siyasal, kültürel değişikliklerin yanı sıra edebiyat alanında da önemli gelişmeler yaşanmıştır. Osmanlı'da Tanzimat dönemiyle birlikte Batılılaşma çabalarının başlamasıyla birlikte çocuklar için süreli yayınların ilk örnekleri ortaya çıkmıştır. Ancak o dönemde gazete ekleri olarak yayınlanan çocuk dergileri fazla uzun ömürlü olamamıştır. Yine bu dönemde yayınlanan 'Mümeyyiz'(1869) adlı dergi ilk çocuk dergisi ünvanına sahip olup 49 sayı çıkarılmıştır. Türk basın tarihinde ilk çocuk dergisi olarak nitelendirilen Mümeyyiz'de daha çok eğitim ve öğretim içerikli yazıların ve küçük hikayelerin yer aldığı bilinmektedir.

Dönemin bir diğer çocuk dergisi 'Hazine-i Etfal' adlı dergidir. Sadakat adlı günlük gazetenin haftalık eki olarak yayınladığı 'Sadakat' dönemin çocuk dergilerine bir diğer örnektir. Ancak bu dergi daha sonra yayın hayatına 'Etfal' adıyla devam etmiştir. Tanzimat döneminin son çocuk dergilerinden olan 'Arkadaş'(1876) dönemin çocuk edebiyatçılarından Mehmet Şemseddin tarafından yayımlanmıştır.

"Ahmet Mithat tarafından 1897 başlarında yayınlanmaya başlayan 'Çocuklara Rehber' dergisi Osmanlı dönemi çocuk dergileri içerisinde en uzun süreli ikinci dergi olma özelliğine sahiptir. Toplam 166 sayı yayınlanmayı başaran dergi aynı zamanda XIX. yüzyılda yayınlanan son çocuk dergisi olmasıdır. Dergi Selanik'te yayınlanmıştır." (Şimşek, 2006)

Eski harflerle yayınlanan çocuk dergileri içinde en uzun ömürlü olanı 'Çocuklara Mahsus Gazete' idi. 1896 yılında yayınlanmaya başlayan derginin yayın hayatı 1908 yılına kadar sürmüştür. "Daha ilk sayıdan itibaren kaliteli resimleri ve farklı mizanpajı ile Avrupai bir dergi görünümü verdi. Dergide, çoğu Avrupa dergilerinden alınmış resimler, dünya şehirlerinin tanıtıldığı bölümler, monologlar, tefrika romanlar, çocuk sağlığı hakkında bilgiler, kısacası dönemin çocuklarına hitap edecek herşey vardır. Bütün bu özellikleri ile 'Çocuklara Mahsus Gazete', Avrupa şartlarına en fazla yaklaşan dergi oldu." (İletim Gazetesi, 2005:19)

Cumhuriyet'in ilanından önce yayınlanan son çocuk dergilerinden biri ise 'Çıtı Pıtı' adlı dergidir. Cumhuriyet'in ilanından sonra ise bol resimli ve karikatürlü bir çocuk dergisi olan 'Resimli Dünya'(1924) dergisi yayınlanmıştır. Cumhuriyet döneminin en uzun süre yayınlanan ve en bilinen dergisi 'Doğan Kardeş'tir. 1945 yılından 1978 yılına dek yayınlanan derginin yayın hayatına 10 yıl ara verilmiştir. 1988'de tekrar yayınlanmaya başlayan dergi 1993 yılında tamamen kapatılmıştır.

"Yapı Kredi Bankası'nın kurucusu Kazım Taşkent'in ölen oğlu Can anısına yayımlamaya başladığı bu dergi bir banka tarafından desteklenerek çıkarılan ilk dergi olma özelliğini de taşımaktadır. Daha sonra bankaların çıkarttığı dergilerin sayısında büyük bir artış olmuştur. Kurtuluş Savaşı ve Cumhuriyet'in ilanından hemen sonra çıkan dergiler çocuklarda vatan sevgisini ve Atatürk ilke ve devrimlerini pekiştirmeye yönelik olmuştur…1950'li yıllardan sonra ise çocuk yayınları arasında çizgi romanların ağırlıkla yer aldığı görülmektedir. Bu dönemde çocuklara yönelik dergiler kazanç elde etmeye yönelik ticari birer metaya dönüşmüşlerdir. Böylelikle bir anlamda bu dönemde yayınlanan dergilerin eğitici özelliklerinden uzaklaşarak eğlenceye ağırlık verdikleri söylenebilir."(Gönenç, 2006:s.717)

"Yayınlanan ilk çocuk dergilerinin içerikleri, eğitsel amaçlı hikayeler, eğitimle ilgili haberler, çeşitli eğitim sorunları, eğlenceli fıkralar, öğrenciler için düzenlenmiş yardım kampanyaları gibi eğitimle doğrudan ilişkili konular olmuştur." (Sayılgan& Sayılgan, 2006:730)

Bu bağlamda eski çocuk dergilerinin daha çok bilgi ağırlıklı ve eğitsel işlevli olduğu, günümüz çocuk dergilerinin ise eğitimden çok eğlence içerikli olduklarına değinildiği görülmektedir.

1950 ve 1960 yılları arası ile 1960 ve 1970 yılları arasında yayınlanan dergilerin birçoğu çizgi roman türünde dergiler olmuş ve bu dergiler şiddet ağırlıklı konuları basit ve argo bir dille ele almışlardır.
"1980'li yıllara gelindiğinde ise kurumsal çocuk dergilerinin yaygınlaştığı görülmektedir. Bu dergilere örnek vermek gerekirse:

- ➢ Pamukbank tarafından yayımlanan Pamuk Çocuk
- ➢ Ziraat Bankası tarafından yayımlanan Başak Çocuk

> ➢ Akbank tarafından yayımlanan Başarı
> ➢ İşbankası tarafından yayımlanan Kumbara
> ➢ Şeker Bank tarafından yayımlanan Şeker Çocuk
> ➢ Garanti Bankası tarafından yayımlanan Çekirge
> ➢ Dışbank tarafından yayımlanan Çağdaş Çocuk ."(Gönenç, 2006:718)

Ayrıca o dönemde gazeteler tarafından çocuk dergileri de yayımlanmaktaydı. Bu dergilere; Milliyet Gazetesi tarafından yayınlanan Milliyet Çocuk, Milliyet Kardeş, Hürriyet Gazetesi tarafından yayımlanan Hür Çocuk, Tercüman Gazetesi tarafından yayımlanan Tercüman Çocuk dergileri örnek verilebilir.

1.2. Çocuk Dergilerinin Eğitsel İşlevleri

Çocuk dergilerinin ilköğretim çağında bulunan ve okula devam eden çocuklara yönelik olarak hazırlandığı düşünülecek olursa; bu dergilerin herşeyden önce eğitici ve öğretici nitelikli olması gerekmektedir. Çocuk dergileri eğitim konusunda çocukların ilgisini çekmek için resimli malzeme kullanmaktadırlar. Bu noktada çocuk dergilerinde yayınlanan resimler; teknik ve bilimsel gelişmeleri anlatan resimler, eğlendirici resimler, hikayeleri anlatan resimler, doğal hayata ait resimler olmak üzere gruplandırılabilir. Bu resimlerin temel kavramların öğretilmesini sağlama, ilginç araçları tanıtma, tanıtırken eğlendirme ve bu sayede çocukların hayal güçlerini geliştirme özellikleri vardır.

Günümüz dergilerinin kendi aralarında gerek yaş grubu gerekse içerik olarak sınıflandırıldığı görülmektedir. Bu bağlamda örneğin Bilim ve Çocuk Dergisi'nin adından da anlaşılacağı gibi daha çok teknik ve bilimsel gelişmelere, National Geographic Kids dergisinin ise doğal ve vahşi yaşama ilişkin bilgilere yer verdiği görülmektedir.

Çocuklara yönelik yayınların eğitim açısından büyük önem taşıdığı düşünülecek olursa bu tür yayınların birtakım nitelikler taşıması gerektiği unutulmamalıdır. Eğitimciler bu nitelikleri şu şekilde belirlemişlerdir.

"- Kullanılan kağıt, çocuk kitaplarında olduğu gibi, nitelikli ve mat olmalıdır.
- Seçilen harflerin büyüklüğü, çocukların yaş ve okuma düzeylerine uygun olmalıdır.
- Resimler, fotoğraflar ve şekiller açık ve yalın olmalıdır.
- Derginin büyüklüğü, kapak ve sayfa düzeni çocukların okumalarını kolaylaştırıcı biçimde olmalıdır.
- Küçük çocuklar için yayımlanan dergilerde yazılar bir sayfada bitmiş olmalıdır.
- Yazılar, konu bakımından, çocukların isteğini arttırıcı, aynı zamanda dinlendirici ve eğlendirici nitelikte olmalıdır.
- Yazılarda yalın bir dil kullanılmalı, yazımda birlik sağlanmış olmalıdır.
- Dergide makale, masal, öykü, şiir gibi her türden yazıya yer verilmelidir.
- Dergide çocukların pul biriktirme, model çıkarma, çiçek yetiştirme, evcil hayvanlara bakma ve besleme gibi boş zamanlarında uğraştıkları işlere değinen yazı ve haberler deyayımlanmalıdır.(http://eğitim1.sitemynet.com/sakarya/okuldergisi.htm,19.09.2006)

Çocuklara yönelik süreli yayınlar eğitsel açıdan bakıldığında, okul hayatında ve günlük hayatta öğrenilenlere ek olarak bunları tamamlayıcı bilgiler vermeli ve çocuklara doğru mesajlar vererek yol göstermelidir.

1.3. Günümüzde Yayınlanan Çocuk Dergilerinin Özellikleri

Çocukların yaşamı anlama ve anlamlandırmalarında önemli bir işlev üstlenen ve çocuklar için bilgi kaynağı niteliği taşıyan çocuk dergileri; günümüzde çocukları eğlendirerek eğitme misyonu taşımaktadırlar. Bu dergiler sayesinde çocuklar birçok yeni kavramla tanışarak küçük yaşlardan itibaren bilgi dağarcıklarını geliştirmekte ve böylece sosyalleşme sürecine hızlı bir biçimde uyum sağlayabilmektedirler.

Günümüz çocuk dergileri incelendiğinde içerikte görselliğin ön plana çıktığı ve oyun ya da bulmaca sayfalarıyla çocukları bilgilendirirken eğlendirmeyi de amaçladığı görülmektedir. Günümüzde yayın hayatını sürdüren birçok çocuk dergisi yer almaktadır. Bunlar içinde ön plana çıkan dergilerden bazıları; Bilim ve Çocuk, Milliyet Kardeş, Barbie, Disney Prenses, National Geographic Kids, Winnie the Pooh, Witch, Miço (Milliyet Çocuk), Tolga Abi, Türkiye Çocuk Dergisi, Casper, Digimon, Harry Potter'dır. Günümüzde çocuklara yönelik olarak hazırlanan bu dergiler her çocuğun ilgi alanına göre de değişik içeriklere sahiptirler. Dergiler kendi aralarında kız ve erkek çocuklarına yönelik bir şekilde iki gruba ayrılabildiği gibi, her iki grubun da ilgisini çekebilecek içerikte yayınlanabilmektedirler. Tümü çocuklar için son derece cazip parlak ve renkli baskılar halinde satılan bu dergiler, çocukların ilgi duydukları çizgi film kahramanlarının sundukları hikayeler, çeşitli bulmacalar ve oyunlarla süslü bir şekilde, içerikleriyle bağlantılı birtakım promosyonlara da yer vererek çocuklar için daha da cazip hale gelmeyi amaçlamaktadırlar. Bu promosyonlar arasında çizgi film ya da film kahramanlarının posterleri, çıkartmaları, çeşitli kalemler, saç tokaları, bilgilendirici-resimli oyun kartları v.b. ürünler yer almaktadır.

"Dergilerin hemen tümünün yabancı kaynaklarla eş zamanlı yayınlanan, sponsorluğunu çocuklara yönelik gıda firmalarının reklamlarıyla karşılayan, güncel iletişim metinlerinden örnekler veren çizgi roman, öykü ve bulmacalara yer veren yayınlar olduğu söylenebilir. Dergilerin boyutlarının çocuklar söz konusu olduğunda epeyce farklı olduğu dikkati çekmektedir. Daha büyük yaş gruplarına yönelik, içinde bilim ile ilgili ilginç bilgilerin de yer aldığı dergilerin daha küçük boyutlarda ve daha çok sayfalı olduğu, küçük yaş gruplarına yönelik dergilerin boyutlarının ise daha geniş ancak sayfa sayısının az olduğu dikkati çekmektedir. " (Öcel, 2002:328)

"Hemen hemen tüm dergiler tanıdık çizgi film ya da çizgi roman karakterlerinin öykülerini dergi formatına uyarlamış, bunları derginin teknik olanakları ve çocukların anlama düzeylerine gore düzenlemiş aralarına kelime eşleştirme, kare bulmaca, labirent bulmaca, eksik tamamlama, resimler arasındaki farkları bulma, boyama, kes-yapıştır, origami vb. aktiviteler serpiştirmiştir." (Uluç, Olgundeniz&Yılmaz, 2006:773)

2. AMAÇ VE YÖNTEM
Bu çalışmamız kapsamında günümüzde yayın hayatını sürdüren ve tirajı en yüksek olan çocuk dergilerinden 2 örnek dergi 2015 yılı Nisan ayı sayıları ele alınarak, yer verdikleri konular bağlamında içerik analizi yöntemi ile değerlendirilecektir.

Yayın hayatlarına eğitici amaçlarla başlayan çocuk dergilerinin tüketim kültürünün de etkisiyle giderek eğlendirici içeriklere daha fazla yer ayırdığı görüşü hakimdir. Amacımız çalışma sonucunda seçtiğimiz 2 derginin içerikleri doğrultusunda günümüz çocuk dergilerinin eğitici mi yoksa eğlendirici nitelikli mi olduğunu gözler önüne sermektir.

3. BULGULAR VE YORUM
3.1. Dergilerin Değerlendirilmesi
Bu bağlamda satış rakamlarını göz önünde bulundurarak en çok satan dergilerden olan Barbie ile Bilim Çocuk dergileri değerlendirme kapsamına girmiştir.

3.1.1. Barbie Dergisi
Yayın Periyodu: Aylık
Sayfa Sayısı: 36
Yayıncısı: Doğan Egmont Yayıncılık ve Yapımcılık A.Ş.
Fiyatı:8.50 TL

Kız çocuklarına yönelik olarak hazırlanan dergi Barbie adlı karakterin günlük yaşamından kesitler sunmaktadır. Dergide yer alan bölümler şunlardır: Doğum Günü, Foto öykü, Filmler, El-işi ve Poster.

Doğum Günü sayfalarında Barbie ve arkadaşları tarafından hazırlanan bulmacalara yer verilmiştir. Resimli öykü formatında olan daha çok fotoromanı andıran foto-öykü bölümüne derginin 2 sayfası ayrılmıştır. Bu bölümde Barbie ve arkadaşlarının Batılı yaşam tarzlarının fotoroman şeklinde aktarıldığı görülmektedir. Bu bölümdeki karakterler Chelsea, Skipper ve Stacie gibi yabancı isimlerden oluşmaktadır. Bil-bul bölümü ise yine resimli soru ve şıklardan oluşmuştur. Bulmaca sonucunda çocukların konularla ilgili dikkatlerinin ölçülmesi amaçlanmıştır. El-işi sayfaları çocukları oyalamak ve onlara el becerisi kazandırmak amacıyla hazırlanmıştır. Son sayfalarda verilen film bölümüne 10 sayfa ayrılmış verilen resme göre uygun olmayan kesitin şıklar içerisinden bulunması, uygun boyamaların yapılması ve ilgili kutucukların doldurulması istenerek çocukların dikkatlerinin ölçülmesi hedeflenmiştir.

Derginin tamamı görsel malzeme kullanımına son derece önem vermiştir. Hemen her sayfada yer alan güzel giyimli Barbie bebeklerinin ve malzemelerinin reklamı yapılmış ve aynı zamanda çocukların Barbie ürünlerini satın alması amaçlanmıştır. 36 sayfadan oluşan dergide, 5 reklam yer almaktadır. Bunlar Çilek Mobilya, Barbie Dergisi, Disney Channel Kanalı, Barbie Oyun Hamur Setleri ve Ülker Smarrt Ürünüdür. Prensesler dünyasının, masal dünyasının anlatıldığı hikayelerle oluşturulan dergide, Barbie kıyafetleri çocuklar için özendirici etki yaratmaktadır. Dergi öncelikli olarak çocukları eğlendirmeyi hedeflemektedir. Çocukları eğitme ve bilgilendirme işlevi yok denecek kadar azdır.

3.1.2. Bilim Çocuk Dergisi
Yayın Periyodu: Aylık
Sayfa Sayısı: 64
Yayıncısı: Tübitak
Fiyatı:4 TL

Bilim ve teknolojiye ilgi duyan ilköğretim çağındaki çocuklara yönelik olarak hazırlanan dergide yer alan bölümlerden bazıları şunlardır: Ne Var Ne Yok, Kentler Nasıl Planlanıyor, Kentin Altında Neler Var, Kent Plancısı İş Başında, Yeraltında Yolculuk, Doğada Yön Bulma Sporu Oryantiring, Cancun Sualtı Müzesi, Bu Hayvanlar Zehirli, Gökyüzü Günlüğü, Evde Bilim, Yeni Bir Kitap, Buluş Atölyesi, Mektup Kutusu, Sizden Gelenler.

Ne Var Ne Yok bölümünde astronomi dünyasından ve doğal yaşamdan son gelişmelere yer verilmiştir. Bu bölümde fotoğraftan çok çocukları bilgilendirici yazı kullanılmıştır. Kentlerin nasıl planlandığının anlatıldığı Kentler Nasıl Planlanıyor sayfaları birbirinden güzel çizimlerle tamamen çocukları bilgilendirmeye yönelik olarak hazırlanmıştır. Kent Plancısı İş başında köşesinde okuyucunun derginin içinden çıkan çıkartmalarla kent düzenlemesini ilgili sayfalarda yapması beklenmektedir. Kentin altında neler var köşesinde ise kentlerde yaşayan insanların su, elektrik, ısınma, iletişim gibi gereksinimlerini karşılayabilmeleri için gerekli olan altyapı unsurları anlatılmıştır. Yeraltında yolculuk köşesinde dünyanın en eski metro hatları ve istasyonları fotoğraflar eşliğinde anlatılmıştır. Doğada Yön Bulma Sporu Oryantiring bölümünde de bu spor dalının ne anlama geldiği ve taşıdığı özellikler fotoğraflarla aktarılmıştır. Meksika'nın doğusunda bulunan Cancun kentindeki sualtı müzesi de renkli fotoğraflarla 4 sayfa anlatılmıştır. Bu hayvanlar zehirli adlı bölümde de doğada yaşayan ama zehirli olmalarıyla bilinen bazı hayvanlar fotoğraflarıyla tanıtılmıştır. Gökyüzü günlüğü adlı bölümde gökbilim ile ilgili bilgiler okuyuculara aktarılmıştır. Evde bilim adlı köşede ise çocukların farklı konulardaki teorik bilgilerini pratiğe dönüştürmeleri ve bilimsel gerçeklere ulaşmalarını sağlamak için deneyler ve bu deneylere ilişkin malzemeler aktarılırken, bu bölümle öncelikli amacın çocukları bilgilendirmeye yönelik olduğu anlaşılmaktadır. Yeni bir kitap adlı bölümde bir kitap tanıtımı yapılmış, buluş atölyesi bölümünde çocukların hayal dünyasını da göz önünde bulundurmaları çerçevesinde yeni bir uzay giysisi geliştirmelerine yönelik çizimlerine yer verilmiştir. Mektup kutusu köşesinde okuyucuların dergiyle ilgili görüşleri yer alırken, sizden gelenler köşesinde ise herhangi bir tarihi yapıyla ilgili okuyucuların resimlerine yer verilmiştir. 64 sayfadan oluşan dergide, 3 reklam yer almaktadır. Bunlar Bilim Çocuk, Meraklı Minik ve TÜBİTAK Popüler Bilim Kitaplarını ele alan reklamlardır.

Derginin hemen her sayfasında eğitici-öğretici birçok bilgi yer almaktadır. Genel olarak derginin kullandığı dile ve içerdiği bilgilere bakıldığında üst yaş grubuna ait çocuklara yönelik olarak hazırlandığı görülmektedir.

4. SONUÇ

Türkiye'deki çocuk dergilerinin satış rakamlarına bakıldığında ilköğretim çağındaki çocukların çocuk dergisi okuma alışkanlığının son derece az olduğu görülmektedir. Türkiye'de satılan çocuk dergilerinin içerik açısından incelendiği çalışmada dergilerin eğitim işlevinden daha çok eğlendirme ve tüketime yönlendirme işlevine ağırlık verdiği görülmektedir. Özellikle Barbie dergisinin reklam ve tüketime ayrılan sayfa sayısının çocukların bilgilendirilmesine ayrılan sayfa sayısından çok olduğu görülmektedir. Gerçeklerden uzak bir dünyanın sunulduğu ve çocukları bilgilendirici herhangi bir işlevi olmayan bu derginin, kız çocuklarına yönelik olarak hazırlandığı çok açıktır.

Genel olarak kullandığı dil ve içerdiği bilgilere bakıldığında Bilim Çocuk dergisinin diğer dergilerden ayrıldığı görülmektedir. Öncelikle diğer dergilere oranla daha üst yaş grubuna hitap eden bu derginin bilgilendirici işlevinin daha fazla olduğu da göze çarpmaktadır. Görsel malzemenin fazlaca kullanıldığı dergilerde Batı kültürü ve karakterleri özendirici bir içerikle sunulmaktadır. Bu dergilerdeki karakterlerin davranışları, birbirleriyle olan ilişkileri ve yaşam içerisindeki düşünceleri okuyucu konumundaki çocuklara örnek model oluşturmaktadır. Bu nedenle kendilerine iletilen dergideki mesajların doğru, iyi ve gerçekçi olması gerekmektedir.

Barbie dergisinde görselliğin diğer dergilere oranla daha fazla önem kazandığı, bakmaya dayalı görsel kültürün ön plana çıktığı uzun metinlerden çok, kısa cümlelerden oluşan resimli-öykü formatında hikayelerin yer aldığı dikkati çekmektedir. Çok uluslu sermayenin etkisini gösterdiği medya dünyasının birer ürünü olan çocuk dergilerinin çoğunda Disney karakterleri ön plana çıkmakta, bunlarla ilgili öyküler ve tüketimi özendirici promosyonlar, reklamlar yer almaktadır.

Dergilerdeki öykülerde yer alan karakterlerin çocuklara verdikleri mesajlarda, çocukların kendi kişiliklerinin oluşumu ile ruhsal-düşünsel gelişimlerine de katkıda bulunmaları gerekmektedir. Bu noktada iyilik, yardımseverlik, kardeşlik, sevgi, doğayı koruma, sorumluluk sahibi olma ve toplumsal yaşamda bireylere karşı saygılı olma gibi olumlu kavramlar sıkça vurgulanmalıdır. Ancak günümüz çocuk dergilerinin bu vurgulamalardan uzak olduğu daha çok çocukları eğlendirici nitelikler taşıdığı dergi incelemeleri sonucunda ortaya çıkmıştır.

"Günümüzde, çocuk dergileri, programları, filmleri ve çizgi filmleri, video oyunu ve oyuncak karakterleri çocukların serbest zamanlarını doldurmaktadır. Ancak, ne yazık ki, çocuk eğlencesi etiketi takılan bu ürünlerle yapılan, çocukların bilinçsiz zihinlerinin meta pazarı tarafından sızılan alanlar haline dönüştürülmesidir. Oysa, bilindiği gibi, her şeyi kapma ve bu bağlamda normlar oluşturma sürecinde olan çocuklara doğru bilgiler vermek, onları eğitmek hem dergilerin hem de reklamcılığın en önemli görevlerinden biridir. Bu görevi akılda tutarak, yapılması gereken şey, yaşadığımız sorunlara insani ve kolektif çözümler bulmak, çocuklarımız ve gelecek kuşaklar için meta dünyası yerine, bütünüyle insani bir dünya oluşturmaktır." (Aydoğan, 2014:66)

Çocukların eğlenerek de bilgi sahibi olabilecekleri konuları da ele almaları açısından, çocuk dergilerinin düzenli olarak takip edilmesi çocukların zihinsel gelişimine katkıda bulunabilmektedir. Söz konusu olan kitle iletişim aracının dergi olduğu göz önüne alınacak olursa, okuma-yazma bilmenin gerektiği ve öncelikli olarak ilköğretim çağındaki çocukların hedef alındığı anlaşılmaktadır. Bu bağlamda küçük yaşlardan itibaren düzenli dergi takibinin okuma alışkanlığının kazanılmasına da katkısı olduğu öncelikle ebeveynler tarafından unutulmamalıdır.

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TYPICAL USE OF ICT BY PUPILS IN BASIC SCHOOLS IN THE CZECH REPUBLIC – RESULTS OF A CLUSTER ANALYSIS

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ABSTRACT

The paper describes the results of a research study investigating whether Czech pupils in grade eight in basic schools can be divided into several typical groups according to their use of ICT. The pupils were presented with a questionnaire, in which they responded on a four point scale to 35 statements relating to their use of ICT. The research study was conducted in May 2015 and involved a total of 229 pupils from grade eight from six basic schools of various focus (sports, alternative, common) and various sizes in the Moravian region. The data were subsequently analysed using a cluster analysis. It was anticipated that Czech pupils could be divided into two typical groups, i.e. 'digital natives' and 'digital immigrants'. The analysis indicated that Czech pupils have a tendency to be arranged in two typical groups according to their use of ICT, which is consistent with the research assumption.

INTRODUCTION

Recently, there has been an increasing discussion about the necessary changes in the way of educating pupils not only in basic schools. Various approaches of the young generation to information resources and information technology are defined; from an external perspective, these approaches result in changed teaching practices and habits. In order to ensure effective education of pupils, we need to be able to precisely determine the way they work with information and information technology in the context of acquiring new knowledge.

THE STUDY - DIGITAL NATIVES AND IMMIGRANTS

At the beginning of the 21st century, Marc Prensky (2001a, b) started to speak about a generation of digital natives. These are children who have been under the influence of ICT since they were born and who have no problems with working and moving in a virtual environment. As a result of the fact that these children were born in an era full of digital technologies that surround them and that they have used ever since their early childhood, they think and process information in a different way than previous "analogue" generations. These differences in the approach to information are much greater and more significant than most parents and teachers think. Digital natives expect an immediate and direct contact with technologies and people. They are in contact with technologies all the time and prefer text communication to voice communication. According to Prensky, the generation of digital natives is no longer motivated by the traditional form of learning based on text content. Digital natives can also be classified as persons who have been raised in an environment rich in modern technologies since their childhood. These include computers, digital music players, camcorders, webcams, mobile phones, etc. The main difference between these generations is the divergence of thinking and information processing. Digital natives are accustomed to receiving information very quickly, prefer parallel activities and multi-tasking, prefer graphical interpretation to text, game to "serious" work, network cooperation, random access to information (hypertext). They expect immediate praise and frequent appreciation of their work. They do not consider the computer, mobile phone, internet, etc. as modern technologies but as an integral part of their lives.

On the other hand, digital immigrants form a generation of users who were not raised surrounded by digital technologies, acquired their ICT skills through learning in adulthood, do not consider these technologies a natural everyday phenomenon, to which they would adapt not only their learning strategies but also their way of thinking and receiving information. This generation is characterized by persisting fears of modern technologies; they do not search for these technologies unless they are forced to by the circumstances and their ways of receiving information and thinking remain in traditional models such as e.g. linear reading. They prefer text-based information and traditional methods of communication to multimedia, use the internet as a secondary source of information (the primary source is a printed form), study manuals (instructions) to use a programme instead of intuitive trying, print out email communication and documents, ask via a phone if the addressee actually received an email, etc. Digital immigrants do not use the same possibilities and methods of work as digital natives. They do not believe that digital natives can learn something while they watch TV or listen to music because this used to be different when they were younger.

A similar attitude to the issue was presented by J. S. Brown (2000), who defined four basic theoretical dimensions and identifiers describing the group of digital immigrants. One of the features of the network generation is an ability to perform multitasking intuitively and effectively, i.e. cope with several activities at once. The other three characteristics are formed by a complex of related cognitive abilities.

This domain is also addressed by a number of Czech authors. However, all published results relate to university students; no research studies aimed at basic and secondary school students have been published so far. In his research sample of adult respondents, Zounek (2006) identified two groups of computer users, i.e. "computer literates" and "computer illiterates". The author analysed both groups by means of several personal and social-economic characteristics of the respondents in order to reveal significant determinants of the digital gap in the context of the monitored groups of adults. Some determinants proved to be very significant (age, place of residence, educational degree, level of ICT skills, economic position), while others subside (gender differences). In the final part of the research the author investigates the attitudes of "computer literates" and "computer illiterates" to informal education. The results suggest that the digital gap between the two groups will likely have a deepening tendency. It is also possible to state that the determinant of the digital gap in the Czech Republic will be represented not only by achieved educational degree but also by participation in informal education.

Klement, Chráska (2012) believe that education in the form of e-learning, which uses ICT as much as possible, might present a suitable space for the verification of some characteristics of the generation of digital natives. According to the findings there is a group of students who clearly refuse to study through e-learning, although it uses hypertext educational materials and on-line environments. This group surely includes students born after 1990, who should presumably be in the group of digital natives. Although this fact can be caused by a number of other factors, the question is whether the generation of students born after 1990 (this corresponds with global introduction of ICT in the Czech Republic) really prefer just on-line educational activities. This research study did not clearly prove or disprove the existence of a group of digital natives.

In 2011 a research study was carried out at the Faculty of Education, Palacky University (Marešová, 2012). The objective of this survey was to find out in what ways current university students who are in the group of digital natives accept new learning strategies using digital media. The results of the research confirmed the hypothesis that, based on their experience with ICT, students from the group of digital natives would succeed in accomplishing tasks in a virtual environment. However, students still prefer traditional teaching methods (textbook, presentation, blackboard) to electronic teaching. Similar conclusions detected Chráska (2014a)

RESEARCH OF TYPICAL USE OF ICT BY CZECH PUPILS IN BASIC SCHOOL
RESEARCH METHOD

The research method was based on an own questionnaire, in which the respondents expressed their agreement with 35 statements (declarations). These statements were used to classify pupils into two groups (digital natives and immigrants). The pupils expressed their degree of agreement with the statements using the following scale: I completely disagree (response coded as1), I rather disagree (coded as 2), I rather agree (coded as 3), I completely agree (coded as 4).

We also investigated other pupil characteristics typical for these groups, who in particular taught pupils the following skills: Communicate over the internet, Develop documents for school, Change computer setting, Find out information about an unknown topic, Assess the credibility of information on the internet, Set a computer network (e.g. home computer network). The following options were provided: Myself, Teachers, Family, Friends, I cannot do this.

RESEARCH SAMPLE

The research study was conducted in May 2015 and involved a total of 229 pupils from grade eight from six basic schools of various focus (sports, alternative, common) and various sizes in the Moravian region. The age of the pupils was 14-15 years. The structure of the research sample is shown in Table 1. For further processing of the research by means of a cluster analysis we only used data from pupils who completed the entire questionnaire – the number of these pupils was 184 – see the following analysis.

RESULT PROCESSING METHOD

The data were analysed by means of a generalized cluster analysis (Chráska, 2015). This method is suitable for processing the results of educational research studies, in which data are retrieved also by means of nominal measurement. The traditional cluster analysis requires just metric data.

DATA PROCESSING METHOD

The data acquired by means of the questionnaire were transformed into the STATISTICA 12 programme. The responses of all pupils to each questionnaire item were subject to a generalized cluster analysis. During the first stage (see Table 2) the statistical programme analysed an optimum number of clusters, i.e. two. It was therefore obvious that the initial assumption (that the pupils could be divided into two distinct groups) was correct, and it

was possible to continue with a more detailed analysis of both identified clusters. Hence, we calculated the differences in the questionnaire responses for other research variables in pupils from both clusters (see Table 3). This table shows the prevailing responses to the questionnaire items by pupils from both clusters as well as their percentages.

In order to well interpret the results, we produced Graph 1 according to the responses to the scale questions for both clusters.

Table 1: Structure of the research sample of pupils.

Summary Frequency Table (Questionnaire_2015_ZS) Marked cells have counts > 10 (Marginal summaries are not marked)			
Type of basic schools	Gender b	Gender g	Row Totals
rural	9	22	31
rural	15	28	43
alternative	8	1	9
large town	22	13	35
sports	27	36	63
small town	29	19	48
All Grps	110	119	229

Table 2: Determination of the number of identifiable clusters.

	Summary for k-means clustering (Questionnaire_2015_ZS) Number of clusters: 2 Total number of training cases: 184
Algorithm	k-Means
Distance method	Euclidean distances
Initial centers	Maximize initial distance
MD casewise deletion	Yes
Cross-validation	No
Testing sample	0
Training cases	184
Training error	2,436162
Number of clusters	2

Table 3: Characteristics of identified groups of pupils according to their responses to individual parts of the questionnaire.

Statement/ Question	Statement (S) or question (Q)	Cluster 1	Cluster 2	Signific.
S1	I watch TV while I write my homework.	1.86	2.11	0.09
S2	*Information and communication technology is an integral part of my life.*	2.79	3.18	*<0.01*
S3	I only read news headings on the internet and in the newspapers.	2.10	2.20	0.53
S4	*I better understand graphical information (animations, figures) than text.*	2.51	2.92	*<0.01*
S5	The speed of obtaining information is of great importance.	2.91	2.96	0.68
S6	*When I learn for a test at home, I like to listen to the radio (watch TV, use Facebook).*	2.15	2.59	*0.01*

		g	b	
S7	*When I read text (in the newspapers, books, on the internet), I often skip to more interesting passages of the text.*	2.51	2.85	*0.04*
S8	I like to learn by games although it takes more time.	2.66	2.94	0.06
S9	I would not do without the internet, mobile phone or computer.	2.83	3.03	0.19
S10	I prefer to watch or listen to a piece of information (from somebody else) rather than read it.	2.30	2.56	0.07
S11	I request an immediate response (praise, comment, discussion) from the teacher, friends or parents to what I do.	2.52	2.61	0.49
S12	I prefer to create something or think something up in school rather than listen to the teacher.	2.62	2.82	0.17
S13	*I always use a computer to develop my materials, presentations and seminar papers.*	3.14	3.52	*<0.01*
S14	*I communicate with my friends mainly on the internet.*	2.61	3.01	*<0.01*
S15	I expect a praise when something turns out well.	2.78	2.77	0.95
S16	*I like to make my own opinion about other people, information resources, web pages, companies according other people's assessment.*	2.06	2.34	*0.03*
S17	I always use the internet to obtain materials for presentations and seminar papers.	3.31	3.49	0.09
S18	*I like to engage in discussions using chat platforms (social networks, discussion fora).*	2.74	3.04	*0.03*
S19	*I assess web pages according to other internet users.*	1.80	2.05	*0.04*
S20	When I learn about a new piece of information (concept), I always check its validity.	2.66	2.81	0.25
S21	*I like to try out new applications and technologies without reading the instruction manuals.*	2.66	3.43	*<0.01*
S22	I consult my friends on the internet when I solve a problem.	2.75	2.90	0.33
S23	When I learn about a new concept (piece of information), I think about its link to real life.	2.67	2.65	0.89
S24	I believe in every piece of information I find on the internet.	1.49	1.63	0.18
S25	I prefer somebody to explain a new technology or application to me rather than read the instruction manual.	2.72	2.90	0.22
S26	I like to share my opinions and feelings on the internet (social networks, blogs, etc.)	2.02	2.01	0.93
S27	It does not matter to me where I find a specific piece of information – the information is what matters.	2.67	2.72	0.68
S28	I like to share with others the information I created or obtained.	2.90	2.68	0.10
S29	*I download applications from unverified sources.*	1.84	2.38	*<0.01*
S30	*I am able to assess the credibility of information on the internet.*	2.41	2.75	*0.01*
S31	If I receive a suspicious email instructing me to open an attachment or insert a password, I follow the instructions in the email.	1.76	1.75	0.97
S32	*I use programmes to protect my computer (mobile phone, tablet) – antivirus, firewall, etc.*	3.22	3.57	*0.01*
S33	*It is very important for me to work with a computer.*	2.69	3.19	*<0.01*
S34	*I know much more about computers than most people of my age.*	1.66	2.61	*<0.01*
S35	*I know much more about computers than most people older than me.*	1.79	2.65	*<0.01*
Gender	*Gender (g=girls, b=boys)*	g	b	*<0.01*
Q1	*Communicate over the internet.*	Myself	Myself	*0.02*
Q2	*Develop documents for school.*	Teachers	Myself	*<0.01*
Q3	*Change computer setting.*	Family	Myself	*<0.01*
Q4	Find out information about an unknown topic.	Myself	Myself	0.14
Q5	*Assess the credibility of information on the internet.*	Myself	Myself	*0.02*
Q6	Set a computer network (e.g. home computer network).	I cannot do this	Myself	*<0.01*

(Q1–Q6 row label: Who in particular taught pupils the following skills:)

Number of cases		87	97	
Percentage (%)		47.28	52.72	

Note

Statistically significant differences between the responses of pupils in both identified groups were observed in 16 statements in five additional questions and in the distribution of pupils by gender – shown in bold and italics in the table (calculated significance $p<0.05$). In most remaining statements we also found differences in pupils' responses; however, these differences were not statistically significant.
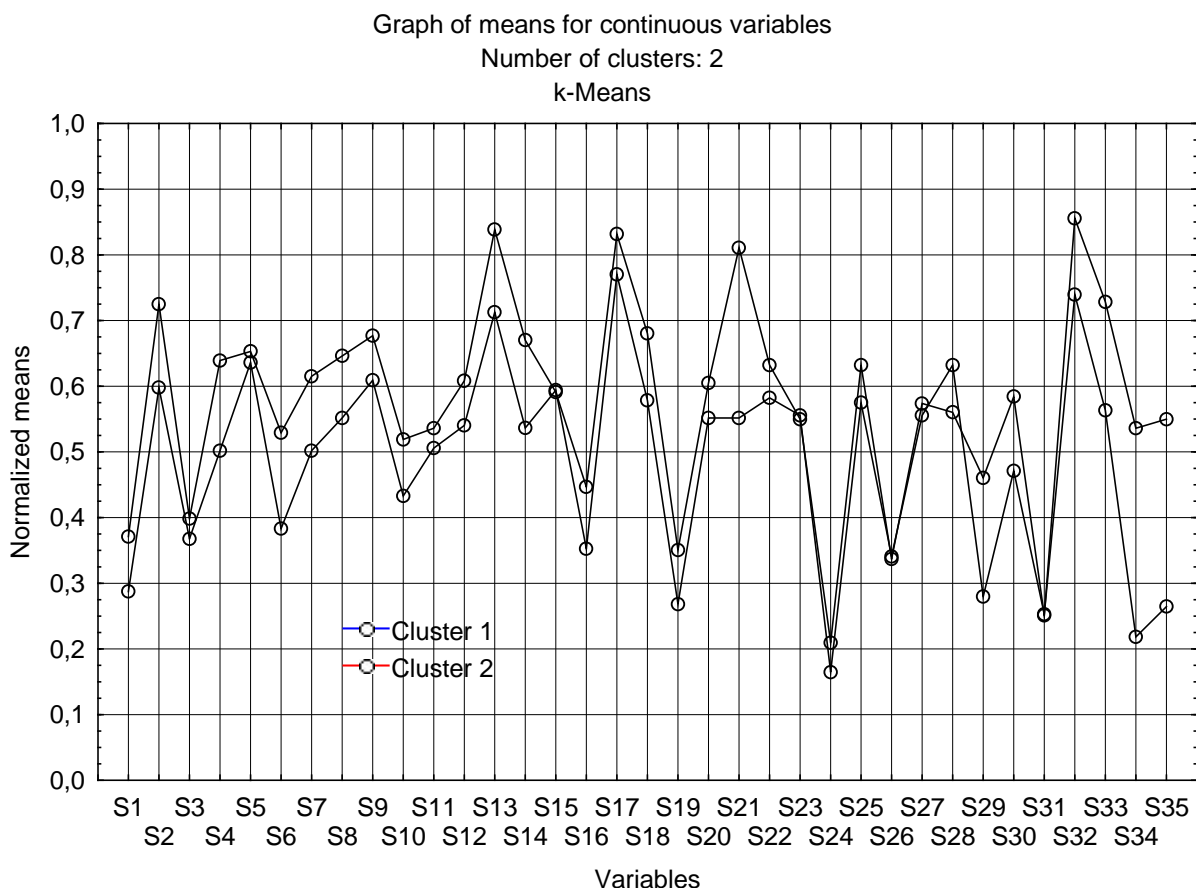
Figure 1: Characteristics of the identified groups of pupils according to their degree of agreement with individual statements – scale items in the questionnaire

Table 4 shows a comparison of the significance of the differences in pupils' responses in both identified clusters – questions containing nominal data. Tables 5-11 show the frequencies individual pupils' responses to these questions.

Table 4: Chi-square test of independence for nominal questionnaire variables for the two identified clusters of pupils.

	Independence test for categorical variables (Questionnaire_2015_ZS) Number of clusters: 2 Total number of training cases: 184				
	df	Chi-square	p value	G-square	p value
Communicate over the internet	4	10,71595	0,029949	11,56273	0,020917
Develop documents for school	4	37,96810	0,000000	39,61623	0,000000
Change computer setting	4	88,92149	0,000000	99,54787	0,000000
Find out information about an unknown topic	3	5,40218	0,144608	5,43339	0,142677
Assess the credibility of information on the internet	4	11,03040	0,026224	11,18170	0,024596
Set a computer network (e.g. home computer network)	4	80,81360	0,000000	92,75834	0,000000
Gender b/g	1	55,26616	0,000000	58,71742	0,000000

Table 5: Characteristics of identified groups of pupils according to their responses to the question who taught them the following: Communicate over the internet.

	Frequency table for categorical variable: Communicate over the internet Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
Myself	52	78	130
Teachers	1	0	1
Family	11	5	16
Friends	22	14	36
I cannot do this	1	0	1

Table 6: Characteristics of identified groups of pupils according to their responses to the question who taught them the following: Develop documents for school.

	Frequency table for categorical variable: Develop documents for school Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
Myself	18	62	80
Teachers	41	18	59
Family	22	10	32
Friends	4	6	10
I cannot do this	2	1	3

Table 7: Characteristics of identified groups of pupils according to their responses to the question who taught them the following: Change computer setting.

	Frequency table for categorical variable: Change computer setting Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
Myself	10	76	86
Teachers	12	2	14
Family	35	6	41
Friends	12	10	22
I cannot do this	18	3	21

Table 8: Characteristics of identified groups of pupils according to their responses to the question who taught them the following: Find out information about an unknown topic.

	Frequency table for categorical variable: Find out information about an unknown topic Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
Myself	45	65	110
Teachers	16	9	25
Family	15	12	27
Friends	11	11	22

Table 9: Characteristics of identified groups of pupils according to their responses to the question who taught them the following: Assess the credibility of information on the internet.

	Frequency table for categorical variable: Assess the credibility of information on the internet Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
Myself	30	51	81
Teachers	5	9	14
Family	21	14	35
Friends	15	16	31
I cannot do this	16	7	23

Table 10: Characteristics of identified groups of pupils according to their responses to the question who taught them the following: Set a computer network (e.g. home computer network).

	Frequency table for categorical variable: Set a computer network (e.g. home computer network) Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
Myself	6	55	61
Teachers	0	1	1
Family	20	21	41
Friends	7	14	21
I cannot do this	54	6	60

Table 11: Characteristics of identified groups of pupils according to their gender.

	Frequency table for categorical variable: Gender b/g (Questionnaire_2015_ZS) Number of clusters: 2 Total number of training cases: 184		
	Cluster 1	Cluster 2	Total
boys	16	71	87
girls	71	26	97

Table 3 shows the significantly different qualities (p<0.05) of pupils between the two clusters. These qualities correspond with the characteristics of the anticipated groups of digital natives and immigrants. However, an interesting finding is that none of the groups of pupils (cluster 1, 2) significantly differs in the following theoretically defined characteristics. The characteristics are more or less identical for both groups of pupils.

- 3. I only read news headings on the internet and in the newspapers.
- 5. The speed of obtaining information is of great importance.
- 11. I request an immediate response (praise, comment, discussion) from the teacher, friends, parents to what I do.
- 15. I expect a praise when something turns out well.
- 23. When I learn about a new concept (piece of information), I think about its link to real life.
- 26. I like to share my opinions and feelings in the internet (social networks, blogs, etc.)
- 27. It does not matter to me where I find a specific piece of information - the information is what matters.
- 31. If I receive a suspicious email requiring to open an attachment or insert a password, I follow the instructions in the email.

CONCLUSIONS

According to a generalized cluster analysis of the responses of pupils in grade eight of basic schools in the Czech Republic to the questionnaire items, two typical pupil clusters were identified.

Cluster 1: comprises approximately 47% of pupils, who correspond with the anticipated type of "digital immigrants". The cluster is dominated by girls. A typical feature of pupils' responses in this cluster (apart from differences in agreement with individual statements) is that they cannot set a computer network, teachers taught them to make documents for school, and family members taught them to change computer settings.

Cluster 2: comprises approximately 53% of pupils, who correspond with the anticipated type of "digital natives". The cluster is dominated by boys. A typical feature of pupil's responses in this cluster is that they learned all PC and network activities themselves.

It has been empirically confirmed that Czech pupils in the second grade of basic schools can be divided into the two theoretically discussed groups according to their use of information technology.

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TYPOLOGICAL EVALUATION OF THE STRUCTURES IN THE PROTECTED AREA IN ATYRAU CITY OF THE REPUBLIC OF KAZAKHSTAN

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ABSTRACT

The present study examines in details 40 additional structures selected out of 140 general structures located on Balgimbayev and İsenov streets and in their vicinity in Atyrau city of the Republic of Kazakhstan in order to evaluate the typologies of the structures built in the end of the XIX century and the beginning of XX century.

The related typologies were created in accordance with the outcomes of the external (external door, window, entry staircase, roof and overhang) and internal examination (heating stove, ceiling, room doors) of their elements.

Key words: Kazakhstan, Atyrau, protected area, Traditional Structure, Architecture, Restoration.

INTRODUCTION

We obtain information about the socio-economic structures and life styles of the past civilizations by examining the physical characteristics of old residential areas and their structural units. Such information will in turn aid to understand and conceive this day and age, and steer the future accordingly.

Objective

Within the scope of this research, the existing state of Balgimbayev and İsenov streets located in the protected area of Atyrau city, where no surveys were conducted previously, was recorded. In this regard, the objective of this research is to examine the adjustment occurred in this area throughout history, bring the values and problems woven in the traditional texture of this area into light, protect these values, bring proposals about the documentation and solutions to the problems.

The previous researches conducted research groups and governmental institutions focused mainly on historical, archaeological and architectural monuments.

A great number of traditional structures having historical characteristics were demolished during the II World War or fell down due to earthquakes and famines in Kazakhstan. Due to not being placed under protection, the areas that have historical features could not be prevented from falling down after the collapse of the Soviet Union. Old structures and ramshackle buildings were all demolished and new buildings were erected in such areas in 2000.

A protected area is a particular space of old settlement that has traditional texture. Old settlement texture, on the other hand, is comprised of residential buildings and has historical characteristics and religious architecture. There are some traditional structures that date back to the beginning of XX century located in a dense city of Atyrau (European side), Western Kazakhstan.

The Scope of the Study

The present study focused on particular areas, which are located on Balgimbayev and Isenov streets and in their vicinity in the city of Atyrau, Western Kazakhstan with traditional buildings that date back to the end of the XIX century and beginning of the XX century.

TYPOLOGICAL EVALUATION

The study identified two types of houses in the aforementioned area. One of them is an ornamented house with two stories or basement built of timber or adobe/brick. Next to it, there is another one-storey simple house built of brick. Merchants and rich people dwelled in such big, ornamented houses in older times (Picture 1, 2). Simple houses built next to such buildings were resided by their aides. In the course of time, the Soviet government transferred such houses in to public and they were possessed by natural persons after independence of the Republic of Kazakhstan. In this way, a number of families had opportunity to reside in the same courtyard. There were also few people who partitioned the yards with a wall and built a separate door. The houses in the same yard were numbered as 1, 2, 3, for instance Balgimbayev Street. 56/1, 56/2 and so on.

Those who build a new house next to their old houses rent their old houses or use them as storehouses. The families who dwell in high levelled houses don't use the ground floor.

| The house of a merchant | The house of a foreman |

Picture 1, The merchant's house with timber covering and the house used by aides in the protected area in Atyrau

| The house of a merchant | The house of a foreman |

Picture 2, A merchant house built of brick and a house dwelled by aides in the protected area of Atyrau

Outcomes of the research:

Overall Assessment:

The area that had been examined comprises 80% of houses built in a yard and divided from the street with a wall and are known as a dwelling houses. Due to the fact that some landlords were not in their houses during the study as well as irritation of some dwellers from the research, almost half of the residence houses located in the area could have been visited and studied. The houses under examination can be classified as qualified and non-qualified and have the same characteristic values with their rare structural features (Table 1 and Table 1_1).

Table 1 and Table 1_1 Overall Assessment (Kanayeva, 2014)

Structure	Numbers	%
Rare	16	11
Those having characteristic value	39	28
Non-qualified	17	12
Not identified	68	49
Total number	**140**	**100**

Overall Assessment

- Rare — 11%
- Having characteristic value — 28%
- Non-qualified — 12%
- Not identified — 49%
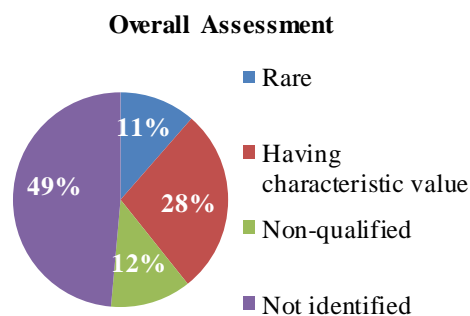
Usage of Structures

80 % of the structures in the region are used for residential purposes. New structures were erected as the city grew in time, public offices in the buildings were transferred elsewhere and those structures used as governmental offices were offered to the usage of the public by providing them financial support (such as low interest mortgage, establishing a hypothec etc). However, this does not imply that all of the governmental buildings were offered to the public; whilst 8% of the buildings are still used for public services in total, the rest of them are used for commercial purposes as offices, restaurants and hotels (Table 2 and Table 2_2).

Table 2 and Table 2_2 The Usage of the Buildings (Kanayeva, 2014)

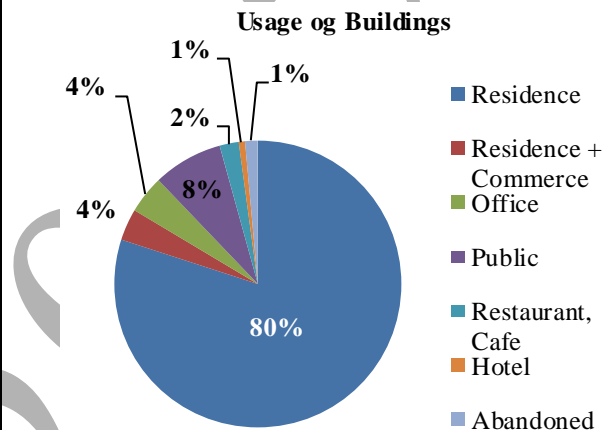| Buildings	Numbers	%
Residence	112	80
Residence + Commerce	5	4
Office	6	4
Public	11	8
Restaurant, Cafe	3	2
Hotel	1	1
Abandoned	2	1
Total	**140**	**100**

Usage og Buildings

- Residence
- Residence + Commerce
- Office
- Public
- Restaurant, Cafe
- Hotel
- Abandoned

External Structural State

As for the external structural state of these buildings, only 65 - 70% of those located on the protected area could be put under the scope because access to all of these buildings was not provided. The state of all buildings researched was almost in the similar condition and could be characterized as moderate and in good state. There are also buildings in bad state and those in ruins (Table 3 and Table 3_3).

Table 3 and Table 3_3 External Structural State (Kanayeva, 2014)

Building Types	Numbers	%
Good	33	41
Moderate	30	37
Bad	14	18
In ruins	3	4
Total	**80**	**100**

External Structural State

- Good
- Moderate
- Bad
- In ruins
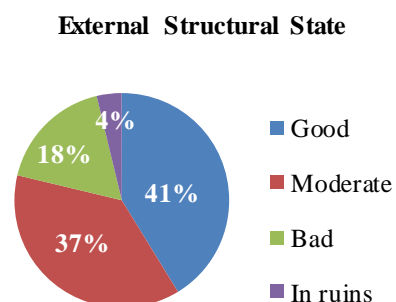
Number of Storeys

It was observed that the buildings in the researched area were mostly those consisting of one storey, one storey + basement, one storey + high levelled pavement, in other words, one-storey buildings dominate the area. The buildings with one storey and one storey + basement are rarely used as residence. Those dwelling houses with two storeys are the ones that were once built by rich citizens or those that were once used as governmental offices and later offered to the public (Table 4 and Table 4_4).

Table and Table 4_4 Number of Storeys (Kanayeva, 2014)

Building Types	Numbers	%
1 storied	88	63
1 storied + basement	3	2
1 storied + high level pavement	7	5
2 storied	37	26
2 storied + basement	2	2
Multi-storied	3	2
Total	**140**	**100**

Number of Storeys
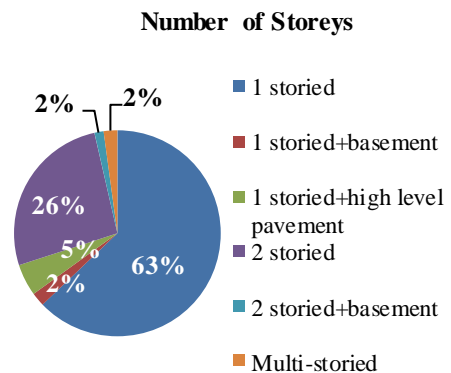
Side Coating

As for the side coating of the buildings; timber coating is not seen very often at one-storey buildings. The buildings are generally coated with plastering in different materials. It is possible that some of the buildings have been coated with plaster over timber, but that could not be confirmed because of the irritation of the house owners. The side coating of the two-storied houses consists of brick in general; we have observed that multi-storey buildings in the area have been mostly coated with different materials (Table 5 and Table 5_5).

Table 5 and Table 5_5 Side Coating (Kanayeva, 2014)

Building Type	Number	%
Fully plastered	107	76
Ground floor plastered, upper floor not plastered	1	1
Timber	10	7
Brick	10	7
Other material	12	9
Total	**140**	**100**

Side Coating
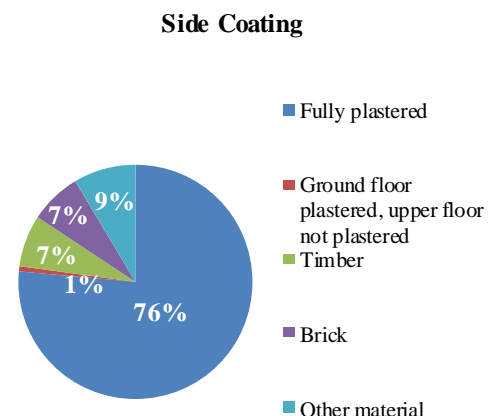
LOCATION TYPOLOGY

The streets in the protected area in Atyrau are located in chess-board style that is quadrate or rectangular forms intercepting each other. The buildings in the Balgımbayev and İsenov streets in the said zone were put under the scope. Balgimbayev and İsenov streets intercept with the streets of Afanasyev, Dosimov, Aliyev, Haziret, Dosmuhamedov, Jansugurov, Shevchenko, Jarbosinov and Jangeldin. The street of Aliyev that is a three-lane street has a dense traffic as it is the unique street used for bus traffic among them. Balgimbayev street that stretches to the street of Jangeldin beginning from the street of Aliyev is a street with moderate vehicle traffic. Others are streets with thin traffic movement and pedestrian ways on their sides.

Considering the locations of the buildings in the street texture in the zone, we see that while 64 of them look to the street in one side, those that front onto the street on two sides are 49 in number.

THE TYPOLOGY OF THE EXTERNAL ELEMENTS

The External Gates

Front-entrance gates: We observed that they were made of timber, iron and brick with one, two and three entrances. While the ones made of iron and brick were simple gates, timber gates were ornamented with boss ornamentations. As nobody raises bovine and small cattle in the dwellings in the region nowadays, the gates with wide wings are used as an entrance to parking lots.

The gates with single entrance: There are two types of such gates: those with two wings that dominate in number and the ones with single wing that are found in more limited numbers. While a vehicle can easily pass through the gates with two wings, the ones with single wing are so made that only men can pass through them. So the two-winged gates used to enter the courtyard of the house are so designed that they provide entrance both for people and vehicles. The gates are usually made of timber and iron (Picture 3).

The gates with two entrances: The front-entrance gates are structured in 90 cm width to enable entrance to people; two winged wide gates are used for vehicles. In the first picture below, the gate used for the entrance of people is seen just next to the two-winged wide gate; in the second picture, on the other hand, we see that it's designed within the two-winged wide gate. It has been observed that such gates are made of timber, iron, iron + adobe or brick (Picture 3).

The gates with three entrances: We observe that two-winged wide gates are supported and complemented on either sides with a wall made of brick or adobe. There are also gates exchanged with timber or iron gates enabling passage for people at the wall mentioned above (80-90 cm). Thus, whilst the vehicles enter the courtyard through the two-winged gate in the middle, people enter through the gates built on either sides of this door (Picture 3).

One entrance	Two entrances	Three entrances

Picture 3: Courtyard gates with single, two and three entrances.

Windows

The windows found in the protected zone of Atyrau are usually in rectangular form with timber or adobe ornaments. They are mostly built in life spaces, garret stories and ground floors. We observed that some windows made of timber were exchanged with ones made of plastic in time.

Apart from some commercial buildings, no windows made of wrought iron are seen in the researched zone; this is especially the case so far as dwelling houses are concerned. Three different types of windows have been observed opening onto the front fasade in general:

1. Simple
2. Ornamented with timber
3. Ornamented with adobe

Simple windows: Such windows are generally found in ground or garret floors or in the room in the entrance of the house. We also see such windows at structures that were once used as outhouses and stalls. We shouldn't forget that the windows of this type took their existing type in consequence of changes. (Picture 4).

Windows with timber ornamentations: Such windows are seen in houses built of timber with in corbelled form of 5-10 cm at the front fasade. They are built in two types: with and without shutters (Picture 4).

The windows with *shutters* that are built in most cases in simple form or ornamented on upper side are usually found in single-storey houses with low subbasement. As they are used in low houses, such windows are built with shutters to proetct the house from cold wearther and external world (Picture 4).

We observed that arched, engraved windows *without shutters* are used at single-storied houses, houses with high-levelled pavement and big houses with two stories, in other words, at houses dwelled by rich citizens in older times. A pointed or low arch is used as a completing element for the columns elaborately designed on the sides of windows on external walls.

Windows with adobe or plaster ornamentations: We observed that such windows are used in big single or two-storey houses made of brick or adobe and other structures (such as restaurants, hotels, offices, government offices etc.). They are built without corbels or with ornamented corbels on the external walls. A decorative sill just at the lower side, elaborately designed columns on either sides and decorative motifs in various forms that change from one structure to another complete the picture on outer walls (Picture 4).

Simple	With timber ornamentations	With shutters
With brick or adobe ornamentations		
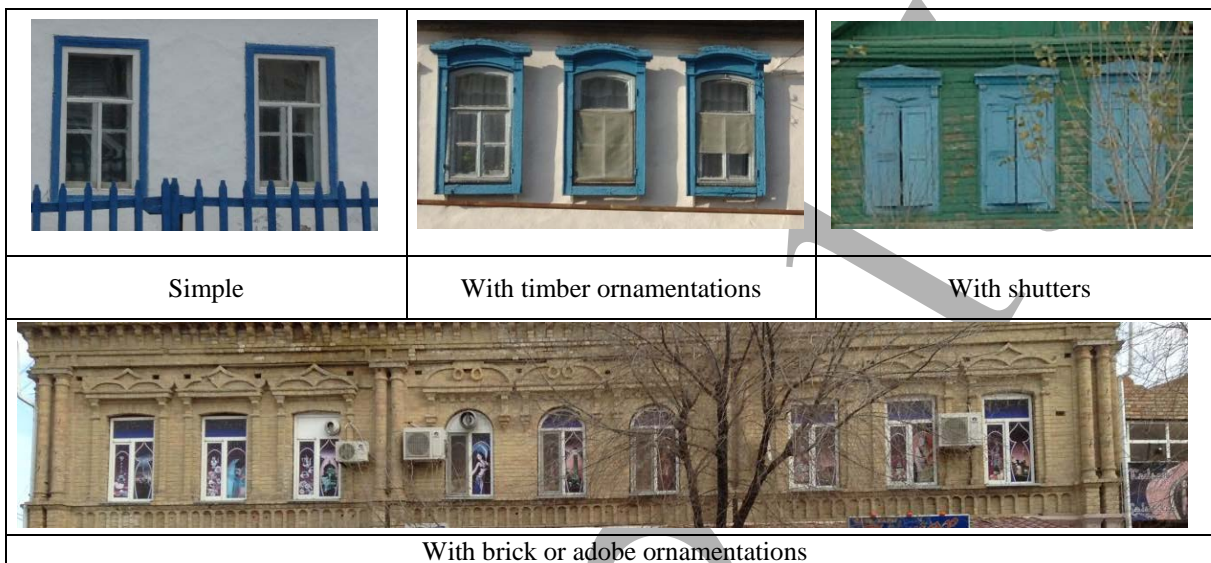
Picture 4, Window types

Stairs

The stairs at the houses in the zone are built at the outer side; the stairs in the inner side provide access only to the attic. This is the general style in the general structuring in the area.

In *single storied* houses, the main entrance door is situated on the right wall of a structure (according to the existing road) and a stair with two or three steps provide access to the main entrance door. This design is the part of the general architectural structuring in the area.

The stairs used for entrance in dwelling houses *with a higher soil* are divided as inner and outer stairs because the ground floor is used as storehouse in such houses. We encounter a small room in square or rectangular form when we enter the house through the main entrance by access of inner stairs. There we pass through the second door by means of the stairs that go up to the upper floor and so we access the house. In this design, the stairs are found in the middle of two entrance doors. The small room mentioned above functions as a space where people take their shoes off and it also hinders that cold air accesses to the inner sides (Picture 5).

The entrance stairs at houses *with two storeys or high level soil* are found at the outer side. More than one family generally shares the houses with two storeys and every family has a separate door. People who dwell in the second floor access to their houses using the outer stairs (Picture 5).

The stairs in the houses with high level soil are built in the inner side	Outer stairs

Picture 5, Stairs types

Roof and eaves

The roofs in the area can be classified as flat roofs and hipped roofs with two, three and four oblique ends; the eaves, on the other hand, are with overhangs at one or two sides. The overhangs are built as hip roofs with two oblique ends (Picture 6).

Picture 6, Roof

The carcasses of the hipped roofs of the houses in the area are made of timber and materials such as timber, iron, fibre cement are used for their cover coat (Table 6 and Table 6_6).

Table 6 and Table 6_6 Roofs classified in respect to the materials used (Kanayeva, 2014)

Material used	Numbers	%
Timber	1	1
Iron	30	21
Atermit	106	76
unidentified	3	2
Total	**140**	**100**
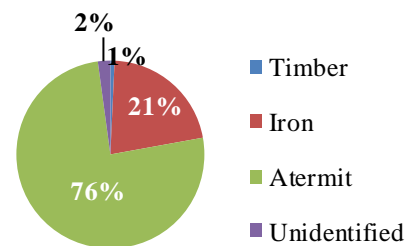
The extensions of the eaves are made of timber and covered with the same material used in the façade coating of the structure and they are ornamented using timber, brick or adobe depending on the carcase material. We have observed that they are built in a rather narrow design. In most of the houses made of timber, the lower part of an eave is closed with a simple or engraved arch, and a decorative or simple arch in houses made of brick and adobe (Picture 7).

The eave at structures made of timber

The eave at structures made of brick
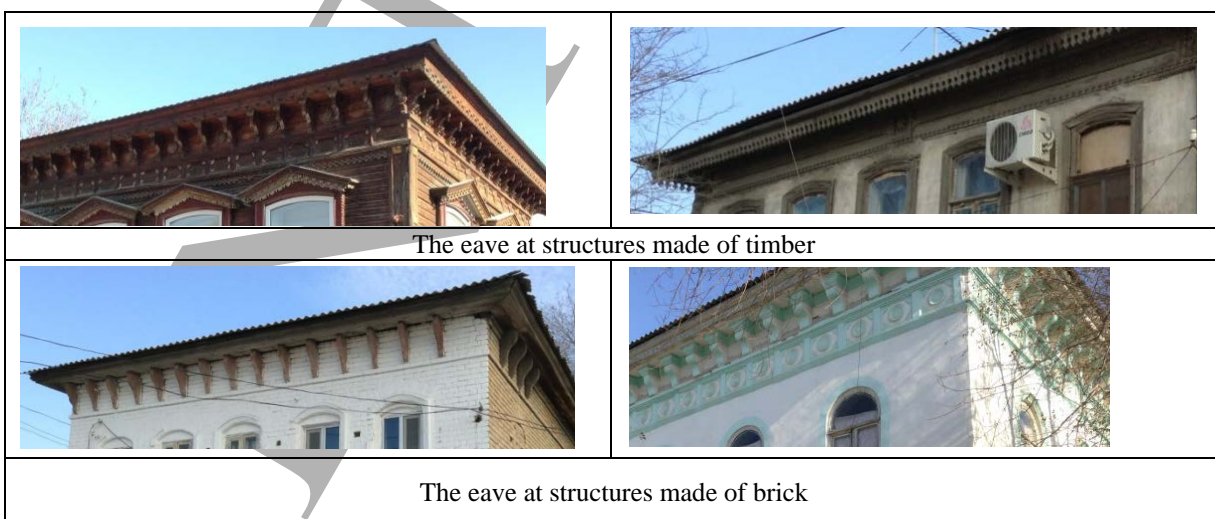
Picture 7, Eaves

THE TYPOLOGY OF INTERNAL ELEMENTS
Heating Stoves
The heating stoves are generally built in wall form, with a console at the front-side or in flat form without console. As there was no central heating and radiators in older times, a stove system designed depending on the conditions of the epoch was used to heat the houses. Coal was put into the frontal part of the stove by means of a small cover at the front side and the heating generated by burning this coal heated the space around the stove and the wall behind it. A warm air circulation was enabled by means of cavities on the sides of this wall used to facilitate the distribution of the warm air to heat the whole house in this way.

Nowadays, 98 % of such stoves in the houses in the protected area of Atyrau aren't actively used. Some houses have been redesigned to be heated with natural gas systems. Now the houses are heated with a heating system indicated below.

In consequence of the adaptation of the heating system with respect of the requirements of modern systems, the heating stoves were adapted, redesigned and thus lost their originality and many historical traces also disappeared in this process.

The traditional stoves were built of adobe and covered fully with plaster at the end of the XIX. century and the beginning of the XX. century. They were designed in the following types:
1. Design adjacent to the ceiling
   -with console
   -without console
2. Design not adjacent to the ceiling
   -with console
   -without console

The stove that is *not adjacent* to the ceiling was built on the right or left side of the wall in a distance of 30-50 cm from the main façade. An open space of 30-50 cm was left at the upper side that looked to the ceiling. While the cover through which coal was put into the stove was designed at the wall in the type without console, it was designed on the rectangular console in front of the wall (75x60x80) in the type with console. The console part was also used as cooker in older times (Picture 8).

The stove *that was designed in adjacent position to the ceiling* distinguished with its particularity that there were no cavities at the left and right side of the wall where it was built. (Picture 8).

Stove not adjacent to the ceiling, with and without console	Stove adjacent to the ceiling, with and without console

Picture 8, Stove

Ceilings
The ceiling overlays in the researched area are usually made of timber, brick and adobe. There are also samples with full plaster coating over timber or plywood overlays. Ceilings made of timber are supported with a ligament to prevent deflexion. The corners or the centre where the lighting is installed are ornamented with a decorative ceiling rose. Plywood coverings are generally used in kitchens (Picture 9).

Timber overlay	Plywood overlay	Plastered

Picture 9, Ceiling

Doors

Portals of houses: They are made of timber in simple design with a single wing. There are also samples with glass at the upper side (Picture 9).

Room doors: They are built as single and two-winged doors. While two-winged doors are solely used at the halls, the ones with single wing are used in other rooms.

The doors *with single wing* are made in two types: simple and engraved designing, and the decorations on the doors are usually similar. While some of the simple type doors have two deepening parts in square form at the upper and lower parts, other doors have two deepening parts in rectangular form at each upper and lower side. The engraved doors are similar to those with simple design with the exception of an engraving on the corners of the deepening part (Picture 9).

The doors *with two wings* are designed in three types: simple and engraved ones and those with glass at the upper side. Simple doors and the ones with glass are similar to each other. The sole difference is the usage of glass that enables the passage of light to the corridor from the hall. Deepening elements are found on the wings of the engraved type of doors with engravings at the corners being two in square form and one in rectangular and oval form on each wing (Picture 9).

Portals

Doors used in rooms

Picture 9, Doors

CONCLUSION

The comfort conditions in these dwellings fell short due to the lack of infrastructure, rapid rise in population, moving of inhabitants in time and the houses could no more satisfy the requirements of modern time.

Besides such factors, the streets of Balgimbayev and İsenov and the surrounding area aroused attention in terms of income generating and the texture here began to change more rapidly than other areas because of the pressure on the zone in this sense. A project of protection has urgently to be designed and inaugurated for these two streets so that the traditional fabric in Atyrau can be conserved. For this reason, the streets of Balgimbayev and İsenov should be separated from the project of 'Atyrau Protected Area's carried out by the institution of 'Kazrestorasyon' and included in a probable project mentioned above.

   Restrictions and difficulties met in the area:
-   Lack of bibliography about Atyrau;
-   Lack of map sections, parcel information and land surveys throughout Kazakhstan;
-   People living in Balgimbayev and İsenov streets have difficulty in answering the questions in Social questionnaires;
-   They refuse to allow us access to their houses to assess the interior parts of the dwellings.

The researches and assessments to be made within the scope of the dissertation will bring up the historical and architectural importance of Atyrau.

ÜÇ BOYUTLU ÇOKLU ORTAMLARDA BİLİŞSEL YÜK VE ÖĞRETİM VERİMLİLİĞİ ÜZERİNE BİR İNCELEME

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Çoklu ortam tabanlı öğrenme materyallerinin, öğrencilerin öğrenmelerini destekleyici rolünün olduğu pek çok araştırmada ortaya konmuş olsa da, alan yazında yine de dikkat edilmesi gereken pek çok tasarım ilkesine yer verilmekte, öğrenme sürecini etkileyen pek çok bilişsel değişkene işaret edilmektedir. Çoklu ortam öğrenmelerinde etkisi sıkça araştırılan bir psikolojik değişkenin bilişsel yük olduğu söylenebilir. Son yıllarda çoklu ortam üzerine yapılan çalışmalarda bilişsel yükün etkileri etraflıca araştırılmakta ve gerek söz konusu ortamların tasarımına, gerekse de öğrencilerin öğrenme süreçlerine ilişkin pek çok çıkarımda bulunulmaktadır.

Çoklu ortamın öğrenmeye pozitif etkileri olmasına rağmen, farklı çoklu ortam materyallerinin etkililiği eşit düzeyde olmamaktadır (Kablan ve Erden, 2008). Bu nedenle öğretim tasarımına ilişkin süreçlerin titizlikle ele alınmasına gereksinim duyulduğu söylenebilir. Çoklu ortam öğrenmelerinin etkililiğinin sağlanıp sağlanmadığının değerlendirilmesinde bir yöntem ise araştırmalarda öğretim verimliliğinin belirlenmesidir. Öğretim verimliliği, Paas ve Van Merriënboer (1993) tarafından ortaya koyan ve nasıl ölçüleceği belirtilen, test performanslarının değerlendirilmesinde öğrenci başarısının ötesinde ekstra kanıtlar ortaya koyabilecek bir kavram olarak ifade edilmektedir. Öğretim verimliliği, öğrencinin sarf ettiği zihinsel çaba ve görev performansını tek bir sayısal değerle değerlendirebilecek bir yöntemdir. Bu anlamda öğretim verimliliği, öğrenmenin sadece bilişsel sürecine ya da sadece test sonuçlarına odaklanmamakta, bunların her ikisini de göz önüne alarak daha anlamlı yorumlamalara imkan verebilecek bir değeri ortaya koymaktadır. Alan yazında bilişsel yükün kontrol altına alınabildiği durumda öğretim verimliliğinin de yükseleceği belirtilmektedir (Paas, Tuovinen, Tabbers ve Van Gevren, 2003).

Bu çalışmada, üç boyutlu çoklu ortamlarda bilişsel yük ile öğretim verimliliği üzerine bir inceleme gerçekleştirilmiştir. İlişkisel tarama modeliyle desenlenen araştırma, Ankara'da bir özel okulda 2014–2015 eğitim öğretim yılı güz döneminde 42 ortaokul 5. sınıf öğrencisiyle yürütülmüştür. Fen ve Teknoloji dersi boşaltım sistemi konusunda öğrencilere üç boyutlu çoklu ortam öğrenme materyalleri sunulmuş, öğrenme sürecinin sonunda akademik başarı testi ile Kılıç ve Karadeniz (2004) tarafından Türkçe'ye uyarlanan bilişsel yük ölçeği uygulanmıştır. Araştırma verileri, betimsel istatistikler, tek yönlü varyans analizi ve Pearson Korelasyon testi ile analiz edilerek bulgulara ulaşılmıştır.

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Keywords: Bilişsel yük, öğretim verimliliği, üç boyutlu çoklu ortamlar

THE EFFECT OF 3D VIRTUAL LEARNING ENVIRONMENTS ON MATHEMATIC SUCCESS: SECOND LIFE SAMPLE

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ABSTRACT

The usage of three dimensional virtual worlds in mathematics education not only eliminates the dependance of the education on school but also enables the subjects to be more concrete. The objective of this study is: to create a mathematics laboratory by using the virtual classroom qualities of three dimensional virtual worlds. In this lab, abstract mathematics subjects are concretised by the materials developed. This state makes the learning of secondary school student, who still think concretely, easier and more consistent.

In our country, studies on three dimensional virtual worlds exist in Management, Sociology, Fine Arts, Architecture, Science and Technology fields. In terms of teaching, there are studies only in the field of foreign language. No studies are available about its contribution in Mathematics education yet.

For the objective of this study, an experiment group of 28 people were chosen among Fatih secondary school 3rd grade students. The teaching of Mathematics to this group was supported by Second Life. At the beginning and at the end of the study an achievement test was applied. With this study, the positive effect of three dimensional virtual worlds on Mathematics education was observed together with the change of student success in Mathematics courses and it was found significant at a level of .01.

Keywords: Second Life, Mathematic Teaching, 3D Virtual Learning Environments, 3D Virtual Worlds

INTRODUCTION

In this century, graduated individuals are expected to define the problems encountered, solve them and contribute to the society they live in. Therefore current education system adopts a student-based and structural learning understanding through which students form the information. In the frame of this understanding, context and methods of the education need to be re-organized in a way to gain critical thinking, scientific thinking, relational thinking, reasoning and creative thinking skills. Providing students with learning opportunities suitable to their skills and expectations and raising man power equipped with the qualities required in our age is only possible through a technology based structure within the education system. Since raising individuals and ensuring the creative thoughts to emerge, is only possible with a contemporary education perception (Özden, 1997; Alkan, 2005).

Under the light of these ideas technology has started to take its place in learning-teaching process. During this period, computer technologies has also begun to be used in material development in order to provide more effective education as used in consulting and asessment-evaluation services. The rapid improvement of science and technology bound to affect computer technologies which is used in education process and it also provides possibilities to overcome the limitations which can occur in computer based learning environments. In the current period a transition started from internet based learning to three dimensional, multiple user, online virtual learning environments.These three dimensional online environments allow multiple users to do activities and communicate other users with the help of virtual self (avatar) that represent them in the same environment at the same time. These environments provide a powerful visual interface structure that evokes the sense of reality in social communication, which becomes an alternative for them by eliminating the drawbacks of other Internet-based systems. These environments eliminate the distance concept as it can bring the users together in remote places. In addition, according to Barkand and Kush, virtual learning environments are described as: instant messaging, discussion boards ,e-mails ,blogs and podcasts (Dickey, 2005; Dede et al., 2004; Mennecke et al., 2011; Barkand and Kush, 2009).

The methods and the techniques used in learning-teaching process in our country are inefficient especially in the courses with abstract subjects like in mathematics. According to Piaget, cognitive development of the individuals is completed in four phases and these are: Sensorimotor Stage, Preoperational Stage, Concrete Operational and

Formal Operational Stages. Concrete operational stage: It applies to the individual's age range 7-11 and this age range corresponds to the span between the primary school third grade and secondary school third grade. In this stage individual can achieve basic operational series on condition that every step is clearly explained. Additionally, individual improves the concepts of the substance amount of the objects, reversibility and conservation of length and weight. Next stage, Formal Operational Stage applies to the age 11 and above, and this corresponds to the secondary school fourth grade and above in educational life. In this period individual improves the skills of hypotetico- deductive reasoning, identification and control of the variables ,imagining ,comprehending abstract events and concepts by interpreting them (Gültekin, 2005; Özmen, 2004).

The lecturers in virtual learning environments provide convenience to the education leaders on the matters below:

- Observing the students' contribution to discussion
- Preserving all the activities and conversation history, written or visual, to get a feedback and an evaluation.
- Transferring discussions to the students to be able to set an example about critical thinking skills.
- Asking questions and adding interpretations in order to direct the critical thinking
- Putting forth an expert view when necessary.

More importantly the lecturers in virtual learning environments have the opportunity to watch and evaluate the discussions made offline (Duffy, Dueber ve Hawley, 1998).

Upon examining the mathematics curriculum of the schools, by the second grade of secondary school, an abstract subject like algebraic expressions has been taught to the students. The students are in concrete operational stage at this age and comprehension of abstract subjects like this, is made impossible by the methods and techniques used while teaching. Furthermore, for example presentation of a cube ,a three dimensional object ,on a two dimensional board creates a separate paradox. The low number of the materials designed to present the abstract subjects to the student in concrete operational stage, do not allow each student to use them and the users are also limited with the school. In this context three dimensional online virtual learning environments are needed. The materials formed in three dimensional interfaces provided by these environments not only concretize the subject but also provide the opportunity to use them in required place and time. Besides the cost and the time spent for copying these materials according to the number of the students are being close to zero, it also serves the educational policy of cost saving (economy). (Küçükahmet, 2006; Ergün ve Özdaş, 1997).

THE STUDY

With this research, in Second Life environment which is a three dimensional online virtual world, it is aimed to reveal the effects of student attitudes toward mathematics courses and design activities which will enable the third grade students of secondary school to see the 3D objects in mathematics courses in a concrete way, access the information outside of the school and provide them with an education through games. Furthermore it gives the chance to observe the effects of this method on academic success and the cognitive levels of the students.
The problem statement forming the base of the study is: "What is the effect of supporting teaching principles with the activities prepared in Second Life environment on Secondary school third grade students' academic success?"

Accordingly, the hypothesis of the study were defined as follows:

1. A statistically significant difference exists between the academic success pre-test and post-test scores of SL learning group.
2. A statistically significant difference exists between the academic success pre-test and post-test scores (the score of answers given to the objective of the application) of SL learning group in favor of post-test.

The premises and the limitations of the study can be lined up as follows:

1. It has been presumed that the information taken from various sources and institutions reflect the truth and the uncontrollable variants of the study affect each student in the same way.
2. This study is limited with a working group of 28 third grade students from Uskudar District Fatih Secondary School and three weeks research period.
3. The application process applies to the secondary school third grade Mathematics subject of " Cartesian Coordinate System".
4. The improvement in the academic success of the students has been assessed by the written exams which are prepared by the course teacher.

In this research the effect of mathematics course ,taught with Mastery learning and supported by Second Life, on student success is examined. Written exams prepared by the researcher are used for data collection. Tha data collected from the research is analyzed with non-parametric statistical methods as the group number is less than 30. In order to compare the pre-test and post-test total scores of the experiment group, Wilcoxon signed rank test is used, which is considered to be appropriate to use in relational measurings (Büyüköztürk, 2003). The quantity analysis of the study is made with the help of "SPSS 21 for MacOS X" package program.

FINDINGS

In this part the findings obtained by the quantity data of academic achievement tests were presented in accordance with the research hypothesis and problem.

Findings of the First Hypothesis

The first hypothesis of the study is as:" A statistically significant difference exists between the academic success pre-test and post-test scores of SL learning group."

Wilcoxon signed rank test results, as to whether the scores taken from the academic achievement tests before and after the application show a significant difference or not, are given in Table 1.

Table 1: Wilcoxon Signed Rank Test Results of Pre-Experimental and Post-Experimental Academic Achievement Test Scores

Second Life Education After - Before	n	Mean Rank	Sum of Rank	z	p
Negative Ranks	8	16.19	129.50		
Positive Ranks	20	13.83	276.50		
Ties	0			-1.674	.094
Total	28				

*Base on negative ranks

According to the test results in Table 1, it is noted that there is no significant difference between the answers given to the achievement test before and after the 3D material application developed in Second Life environment. (z=1.67, p>.05).

When the mean rank is taken into account, the scores are in favor of pre-test, that is to say, the general success obtained from the examination before the application is higher. The result can be seen as normal considering the facts that the achievement test is not just for the related objective but covering all the courses of the semester and it has been applied four months later than the pre-test. This state stands for the vision that pre-test and post-test scores of general success does not show a significant difference.

FİNDİNGS OF SECOND HYPOTHESİS

The second hypothesis of the study is as: "A statistically significant difference exists between the academic success pre-test and post-test scores (the score of answers given to the objective of the application) of SL learning group in favor of post-test."

Wilcoxon signed rank test results, as to whether the scores taken from the academic achievement test questions covering the related objectives before and after the application show a significant difference or not, are given in Table 2.

Table 2: Wilcoxon Signed Rank Test Results of Pre-Experimental and Post-Experimental Academic Achievement Test Scores Concerning the Objectives of the Application

Second Life Education After - Before	n	Mean Ranks	Sum of Ranks	z	p
Negative Ranks	6	7.00	42.00		
Positive Ranks	15	12.60	189.00		
Ties	7			-2.561	.01
Total	28				

* Base on negative ranks

According to the test results in Table 2, it is noted that there is .05 significance level between the answers given to the achievement test questions covering the related objectives before and after the application with Mathematics Robot developed in Second Life environment (z=2.56, p=.05).

Considering the mean ranks in Table 2 the scores of the answers given after the application are higher. In other words, the difference is in favor of positive ranks, namely post-test scores. After these results, it can be stated that the learning application with 3D materials developed in Second Life environment has a positive effect on the learning level of the related objective by the Second Life learning group.

CONCLUSIONS

In this research, in Second Life environment which is a three dimensional online virtual world, it is aimed to reveal the effects of student attitudes toward mathematics courses and design activities which will enable the third grade students of secondary school to see the 3D objects in mathematics courses in a concrete way, access the information outside of the school and provide them with an education through games in addition to observe the effects of this method on academic success and the cognitive levels of the students.

Researchers in different studies express that before carrying out the activities in three dimensional virtual learning environment, the content and the objectives related to the content are necessary to define. (Hodge et al., 2009; Molka-Danielsen & Deutschmann, 2009). The selection of the materials appropriate for the content in order to make complex tasks easy to learn, and the interaction of the participators with the materials are emphasized. (Gillen, Ferguson, Peachey, & Twining, 2012; Moore & Rocklin, 1998; Salomon, 1993). Therefore Cartesian Coordinate System, a subject of third grade, and the objective " The student is able to explain and use the two dimensional cartesian coordinate system." have been chosen. Later on, 3D material, suitable for the content and the objective, has been developed in second life environment. It is noted that there is no significant difference between the answers given to the achievement test before and after the 3D material application developed in Second Life environment. (Table 1).

When the mean rank is taken into account in Table 1, the scores are in favor of pre-test, that is to say, the general success obtained from the examination before the application is higher. The result can be seen as normal considering the facts that the achievement test is not just for the related objective but covering all the courses of the semester and it has been applied four months later than the pre-test. This state stands for the vision that pre-test and post-test scores of general success does not show a significant difference.

By looking at the second hypothesis, the following result can be reached: a significant difference can be formed in the general academic success of the students in the research on the condition that the study is applied throughout the semester.

On the other hand it is noted that there is a significant level of difference between the answers given to the achievement test questions covering the related objectives before and after the application developed in Second Life environment (Table 2). Considering the mean rank in Table 2, positive ranks are higher, namely in favor of the post-test scores. This state can be interpreted as 3D materials developed in Second Life environment provide a better understanding of the subject and have a positive effect on the academic success.

Sert (2009), in his research, defines game based learning environments as: the environment that learning is carried out through games to ensure the learning process to be more fun and higly motivational. In the study by Salmon at al. (2010) due to the environment designs made by the participants, it is found out that they entertain and have a higher motivation for studying in the environment. In another study, researchers state that student-student interaction in virtual environments is very important for the formation of social learning (Beldarrain, 2006; Kongmee et al., 2011).

When the findings of the research are examined, thanks to the three dimensional Mathematics Robot developed in SL environment, affective qualities are improved; for instance students' interests toward Mathematics increased, they started to like Mathematics, they would like to reserve more time for Mathematics and they would like to have advanced level information about Mathematics. Besides, an increase of academic success regarding the objectives, which is a cognitive quality, has been noted. It can be stated within the light of this finding that the increase in the sympathy and the motivation toward mathematics mobilized the academic success in a desired course. Furthermore having an independent environment from the school and encouraging them to ask questions to each other, sharing more things enable social learning by increasing student interaction.

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ACKNOWLEDGE

ULUSLARARASI ÖĞRENCİ BAŞARI DEĞERLENDİRME PROGRAMI (PISA) 2009 TÜRKİYE UYGULAMASI KAPSAMINDA OKUMA BECERİLERİ BAŞARISI İLE MATEMATİK BAŞARISI ARASINDAKİ İLİŞKİNİN İNCELENMESİ

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Bu araştırma, Uluslararası Öğrenci Başarı Değerlendirme Programı (PISA) 2009 Türkiye uygulaması kapsamında, Türkiye'de 15 yaş grubu öğrencilerin okuma becerileri başarı puanları ile matematik başarı puanları arasındaki ilişkiyi belirlemeyi amaçlamaktadır. Araştırma, 4996 öğrenci üzerinde yürütülmüş ve okuma becerileri başarı puanları ile matematik başarı puanları arasındaki ilişkinin incelenmesi temel problemi doğrultusunda analizler gerçekleştirilmiştir. Bu bağlamda PISA 2009 uygulamasını gerçekleştiren ilgili kuruluşlar, öğrenci başarısını tüm öğrencilerin başarı dağılımı içinde bir nokta olarak görmemiş, her öğrenci için oluşturulan teorik bir başarı dağılımdan rastgele seçilen 5 makul değerin istatistiksel işlemlerde kullanılması önermiştir. Bu kapsamda okuma becerileri başarı puanları ile matematik başarı puanları arasındaki ilişkiyi belirlemek amacıyla 5 makul değer analizlerde kullanılmıştır. Kullanılan bu değerler arasında Pearson korelasyon katsayısı hesaplanmış ve her iki değişken arasındaki ilişkinin pozitif yönde ve çok yüksek olduğu tespit edilmiştir.

Keywords: PISA 2009, Okuma becerileri başarısı, matematik başarısı, Pearson korelasyonu

UNDERGRADUATE STUDENTS' INTERPRETATIONS OF GRAPHICAL REPRESENTATION OF FUNCTIONS

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Although "graph" is very effective representation of concept of function, it is less understood by students. Many researches show that students have problems when they are interpreting graphical representations. They have difficulties when using graphical representation in explaining a mathematical relationship and they have some misunderstandings. In this context, this study aims to identify university students'perceptions of functions through graphical representations and to reveal their adequecies when they are interpreting graphics. As a result, we would like to make suggestions to mathematics educators about the way of teaching of graphics. To do this, an open ended questionnaire related to the function concept was asked to 77 junior undergraduates at a university during the fall semester of the 2013-2014 academic year . In this paper, the results from students' answers to the one of the questions is presented. The results of this study revealed that students demonstrated different type of mistakes and misunderstandings while interpreting the graph of function. It was observed that sources of these mistakes were generally students' lack of conceptual knowledge about functions. In addition to these conclusions; a number of students participating in this study demonstrated some fundamental misunderstandings regarding; the relations between "the graph of a function", "integration" and "slope" concepts.

Keywords: functions, graphical representation, mathematics education, misunderstandings, undergtaduates

NEW HORIZONS ON ARCHITECTURE: CREATING THE FUTURE WHILE CONSERVING THE PAST ON HISTORICAL PENINSULA, ISTANBUL

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ABSTRACT

Historical Peninsula is not only the historical center, but also it is the commercial center of ancient Istanbul. Four major empires had been ruled from this magnificent point, with a unique Bosporus view. It is also an open air museum with various historical sites and buildings, such as Suleymaniye Mosque, Topkapi Palace, etc. Thus, the site is chosen for an architectural search on new forms and concepts on an existed historical area while preserving the historical heritage and learning the details of the project management by 14 students of the Faculty of Architecture, Department of Architecture of Yildiz Technical University, The Design Studio 4 has been searched to find the best places and related architectural concepts to create new architectural forms on Historical Peninsula according to the modern project management rules during the winter semester of 2013-2014 educational year. During the semester an atmosphere of professional design office was created to let the project group to understand and to fell the details and necessities of the project management on the real architectural field. Thus the paper will have the long process of the Design Studio 4, with 14 different location and concept proposal projects to Historical Peninsula.

Keywords: architecture, historical peninsula, concept, conserve.

1. INTRODUCTION

Project management is the brand new title on the architectural field for the last 5 to 10 years, to make the architectural project processes much more powerful and convenient.

As it is known that especially for the last 10 years, parallel to the developments on the market of the neo-liberal economies, project management title became very popular and useful on the *praxis* of the architecture. Thus, with this point of view, during the 15 weeks of the Design Studio 4 a new kind of approach has been carried out. Therefore, the main emphasis of the studio was made on the title of the project management and students were asked not only to design a project but also think on the issues of the project management regarding to their own architectural project designs.

2. METODOLOGY:

2.1. A way of designing which is passing through project management

Within the first 2 weeks of the Design Studio 4, 4 different seminars were given to the group regarding to the title of the project management, which were titled as;

What is project management? How can an architectural project be successful on the world of neo-liberal economies? What is different in between "planning" and "designing"? and Living on the architectural world of competition, as chronologically. So let's see what is the project management. Project management has a point of view from which the architectural world is formulated out of "working stages"; 4 stages plus the control stage as "closing". According to the traditional approach on the praxis of the architecture, there are 5 sequence of steps to be completed, which are developmental components of a project can be distinguished. These stages are:

Initiation,
Planning and design,
Execution and construction
Monitoring and controlling systems,
Completion (closing)

Fig.1.*The Typical development phases of an architectural project, (*Sebastian, N*)*

Here we have a schema on which these "working stages" can be seen. This schema is also called as the typical development phases of an architectural project. On the schema it is seen that after a basic initiation stage, some projects are going through the 2nd, 3rd and the 4th stages multiple times. It is known that architects are generally using some sub-stages on this system as well, such as, analysis as pre-planning, schematically used diagrams showing functional distribution, synthesis as conceptual design, construction drawings as contract documents, and finally construction management issues.

Initiation stage is processing the determining of the nature and the scope of the project.

Planning or design stage includes variations of synthesis of conceptual project.

Executing stage has quality assurance and plan contracting issues.

Monitoring and controlling stage consists of a process, which is performed to observe project execution, so that, potential problems can be identified and it also provides feedback between project stages, in order to implement corrective or preventive actions to bring the project into compliance according to the project management plan.

Closing includes not only the formal acceptance of the project but also the contract closure.

2.2. Defining and Using Project Management Process

What is a project?
Understanding the project management process groups
How to scope a project?
How to launch a project?
How to monitor and control a project?
How to close a project?

3. CONTENT AND CONTEXT OF THE LECTURE

The project creating process of the Design Studio 4 has 6 main steps:

1.site seeing, 2.making of analysis, 2.a. SWOT analysis, 2.b. Concept Hunt, 2.c.physical analysis, 3.prepairing of synthesis, 4.the creating of conceptual background, 5.specifiying decisions of making ecological based projects or creating contemporary architectural examples, 6.the design process of the project; preparing of the technical drawings, plans, sections and elevations, 7.creating of details of landscape, 8.making presentations on the auditorium, 9.discussions of each project on final jury.

Moreover then this, during 15 weeks long semester, informative seminars related with the history of the site, the economical and cultural potentials of the site were given to the students on the first 2 weeks, and from the 3rd week to 10th, three digital programs, which are chronologically photo-shop for architectural representation, sketch up for understanding 3 dimensional modelling quickly and rhino 5 for creating the design of the project, were shown to students on three different workshops. During this process, also 5 seminars about project management, 1 about architectural patterns and geometrical form creating and 2 about light-weight structures were given to the group, as well.

Thus, during the 15 weeks of one semester education on The Design Studio 4 of the Faculty of Architecture, Department of Architecture of Yildiz Technical University, first, it was asked to create one contextual background from each of the 14 students. The project site was Historical Peninsula, Istanbul. Historical peninsula of Istanbul is located on the hearth of the city Istanbul, from where not only Byzantium Empire (East Roman Empire), but also Ottoman Empire has been ruled

chronologically. Thus, the Peninsula has a great potential of historical sites and tourism. Also because it has shores surrounded by Bosphorus, there is the main barracks of Istanbulian fishermen and many raki & fish restaurants across the Peninsula. The main line of the central trains is crossing the Peninsula. The historical Station of Sirkeci is also located on this site.

Thus, students searched to find the best places and related architectural concepts to create new architectural forms on the site while trying to act like real actors on the *praxis* of the architectural field and understanding the process of the project management.

The project group went to the site not only to make analysis of Historical Peninsula, but also to create the best concept and select the most suitable place for their projects according to the analysis on the first three weeks of the semester, two times during the week. Students also made some interviews according to their concepts with the citizens of the Peninsula. From the 4th week to the 8, the process had the synthesis period. During this period, each and every student prepared the synthesis of their projects according to the income datas from the site analysis and the interviews that have been done in the site in the early period of the project process. During the whole of the semester in an office like atmosphere every detail related with the project management were created and each and every student acted like being the actors of a real project management actors.

4. PROJECTS AND DISCUSSIONS
There were 14 submitted projects from the group of the Design Studio 4, on which students searched to find the best places and related architectural concepts to create new architectural forms on an office like atmosphere regarding to the details of a project management during the spring semester of 2013-2014 educational year. The best 5 projects of 14 different location and concept proposal projects to Historical Peninsula are:

1.Historic-a Museum, by Okan Karaman
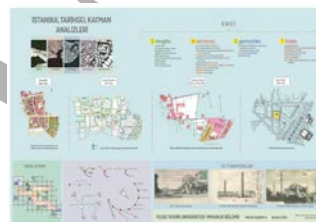
Fig.2. *Historic-a Museum*

The project has a context, which emphasizes the layers on the memory. Therefore, it shows on its design that there are different levels of the culture through years on the same point of the geography.   The museum stands on the right center of the project on which different layers of the city memory is showed with different hint points.

2. Loop- Yenikapi, by Nesibe Kinatas

Fig.3. *Loop- Yenikapi, by Nesibe Kinatas*

The project includes a LOOP, around andinside which the daily life goes on. There is also one builfding of an institute Yenikapi on the herath of the LOOP project which also was designed by the same student with the similar design criterias.

3. Parametric Train Station, by Kadir Kosem

Fig.4. *Parametric Train Station, by Kadir Kosem*

The central train line of Istanbul is from Eminonu to Halkali and the train station of Yenikapi is the2nd centrical staiton of this line after the Sirkeci Main station. This projects emphasis the ipotancy of the Yenikapi train station as re-designing it according to the contemporary architectural language and thus the new station is an example of the prametric architecutre.

4. RAKI- The Fishhermen's Restaurant, by Orkun Yersel
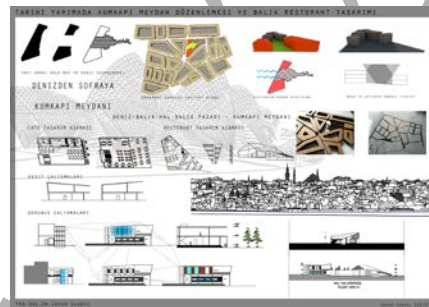
Fig.5. *RAKI- The Fishhermen's Restaurant, by Orkun Yersel*

This project emphasizes to build a new relationship among the fishermen's barracks on the sea shore of the Marmara sea in Yenikapi region, fish restaurants and the fish market. Therefore, just on the center of a triangle of these three already related topic, on a triangular island one parametrical fish restaurant has been designed.

5. The Music Academy of Yenikapi, by Bilal Kivrak
This is a project de-constructivist music academy on the Yenikapi region by the sea shore of Marmara sea. The project area is located just next to the ruins of the ancient Istanbulian city walls. Thus, the project emphasizes the importance of this city walls as de-constructing and re-creating their forms from the beginning. Here is a music academy for young hoods of Gitano families on the region.

Fig. 6. *The Music Academy of Yenikapi, by Bilal Kivrak*

CONCLUSION

Among multiple benefits of the exercise some that stand out are: (1) students participated in solving a creative design problem, (2) students learned to work on an estimated time period, (3) students familiarized themselves with creating designs on a relationship among history and project management while thinking on architecture, (4) students learned to appreciate different point of views on the same project site, (5) students were able to visualize their designs in context, (6) students learned important digital programs for their future designs.

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THE BENEFİTS AND THE LIMITATIONS OF DISTANCE EDUCATION IN UNIVERSITIES: A PATTERN OF TURKISH LANGUAGE COURSE

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ABSTRACT

Distance education is a student- based –teaching method which is conducted by a specific center and communication between teachers and learners are conducted via structured teaching units and electronic media when classroom activities cannot be conducted because of the limitations in traditional teaching and learning methods.

Distance education whose use is continuously becoming more and more prevalent in recent years entails advantages and disadvantages with the awareness that distance education created. In this article, the content of the distance education system which depends on technology and the benefits and the limitations which are caused by that system are dealt.

Key Words: Turkish language, distance education.

INTRODUCTION

Role of education in the development of society is great. Teaching and training started with the beginning of the history and different methods and techniques which have been applied as the time passed and changed everything with the aim of raising the level of learning. In addition to the traditional teaching methods, technology has been used in recent years. With the beginning of the use of internet in education, some problems which could not be soluted till that time has been dealt and it is inferred that it is possible to educate the learners by using contemporary methods as well as traditional methods. As an advantage of technological developments, distance education is a system which paves the way for the students to be educated individually wherever and whenever they like without the needs of physical school environment. Distance education has become prevalent because of the physical inadequacies in education institutions, as a result; disadvantageous circumstances such as social complexities, individual differences and especially geographical distance disappear. What's more, the high-speed of the feedbacks between teachers and learners, improvement in student motivation because there is no limitation of time, low-cost, the objective measuring and evaluation are on foreground. In spite of the fact that there is teaching beneficences in distance education, there are also limitations. Some of the most important problems are that : Some problems which are highly possible to come across may not be solved in time, lack of eye-contact between the teacher and the learner, so trust-worthy feedback cannot be got or the problems stemming from the inadequate technological background are merely some of them.

Courses are conducted via distance education in many departments of the universities in our country. In recent years, giving lectures such as Turkish Language, English, and History in the first grades of the academic departments in the universities is an application which is constantly becoming prevalent. In this study, the application of Turkish Language course via distance education system by analyzing advantages and disadvantages of the distance education system which is based on internet.

What Is Distance Education?

Distance education is the system whose fundamental principle is to educate the learners by taking into account the problems of time and place when the learners are far away from the physical school environment. It is a kind of interactive education which is carried out via information technology without the existence the limitations in traditional teaching and training method on the condition that classroom activities cannot be carried out. In order to maintain the communication and interaction between the learners and the people who plan and apply this education, specially prepared teaching units and various environments are prepared by a specific center (Cagiltay, 2002). Considering all of these descriptions, distance education is an application which aims to bring the learners together even though they are in different places. The learners who are independent from time and place take education interactively in virtual media via available computer technologies and distance education is and innovative and technologic approach which enables the students to follow the information and courses again and again by using the records of the courses.

Historical Background Od Distance Education

Improvements in distance education are parallel with the developments in the field of education technology. Dating from 1728, distance education started in the newspaper "Boston" with the title of "Steno Courses". The application of "Composition Lessons via Letters" for women was followed by Sweden University. A step towards the application of modern distance education was taken in Chicago in 1892 with the foundation the department "Education via Letters. "Hermands", which was founded in Sweden in 1898, became one of the pioneering institutions which gave importance to language education. These institutions became prevalent in USA in the beginning of 1990's and "Correspondence primary Education" started in USA in 1906. Those improvements went on with the help of the professors who established 176 radio stations with the aim of education in 1919 and 1920. "Correspondence High School Education" study courses were also founded in 1923. Some important statements on that topic were delivered 1932-1960. Broadcast of education lessons started in IOWA, USA in 1932. Students' education in France was conducted via distance education during war times in 1939. In 1960, British Open University was founded in England. Distance education in Turkey initially was dealt on the basis of the idea by National Educational Minister, Mustafa Necati in 1927, but the researches on that method went on till 1950's. In 1956, Law Faculty of Ankara University and The Research Institute of Banking and Commercial Law were established. In accordance with the developments around the world, Correspondence education Center was opened within the control of Ministry of Education. In addition, Non-Formal Education Institution made contributions to this method between 1975 and 1978 and these activities were developed by the Film, Radio and television Center of Ministry of Education (FRTM), but this attempt was not success. With the establishment Open Education Faculty in 1981, distance education was formally initiated. In that year, Anatoly University came to an agreement and Instructional Media Project was broadcasted. Open Colleges was founded by Ministry of National Education in 1992. Idea Training Package l University Application which uses internet in Middle East Technical University in 1996 was an important step for this branch. A considerably important step was taken in the branch of distance education via the regulation of Intercollegiate Distance Education Based on the Information and Communication Technologies. Some of the universities which deliver distance education in recent years are here:University of California, Stanford University, Utah University, Yale University, Hong Kong University, Harward University, Middle East Technical University, Gazi University, Dokuz Eylul University, Sakarya University, Karadeniz Technical University, Karabuk University, Bulent Ecevit University…

The Benefits of Distance Education

One of the most important advantages of distance education which enables equality in opportunity and makes massive education easier is that it allows the learners to restudy the lesson topics which they could not understand and to repeat the topics again and again. Because the learners analyze their self –development, they have the advantage of adjusting the order and the timing of the content. What is different here from the traditional learning model is that the problem of different learning levels disappears, so it makes easier learners' education. Another important advantage of distance education is that it creates the solution for transportation problem. The accessibility for those who live away from their centers enables the learners to keep on their education via computers. More objective assessment in contrary to classical methods and low education costs because of the us every little material are other good sides of distance education.

   In distance education which delivers education based information to all over the world by a specific training center for people who also work. They have the advantage of taking education without leaving their jobs.

The Limitations Of Distance Education

Although distance education has many advantages, the limitations of it may be noticed by evaluating it from different points of view. The most eye-catching problem of this system is that eye-contact which enables feedback and communication cannot be used because learner and teacher relations do not exist. That lack of communication between the learners and teachers makes noticing whether the learner has learnt the new topic or not is hard. Although it is possible to watch the courses again and again, the learner cannot get instant feedback. Many learners who are accustomed to traditional methods have difficulty in studying alone and failure is highly possible. In addition to it, redundancy on the quantity of the learners leads to lack of communication between teachers and learners. Highly possible technical problems make distance education harder.

Application Of Turkish Language Course Via Distance Education In Bulent Ecevit University

Distance Education Institution was established in Bulent Ecevit University in 2011 and education was initiated in the scope of bachelor's and associative degree in the first grade compulsory courses in the 2013-2014 academic years. Initially, Turkish Language and History courses were delivered and later, English course was added to that program.

Distance education, which has become really important in recent years, created solution for the problem of inadequacy in the number of classroom. Putting into consideration of establishment of the new departments, rise in the quantitive number capacity of the students, classrooms in the faculties and technical education colleges are not enough and it hinders education. That problem constantly grew in Bulent Ecevit University, deliverance of compulsory courses via distance education allowed having extra classes.

What's more, the academicians who give distance education courses have a better opportunity because academic development has become easier and the system put and end to the problems. The educational materials which are prepared at the beginning of the academic year are uploaded and academicians conduct the courses in accordance with the curriculum in their offices, so it helps conduct successful courses and it allows the instructors to give instant feedbacks.

The learners who have to be both a student and a person in business world have the opportunity to clear away the problem of extra labor force via taking these common compulsory courses in this system. Also, the learners have the opportunity to watch the courses again and again if the cannot understand it to solve the problems at the end of the weekly-course topics and to take answer by either e-mailing or by going to the academicians' offices. Academicians in Bulent Ecevit University are highly-qualified to answer the learners' questions whenever they like. Mid-term, final, makeup and excuse exams are applied on the same day and hour for each course in the whole university. It allows supporting the objectivity of the exams. All first-grade students have the exams for the same goal. However,

Having the exam on the same day and hour creates a problem on the number of the classrooms in the faculties and colleges. This circumstance is accepted as one of the limitations of distant education.

CONCLUSİON

Education system which parallels with the technological developments in our country and the world is constantly developing and improving. Searches for alternative solutions have been maintained to terminate the problems such as redundancy in the number of the students because of the alternative education methods. As one of these solutions, distance education removes the problems of access to learning environment and time by enabling the learners to take courses via computers based environments. What's more, it always helps the learners to get information again and again via records.

As well as the good sides of this method, negative points are observed, too. Firstly, in an environment where technology exists, technical problems restrict the quality and the time of education. Also, success level of the especially introversive students may fall because of the fact that there is not eye- contact and classroom environment in distant education is contrary to the traditional method. Problems which stem from exam-times are another limitation. As a conclusion, distance education system and distance education courses are beneficent for the learners who are good at having access to information, but it is a disadvantageous education for the learners who are accustomed to taking education via traditional method.

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UNIVERSITY STUDENTS' EXPECTATIONS AND PERCEPTIONS OF STUDY ABROAD – CASE STUDIES IN ADMINISTRATIVE SCIENCES

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ABSTRACT

The study is part of a research project on student mobility in a Mexican public university in the northeast of the country and presents here results of undergraduate students of Public Accounting, International Business and Information Technology. The study shows emotions that students experienced during and after their stay at an European university, influencing their cultural awareness, self-directing learning and personal development. With qualitative approach takes context in the contributions by students, obtained through interviews and written reports. The work contributes to rethink training processes, where curriculum support is included to promote intercultural competence in the preparation of students before going abroad.

INTRODUCTION

Often the effectiveness of mobility programs is measured by the number of outgoing students or the number of successfully completed subjects. But who asks in the sending faculty actually to the personal learning outcomes, the emotional stress situations and the personal enrichment by going abroad? Are those emotions that allow or prevent self-directed learning in an intercultural context and can determine the success or otherwise of a stay abroad. An overview of the available literature shows that the most important effects of mobility programs on people can be identified in the comprehensive development of the personality and language skills and intercultural sensitivity of the participants. From an individual perspective, the study abroad is an opportunity for learning, covering the development of the intercultural experience, sensitivity towards one's own and the other culture, language skills, vision of the world changes and wide, and reflection and cultural awareness increases, plus a greater appreciation of their own culture was detected (De Wit, 2005; Didou Aupetit, 2010; Gacel-Avila, 2012). The present work is part of a complex study lasting three years. Therefore it includes only the data related to undergraduate students in public accounting, international business and information technology and their experiences in European universities. This work is based on a brief conceptual review of literature on the importance of emotions for learning and tries to explore the relationship of emotions experienced with intercultural learning.

THE STUDY

Participants in a mobility program are located in a cultural space, where their interactions and modes of communication away from a familiar environment and tread uncharted territory. "Every step of my worldview is based on a given stock of past experience, both times my own immediate experiences and the experiences that are transmitted to me from my peers and especially my parents, teachers, and so on" (Schütz; Luckmann, 2003, p. 33). Qualitative research of these approaches are based on theoretical thoughts, where the description of the world of life help in understanding what is taken for granted culturally forms and strategies of action, to recognize structures and patterns of reproduction social (Flick, 2000, p. 106).

Concepts of intercultural and self-directed learning

In term of M. J. Bennett intercultural learning is: "Acquiring increased awareness of subjective cultural context (world view), including one's own, and developing greater ability to interact sensitively and competently across cultural contexts as both an immediate and long-term effect of exchange" (Bennett, 2009, p. 2).

It is the consciousness that also allows self-directed learning. This concept is in educational speeches from the seventies of the last century with very different definitions. For purposes of defining term study focuses on MS Knowles. The author proposes that self-directed learning is defined as: "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating their learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975, p. 18). The concept shows an upper part on self-determination and self-control. It is based on the assumption that the learner determines the learning process target, time, place, content, methods and support. Both concepts require awareness and motivation of its actors to perform in a particular cultural context. It is here, in a foreign context, where the student with an independent self-concept uses his skills acquired, where applicable strategies learned autonomously. This requires that the participant in an exchange program has self-confidence, self-assurance, self-respect and self-acceptance, positive self-esteem and affective component, to deals with situations in unfamiliar areas. What moves or stops the human being are his motives and emotions. Those forces that move the person develop implicitly and not in the same way for everyone, but depend on the experiences in a stimulating and reinforcing environment. The stimulating experiences a positive influence on the willingness and ability to learn (Arnold, 2005, p. 1; Siecke, 2007, p. 40).

The cognitive adjustments in participants in mobility programs abroad it is reported by J. Mestenhauser (Mestenhauser, 1998, pp. 3-7). The author lists 13 specific cognitive settings: ability to recognize differences; understanding the differences between emic and etic thinking; ability to recognize a knowledge gap; ability of intercultural communication; ability to recognize missing knowledge; comparative thinking ability; exchange capacity self-perception; ability to know how to compare the country; possess knowledge of other countries; possess diagnostic skills; understand the differentiation; ability to recognize trends in other cultures; understanding of cognitive complexity and cognitive integration. Besides experiencing limitations in their own cognitive maps, discovered, in other words, the educational system has not prepared for some of the things they face, and there are many things we are not aware. "The results are uncertainty and insecurity, which have cognitive and affective consequences, with respect to decision making and critical thinking" (Mestenhauser, 1998, p. 3).

By inhibiting as a defense mechanism, it is possible to protect the self-concept unexplored stimulus to such an extent that prevents the person function in an unfamiliar culture. Therefore it is important to raise awareness to the person of these defense mechanisms to minimize inhibition and to advance the learning and development (Trejo, 2011, p. 113).

Emotions and learning

It exists different theories and concepts about emotions. Each has a particular viewpoint regarding the reflection of reality. Older theories distinguish primary emotions (fear, anger, joy, sadness, trust, disgust, anticipation, surprise) and secondary emotions that are considered as a mixture of primary emotions. A close relationship between emotion and cognition, as well as motivation and behaviour is also assumed. With reference of Holodynski and Friedlmeier (1999) Siecke classified tree groups of paradigms of emotions: structuralist, functionalist and contextual (Siecke, 2010).

The functionalist paradigm is the dominant view today. However, the study focuses on the contextual paradigm, because the concept of social constructivism. This concept takes into account that emotions are not only specific personal experiences, but are rooted in culture. Each individual has to transform them into something personal and intrapsychic during the socialization process. Emotions and forms of regulation are built in interactions with other people together. Such feelings may be subject to rules, which in turn are embedded in social norms and expectations (Siecke, 2010, p. 33; Hochschild, 1990).

For self-directed learning process the presence of feelings subject to rules is also supported. Those rules take place in a certain culture of learning, characterized by norms, values, attitudes and behaviours of a group of people. The rules are involved in, for example, the implicit or explicit demonstrations, everyday wisdom, moral imperatives and requirements that influence the behaviour and emotional experience of the student. These rules may be present in materials and learning support as advice, as can be transmitted in an educational institution or a company (Siecke, 2007).

Upon approaching another culture, one receives outside stimuli of their own culture, which means organize them into a system of beliefs and values other than the known. This requires understanding and placed on a scale of foreign values thus measured and evaluated with a 'sheer scale' of the alien culture. It requires also understand himself in his personal story, and recognize their own culture in its social history, to the beliefs, values and norms. It seems to be less likely to happen when in contact with a foreign culture, because it demands a very intense rational and emotional work (Trejo, 2011: 110).

Focus and objective

It is a mixed approach used with predominant qualitative part. Are documenting different realities lived abroad and the impact of their experiences on academic and personal lives of students. It starts from assumptions that students are active participants in cultural, educational and social subsystems. Main questions are: What motivated students to study abroad? How can emotions affect learning abroad? Exist indication of increased cultural awareness and cultural learning?

Participants are 23 undergraduate students of mobility programs of the School of Public Accounting and Administration in a Mexican public university in the northeast of the country, take part of programs in French, Germany, Italy and Spain. The age of participants is between 19 and 20 years. The project consists of three phases, in which experiences are reported before, during and after the exchange. Survey with open questions in the different phases will be send to the participants, with a brief interview (Egan, J., 2008, p. 245). The information has been processed with content and discourse analyse. The project is limited to a case study for lack of various resources, also because the number of subjects is small and specific in training. The viability of information can only be described on the basis of data collection and interpretation of experiences of this group.

FINDINGS

Motivation to study abroad

Participation in an exchange program certainly for many students is the most moving part during the career, seeing the professional future, as expressed by one student: "This exchange is an opportunity to grow in all

aspects, it helps to acquire knowledge, academically and culturally. Also today, the competition becomes more demanding, and we have to be prepare to take on challenges and develop in an international experience" (A04).

Also ambitious personal desires out a motivating source for the participation in these programs, as another student said: "…expand my network of contacts around the world, and … I had the opportunity to come to a school where more than 30% of the students were from 38 or more countries, which would give me a great opportunity to meet people from all continents of the earth and to benefit me in both personally and professionally" (F08).

Another student express their expectations for the exchange, in addition to experience another culture and lifestyle, it is departing form an affluent daily life and experience true emancipation:"…also an important point is to become independent a bit, meaning that being away form ma family and comfort that one usually have when you have it all at least in a simple way as it is having a family, desire to travel, meet different cultures outside of Italian culture; share a bit of Mexican culture" (I017).

Studying and teaching-learning techniques

Mentions a student: "I attend courses in the master's level, so I inquired about it. Here takes the master's level only 1 year and have less content that in Mexico, but despite having less content, the content is very rich in teaching and teachers take the time to explain each of the aspects of each topic. In a month of school we have seen only three subjects in each of one, when figuring seen in Mexico and about 5 topics or maybe more. Yet the emphasis on each topic is deeper, more personalized classes" (E01).

The extract shows a difference between academic level in Spain and Mexico. For this student it was not difficult coupling to study at a higher level.

Regarding the interaction between students is interesting the organization and cooperation to achieve a common goal, as another student has lived in France: "At school all were the work we do together. We made a final work area. I realized that here was customary to many team meetings for each job. In these we agreed on everything related person to work from agreeing on the issue, to review the final work instead of dividing all online. I felt very well work this way because, the real teamwork felt, and is part of the experience of living and working with international students" (F015).

Asking about academic work and what he is further complicated answers a student the following: "The matter that I find a bit more complicated Finance, since it is a lot of material, so I'll have to start getting ready with plenty of time to the final examination and also for the project. If I had to compare my academic work with that of Mexico, I think is a little busier pace in the German university, but I really like, since I'm in college with a very good academic level (A04). In this case the student realizes that deeper study is to prepare in advance and that is something unknown to her, despite a very good academic and linguistic level it has.

Also tells another student the difficulty level of understanding: "There is a matter that personally makes me feel as if I had never studied a career, my forte is not finance, and this matter Investment Banking for me it was a headache, is , classes were based on the teacher talked and talked about issues that truly understood only 10% of the total, still I do not have a test but I feel as nervous as to finish the exam will be oral; I hope to be ready by then "(I016).

To be pursuing a subject that requires more dedication than it usually invests the student, the stress level increases and causes those symptoms. In addition we faced an oral examination, whereas in his career at the university of origin has not had to live. Such tests are not scheduled in the curriculum of his career. This lack in preparing academic culture that is different for example in Germany and Italy to that of Mexico is shown.

Self evaluation and lived emotions

The extent to which participants come to an assessment of their capabilities and achievements, what they learned over time while outside your country, this is intended to prove. In the descriptions, the students point out in particular that they had to take their lives into their own hands independently and responsibly, reaching a level of emancipation as a person, including managing time and money, to orient themselves in what they want to achieve in their life and what they have to do so soon, to fulfil it, moments to think ahead. It will increase the level of awareness for different moments of their life. Following are some excerpts from interviews:

"…Give me time to think why I'm here, what I am, what I really want, but most get everything I want, especially after this great achievement, which at first I took some sacrifices this exchange, like leaving my work, but in the end you think it's for good, and are perhaps opportunities later in life could not be similar; I also feel an increase in the sense of valuing what we have, whether much or little " (I016).

It supports the same students who participate in the exchange marked him emotionally, impact of several students is admitted: "... one of my wishes was to become independent a little, at least I could say that emotionally, and clear in this regard I feel a big change, emotional growth that strikes me the truth; I find few months I've been here and has been great this step, I can say that being on time alone ... "(I016).

Says another student to organize their achievements: "I feel that in the time I've been in France, I learned to better organize my time and money and therefore I have become more responsible" (F015).

Change in the cultural awareness

When faced with a different culture there are moments that impact both, which may impact the emotions experienced in personal development to realize secrets of the person. As a student expressed: "As to my way of seeing the world that has itself changed a lot, I always thought it was a very open to new things, but I've noticed no. Many things still surprise me nor my imaginary things, but small things like diversity in the meaning of freedom is not the same for a Frenchman to a Mexican or Moroccan. Cultural diversity is something you have to learn "(F021).

Another student expresses change in consciousness to change a habit of study: "I can also say now that changed a bit my way to study because now I do most days in advance because I am aware of the great content coming in the examination, when back in Mexico I used to do it a day earlier " (F020).

The same student admits a change in your personal and environmental consciousness, realizing you have matured and made responsible for their daily life: "As a person, I have noticed several changes. Apart from being responsible and punctual in school, also it became a daily habit for when out and do my thing. Another thing is that I became more independent, this thanks to I have to do things on my own, paying rent, banking, cooking, cleaning, managing my time and money, wash, etc. a lot of things I was not used to doing there and here I learned how. I have also become healthier since here way long to get to everything and also because it became a habit, you realize that one [no] need the car to do all your daily life and I like it because I caught affection for the city and when walking around. "(F020, [CD]).

CONCLUSIONS

The study points out some of the different realities lived abroad and how these experiences impact on academic and personal lives of undergraduate students in administrative sciences. It is noticed that students participating in exchange programs changed cultural awareness, as an increase in personal development. Participation in a mobility program increases the advance in cognitive, self, intercultural learning. Although the results extracted from the complete study can be structured under the following topics:

1) Personal factors such as increasing personal autonomy and academic improvement, changes in self-concept, increased tolerance, economic planning, capacity for coexistence, positive and negative aspects of the experience and increased level of frustration, if the own culturally conditioned ideas encounter other cultural realities.

Loneliness in moments of sadness, knowledge of the language and culture of their own, like the realization of a dream enable participants to support changes in self-concept personal growth.

2) Educational factors as cognitive, self-directed and intercultural learning.

3) Academic factors as the duration of undergraduate studies note differences with the country of origin, which can be frustrating for students, if demand exceeds the level of personal attainment.

4) Supporting factors as preparation on intercultural aspects besides the linguistic, training the cultural aspects, including the academic culture among other tools to help develop intercultural competence.

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USING LIFE LOGGING SYSTEM FOR CAPTURING AND ORGANIZING VIDEO NOTES

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Video cameras are mainly used for recording the moments we had during special occasions, trips/holidays, and family activities. Using videos to record learning activities of the learners or scientific researches of the scientists are also becoming widespread. Organizing a growing body of videos such as video notes, recorded interviews and recorded videos for capturing personal moments takes extra effort. By using a video capturing device integrated to the personal life logging system can solve the organizational problems. Life logging systems ease accessing life log data later by locating them on timeline of the individual. In this study, the first researcher captured videos of both the projects he conducted and his life experiences via a life logging system for two months and then the recorded data in addition to the other life logs is placed on his timeline by being carried over cloud system. Via a life logging viewer, videos are retrieved, interpreted and their contexts are obtained. At the end of the application period, usage of a video recording device attached to a life logging system is efficient as a project log-book.

Keywords: Life logging, video capturing, taking video notes, project log-book

USING OF IN VITRO DIGESTION TECHNIQUES IN YOUNG RESEARCHER' EDUCATION

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İN VİTRO SİNDİRİM DENEMELERİNİN GENÇ ARAŞTIRICILARIN EĞİTİMİNDE KULLANILMASI

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ÖZET

Yükseköğretim kurumlarında akademisyen olarak görev yapacak kişilerin yetiştirilmesinde en önemli basamaklardan birisi master ve doktora eğitimidir. Lisansüstü eğitimde verilen teorik ve pratik dersler bu kişilere gerekli alt yapıyı oluşturmada önemli katkı sağlamakla birlikte bu kişilerin gerek master-doktora eğitimleri sırasında gerekse doktora sonrası bilimsel çalışmalarda yer almaları da eğitimlerinde önemli bir yer tutamaktadır. Bu çalışmada Erciyes üniversitesi araştırma projeleri birimi tarafından desteklenen "Zahter (Thymbra spicata I.) Uçucu Yağının Ruminantlarda Performans ve Rumen Metabolitlerine Etkisinin *İn Vitro* ve *İn Vivo* Yöntemlerle Belirlenmesi ve Ekolojik Yönden Değerlendirilmesi" isimli proje kapsamında yürütülen in vitro sindirim denemelerinin sonuçları ve bu çalışmada yer alan genç bilim adamı adaylarının eğitimine katkısı değerlendirilmiştir.

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 Keywords: İn vitro, sindirim denemeleri, lisanüstü eğitim, ekolojik değerlendirme

USING SOCIAL NETWORK ANALYSIS FOR A COMPARISON OF INFORMAL LEARNING IN THREE ASIAN-AMERICAN STUDENT CONFERENCES

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ABSTRACT
This work deals with a comparative study of three Asian-American student conferences: Taiwan-America Student Conference (TASC), Japan-America Student Conference (JASC) and Korea-America Student Conference (KASC). It is based on the literature review about data visualization methods and the adoption of ad hoc Social Network Analysis (SNA) tools. It is geared to analyze available data about participant interactions and sub-group dynamics. Such data refer to a full-coverage observation period, that is 30 days before to 30 days after the conference application deadlines.

INTRODUCTION
Academic events aimed at students are generally geared to foster networking among young prospective professionals and to provide them with significant opportunities of personal growth. In particular, knowledge sharing among people having different cultures and background is one of the key and valuable goals of this kind of events, since it plays a key role in the development process of innovative solutions (Yusuf, 2009; de Castro, Rodrigues, Esteves and da Rosa Pires, 2000; Burton-Jones, 2001; Iammarino, 2005; Palmieri and Giglio, 2014).
Young participants aim to enrich their cultural and professional background in order to become more competitive in the eyes of the social community and the labor market (Di Pietro and Anoruo, 2006; Takeuchi, 2006).
Forasmuch as a number of data visualization methods exist in field literature – mainly due to the even bigger volume of data and information available in different contexts (North, 2001) –, the selection of the proper one takes on a strategic dimension. In fact, each technique may lead to adopt a specific perspective of analysis and, thus it may affect the whole research (Khan and Khan, 2001). Both results and quality of research are influenced by its own design and methodology. Therefore, field scholars keep on focusing on data visualization (Khan and Khan, 2001). Different approaches on data visualization may generate different analysis and interpretation. As regards this research work, designing the data visualization process, clustering data visualization methods, and integrating them with each other definitely represent some of the key factors affected by the selection of the proper data visualization method. In this context, research design and methodology address the data scientist's strategy (North, 2001; Ware, 2004; Spence, 2001).
The main aim of this paper is that of analyzing three student conferences by means of SNA-related data visualization techniques about the corresponding online social networks (OSNs) communities. This way it is possible to better understand network dynamics and user interactions – e. g. by predicting conference hot topics and communities of researchers with shared interests.
The second paragraph includes the literature review about data visualization. The third section deals with research methodology. In the second to last section, the main results are visualized. The final section ends with conclusions.

RESEARCH IN THE FIELD OF DATA VISUALIZATION METHODS
The aforementioned literature review is dealt with in the following.
THE SIX-STEP MODEL FOR DATA VISUALIZATION
In (Khan and Khan, 2001; Card, MacKinlay and Shneiderman, 1998), data visualization has the meaning of representing a given phenomenon by means of tools showing it according to the way it is visually perceived. Data visualization tools generally include computer-supported solutions and are geared to boost data scientist while analyzing datasets and enriching their knowledge background (Teyseyre and Campo, 2009; Khan and Khan, 2011). Indeed, graphical description of data ensures to easily understand phenomena and to capture more details and to better communicate research findings (Tufte, 1997). By the data scientist' perspective, it provides the opportunity to display, categorize, sort and disseminate results under multiple slants, thus making it easier to adjust them according to the application context at hand (Kowalski and Maybury, 2002; Butler, Almond, Bergeron, Brodlie and Haber, 1993).

In the field literature about the visualization process, a six-step model (Chittaro, 2006) is proposed. It is composed of the following steps:

1) The first step is about mapping and deals with encoding and rendering data in the proper way based on the research requirements. It concerns with making data representation compliant with real-world features of the phenomenon at hand.

2) After the completion of data mapping, a further step is required. It is about selection and is performed by data scientists in order to distinguish worthy data from negligible ones.

3) Data should be presented to research stakeholders and disseminated during events devoted to the target audience. They should be conveyed in an intelligible way.

4) Nowadays users are even more interested in checking, examining and re-elaborating available data. Therefore, interactivity is a key feature of a well-defined data visualization process.

5) The so-called "human factor" is very relevant in terms of usability and accessibility, since considering special needs of specific users and providing them with a better ease of use represent two key issues for the data visualization process.

6) Finally, evaluation of expected results is geared to determine whether the goals have been achieved or not. In this context, the degree of effectiveness and the achievement of expected results represent the core of the evaluation process. By an operating slant (Teyseyre and Campo, 2009), the evaluation process can be realized empirically – e. g. questionnaires, interviews, focus groups, controlled experiments –, or analytically – e. g. cognitive walkthrough, expert reviews.

OVERVIEW OF DATA VISUALIZATION METHODS

This paragraph contains a literature review about visualization methods (Khan and Khan, 2001):

1) Table is an easy-to-understand and flexible tool. It can be adapted to different contexts and is geared to render data in compliance with a frequently encountered format full of variables and values.

2) Pie Chart is a roundish-shaped tool divided into several slices. Variables are represented by slices and valued at numerical values.

3) Bar Chart is a very popular tool adopted in order to render data. It is highly flexible and adaptable to different contexts.

4) Histogram is useful tool in order to represent a number of categories of variables. The clustering process depends on the underlying statistical elaboration of data.

5) Line Chart is among the most commonly adopted tools and is composed mainly of a set of points linked to each other.

6) Area Chart is a tool visualizing data in a circumscribed area.

7) Scatter Plot is a tool rendering points in Cartesian coordinate.

8) Bubble Chart is a Scatter Plot endowed with points of different diameters.

Multiple Data Series integrates some of the aforementioned tools.

RESEARCH METHODOLOGY

Academic meetings organized for students are mainly geared to enhance knowledge and idea generation and sharing. Indeed, such activities play a key role in student conferences and are triggered also by disputes among participants (Engeström, 2000). Moreover, students lack experience in terms of professional networking and, thus they are not used to act in such environments. In addition, they experience significant dissimilarities in terms of cultural background. This is even more true if Asian-American student interactions are considered. As a matter of fact, attendees may experience also difficulties while communicating and building on a shared vision. Organizers can adopt ad hoc tools and techniques in order to trigger knowledge sharing activities and to overcome difficulties of participants in terms of working in groups around specific sub-topics related to the conference. In particular, students and, more in general, conference attendees tend to be lazy when it comes to deepen hot topics. Moreover, further obstacles may be generated by specific conference rules, which may influence participants' behavior (Aramo-Immonen, Jussila and Huhtamäki, 2014).

The conference environment is generally set up to maximize participants' engagement. However, there also innovative tools and techniques, which may foster students' engagement. In this context, OSNs communities prove to provide conference participants with a more stimulating environment, thus allowing them to explicitly convey their ideas (Aramo-Immonen, Jussila and Huhtamäki, 2014).

In the light of the role played by such innovative solutions, many conference managers decided to adopt them for their events. They did so in order to trigger collaboration and knowledge sharing activities in contexts characterized by cultural barriers (Jussila, Huhtamäki, Kärkkäinen and Still, 2013). OSNs communities represent an effective tool in order to begin the aforementioned activities before the starting of the conference. Moreover, they are an additional source of data and information, which may help predicting the emergence of specific hot topics and the development of professional sub-networks.

RESEARCH METHOD

Data extracted during the pre-event online activities at hand help data scientists to analyze attendees interactions

before the starting of each conference. The basic assumption is that such OSNs communities exist and are rich in terms of interesting and reliable data related to Asian-American student networks (Card, Mackinlay and Shneiderman, 1999; Benbasat, Goldstein and Mead, 1987). Therefore, data visualization tools and methods play a key role by a methodological point of view, since this research has been designed to exploit data visualization techniques (Ware, 2004) in order to analyze three conference-related communities on Facebook - i. e. the Taiwan-America Student Conference (TASC), the Japan-America Student Conference (JASC) and the Korea-America Student Conference (KASC). The time intervals selected in order to observe each conference and to collect the corresponding data cover from 30 days before to 30 days after application deadlines.

The research method is compliant with the data science research approach (Hey, Tansley and Tolle, 2009) and is focused on capturing reliable and relevant data and information from online sources (Davenport, 2014).

METHODOLOGY VS CONTEXT-DEPENDENCY ISSUES

Event managers planned specific activities in order to foster knowledge sharing and collaboration before, during and after the three conferences at hand. Most of the pre-event activities can be observed and examined by focusing on the OSNs communities associated with the Asian-American student conferences (TASC, JASC and KASC), which are being held in July-August 2015. Such academic meetings are held periodically. OSNs communities can not provide analysts and data scientists with the whole set of data and information about attendees' interactions. In fact, online sources are able to capture only a quota of the pre-event patterns involving students. However, such a quota is intended to be relevant since the attendees are young and generally highly connected. Therefore, they are generally inclined to share ideas, knowledge and experiences, to establish deep relationships with each other and also to gain knowledge from the novel things they get in touch with. Ultimately, the online networks at hand – i. e. TASC, JASC and KASC, which are composed of 2,439 users, 1,481 users and 654 users, respectively - and the corresponding data and information constitute an extremely large and significant set of raw data to work on.

PROCESS OF DATA-GATHERING

The design of this research work led authors to adopt the NetVizz app v1.2 (Rieder, 2013) in order to gather useful data. In particular, the data-gathering process was realized by means of a generic Facebook profile in order to log in into such a widespread OSN. Afterwards, the three online student communities at hand were included among the liked ones by the above-mentioned Facebook profile. By a methodological point of view, NetVizz extract reliable data from Facebook makes it possible to render such data by means of a number of visualization tools and methods, thus ensuring independence of the data elaboration process from the specific software solutions, methods and techniques selected by authors (Rieder, 2013). Data visualization is performed with Gephi software (Bastian, Heymann and Jacomy, 2009), which is one of the several NetVizz-compatible solutions. Such a software includes a lot of algorithms, filters, metrics and personalization options in order to better examine data and to contextualize the analysis according to the aforementioned context-dependency issues. It also ensures flexibility, scalability, WYSIWYG and user-friendly features. All the required data and information for the NetVizz queries are reported in the following (Table 1). This way, transparency and reproducibility of the research work at hand are assured.

Student conference	Facebook ID	Data collection and extraction (day/month/year)		Likes
		From	*To*	
TASC	225845154251232	29/01/15	30/03/15	2,439
KASC	333942935541	04/10/14	01/02/15	654
JASC	114135335328456	01/12/14	30/01/15	1,481

Table 1: Data about data-gathering by means of NetVizz.

DATA PRESENTATION AND RESEARCH FINDINGS

The number of nodes is 122 for TASC with 281 directed edges linked to them. JASC counts on 143 nodes and 190 directed edges, while the graph of KASC is composed of 40 nodes and 52 directed edges.

Understanding how graphs are close to complete is a key research issue in this field and led authors to measure graph density. Related metrics and algorithms provided the following values: 0,009 for JASC, which is affected by a very low level of connection among its 1,481 members; 0,019 for TASC, which provides the middle value that is the median; 0,033 for KASC, which represents the highest value of graph density and is also associated with the lowest amount of likes.

Triggers planned by event managers tend to fail due to the very low levels of graph density, since such graphs

prove to be less characterized by interactions among participants. Changes in Facebook privacy policy determined the loss of some attributes, which can no longer be extracted from the OSN. Therefore, this exogenous factor – further detailed in the conclusive section - should be taken into account while designing future research works in this field.

Afterwards, also the connected components were examined. In particular, authors considered strongly and weakly connected components (hereinafter SCC and WCC, respectively) for each graph (Robert Tarjan, 1972). The number of WCC is equal to 1 for TASC, 3 for KASC and 1 for JASC, while SCC are 122 for TASC, 40 for KASC and 143 for JASC.

Based on the above results, student sub-graphs, which mirror the corresponding virtual networks of attendees, reveal a peculiar interaction pattern. In fact, they gain experience and share knowledge only within their own small sub-communities. Hence, they interact only with colleagues belonging to the same sub-network and act separated from each other community member. Strong intra-component ties emerge, while each OSNs community is divided into several SCCs. Moreover, graph dynamics and members' behavior do not reveal an elitist inclination, due to the widespread inclination in each community to establish stable relationships among SCCs members. The aforementioned changes in terms of Facebook privacy policy did not allow to obtain data and information for a comparative study concerning real-world vs virtual communities. In particular, lack of data due to such an exogenous variable led authors to be unable to clearly state whether virtual communities mirror real-world relationships among students or not.

Modularity is a further element generally taken into account in order to better analyze sub-network communities. In detail, it is measured according to different metrics and algorithms. Modularity analysis in Gephi is composed of Betweenness Centrality Distribution, Closeness Distribution and Eccentricity Distribution. Standard parameters and resolution settings have been adopted (Blondel, Guillaume, Lambiotte and Lefebvre, 2008; Lambiotte, Delvenne, Barahona, 2009). KASC and JASC are characterized by comparable values in terms of modularity and modularity with resolution (>0,500), while TACS is associated with a lower values (=0,344) if compared to them. In addition, authors quantified the number of communities for each student conference: TASC, KASC and JASC are associated with a total amount of 9, 7 and 5 communities, respectively. Parameters and resolution settings stay unchanged. Therefore, homogeneity of data is ensured as well as the analysis of the three student conferences.

Moreover, authors determined shortest paths (SP), average path length (APL) and network diameters (ND) for each community: the three networks showed the same number of APL and ND, which is equal to 1; graphs associated with KASC, JASC and TASC count 52, 190 and 281 SP, respectively. HITS and centrality measures have been quantified based on Brandes (2001), Kleinberg (1999) and Brin and Page (1998).

Ultimately, the overall analysis of the network tends to confirm that there are several components and the degree of connectedness within most components is high. Data gathered from Facebook are shown in Table 2.

Data/Conference	KASC	JASC	TASC
Size distribution (# of nodes)	40	143	122
# of directed edges	52	190	281
Graph density	0.033	0.009	0.019
Weakly Connected Components (WCC)	3	1	1
Strongly Connected Components (SCC)	40	143	122
Modularity	0.539	0.501	0.344
Modularity with resolution	0.539	0.501	0.344
Number of communities	7	5	9
Shortest paths (SP)	52	190	281
Network diameter (ND)	1	1	1
Average path length (APL)	1	1	1
Betweenness Centrality Distribution (BCD) count range for values = 0	$[40-\varepsilon; 40+\varepsilon]$	[140; 150]	[120; 130]
Betweenness Centrality Distribution (BCD) count range for values = 1	$[0; 0+\varepsilon]$	$[0; 0+\varepsilon]$	$[0; 0+\varepsilon]$
Closeness Centrality Distribution (CCD) count range for values = 0	[12,5; 15,0]	[0; 10]	[10; 20]
Closeness Centrality Distribution (CCD) count range for values = 1	[25; 27,5]	[130; 140]	[100; 110]

Eccentricity Distribution (ED) count range for values = 0	[12,5; 15,0]	[0; 10]	[10; 20]
Eccentricity Distribution (ED) count range for values = 1	[25; 27,5]	[130; 140]	[100; 110]
PageRank Distribution count range for values tending to 0	[40-ε; 40+ε]	[140; 150]	[120; 130]
PageRank Distribution count range for values tending to 1	[0; 0+ε]	[0; 0+ε]	[0; 0+ε]

Table 2: Data from Gephi.

CONCLUSIONS

Latest changes in Facebook privacy policy determined the lack of data and information associated with the detailed investigation of potential conference hot topics. Such an exogenous variable affected the availability of reliable and pertinent data concerning with users behaviour. Therefore, analysts and data scientists risk to observe the failure of the triggers planned by the event managers due to the lack of data about the resulting users behavior. In fact, outcomes associated with triggering efforts in the conference communities may be considered erroneously insufficient. This happens because of the aforementioned recent limitations to the quality of data extracted with the NetVizz app, which make it difficult to capture both negative and/or positive outcomes linked to the conference triggers.

In addition, the added value of this study is also determined by the opportunity to exceed the above-mentioned limitations due to exogenous factors. Indeed, research results showed that the overall structure of this work is able to lead authors to the identification of possible sub-group dynamics and, hence, to model the underlying interaction patterns. Moreover, it represents also a guideline for the design of future research efforts geared to investigate and to determine the interactions among conference participants in pre-event online settings. Ultimately, the effectiveness of the adopted research methodology keeps unchanged since its reliability stay valid also when the expected quality of available data changes.

This work represents also the very first field application its kind of the proposed methodology, which is geared to determine both hot topics and human behavior in academic contexts. Therefore, this reveals also the exploratory nature of this paper, which aims to encourage field scholars to further deepen such topics and to develop more detailed research frameworks for the investigation of attendees' interaction patterns. In the light of this, the first work about such a hitherto unexplored field unveils the significance of predicting event hot topics and related participants' behavior by means of novel tools and visualization methods. In fact, the effectiveness of the methodology, the novelty of the visualization tools and techniques adopted and the research results prove how the study structure may be contextualized also for other research works applied to different fields.

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USING SOFTWARE ADAMS FOR UNDERSTANDING KINEMATICS AND MECHANICAL IN ENGINEERING COURSES

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ABSTRACT

The present work is dedicated to evidence that the inclusion of special software for simulation of mechanic elements can help the students for a better understanding about some mechanical topics such as vector and force analysis. The engineering students take a class named solid mechanics which is basic to understand and develop more sophisticated projects about mechanics and mechatronics devices, Professors taught to 3 students groups with a classical methodology and other 3 groups including the solution of many problems using computer simulation. The software used to teach these classes was ADAMS provided by PACE. This software was employed successfully with a good response for improving the students' performance. The software provided powerful graphical tools to analyze many dynamical concepts and expand the possibilities to modify any specific problem motivating students.

Keywords: Student performance, Mechanical topics, Improvement on teaching-learning process, Use of computer simulation.

INTRODUCTION

Many authors [1-4] have reported topics related with the influence of the new technologies on the teaching and learning process; some of them have exposed the influence of the new electronic and computational devices such as cell phones and internet to be in contact with science, technology, arts, politics etc. some others [4-7] have commented about the influence of some web-sites as a source of information for young students. Nowadays, the fact is that we are in contact with the knowledge because we are connected all time with any electronic access; and now the needed to employ appropriately these technologies to improve our understanding and cultural learning is evident [4-6]. In a previous work the present authors [8] validated the importance of the increment in practical time over theoretical lesson for programming and numerical methods courses. The purpose of this work was to ensure the improvement of the teaching and learning process of the industrial engineering students on some difficult topics for the course of solid mechanics.

Statics and dynamical analyses [6 & 8] have been always difficult topics to understand for engineering students. Physical and mechanical principles are complicated and the solution processes are extended and complicated. The methods use iterative procedures with mathematical operations which are repeated again and again becoming tedious for students. Thus some computational methods have been developed in order to improve previous designs, to build and test mechanical components and prototypes, and reduce costs of manufacturing. These methods are complex, but thanks to the progress in programming and the increment in the computer capacities these software has become friendly tools. The software packs developed are used in many industries for engineers and designers. Inside universities many of them are used to train the students on engineering projects and for a better understanding about some of these topics. These software have been programmed including powerful tools for reading data, creating elements and models, establishing boundary conditions etc. these software also include nested loops to solve a variety of complex applied numerical methods.

BASIC CONCEPTS AND GEOMETRICAL ELEMENTS.

There are some geometrical concepts that students must know to create a mechanical element, the ADAMS is modular software that allows making a kinematical and dynamical analysis. Here it is necessary to create a model which can be formed of many bodies (complex mechanism that will be formed with the elements to be tested); and then it is necessary to establish the boundary conditions related with the motion of every element.

Finally it is necessary to know the use of the display tools for the analysis. The first step is to start placing simple geometrical basic elements such as cubes, spheres, lines surfaces etc. which will be parts of the geometrical model; these element are saved in an ordered sequence to be analyzed and displayed; these bodies can be solid or flexible elements, and then it is possible to interact with them using Boolean operations such as geometrical subtracting, adding, intersecting etc. these operations are useful tools employed to created more sophisticated bodies. Then the ratio cause-effect is established declaring grades of freedom and movement conditions between every element. Then the animation is run to show the student how the model would work. Finally the options to graph any parameter such as speed or displacement are displayed and show the analysis about the behavior of the element chosen.

IMPLEMENTATION OF THE SOFTWARE ADAMS TO CREATE MECHANICAL ELEMENTS.
There are some tutorials and animated videos about this software with specific topics which can be download directly from some internet web sites. In figure (1) is shown an example of a cam-valve model typically used to illustrate the movement of some elements, this is a very popular tutorial available for engineering students; and the sequence during the animation is explained following:
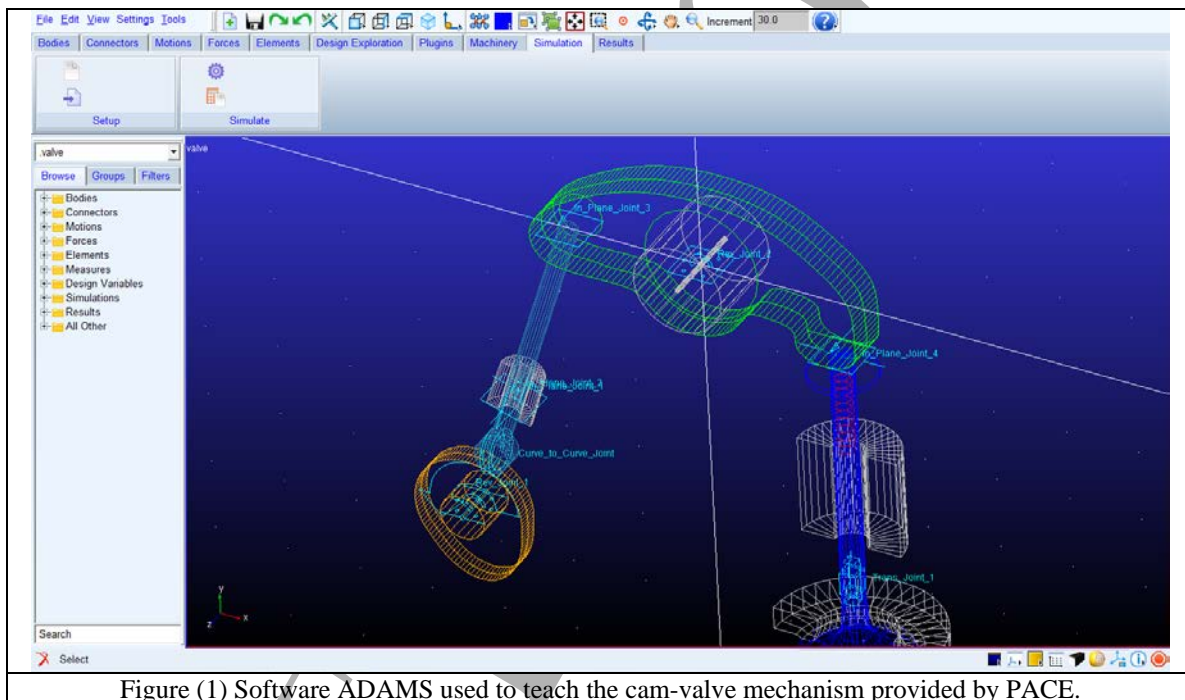

Figure (1) Software ADAMS used to teach the cam-valve mechanism provided by PACE.

The cam placed on the left provides the initial movement, the cam is rotated and its particular geometry allows the first rod element be displaced up in a linear direction toward the rocker which also is impulse rotating around the pivoting center to move the secondary rod and displacing the valve on the wall placed in the right lower corner. This mechanism is used in all the combustion engines of cars and trucks; and connects the cam shaft to the main cylinders block allowing the opening and closing of the chambers of the engines. It is here where the working process in the engines is taken. The opening and closing of the cylinders allows the entrance of the fuel and the expulsion of the exit gases to make possible the combustion which generates the working process. This is a good example about how an analysis for the kinematic study of machine elements can be done to analyze and design a machine.

STUDENTS EVALUATION.
The evaluation was done to students applying the same set of 3 tests in order to know their performance. There were evaluated 3 groups with the classical course about solid mechanics solving only problems in the blackboard and without the use of the software ADAMS. This was the first sample; the second sample were other 3 groups of students, but the classical course was limited to solve only 1 of each 2 samples during

theoretical lessons and during the rest of the course new topics about the software management were incorporated in order to develop the students ability with ADAMS. Furthermore the students were instructed to compare both results.

The record of the students after the 3 tests were applied is shown in table (1). Every student got a note after each test, and the average obtained was used to classify every student; according with the institute criterions, 6 is the minimum for approving the course and 10 is for the best performance. Unfortunately three students did not approve the course all of them were in the first sample. These students have been reported in the present inform but not participate in the next analysis to calculate the average of their performance. Only the students who approve the course were counted as is indicated. And the average of the student performance is in the last row.

Here it is possible to observe that the students who took the course with the software help got better notes.
The average of the students in the groups with a traditional course was minor in comparison with those in the new teaching courses. The total average of the 3 groups for each sample shown that the students who taken the inclusion of the use of the software for simulation was nearly 0.5 plus than the students with the classical and theoretical course. This fact can affirm that the inclusion of novelty software was good and helps the students for a better performance.

Table (1) Notes obtained for the student with the classical methodology and the students with the inclusion of software simulation.

		sample01			sample02		
		group 1	group2	group3	group 1	group2	group3
not approved students		2	0	1	0	0	0
Notes of the approved students	6	4	4	3	3	2	2
	7	8	6	7	2	3	3
	8	3	6	7	7	5	5
	9	3	3	3	6	7	8
	10	2	1	1	2	4	4
Total students approved		20	20	21	20	21	22
average		7,55	7,55	7,61904	8,1	8,38095	8,40909

The two samples of student were asked about their experience on the courses and they are in agreement with the fact that visual tools in software give an advantage for a better understanding and analyzing. Moreover the students felt that the use of computational tools approaches to the real industry world.

CONCLUSIONS
The inclusion of the software ADAMS to teach the solid mechanics course provides many benefits such as the following:
The solving time for the problems was reduced significantly.
The software ADAMS has many tools that let the students to modify quickly the physical models or the boundary conditions alloying to create more study cases with this novelty tool.
The understanding of the problems was improved due to the graphical display interface.
According with the opinion of the student, they think it is a good idea to include exercises with engineering software to wake curiosity and provide a visual interface.

ACKNOWLEDGES

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USTA MIMAR: TURGUT CANSEVER

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İslam dini, çevre bilinci, derin düşünme yetisi ile çalışmalarında eski ve yeniyi bağdaştırmış, çağdaş Türk mimarlığında iz bırakmış bir usta: Turgut Cansever

1980'de -deniz kıyısında bulunan yüz yaşındaki iki eski evin kreatif bir şekilde bir araya getirilerek, eski yapıların fonksiyonel olduğu kadar güzel bir çevre yaratacak şekilde ve yüzeysel bir taklitçiliğe düşmeden yeniden kullanılmasının mümkün olduğunu ispat ettiği için- Bodrum'daki 'Ahmet Ertegün Evi' (1971-73) restorasyonu ve -çağdaş yapı teknolojisini geleneksel fikir ve ilkelerle birleştiren bir mimari anlatım biçimine giden yolda olumlu bir aşama oluşturduğu için-Ankara'daki 'Türk Tarih Kurumu' binası (1951-67; Ertur Yener ile) ile 1992'de -yeni ve eski malzemenin uyumlu birlikteliğini sağlamak üzere yöresel mimarinin geleneksel biçimlerini yeniden tasarlayan mimarın ileri görüşlüğü için- yine Bodrum'daki 'Demir Tatil Köyü' (1983; Emine Öğün, Mehmet Öğün ve Feyza Cansever ile) projesi Ağa Han Mimarlık Ödülü'ne layık görülmüştür; Turgut Cansever, bu ödülü dünyada üç kez almış tek mimardır.

Bu bildiride de; üstat Turgut Cansever tanıtılacak ve onun İslami referanslarla oluşturulmuş çevre hakkındaki görüşleri ele alınacaktır.

Keywords: Turgut Cansever, insan ve çevre

INVESTIGATION OF THE FACTORS THAT AFFECT THE SUCCESS AND SATISFACTION OF THE STUDENTS IN DISTANCE EDUCATION: SAMPLE OF SAKARYA UNIVERSITY

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ABSTRACT

As an alternative for face-to-face education (F2F), distance education models are becoming prevalent rapidly nowadays. Internet-based learning is one of the most important parts of Distance Education. Internet-based Distance Education can be briefly defined as a sort of education system which teachers and students can actualize without sharing the same place. This education model is student-centered. In this model, the students are able to learn the lessons given independently from time and space, and able to communicate with the teacher via different means of technology. There are lots of factors affecting the performance of the student positively or negatively in Internet-Based distance education. The success of the students and quality of the provided education can be enhanced by determining which of these factors are dominant.

In this study, we tried to determine the factors which affect the success and satisfaction of the students in Sakarya University Faculty of Management Distance Education. Structural Equation Modeling is utilized to analyse structural relationships.

Key Words: Internet, Internet-based distance education, the factors, success, Structural Equation Modeling

INTRODUCTION

Without a shadow of doubt, education plays a very important role in the development of nations. Education level of the individuals has been the determinant factor which caused civilizations to disappear or allowed civilizations to have ostentatious times. Diverse attitudes and methods in education affected education positively or negatively. There have always been relentless studies in the field and still there are abundant numbers of studies. Technological innovations and inventions in education outclass the previous system and cause new concepts to ensue. Among these innovations, *Distance Education* is in the forefront. Written and printed resources, which were the basic of the classical education, turned into the sources which are easily reached, copied and distributed by anyone thanks to distance education making them accessible via electronic devices. With the integration of the computer-assisted systems to the aforementioned acquisitions, as a result of the fact that multimedia devices and techniques are utilized, educational content is easily accessed quickly with reasonable costs via the Internet and user interaction is increased with the help of new technologies. Distance Education seems to replace classical education nowadays and be considered as a model that supports the classical education.

Technological development caused different concepts to be used in education process. *Internet-based Education, Distance education and Lifelong Learning Program* started to be used frequently as a result of the developments in technology. Web-based education, provided via the Internet, started to be used as an education method in education institutions and many companies. (Khan,2001; Palloff & Pratt, 2001)

It is thought that in web-based distance education models, accessibility, easiness and simplicity of the web-site, consistency between its pages may all contribute to the success of the student. Therefore, it is expected that there is a direct relation between the success of the students and website facilities. Since Web pages have a link to audio and video tools, interactive facilities (conversation, video conference etc.), communication tools (e-mail, list and news group) and other web pages, all these services can be used without any restriction when preparing educational materials. (Yiğit et all, 2000).

Education is defined as a whole of process through which people achieve permanent changes in their mind and behaviors. That is because people achieve new behaviors incessantly. These new behaviors either remove the older behaviors or cause them develop (İşman, 2005, p.48). "Education is a social period that includes a controlled and intentionally chosen environment in order to provide personal development in the most convenient level (Tezcan, 1996). "Education is a social process including an elite and controlled environment and school activities to provide development in the person's social skills and to get optimum personal development (Varış, 1978). In this description, the design of the education-teaching environment and individual development are in the foreground most. Education is the process through which terminal behavioral changes in the person's behaviors are intentionally achieved by self-experiences (Ertürk, 1972, p.12). In this description, the

plan and willingness is the most important components. Student ought to learn by self-experience and make intentional changes in himself. Education is a behavioral improvement and skill, attitude, information gaining process (Alkan, 1997). This description mostly focuses on a student's learning new things and improving himself. Education, with the most common meaning, is a process of growing people up with a specific purpose (Fidan and Erden, 1991). In this description, education is considered as bringing children up according to some target behaviors which have been previously decided. Education is a series of planned actions to provide some certain developments in people's behaviors in accordance with some predetermined principles (Oğuzkan, 1974). This definition focuses on teaching students some predetermined behaviors. Education is the mental development of a person (Bruner, 1964). This description is to some extend different from the others. In this, specific destinations and behaviors represent just the mental development of the student. This development could be affected by social, individual or theoretical basis.

THE STUDY

The purpose of this study is to find out how the students enrolled in the post graduate E-Management program perceive the platform through which they are educated, and to find what factors affect- negatively or positively- their satisfaction and success considering their final grades taken from the Student Affairs database and the logging information of the platform they use.

Since distance education models are getting prevalent quickly in our country, the factors which have negative or positive effects on the academic success and the satisfactions of the students in these programs have been subject of many research and studies.

Contribution of the Study

Nowadays in our country, *Distance and Blended education* are considered as a third education system in the institutions providing Master's degree education. The *Internet*, which is a part of this system, has attracted the attention of universities and become the most preferred way of reaching a mass of population. Using the Internet systematically and suitably in accordance with some particular strategies is going to improve the quality of education and help realize better learning activities.

In this research, web portal, local Internet access technologies, class attendance and social conditions of the students in E-BUSINESS programs are searched together with the availability level of the web portal through which they have been taking their courses and its contribution to their success, and it is hoped that the results will be beneficial for the institutions which plan to provide distance-education in the future.

In this study, the web portals of distance education and websites redesigned and developed in accordance with the opinions of students will also make teaching and learning activities more effective and efficient. So, the future of the system is important in terms of the realization of the students' success and satisfaction.

Statistical Methods for the Study

The factor analysis of the scale has been done in the research. In order to demonstrate the distribution of answers to the demographic questions, Frequency Distribution Analysis has been applied using SPSS software. The *t-test* and *ANOVA test* were used to reveal the difference between different demographic groups' perceptions of the factors that affect their success. To find out the relation between the factors, and to check the correlation and regression, *Structural Equation Modeling* was used.

Study group

The study group consists of the students enrolled at Sakarya University Distance Education department. In this study, a questionnaire was applied to 300 students using data collection method over the Internet. 279 students returned their responses to the researchers.

Research Questionnaire

In this research, students have been consulted on the factors affecting their success positively or negatively. Data collection tool used in the study was developed by the researchers examining the literature and the factors affecting the student success were examined in four dimensions. In the *content* dimension of the scale, questions about demographic structure and features of the students were asked. The students were consulted on by asking 5 questions about the *design* as the first factor, 6 questions about *navigation* as the second factor, 6 questions about *presentation* as the third factor and 8 questions about *pedagogy* as the fourth factor of this dimension.

In the *platform* dimension of the scale, the students were consulted on by asking 6 questions about technology in the first, 7 questions about features in the second, 6 questions about availability in the third factor of this dimension.

Students were also consulted on their behaviors of E-learning platform usage regarding the following situation:

Of the student;

• the number of access per semester,

• the number of forum participation,

• the number of attendance to the courses,

• the number of attendance to the live courses,

• the number of questions they asked to their instructors,

• the number of questions they asked to the administration,

Of the lecturers;

• the number of answers to students,

• the number of responses given by the administration to the students,

• the number of lecturer participation in student forums

• the number of managerial support to the students.

The *interest* dimension of the scale was created using the data taken from the platform diary showing the behaviors of students, academics and administrative staff and after applying some statistical calculations the data was converted into a seven-point *Likert* scale which was also used in the other dimensions.

In terms of student success, grade-point averages of the students were taken from the Student Affairs database and converted into 100 point grading system so that they become usable in the analysis.

In order to find out the satisfaction (or dissatisfaction) of the students about the platform use, they were asked 6 questions to measure their perceptions of satisfaction.

Research Data

The data used in this study were obtained from the log file of website, Student Affairs database and the students in person. Research questionnaire was filled out by 279 students via the Internet in the 2013-2014 academic year. The questionnaire consists of questions such as gender, age of the student, department which the student graduated form, students' employment status, students' number of access to the Internet on a weekly basis and students' computer experience. In dimensions part, the questionnaire consists of questions which can be answered in a seven-point *Likert* scale that ranges from *I totally agree* to *I totally disagree*.

The hypothesis of the research

Hypothesis of the research are listed below;

Hypothesis of the Model

H1: Student perception of the content has an effect on student achievement.

H2: Student perception of the content has an effect on student satisfaction.

H3: Student perception of the Platform (Site) is effective on student achievement.

H4: Student perception of the Platform (Site) is effective on student satisfaction.

H5: Student's interest and Management's concern both have an effect on student success.

H6: Attention of the student and management both have an effect on students' satisfaction.

H7: Student's academic achievement has an impact on student satisfaction.
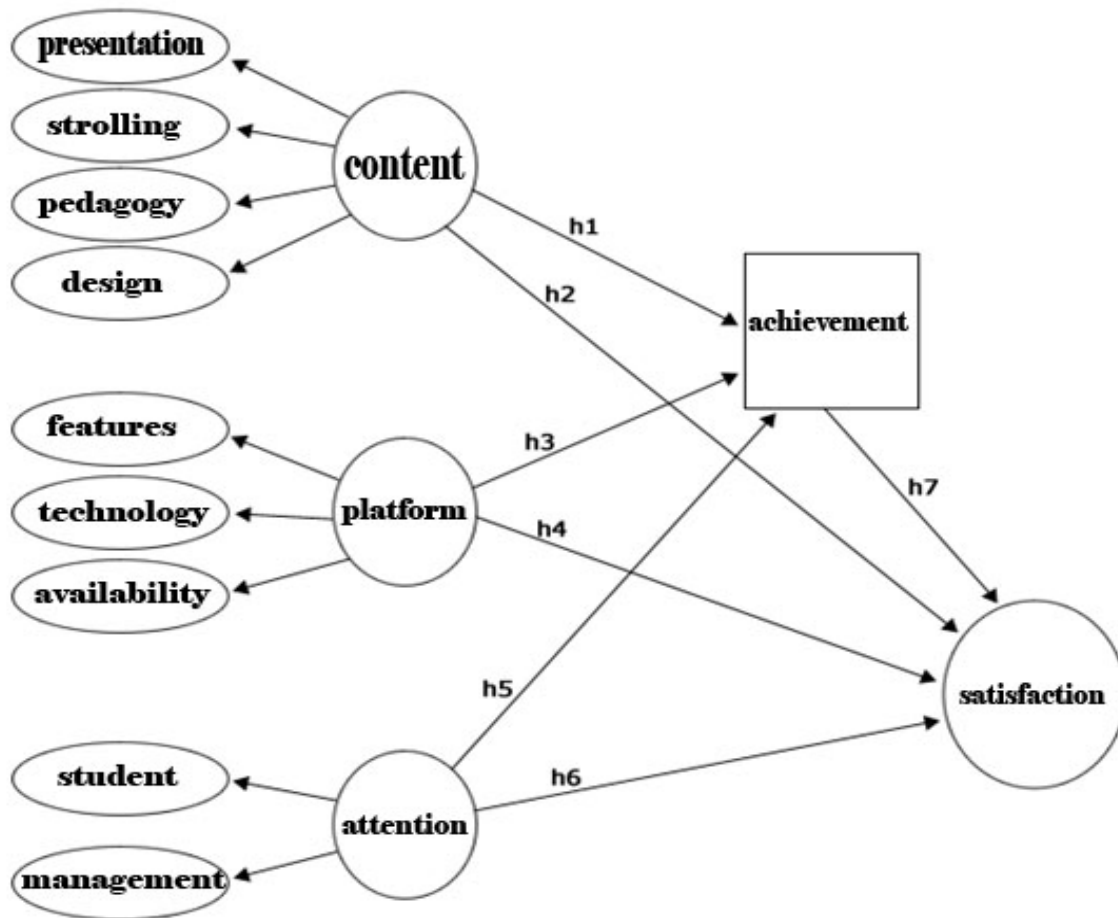
Figure 1: Research Hypothesis (Conceptual Model)

Data Analysis

Under the heading of Descriptive Statistics, demographic characteristics of students, students' views on LMS (Learning Management System), the students' interests from LMS log and students' academic achievements at the end of academic year from the database of Student Affairs are considered.

Reliability and validity analyses of the results obtained from Explanatory and Confirmatory Factor Analyses are presented in the evaluation process of the structural model. The final measurement model and structural equation modeling are discussed at the end of the chapter.

Demographic Features of the Participants

Frequencies of the demographic features of the students who answered the questionnaire are shown in Table 1.

Table 1: Frequency Analysis of Demographic Features of the Participants

Demographic Features of The Participants		Frequency	%
Gender	Female	72	25
	Male	207	75

	Total	279	100
Faculty	**Business-Economics**	187	67
	Engineering	9	3
	Science and Literature	56	20
	Other	27	10
	Total	279	100
Employment Status	**Employed**	247	88
	Unemployed	32	12
	Total	279	100

According to the frequency analysis, it has been observed that 72(25%) of the participants are female and 207(75%) are male.

Frequency analysis according to faculties of participants shows that 187(67%) of the participants are from the School of Economics, 9(3%) are from Engineering Faculty, 56(20%) are from the Faculty of Science and Literature and 27(10%) are from other faculties.

When the occupations of the participants are taken into consideration, it has been observed that 247(88%) are employed and 32(12%) are unemployed.

Scale Analysis

Results of (EFA) Explanatory Factor Analysis of the scale are shown below.

As can be seen in Table-3 and Table-5, EFA values are in convenient limits(Cronbach's Alpha). Results of KMO and Bartlett Sphericity Tests in Table-2 and Table-4 are observed in acceptable values.

Table 2: KMO and Bartlett Sphericity Test Results

KMO Sample Proficiency Test		,862
	Ki Square	7841,496
Bartlett's Sphericity test	sd	351
	Sig.	,000

Factor Analysis of Content Dimension

Table 3: Factor Analysis of Content dimension

Cronbach's Alpha	0,845			
	0,829	0,937	0,928	0,840
Ped3	,755			
Ped1	,745			
Ped2	,710			
Ped8	,687			
Ped4	,662			
Ped7	,649			
Ped5	,631			
Ped6	,619			
Sun3		,820		
Sun5		,797		
Sun6		,791		
Sun1		,764		
Sun4		,711		
Sun2		,605		
Gez2			,845	
Gez4			,768	
Gez6			,752	
Gez3			,730	
Gez1			,709	
Gez5			,668	
Tas2				,882
Tas1				,803
Tas5				,757
Tas4				,672
Tas3				,554

Table 4: KMO and Bartlett Sphericity Test Results

KMO Sample Proficiency Test Results		**,913**
	Ki Square	5397,397
Bartlett's SphericityTest	sd	153
	Sig.	,000

Factor Analysis of Platform Dimension

Table 5: Factor Analysis of Platform Dimension

Cronbach's Alpha	0,901		
	0,849	0,837	0,719
Özel2	,870		
Özel7	,869		
Özel4	,849		
Özel6	,846		
Özel5	,824		
Özel3	,673		
Özel1	,615		
Kul1		,817	
Kul6		,804	
Kul3		,665	
Kul4		,646	
Kul5		,578	
Kul2		,489	
Tek2			,673
Tek4			,646
Tek5			,617
Tek6			,580
Tek3			,523
Tek 1			,457

Main Hypothesis Analysis (Conceptual Framework)

Having observed the desired results from Confirmatory Factor Analysis and Reliability Analysis of each factor and scale model enables the structural equality model to be formed considering the conceptual framework. In Figure 2, the relations between the main model and variables can be seen.
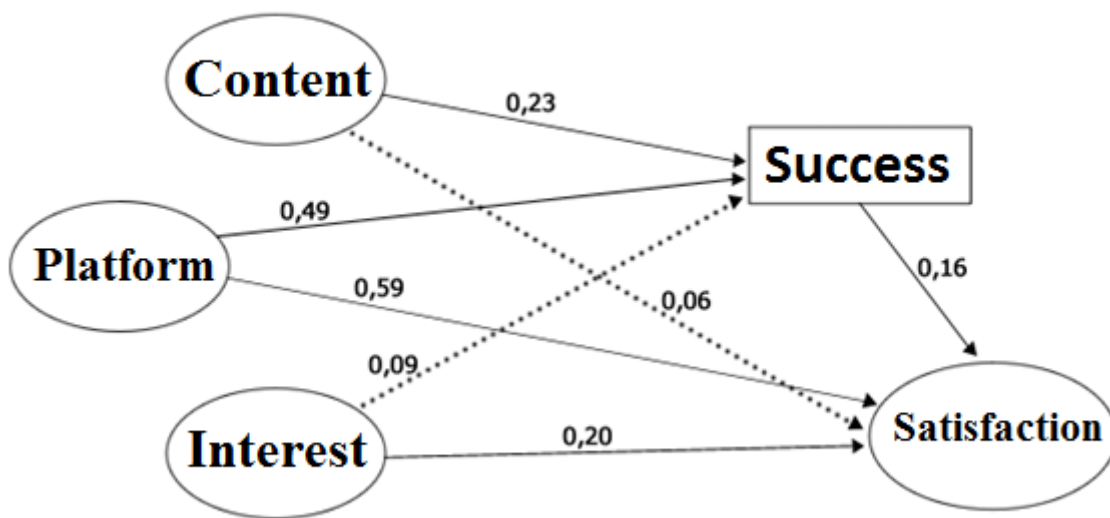
Figure 2: Main Hypothesis Analysis

p<0,001

Dependant Variables	χ^2
Success	,64
Satisfaction	,59

Compliance Indices with the Main Model

Table 7: Compliance Indices with the Main Model

	Compliance Indices					
Main Model	**χ²/df**	**GFI**	**AGFI**	**TLI**	**CFI**	**RMSEA**
	11.7/ 2,1=5.1	,984	,882	,929	,986	,090

According to values from the main model, compliance indices (Table 7) give a good consistency. With reference to the model in Figure 2, it is observed that the factors of platform (0.49), content (0.23), and interest (0.09) have a positive impact on student success. So that, the most powerful factor in the model to explain success is "platform" whereas the weakest factor is "interest". Since the effect of "interest" is <0.1 though being positive, it can be said that ratio of the influence is not within the desired limits. However, it is investigated that the platform (0.49), interest (0.20), and content (0.06) factors have a positive impact on student satisfaction. Therefore, the most powerful factor in the model to explain success is "platform" while the weakest one is "content". Since the effect of "interest" is<0.1 though being positive, it can be said that ratio of the influence is not within the desired limits. It is found that success effects satisfaction (0,16). In this regard, the research hypotheses **H1, H3, H4, H6** and **H7** shown in Figure 1 are confirmed. However, the research hypotheses **H2** and **H5** are not verified.

RESULTS AND RECOMMENDATIONS

In this study, a satisfaction model for the distance education platform (LMS- Learning Management System) is developed by using the perspective of information systems in the creation of conceptual structure. After reviewing the literature, a questionnaire is prepared and applied to the students and a two-dimensional scale is used in this model. The first dimension is "content" (presentation, navigation, design, pedagogy); the second is "platform" (technology, features, usability). Students'perception of satisfaction is also measured by the questionnaire. At the same time, the main model is created based on the model above with the help of students' grade point average taken from the Student Affairs database and student and academic staff behaviours taken from the platform logs. It can be seen in the study findings that platform's overall structure and student behaviours on the site affect the perception of success and satisfaction.

Navigation factor in content dimension of the model is seen as the dimension with the highest descriptive value (satisfaction1,2; success 0,47)in this dimension. When questions in navigation factor are examined, having site maps, short page loading time and content related images affect what students perceive in a positive way in the presentation of the content.

Presentation factor in content dimension model is seen as the second highest descriptive value (Success 0.64) in terms of success in this dimension; when it is analyzed in terms of satisfaction, pedagogical factor is seen as having the second highest value. When expressions that constitute these factors are analyzed, in the presentation of the material presented to students, it can be said that the using content, based on animation and simulation, increases the success.

Technological tools factor in platform dimension model seems to have high descriptive values in this dimension (Satisfaction, 1.93, Success 2.22). When these factors are deeply examined, it is observed that interactive sections of the site together with modern and dynamic platform design, fast loading, and synchronous and asynchronous education systems have positive impact on students' understanding the lesson.

Specifications factor in platform dimension model has the second highest descriptive value in terms of success in this dimension (Success 0.12); use factor is seen as having the second highest value in terms of satisfaction. When the expressions that constitute these factors are analyzed, we can say that students enjoy using LMS, they do not realize how the time passes during the learning process and they have a perception of feeling themselves happy.

Student factor in interest dimension model is seen as having the highest value in this dimension (Satisfaction, 1.16 Achievement 0.19). When student factor is deeply analyzed, it can be said that the number of forum participation, the number of questions the students ask and the number of course attendance increase satisfaction.

It is seen that platform dimension has the highest descriptive value (Satisfaction, 0.59, Success 0.49) and content dimension has the second highest descriptive value (success 0, 23) in the main model. Trainers and students have the third highest descriptive value (pleasure, 0,20) in the main model. According to these results, it can be said that in terms of student perception, platform is the strongest, content is the second strongest and attention is the third dimension. It is seen that technology is the strongest among the sub dimensions of platform dimension. In this dimension, it can be said that fast loading and synchronous and asynchronous education systems are distinctive factors while student-teacher interaction is a strengthening factor.

It is parallel with some research results in literature that students consider visual elements as a crucial factor that affects their satisfaction of the platform on which the education is provided. For instance, according to Szymanski and Hise (2000) visual elements that are used to design websites are very effective on student satisfaction, and Anand (2007) considers up-to-date information, design and page setup to be parts of website designing and observed that they enhance satisfaction.

RECOMMENDATIONS

In the web pages that undertook the task of interface, implementing educational and visual design should be taken into consideration as well as having interactive and dynamic structure.

Providing simultaneous and variant time communication opportunities through web technologies in distance education is important. While designing *LMS*, characteristics of the target group and the technical infrastructure used by the administrator and the students should be taken into consideration.

In distance education through web technologies, students should be led to collaborative cooperation in learning-centred activities and helped to develop a sense of belonging to a group.

Students should be led to participate in newsgroups and discussion list that develop learners' cognitive and affective competence because utilized internet environment and devices in distance education through web technologies make contribution to learning by doing, presenting information and retaining knowledge.

Increasing the percentages of the exams conducted through the Internet can be suggested in order to lead universities to get learners exercise more effectively via internet.

Upcoming studies about designing learning environments in distance education through web technologies can be put into practice by taking different learning theories into consideration.

While designing learning environment in distance education through web technologies, cooperative learning environments should be created to provide interaction between students.

In distance education through web technologies, students should be provided with opportunities to work cooperatively while solving a problem or studying on a task.

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VALUES AND VALUE ORIENTATION OF HIGH SCHOOL STUDENTS

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ABSTRACT

In the presented paper, we analyze preferred values and value orientations of high school students. The research sample composed of 168 students of three high schools (99 women and 69 men). To measure values and value orientation of the research sample, we have applied the abridged version of the Portrait Value Questionnaire methodology. We´ve focused on the value and value orientation preferences as well as onto differences in value preferences considering gender of the respondents. We´ve found out that the students mostly prefer *hedonism*, *self-direction*, *benevolence*, *stimulation* and *safety*, whereas for women the most important value is *benevolence*, for men *safety* and *power* are of biggest importance. Significant difference in favor of women was demonstrated only in value orientation of *self-transcendence*.

INTRODUCTION

According to Prunner (2002), value can be understood in its three meanings – value as a quality of things that people strive to achieve (focus onto satisfaction of human needs), value as a positive   appreciation of the object of human relations (relationships) and value as a general criterion used to assess various objects. This understanding enables us to define the importance of values to a person as such and becomes a basis for the evaluation of the importance of values for the person when pursuing orientation in social context (Prunner, 2002).

The pedagogical dictionary describes value as a subjective appreciation or an importance rate that the individual aligns to certain things, phenomena, symbols or other people. Values are being adopted in the process of socialization and acculturation. From the pedagogic point of view, the most important are: youth value systems, education as a social value and values and attitudes as a part of goals and content of school education (Průcha, 2008).

After family, the school is the second most important socializing agent. Individuals establish many contacts with same-age students in the school, they get to know ways of social life, integrate in the school collective, create new value structures. Adolescence is particularly sensitive period of time for an individual to construct personal identity. Adolescent confronts his values, goals, attitudes that were presented to him by parents, school, peers or other social groups. As Andreánska a Cabanová state, students are more satisfied in a class with good relationships, what reflects in their learning activities (Andreánska, Cabanová, 2012) However in reality, we witness various problems in schools – risky behavior, disturbed social relationships in family as well as in same-age groups, disinterest in education, lack of hobbies etc. According to Kraus, currently the life passes way too fast and does not create sufficient space for continual incorporation into society, we lack necessary patterns and the whole process of social maturation reduces to practical living. This results into a fact that young people often live from one day to another, not having any long-term goals, not maintaining greater spiritual values, not spending their time valuably (Kraus et al., 2006). The aforementioned makes us pose a question, what kind of value system do high school students live up to?

THE STUDY

Research goal and research questions:

The goal of our research was to find out about value preferences and value orientation of high school students considering their gender.

We have formulated following research questions:
1. What kind of value system do high school students maintain?
2. Is there a difference between values of male and female students?

Method and research sample:

The research sample composed of 168 students (hereof 99 women and 69 men) of 1st and 4th grade of various high school types with the average age of 17, 2 years.

The Schwartz values questionnaire (PVQ-Portrait Values Questionnaire) was used to measure the nature of represented values (developed by Schwartz, 1994). From the original 40-item methodology, we´ve abstracted its abridged 21-item version known as *Portrait Value Questionnaire* (Schwartz, 1994, 2003). The questionnaire consists of 21 characters of persons and the task of participants was to indicate at a 6-point asymmetric unipolar

categorical scale (very much like me, like me, somewhat like me, a little like me, not like me, not like me at all), how much they resemble given portraits. Given portraits of people surveyed ten values: power, achievement, hedonism, stimulation, self-determination, universalism, benevolence, tradition, conformity, security (the value of the first order). Ten values were possible to combine into four levels higher, i.e. 2nd order – value orientations (Self- Enhancement, Self-Transcendence, Openness to change, Conservation).

FINDINGS

According to performed measurements, the students prefer following values the most: *hedonism* (being characterized by joy and enjoyment of life), *self-direction* (necessity to stay independent, to make up new things constantly), *benevolence* (readiness to help, loyalty towards own friends), *stimulation* (characterized by excitement, life challenges, life changes, courage, turbulent and exciting life) and *safety* (own family and own nation, adherence to social order). A little less preferred were *success* (ambitions, achievement of own goals, demonstration of own competences and abilities, receiving recognition from others), *tradition* (respect, acceptance of customs and ideas anchored in traditional culture or religion, avoidance of extreme situations in life or behavior, acceptance of circumstances of life), *power* (social status and prestige, feeling of strength, tendency to order and control others, demonstration of own domination), *conformity* (control over own acts, tendencies and impulses – not to break social expectations or social norms, courteous and polite behavior, honoring parents and seniors) and the least preferable value was *universalism* (defined by understanding, appreciation, tolerance, inner harmony, society and nature protection) (Figure 1)
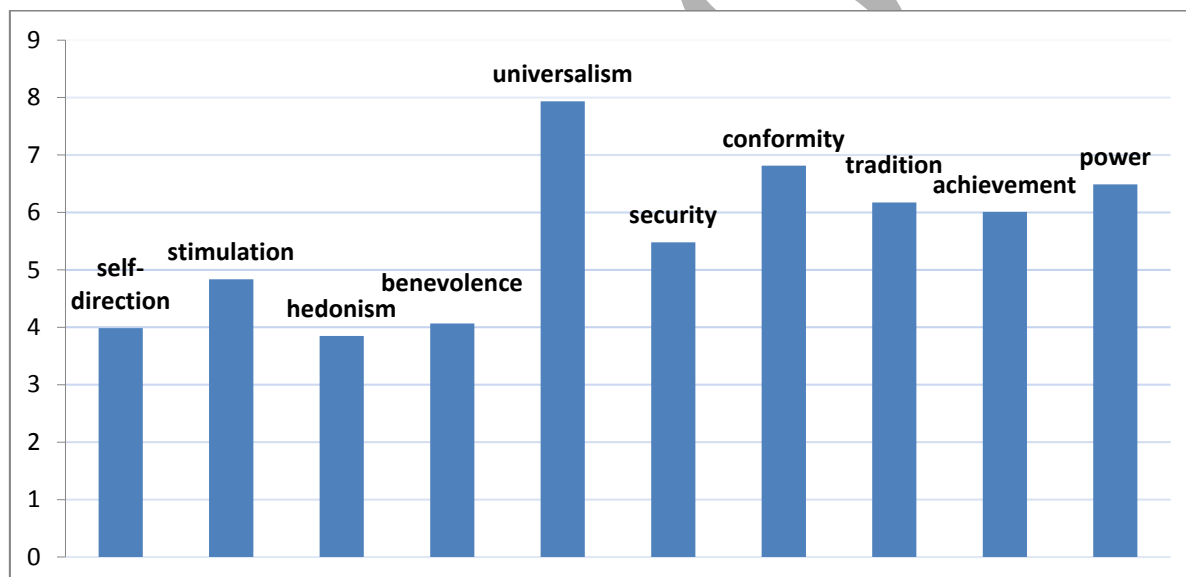

Figure 1 Preferred order of high school students´ values (N=168)

Considering preferred value orientation it is obvious that the students incline to *conservation* (composing of values: safety, conformity and tradition). The other value orientations as *openness to change* (infused with hedonism, stimulation and self-direction), *self-enhancement* (determined by success and power) and *self-transcendence* (defined by values: universalism and benevolence) were preferred by respondents in approximately the same ratio (Figure 2).
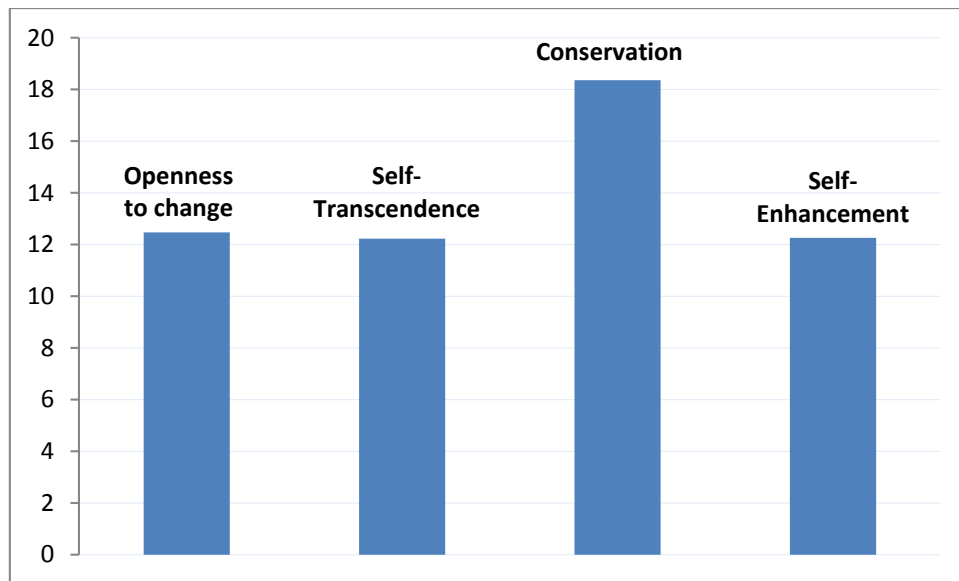
Figure 2 Preferred order of high school students´ value orientation (N=168)

Data describing gender differences between the groups of men and women in particular values and value orientations are stated in Table 1. Significant differences were measured in values *benevolence*, *safety* and *power*, whereas for women, the value of *benevolence* being characterized by readiness to help and loyalty towards own friends is more important. For men values of *safety* (own family and nation, adherence to social order) and *power* (directed onto social status and prestige, feeling of strength, tendency to order and control others, demonstration of own domination) were of greater importance. Significant difference in favor of women was witnessed only in one value orientation of *self-transcendence* empowered by values of benevolence and universalism (Table 1).

Table 1 Difference between high school students´ value and value orientation preferences

Values and value orientation	Mean women (N=99)	Mean men (N=69)	t-test	significance
Self-determination	4,06	3,70	1,365	0,174
Stimulation	4,98	4,45	1,680	0,095
Hedonism	3,91	3,64	0,919	0,359
Benevolence	3,75	4,48	2,764	**0,006**
Universalism	7,86	8,64	1,808	0,072
Security	5,88	5,06	2,387	**0,018**
Conformity	6,91	6,39	1,337	0,183
Tradition	6,16	6,06	0,341	0,734
Achievement	5,86	6,14	0,707	0,481
Power	6,90	5,39	3,934	**0,000**
Openness to change	12,95	11,78	1,866	0,064
Self-Transcendence	11,61	13,12	2,561	**0 ,011**
Conservation	18,95	17,51	1,944	0 ,054
Self - Enhancement	12,76	11,54	1,829	0,069

CONCLUSIONS

Knowledge about values and value orientation is considered to be one of the key research areas of psychology, but also pedagogy. As Vernarcová (2005) states that a truly universal set of human values does exist and people's attitudes are based on the relatively few, stable values they hold. We aimed to know which values and value

orientations are preferred by high school students and if there is a difference between preferences of men and women.

Based on performed measurements, the most preferred values by students were *hedonism*, *self-direction*, *benevolence*, *stimulation* and *safety*, whereof women found *benevolence* and men *safety* and *power* the most important. Therefore we came to a conclusion that the value orientation of men and the one of women are not so very different, the only significant difference in favor of women was shown in value orientation of *self-transcendence*. Our experience, knowledge and value orientation significantly influence our behavioral patterns. Hierarchy of values is considered to be the most reliable prognostic sign indicating if a person is able to behave in compliance with the environment, so Rosová (Huba, 2002).

Values represent one of the major sources of human motivation, which gives a person meaning and direction of his efforts. They are present during the decision making process, they affect the mental processes of perception; survival and they are transformed into the ruling personalities (Šramová, Džupina, Jurášková, 2013). In the society, the value system of a person is constantly confronted with alternatives, outer pressures and societal changes that have great influence on young people as well as educational system. According to Poliaková, education should be a process of personality cultivation. (Poliaková, 2013). Forming of values and value orientation of students doubtlessly is its important part.

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VERİ MADENCİLİĞİ YÖNTEMLERİ KULLANARAK EĞİTİM VE ÖĞRETİM SÜREÇLERİNİN ANALİZİ

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ÖZET

Eğitim ve öğretim süreçlerinin içinde bulunmak hızla gelişen dünyada her yaştan birey için vazgeçilmez olmuştur. Özellikle uzaktan öğretim sistemlerinin gelişmesi ile birlikte eğitim ve öğretim süreçlerinden elde edilen verilerin kapasitesi artmaktadır. Bu nedenle elde edilen bu büyük veri yığınlarından sayısal bilgisayarlar yardımıyla analizler yapmak oldukça önemli hale gelmiştir. Büyük veri teknolojisinin gelişmesi yeni bir araştırma alanı olan Eğitsel veri madenciliğini ortaya çıkarmıştır. Bu çalışma kapsamında eğitim ve öğretim süreçlerinden elde edilen verilerden anlamlı bilgiler çıkarmayı sağlayan veri madenciliği yöntemleri üzerinde durulmuş, veri madenciliği yöntemleri hakkında genel bilgiler verilerek eğitim ve öğretim süreçlerinden elde edilen veri setlerinin analizinde etkinliği gösterilmiştir. Eğitim bilimciler ve bilgisayar bilimcilerin ortak çalışması ile veri setlerinden bilgi keşfi kolaylıkla ve doğru bir şekilde yapılarak eğitim ve öğretim süreçlerinin hedeflere uygun gerçekleştirilmesi mümkün olabilecektir.

ABSTRACT

Being a part of education and training processes is indispensable for individuals in the rapidly developing world. Especially, development of distance learning systems increases the amount of data obtained from education and training processes. For this reason, it is getting more important to analyze the big datasets by digital computers. In this study, some data mining methods that provide knowledge discovery and information extraction from educational datasets are examined. In addition, popular data mining methods are summarized, and efficiency of these methods are shown in analyzing educational datasets. Knowledge discovery from education datasets can be realized easily and accurately by collaboration of educators and computer scientists. In this way, the education and training processes will be able to reach their objectives.

1. GİRİŞ

Veri madenciliği konusu birçok disiplini yakından ilgilendiren bir konu olarak hayatımızda güncelliğini korumaktadır. Farklı alanlardan elde edilen verilerden anlamlı bilgiler çıkarmak ve insanların bilgiye ulaşmasını sağlamak veri madenciliğinin bir parçası olarak tanımlanabilir. Bir hastanın laboratuvar sonuçlarından hastalığın türünün teşhis edilmesi, ekonomideki mevcut verilerden ileriye yönelik tahminler yapılması veya bir öğrencinin başarısızlığının önceden tahmin edilmesi veri madenciliği kapsamında değerlendirilebilir. Günümüzde popüler bir araştırma alanı olan veri madenciliği yüksek kapasiteli veri saklayabilme ve veri işleme teknolojilerinin gelişmesiyle yaygın olarak kullanılır hale gelmiştir. Bu teknolojilerin maliyetlerinin azalması ile birlikte farklı alanlardan her tür verinin uzun süreler saklanıp, hızlı ve etkin bir şekilde işlenmesi mümkün olmaktadır. Bilgisayar bilimlerinin alt dallarından birisi olan veri madenciliği, veri ambarlarında tutulan veri yığınlarının içerisinden istenen amaca yönelik faydalı bilgiler keşfetmeyi amaçlamaktadır.

Eğitim bilimlerinin temel konularından olan, gelişim ve öğrenme psikolojisi, ölçme ve değerlendirme, rehberlik, materyal tasarımı ve eğitim ve öğretim süreçlerinin planlanması gibi birçok alanda çeşitli veriler elde edilmektedir. Bu verilerden anlamlı bilgiler çıkarılması eğitimin kalitesinin artması ve hedeflerinin gerçekleştirilmesi açısından çok önemlidir. Eğitim öğretim süreçlerinde farklı uzmanlık alanlarından elde edilen verilerin analiz edilmesinde veri madenciliği yöntemlerinin kullanılması Eğitsel Veri Madenciliği (Educational Data Mining – EDM) olarak tanımlanmaktadır (Romero & Ventura 2007). Eğitim bilimlerinde veri madenciliği genel olarak eğitim ve öğretim süreçlerinin modellenmesi, öğrencinin ulaşması gereken hedeflerin modellenmesi, öğrencinin başarısının tahmin edilmesi, uzaktan eğitim sistemlerinin geliştirilmesi, rehberlik alanında kullanılan anketlerden istatistiksel çıkarımlar dışında farklı çıkarımların yapılması, eğitim ve öğretim

süreçlerinde olağanüstü durumların tespit edilmesi ve birliktelik analizi gibi çok çeşitli analizler yapılabilir (Romero & Ventura 2007, Chaturvedi & Ezeife, Akçapınar 2014, Merceron & Yacef).

Bu çalışmada eğitim öğretim süreçlerinde elde edilen veri setlerinden faydalı bilgiler ve örüntüler çıkarmayı amaçlayan veri madenciliği teknikleri üzerinde durulmuştur. Çalışmanın ikinci bölümünde veri madenciliğinde yaygın olarak kullanılan yöntem ve teknikler hakkında kısa bilgiler verilerek eğitim alanındaki uygulamalarına yer verilecektir. Sonuç bölümünde bu çalışmayla ülkemiz eğitim sisteminde farklı amaçlarla toplanan verilerden anlamlı bilgiler elde edilebilmesinin önemi vurgulanacaktır.

2. VERİ MADENCİLİĞİ YÖNTEMLERİ

Veri madenciliğinde analiz yapmak için elde edilen veriler veri tabanlarında bir matris formatında saklanmaktadır. Matrisin sütunları verinin özelliklerini ve satırları da veri seti için alınan örnekleri temsil ederler. Eğitim bilimlerinde yapılan anketler, sınavlar vb. etkinlikler dikkate alındığında veri madenciliğinde kullanılan veriler temel olarak üç farklı gruba ayrılabilir. Bunlar sınav sonuçları gibi belirli aralıklarda elde edilen değerleri ifade eden sayısal veriler, anketlerde sunulan farklı seçeneklerde olduğu gibi bir değişkenin farklı durumlarını ifade eden ayrık veriler ve öğrenci dönem sonu durumunu anlatan başarılı/ başarısız gibi iki farklı durumu ifade eden ikili veriler olarak (Han & Pei 2006, Witten, Frank, & Hall 2011).

Elde edilen bu verilerden bilgi edinmek amacıyla öncelikle veri görselleştirme ve özetleme, veri ön işleme gibi bilgi çıkarma yöntemleri kullanılabilir. Veri madenciliğinde kullanılan temel yöntemlerden sınıflandırma, kümeleme, birliktelik analizi, anomali tespiti ve veri görselleştirme yöntemlerinden uygun olanları kullanılarak verilerden anlamlı bilgiler keşfedilir. Şekil-1 de bu yöntemler görsel olarak verilmektedir (Han & Pei 2006, Witten, Frank, & Hall 2011).
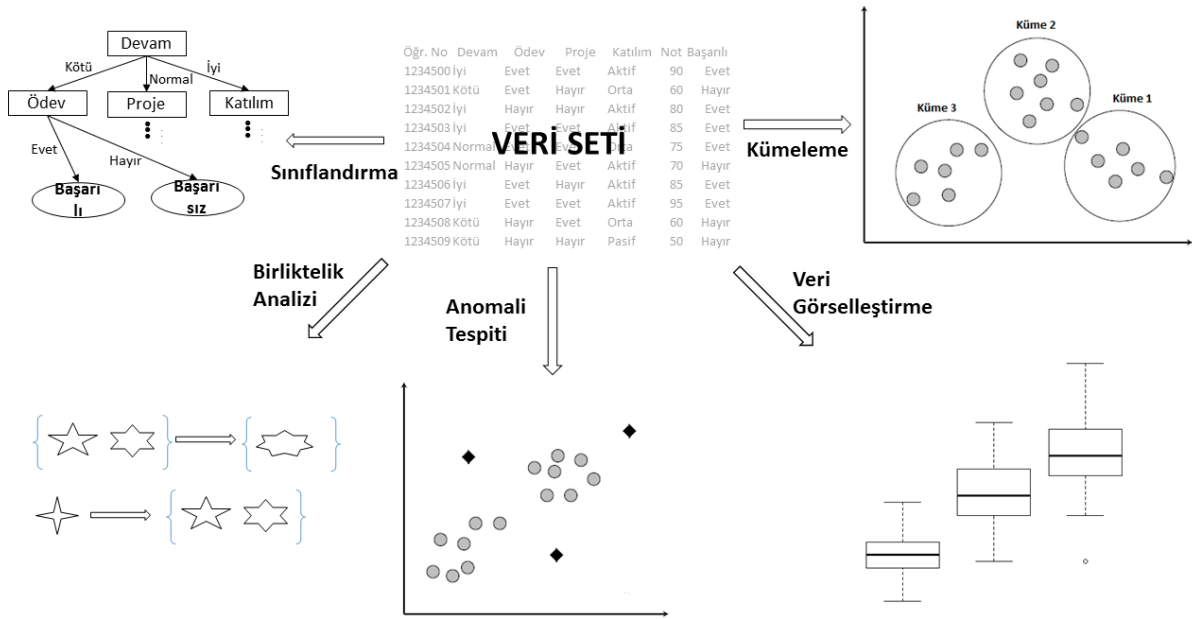
Şekil 1 Temel Veri Madenciliği Yöntemleri

2.1 Veri Görselleştirme (Data Visualization)

Veri görselleştirme farklı türde verilerin grafiksel yöntemler kullanılarak temsil edilmesidir. Veri görselleştirme yöntemleri kullanılarak elde edilen görseller sayesinde bazı anlamlı bilgilerin çıkarılması mümkündür. Çizgi grafiği, sütun grafik, histogram, box-plot, scatter-plot, Chernoff yüzleri gibi farklı yöntemler kullanılarak veri görselleştirilir. Veri görselleştirme sayesinde veriyi göz ile incelemek ve çeşitli analizler yaparak anlamlı bilgiler çıkarmak mümkün olmaktadır. Eğitim alanında yapılan anketlerin sonuçları, öğrenci başarı durumları gibi verilerin görselleştirme yöntemleri ile analiz edilmesi daha etkin bir şekilde yapılabilir (Han & Pei 2006, Witten, Frank, & Hall 2011).

Veri özetleme veri görselleştirmeden farklı olarak veri setinin farklı istatistiksel değerlerinin hesaplanması olarak tanımlanabilir. Veri setinin kaç farklı özellikten oluştuğu, hangi özelliğin hangi tür verilerden meydana geldiği ve verinin dağılımı hakkında istatistiki bilgiler sunulur. Veri setindeki bir özelliğin en büyük, en küçük, ortalama, standart sapma, medyan, açıklık ve mod gibi çeşitli değerleri ile verinin özetlenmesi yapılabilir. Bu sayısal değerler kullanarak veri hakkında yorumlar yapabilmek mümkündür. Bir derse ait vize ve final sonuçlarından ortalama, en büyük ve en küçük değerlerin hesaplanması örnek olarak verilebilir (Han & Pei 2006, Witten, Frank, & Hall 2011).

2.2 Veri Önişleme (Data Preprocessing)

Veri madenciliğinde önemli olan bir diğer aşama ise veri ön işleme yöntemleridir. Bu yöntemler sayesinde ham veriden bilgi çıkarmayı kolaylaştıracak sonuçlar elde edilebilir. Ham verideki eksik ya da hatalı olan bölümlerin giderilmesi, gereksiz örnek ve özelliklerin çıkarılması, özelliklerin birleştirilmesi, aynı örneğin birden fazla sayıda bulunması dolayısıyla ayıklanması temel olarak kullanılan basit yöntemlerdir. Bu yöntemlerden farklı olarak veri üzerinde daha karmaşık yöntemler kullanılabilmektedir. Bu yöntemler kullanıldığında ham veri orijinal halinden tamamen farklılaşarak yeni bir veri seti elde edilir. Örnek olarak sürekli sayısal verilerin [0, 1] aralığı gibi belirli bir aralığa normalleştirilmesi, sürekli verilerin ayrıklaştırılması, temel bileşenler analizi yöntemiyle özellik sayısının azaltılması verilebilir. Kullanılan bu yöntemlerle gerçek verinin karakteristiğini içinde bulunduran fakat görünüş olarak farklı bir veriyi gösteren yeni veri seti elde edilir. Bu sayede bilgi çıkarma ve hesaplama karmaşıklığı daha kolay bir hale gelebilmektedir(Han & Pei 2006, Witten, Frank, & Hall 2011).

Bir diğer önemli ön işleme araçları ise öznitelik (feature) çıkarımı ve seçimidir. Öznitelik çıkarımı veri madenciliği yöntemlerini uygulayabilmek için önemli olan bir aşamadır. Veri içerisindeki örüntüyü ve bilgiyi saklayan öznitelikleri bulmak doğru sonuçlar elde edebilmeyi sağlamaktadır. Veri setinde bulunan bütün özniteliklerin bilgi çıkarımı yapılmasında kullanılması hesaplama maliyetini artırmakla kalmayıp sınırlı bellek kapasitesinden ve işlem gücünden dolayı bilgi çıkarımını zorlaştıracaktır. Bu sebeple toplanan ham verinin bazı öznitelikleri alınarak veya yeni öznitelikler çıkararak ileri veri madenciliği işlemleri daha başarılı bir şekilde yapılır. Eldeki verinin karakteristiğine bağlı olarak farklı öznitelik seçme ve çıkarma yöntemleri bulunmaktadır (Han & Pei 2006, Witten, Frank, & Hall 2011).

Veri ön işleme teknikleri uygulandıktan sonra bilgi çıkarımı yapmaya hazır hale gelen yeni veri seti elde edilmiş olur. Yeni veri seti kullanılarak farklı veri madenciliği yöntemleri ile bilgi çıkarımı yapılabilmektedir. Bu aşamada hangi veri madenciliği yöntem ve tekniğinin uygulanacağı probleme yönelik tespit edilmektedir. Bu yöntemler ve teknikler, problemin türüne göre sınıflandırma, tahmin, kümeleme, birliktelik analizi veya aykırı durum analizi işlemleri olarak özetlenebilir. Bu yöntemler ve kullanılan teknikler çalışma kapsamında özetlenmiş ve eğitimsel veri madenciliğindeki uygulamaları örneklendirilmiştir.

2.3 Sınıflandırma – Tahmin (Classification - Prediction)

Sınıflandırma veri madenciliği, makine öğrenmesi ve yapay zekâ alanında yaygın olarak kullanılan bir eğiticili (supervised) öğrenme yöntemidir. Veri seti içerisinde giriş ve çıkış değerlerinin bulunması durumunda sınıflandırma veya tahmin işlemi yapılabilir. Çıkış değişkenini kontrol eden özniteliklerin analizi yapılarak bir örneğin sonucunun hangi çıkışı vereceği tespit edilebilir. Bu yöntemde k-en yakın komşu, naive bayes, destek vektör makinesi, karar ağaçları ve yapay sinir ağları gibi farklı teknikler kullanılabilir. Bu yöntemler ile eldeki verilerden bir kısmı eğitim kümesi olarak kullanılarak bir model geliştirilir. Daha sonra bu model yardımıyla test kümesindeki bir örneğin sınıf bilgisi tahmin edilir (Han & Pei 2006, Witten, Frank, & Hall 2011).

Bir diğer yöntem olan regresyon yaygın olarak kullanılan bir tahmin yöntemidir. Bu yöntemde çıkış değerini bulabilmek için veri setinde bulunan özellikler kullanılarak bir denklem elde edilmektedir. Bu denklem sonucunda çıkış değişkeni sayısal türde elde edilebilir.

Eğitsel veri madenciliği kapsamında sınıflandırma ve tahmin işlemleri kullanılarak

- Öğrencinin oyun eğilimini tahmin etme,
- Derste kullanılması gereken materyalleri ve öğretim teknolojilerini sınıflandırma,
- Öğrencinin başarı durumunu tahmin etme,
- Öğrencinin okulu bırakma eğilimini tespit etme,
- Öğrencinin yükseköğretimde bölüm veya alan seçimini tahmin etme,

- Öğrencinin ilgi ve yeteneklerine göre ortaöğretim okul türünün tespit edilmesi,

gibi uygulamalar yapılabilir (Kurt & Erdem 2012, Şengür & Tekin 2013).

2.4 Kümeleme (Clustering)

Veri madenciliğinde sıklıkla kullanılan bir diğer yöntem ise kümeleme yöntemidir. Eğiticisiz (unsupervised) bir yöntem olan kümelemede kullanılan veri setinde sadece özellikler vardır, herhangi bir çıkış etiketi yoktur. Örnekler birbirine benzerliği ya da farklılığı dikkate alınarak farklı kümelere veya gruplara ayrılır. Bu yöntemde uzaklık temelli k-ortalamalar, k-medyanlar teknikleri, yoğunluk temelli DB-scan ve hiyerarşik temelli teknikler kullanılabilir (Han & Pei 2006, Witten, Frank, & Hall 2011). Eğitsel veri madenciliği kapsamında kümeleme yönteminin bazı uygulamaları aşağıda özetlenmiştir: (Kurt & Erdem 2012, Şengür & Tekin 2013)

- Öğrencileri sınıf içi küme çalışması için çeşitli özelliklere göre gruplama,
- Ders materyallerini sahip olduğu özelliklere göre gruplama,
- Öğrencileri derse motivasyon olma süresine göre gruplama,
- Öğretmenleri hizmet içi eğitim maksadıyla çeşitli özelliklerine göre gruplama,
- Başarısız öğrencilerin başarısızlıklarına neden olan sebepleri gruplama,
- Merkezi sınavlarda sınıf dağılımlarının kopya çekme eğilimi gibi farklı özelliklere göre yapılması,

2.5 Birliktelik Analizi (Association Analysis)

Birliktelik tespiti ilk olarak market sepeti analizi ile gündeme gelen önemli bir veri madenciliği yöntemidir. Bu yöntem ile veri setinde bulunan örnekler arasındaki farklı ilişkilerin tespit edilmesi yapılabilir(Han & Pei 2006, Witten, Frank, & Hall 2011). Eğitsel veri madenciliğinde toplanan veriler analiz edildiğinde örnekler arasında ilişkileri tespit etmek için bu yöntem ve teknikler etkin bir şekilde kullanılabilir. Birliktelik tespitinin eğitsel veri madenciliğindeki örnek uygulamaları

- Bilgisayar dersi sınavı sonrası analiz yapıldığında birbiriyle ilişkisiz konulara ait soruların tamamımın doğru cevaplandırılması,
- Seçmeli ders havuzundan seçilen iki farklı ders arasındaki ilişkinin bulunması,
- Tarih dersinde başarılı olan öğrencilerin fizik dersinden de başarılı olmalarının yüksek çıkması,
- Kütüphane için alana uygun kitap alımında ihtiyaç duyulan kitapla birlikte aynı alanda farklı türlerden kitapların tespit edilmesi,
- Eğitsel kollarda görev alan öğrencilerin sınıf temsilciliği ve bilgi yarışması için aday olması,
- Mühendislik eğitimi alan öğrencilerin çift ana dal programı kapsamında eğitim bilimlerini tercih etmesi,

olarak verilebilir.

2.6 Anomali Tespiti (Outlier Detection)

Ham veri üzerinde anomali (aykırı durum) tespiti yöntemleri ise bir veri seti incelendiğinde örneklerin olağandışı davranışlar göstermesi olarak tanımlanabilir (Han & Pei 2006, Witten, Frank, & Hall 2011). Aykırı durum tespitleri için istatistiksel yöntemlerin yanı sıra kümeleme gibi farklı veri madenciliği teknikleri de kullanılmaktadır. Veri setlerinin doğru olarak analiz edilmesi için veri ön işleme adımında aykırı değerlerin tespit edilerek veri setinden çıkarılması sağlanır. Eğitsel veri madenciliğinde;

- Rehberlik servisi tarafından öğrencinin ailesi tarafından darp edildiğinin tespiti,
- İlkokul öğrencilerinin yaş ortalamasının 15 veya üzerinde çıkması,
- İlkokul öğrencileriyle ilgili yapılan bir anket sonucu elde edilen veriler incelendiğinde öğrenci yaşı, özelliğinin bir X öğrencisi için 20 çıkması,
- Derse katılım oranının düşük olan öğrencinin ders başarı notunun yüksek olması,
- Ortaöğretimdeki öğrencilerin yıllara göre ağırlıklı not ortalamalarının ani değişim göstermesi,
- Derse ilgisi ve katılımı yüksek olan öğrencinin yılsonu karne notunun çok düşük çıkması,

aykırı bir durum olarak örneklendirilebilir.

3. SONUÇ VE ÖNERİLER

Bu çalışmada bilgisayar bilimlerinin en önemli konularından veri madenciliğinin hayatın bir parçası olan eğitim alanında uygulanmasının gerekliliği vurgulanmaktadır. Eğitsel veri madenciliği teknikleri eğitim ve öğretim süreçlerinde toplanan veri setlerinin analiz edilmesini ve bu verilerden faydalı bilgiler elde edilmesini sağlayan güncel bir araştırma alanıdır. Teknolojinin gelişimi ile birlikte eğitim bilimleri ile ilgili veri toplamak kolay hale gelmiştir. Özellikle çevrimiçi anket sistemleri her türden verinin kolaylıkla elde edilmesini mümkün kılmıştır. Ülkemizde eğitim bilimleri ve bilgisayar bilimleri uzmanlarının disiplinler arası çalışmaları sayesinde eğitim ve öğretim süreçlerindeki farklı problemlerin çözülmesi ve analizlerin yapılması mümkün hale gelecektir.

Toplanan verilerin boyutunun artmasıyla güncel bir araştırma alanı olan büyük veri (big data) teknolojileri eğitim alanında kullanılarak daha hızlı ve etkin çözümler elde etmek mümkündür. Bilgi teknolojilerinin etkin bir şekilde kullanılmasıyla eğitim ve öğretim süreçlerinde belirlenen hedeflere ulaşmayı kolaylaştıracak ve olası olumsuzlukları en aza indirgemeyi sağlayan çalışmalar yapılabilecektir. Öğrencilerin başarısızlığını etkileyen faktörlerin tespit edilmesi, öğretim ortamlarının ve materyallerinin tasarlanmasında yapılabilecek hataların önceden tespiti, uzaktan öğretim sistemlerinin tasarlanması ve öğretim faaliyetlerinin değerlendirilmesinin veri madenciliği ve yapay zekâ kullanılarak yapılması, öğretimde kullanılan yöntem ve tekniklerin hedeflenen seviyede kazanımlar elde edilmesi için iyileştirilmesi gibi birçok uygulama başarı ile gerçekleştirilebilecektir. Bilgisayar ve internetin eğitim ve öğretimde etkin olarak kullanılmasıyla birlikte gelecekte yapılacak yenilikler veri madenciliğinin etkin olarak kullanımını kaçınılmaz hale getirecektir.

Disiplinler arası bir alan olan Eğitsel veri madenciliği ile eğitim ve öğretim süreçlerinin daha etkin olabilmesi için, bilgisayar bilimlerindeki ilgili uzmanlar ile eğitimcilerin birlikte çalışması gerekmektedir. Yurtdışında bu anlamda birçok çalışma yapılmasına rağmen ülkemizde bu alanda yapılan çalışmaların sınırlı olduğu görülmektedir. Bilgi çağındaki bu hızlı gelişime ayak uydurmak için bu alandaki araştırmacıların biraya gelerek çalışmalar yapması gereklidir. Eğitsel veri madenciliği yöntemlerinin kullanılarak eğitim ve öğretim süreçlerindeki mevcut sorunların tespiti, tespit edilen sorunların çözümü ve olası sorunların öngörülmesi için çalışmalar yapılmasının önemi her geçen gün artmaktadır.

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VIEWS OF STUDENTS ON THE SOFTWARE DEVELOPED ACCORDING TO MULTIMEDIA DESIGN PRINCIPLES

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Multimedia software (MS) is an instrument of computer-based education. MS may have many forms of materials, created on computers such as video, animation, picture, etc. However, these materials need to be carefully used when developing the software. In other words, while preparing an MS for education, design principles, which have a theoretical background, should be taken into consideration. There is a lot of research on the effectiveness of MS on learning. Many of these studies have shown that MS has positive effect on learning. The purpose of this study is to investigate the views of the students towards multimedia software developed according to multimedia design principles. Students, who took the course of Instructional Principles and Methods in the department of Computer Education and Instructional Technologies in Balikesir University in 2013-2014 Fall semester, were selected as a sample population. In order to determine the views of the students, face to face interviews were conducted through semi-structured interview form. Themes were created after encoding data obtained from these interviews. According to the findings of the interviews, students represented mostly positive views about MS. Students stated that learning with MS helped them learn easily and allowed them to work at their own pace. In addition students expressed that MS offers the opportunity to study again whenever they want. Some students have mentioned that it would be more appropriate to use multimedia software as a supporting material in the courses then to use it as a stand alone learning material.

Keywords: Multimedia, Software, Multimedia Learning

WEB TABANLI ÇOKLU ORTAM TASARIMLARINDA RENKLER VE ALGI

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ÖZET

Günümüzde algı yönetimi çok araştırılan bir alandır. Reklam sektöründen, siyasetçilere akla gelebilecek tüm alanlarda algı ve algı yönetimi üzerine araştırmalar ve çalışmalar yapılmıştır. Bu çalışmada da algı ve renk konusunun ne denli iç içe geçmiş konular olduğunu görülecektir. Bir insanın alacağı bir ürünün (araba, telefon, v.b.) hangisi olacağı kararını verirken "RENK" konusunun en önemli etkenlerden birisi olduğu görülmektedir. Renklerin bilincimize ve bilinçdışına gönderdiği mesajlar kısa surely veya üzün sureli karar verme mekanizmalarında ne kadar etkili olduğu görülmektedir. Renkler, hisleri ve fikirleri değiştirebilir. Kullanıcılara huzurlu, tedirgin veya rahat hissettirebilir.

Sonuç bölümünde ise Renklerin algımıza etkilerinden yola çıkarak, tasarım öğelerinde dikkat edilmesi gereken hususlardan bahsedilmiştir. Çok ortam tasarımında kurumsal kimliği kaybetmeden, aynı mesajı verme veya algıyı değiştirmede ki ortak dil oluşumu konusunda öneriler sunulmuştur.

1.RENK

Şüphesiz başka hiçbir tasarım elemanının bir ortam (ev, web sitesi vb.) hakkındaki hislerimiz üzerinde renk kadar etkisi yoktur. Renk, vurgulanmak istenen önemli materyallere dikkat çeker. Fikirler, objeler ve bilgiler arasındaki ilişkileri gösterir. Renkler, hisleri ve fikirleri değiştirebilir. Kullanıcılara huzurlu, tedirgin veya rahat hissettirebilir. (1)

Renkler, ışıkla birlikte var olurlar ve izleyici üzerinde birçok değişik duygu uyandırırlar. Renk, bir tasarım unsurunda vazgeçilmez bir ilkeyi temsil eder. Tasarıma kişilik kazandıran, ondaki ana mesajı vurgulayan ve etkileyici kılan bir unsurdur. Bugüne kadar birçok bilim adamı, renklerin insanlar üzerindeki etkileri Konusunda pek çok deney yapmışlardır. Diğer taraftan bir sanatçı olarak Josef Albers"in bu konudaki katkılarını da unutmamak gerekir.

Albers, 30"lu yılların başında Bauhaus okullarında öğretim üyesiyken kare biçimlerden yola çıkarak birçok renk denemesi yapmış ve bu denemelerde optik yanılsamalara dayalı renk ilişkilerini ortaya çıkaran isim olmuştur.

(1). Wroblewski, L., "Site-Seeing - A Visual Approach to Web Usability 1st ed", *Hungry Minds, Inc.,* New York, 2 (2002)

Tasarımda kullanılan elemanlar, tasarımın vurgulayıcı ve etkileyici olmasını sağlamalıdır. Tasarımcının ana kaygısı yaptığı çalışmada bütünlüğü sağlamaktır. Dağınık bir tasarım gözü yorar ve ilgisizliğe yol açar. Tasarımda bütünlüğü sağlamak tüm tasarım unsurlarının birbirleriyle olan dengesinden geçer. Tasarımda bütünlüğü sağlamak adına tüm tasarım elemanlarının işlevleri vardır. Bu elemanlardan renk, tasarımda bütünlüğü sağlama ve diğer tasarım unsurlarını birbirleriyle ilişkilendirme açısından önemlidir.

Tasarımın en önemli kuralı bütünlüktür. Tasarımı oluşturan elemanların bir bütünlük içerisinde bir araya getirilip gruplanması, hem dağınıklığı önler hem de tasarıma ritim katar. Bütünlük için benzer yapıdaki doku, renk, boyut gibi elemanları seçip bunları gruplamak gereklidir.

Koyu renkli zeminler üzerinde açık renkli yazılar tercih edilmelidir. Daha ışıklı olması nedeniyle koyu zemin üzerindeki yazılar, özellikle de şerifsizler daha iyi görünürler. Okunurluk açısından harf ve zemin arasında en az %70 ton farkının gerekli olduğu da unutulmamalıdır. (3)

Bir tasarımda bulunan görsel unsurlar bütünlük oluşturacak Şekilde bir araya getirildiğinde etkili olurlar. Renk, görsel bütünlüğün sağlanması açısından önemli bir eleman olduğu gibi, Grafik iletişimin sağlanmasına da katkıda bulunur. Rengin en önemli görevlerinden biri de tasarıma bir kişilik ve anlam kazandırmasıdır.

Karşılaşılan durumlar ve sosyal etkilerle şekillenen kişisel deneyimler, renklere verilen karşılıkları belirler. Renk psikolojisi, kişilerin renklere nasıl reaksiyonlar verdiklerini ortaya koyar ve web sayfaları oluşturulurken doğru renkler kullanılarak doğru etkiler yaratılmasını sağlar. Mesela, sarı renk genellikle enerji ve parlaklık için kullanılırken, kırmızı renk sevgi ve savaş için kullanılır (5). Yani her rengin kullanıcıda uyandırdığı belli duygular vardır. Yaşa göre, kültüre göre farklılıklar gösterebilir.

Kişiler üzerinde bu kadar etkisi olan renkler, sıcak renkler ve soğuk renkler olarak ayrılır. Sıcak renkler, sarı, turuncu, kırmızı; soğuk renkler, mavi, mor ve yeşildir. Turuncu en sıcak renk, mavi en soğuk renktir (5). Sıcak bir rengin oluşturduğu etkiyle soğuk bir rengin oluşturduğu etki tamamen farklıdır. Renklerin farklı renklerle kombinasyonları da renk algısını değiştirir. (Şekil 1)
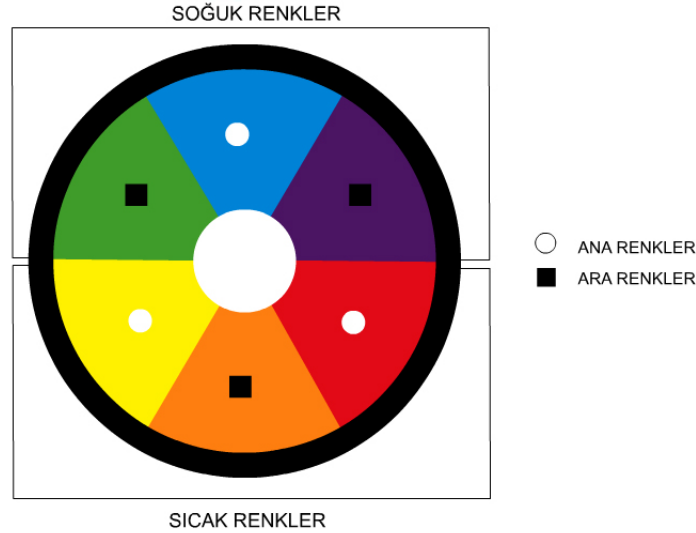
Şekil 1: Renk Skalası

(3). Hasip Pektaş, **İnternette Görsel Kirlenme** http://universite-toplum.org/text.php3?id=15 27 Mayıs 2012
(5) Wroblewski, L., "Site-Seeing - A Visual Approach to Web Usability 1st ed", *Hungry Minds, Inc.,* New York, 2 (2002).

Sayfalarda çok fazla renk kullanımından kaçınılmalıdır. Aşırı renk kullanımı arayüz görüntüsünü karışık hale getirebilir ve kullanıcıları şaşırtabilir, anlaşılırlığı azaltabilir ve hataları çoğaltabilir. Renklerin, minimal şekilde kullanıldıklarında maksimum derecede etkili oldukları bulunmuştur. İnsan gözü milyonlarca rengi tanıyabildiği halde anlamın önemli olduğu durumlarda renk kullanımını ortalama beş adet olarak sınırlandırmak algılamayı kolaylaştırmaktadır (6). Kullanılan renkler mümkün olduğu kadar logoyu destekleyecek renklerden seçilmelidir.

Renk kavramında diğer bir önemli nokta okunabilirliktir. Renkler bir araya getirilirken çok dikkatli olunmalıdır. Çünkü belirli renklerin belirli renkler üzerinde okunabilirlikleri çok veya azdır. Bu sebeple web sayfalarında kullanılan metin renkleri ve zemin renkleri doğru seçilmelidir. Zıt renkler yan yana geldiklerinde birleştikleri noktalar titriyormuş gibi algılanır. Kırmızı/yeşil, mavi/mor ve kırmızı/mavi kombinasyonları böyledir. Zıt iki

renk bir araya getirilmek istendiğinde araya siyah bir çizgi koymak veya iki rengin parlaklıkları arasındaki farkı arttırmak bir çözüm olabilir (7).

Renk bilgisi kullanılarak sayfalarda istenilen elemanlar görsel hiyerarşide daha öne çıkarabilir veya daha geri plana atılabilir. Renkler arasındaki benzerlik ve kontrastlıklar kullanılarak elemanlar arasında yakınlıklar veya uzaklıklar yaratılabilir. Yukarıdaki tasarımda da dikkat edileceği üzere, duyuruların olduğu alanlarda beyaza yakın renkler kullanılmıştır. Buradaki amaç, resimlerin ve duyuruların renk içersinde kaybolmamasıdır.Renkler kapsamlı bilgilerin bilgisayar ekranından sunulmasında çok yardımcıdır. (8)

Christ 1975'te renkli ekranlar üzerinde çalışan katılımcıların, tek renk ekranlarla çalışan katılımcılardan daha iyi performans elde ettiklerini bulmuştur. Long'a göre çoklu renkler ekrandaki bilgilerin kategorize edilmesinde, ayrılmasında ve ilişkilendirilmesinde oldukça etkilidir. Renk, ekranda sunulan bilginin sunumunu iyileştirir. Hopkin 1977'de renkli ekranların, tekrarlanan sıkıcı konularda kullanıcının memnuniyetini ve motivasyonunu arttırdığını söylemiştir. Tullis 1981'de rengin kullanıcı memnuniyeti üzerindeki önemini ortaya koymuştur. CRT monitörlerde bilginin sunumu için farklı metotlar uygulamıştır. Bunun için 4 farklı format kullanmıştır; düz metin, biçimlendirilmiş metin, siyah beyaz grafik formatı ve renkli grafik formatı. Kullanıcılara, bu farklı formatlardan hangisinde daha rahat ve kolay çalıştıkları sorulmuş ve 8 katılımcıdan 7'si en rahat renkli grafik formatında çalıştıklarını söylemişlerdir. Katılımcılar renkli grafiklerin göze daha hoş göründüğünü ve içeriği daha ilgi çekici yaptığını söylemişlerdir. Kim 1996'da benzer bir çalışma yapmış ve farklı formatlardaki ekranlarda kullanıcı tercihlerini ölçmüştür. Sonuçlar, öğrencilerin renkli ekranları, siyah beyaz ekranlara tercih ettiklerini göstermiştir (8).

Kullanıcıların renkli ekranları tercih ettikleri ortaya konulmuştur ama kullanıcıların hangi tip ekranlarda daha verimli çalıştıkları konusunda farklı sonuçlara ulaşılmıştır. Kim 1996'da renk kullanımının ekranlardaki kullanılabilirliği arttırıp arttırmadığı üzerine bir çalışma yapmıştır ve öğrencilerin siyah beyaz ekranlarda biraz daha başarılı oldukları sonucuna varmıştır. Tullis 1981'de yaptığı çalışmada, kullanıcıların renkli ekranlardaki ve siyah beyaz ekranlardaki performanslarında herhangi bir fark bulamamıştır. İlgi çekici olarak subjektif veriler her zaman objektif verilerle örtüşmemektedir. Örneğin Kim, siyah beyaz ve renkli ekranlardaki kullanıcı skorlarında çok az fark bulsa da kullanıcıların çoğunun renkli ekranları tercih ettiklerini ortaya koymuştur (8).

Kullanıcı tercihleri ve performansları arasında çakışan sonuçlar ortaya çıksa da rengin kullanıcının site hakkında zihinsel ve algısal bir harita oluşturmasında çok önemli bir yardımcı olduğu açıktır. Zihinsel resim kullanıcıya bir web sitesinde ne olduğu, sitede nasıl dolaşacağı ve tekrar girdiğinde bu sitede nasıl davranacağı ile ilgili yardım eder.

(6). Üstündağ, Ö., "Bilgisayar arayüz tasarımında grafik elemanlar ve İnternet'in grafiksel etkileşim arayüzü: World Wide Web", Yüksek Lisans Tezi, *Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü*, Ankara, 21-73 (1999).
(7). Brinck, T., Gergle, D. and Wood, S.D., "Designing Web Sites That Work- Usability for the Web 1st ed", *Academic Press*, San Diego, 1-481 (2002).
(8). Ent, V. I., "The icon response phenomena: examining creativity and icon association errors in computer and web-based research", Doktora Tezi, *University of Pittsburgh Graduate Faculty of the School of Education*, Pittsburgh, 13-27 (2001).

Ebersole 1997'de yaptığı çalışmada renk kullanımının kullanıcının bir web sitesiyle ilgili oluşturacağı algısal haritada önemini vurgulamıştır. Ebersole'e göre renk kullanıcılara rehber olabilir. Örneğin daha önceden ziyaret edilen bağlantıların renkleri değişir ve kullanıcı bir kez bu değişimi tanırsa hangi bağlantıya daha önceden girip hangisine girmediğini bilecektir.(8).

Rengin dolaşımda kullanıldığı başka bir önemli teknik de sayfaların üst kısımlarında kullanılan farklı renkteki başlık resimleridir. Örneğin bir üniversite sitesinde, üniversite sayfaları için bir renkte, her fakülte ve bölüm için ayrı renklerde, akademisyenlerin sayfaları için farklı renklerde başlık resimleri kullanıldığında, kullanıcılar kolayca ne tür bir sayfada olduklarını anlayabilirler.

2.ALGI

Bilgiyi insan duyum ve algı olmak üzere iki düzeyde alır. *Duyum*, bir ışığın parlaklığı bir ses tonunun perdesi kahvenin sıcaklığı ya da taşa vurduğumuzda ayağımızda hissedilen acı gibi ilkel yaşantılar içerir. Duyumlar yaşantımızın ham maddeleridir, ancak yaşantımız bir dizi duyumdan oluşmaz. Günlük yaşantıda duyumlar sürekli olarak yorumlama işlemine tabi tutulur. Tonlar dizisi melodi olarak, küp biçiminde büyük ve kırmızı bir cisim bir ev olarak, soğuk ve ıslak bir duyum ise yağmur olarak yorumlanır. Duyumları yorumlama, onları anlamlı hale getirme sürecine de _algı_ denir. Başka bir deyişle duyu organlarımızda tepki uyandıran enerjiye algı deriz. Bu enerji kimyasal ve fiziksel olabilir. Değişik uyaranlar değişik duyumlarımızı hedef alır. İnsan organizmasının duyu organlarının her birinin kendisine göre alt ve üst sınırları vardır. Duyu organları enerji değişimini fark edebilen özelleşmiş organlarımızdır. Kabaca duyu organları beşe ayrılır; göz, kulak, burun, ağız, tendir. Dolayısıyla görsel algı, işitsel algı ve diğerleri gibi her duruma ilişkin algılar vardır. (9)

2.1. Algı Ve Kavramlar

Bir cinse ait olan çok çeşitli algıların ortak yönlerinin soyutlama ve genelleme yollarıyla bir araya getirilmesiyle de "kavram" oluşur. Değişik tipteki limonların değişik algıları vardır. Bunların öğe ve özelliklerinin soyutlanması ve genellenmesi sonucunda zihinde bir "limon" fikrine ulaşılır ki, işte bu "limon" kavramıdır. Biz, kavramlar vasıtasıyla düşünürüz. Kelimeler, kavramanın birer sembolüdür. Dilde, özel isimler dışında, konuşulan hemen her kelimenin bir kavaramı vardır. Bir kavramı, kelimelerle ifade etmeye çalıştığımız zamanda da "tanım" yapmış oluruz. (10)

2.2 Algının Çoklu Ortam Tasarımında Görsel Açıdan Kullanılabilirliğe Etkileri ve Okunabilirlik

2.2.1 Gestalt Kuramı (Görme ve Algı)

Mantık + Yaratıcılık $\implies$ Gestalt

Gestaltçılar, algılamayı insan beyninin doğası gereği sahip olduğu örgütlenme eğiliminin bir ürünü saymaktadırlar.Bu eğilimin sonucu olarak algılamada, basite doğru bir yönelim vardır. Örneğin simetrik biçimler asimetrik içimlerden, mekan ve anlam olarak yakın nesneler, uzak olanlardan, daha basit figür–zemin ilişkisi yarattıklarından, daha kolay algılanırlar (11).

(8). Ent, V. I., "The icon response phenomena: examining creativity and icon association errors in computer and web-based research", Doktora Tezi, *University of Pittsburgh Graduate Faculty of the School of Education*, Pittsburgh, 13-27 (2001).

(9) Karakaş S., Psikolojiye Giriş: Algı, Hacettepe Üniversitesi, Psikoloji Bölümü Yayınları, Ankara, 1991, S.264

(10). Endüstri Psikolojisi, Cavit Binbaşıoğlu, Etkin Binbaşıoğlu, Ankara:1992 ,Dizgi-Baskı: Kadıoğlu Matbaası, Ankara ,Sayfa :34-35-36-37-38-39

(11). İNCEOĞLU, Metin. (2000). *Tutum - Algı - İletişim*. Ankara: İmaj Yayınevi.

Gestalt varsayımlarından olan basitlik yasasına göre; Algı, uyaranın olası en basit yorumuna karşılık gelir. Algısal organizasyon fenomenleri arasında şekil zemin etkileri ve algısal gruplama bulunur (12).

Şekil zemin olayı deyimi Rubin tarafından teklif edilmiştir. Zihinde, şekil denilen esas kısmının belirlenmesinin ilk aşama olduğunu ve bunların zemin denilen geride kalan kısımdan ayrıldığını düşünmüşlerdir. Şekil-zemini algılamak her zaman aynı seviyede olmaz, fark etmede, belirlemede esas olan şekil, hepsi fark edilse bile daha belirsiz olan zeminden kolayca ayrılabilir (13).

Görüş alanı ya da bir görsel düzenleme içindeki öğeleri birbirleriyle ilişkilendirirken, sabit zemin ve zeminin önünde olanı zemine göre daha dinamik şekil olarak örgütleme eğilimine şekil-zemin ilişkisi ya da kısaca şekil-zemin olarak adlandırılır (14).

"Perls ve arkadaşları algılamada, neyin figür, neyin zemin olacağını, salt o andaki görme eyleminin belirleyeceğini belirtmişlerdir. Yaşam savaşında en önemli gereksinme figürdür ve bireyin davranışını bu

gereksinme giderilinceye keder yönlendirir. Daha sonra sıradaki en önemli gereksinme onun yerini alır. Zemin, sürekli olarak dikkat alanından ayıklanan her şeydir. İyi bir Gestalt ise daha birleşik, parlak, keskin bir figürün gitgide boşalan, ilgi çekmeyen bir zeminde belirmesidir (11).

Gestaltçılara göre, görmede bir bütünlük söz konusudur. İnsan parçaları değil, o parçalar arasındaki bütünsel ilişkiyi görür. Örneğin birey izlediği bir reklam filminde, salt tüketimi önerilen ürünü değil, o ürünün tüketildiği ortamın yaşam biçimini de algılar. Böylece görsel algılama, çevresel nesneler arasındaki bütünsel ilişkilere yönelir. Görsel alan, figüre ve zemine göre yansımıştır. Figür ve zeminin oluşturdukları bütün ise gestaltı oluşturmaktadır (11).

Başka bir tanımla Gestalt, birbirinden bağımsız olan öğeleri psikolojik bir süreç sonucu bütün oluşturacak şekilde gruplandırma eğilimidir. Bütün, gestalt, onu meydana getiren öğelerden daha büyük ve karmaşık yapıdadır. Gestalt'ı oluşturan öğelerin hepsi bütünle ilişki içerisindedir (14).

Gestalt psikolojisinde yapısal bütünlük, figür ve zemin arasıdaki belirleyici ilişkiden, bir başka deyişle, figürün anlamı onun zemin ile ilişkisinden, aynı biçimde, zeminin anlamı da onun, figürle olan ilişkisinden ve bu ilişkilerin bütünsel bir Gestalt oluşturmasından kaynaklanmaktadır. Böylelikle herhangi bir nesnenin tek başına değil, ait olduğu ilişkiler çerçeveler algılandığında bir anlamı olabileceği sonucu çıkmaktadır (11).

Birey, yaşantısının bir parçası olan herhangi bir nesneyi, durumu ya da olayı, duyu organlarının ilettiği parçasal verilerden, bütünsel, yapısal bir anlama dönüştürerek algılamaktadır. Algılama, duyularla gelen parçasal verilere değil, bunlar arasındaki bütünsel ilişkilerin yapılaşmasına bağlı olarak gerçekleşmektedir. (11).

Web sayfalarında bilginin görsel olarak nasıl organize edileceğine karar verebilmek için kullanıcıların gördüklerini nasıl anlamlandırdıklarının bilinmesi gerekir. Tanıdık olmayan bir bilgi sunumuna bakıldığında, ilk olarak nesneler arasındaki benzerlik ve farklılıklar fark edilir. Bu, bilginin anlamlı kategorilere ayrılmasını sağlar. Kullanıcıların bir sayfa üzerindeki bilgileri nasıl anlamlı hale getirdiğini açıklayan pek çok prensip vardır. Bu prensiplerden bazıları şunlardır:

(11). İNCEOĞLU, Metin. (2000). *Tutum - Algı - İletişim*. Ankara: İmaj Yayınevi.
(12). ATKINSON, Rıta L ve ATKINSON, Rıchard C ve HILGARD, Ernest. (1995). *Psikolojiye Giriş I.* (Çev. Kemal Atakay, Mustafa Atakay, Aysun Yavuz), İstanbul: Sosyal yayınlar
(13).GÜRER, Latife. (1970). *Temel Dizaynda Görsel Algı*. İstanbul : Teknik Üniversite Matbaası.
(14). KILIÇ, Levend. (2003). *Görüntü Estetiği*. Ankara: Anka Basım.

Yakınlık: Diğer elemanlardan uzak, birbirine yakın olarak yerleştirilmiş elemanların bir grup olarak algılanması.

Benzerlik: Aynı büyüklük, renk, şekil, doku ve yöndeki elemanların birbirlerine uzak da olsalar görsel olarak grup olarak algılanması.

Süreklilik: Birçok eleman arasındaki fark sadece temel bir farksa (mesela farklı büyüklükteki daireler) bunların görsel olarak gruplanması.

Kapalılık: Daha büyük ve basit formlar oluşturmak için elemanlar arasındaki boşlukların doldurularak gruplanması. Bu prensipler doğrultusunda kullanıcıların görsel bilgiyi gruplama eğilimleri vardır (5).

Görsel algı, geçmişteki deneyimler ve bilgi birikiminden etkilenir.(7). Tasarım yaparken tasarımcıların, kullanıcılar ve onların deneyimleri üzerine odaklanmalarının sebebi budur. Örneğin bir bağlantı üç boyutlu bir düğme olarak konulduğunda, ona tıklama eğilimi vardır. Kişilerin görsel elemanları nasıl grupladığını bilmek, bilginin web sayfalarında anlamlı gruplar halinde organize edilmesini sağlar(5).

Objeler arasındaki renksel yakınlıklar önemli olduğu gibi iki obje arasındaki renksel karşıtlık da önemlidir. Renkteki karşıtlık bunların renk özelliklerindeki farklılığın miktarıyla ilişkilidir. Daha fazla karşıtlığı olanlar

daha ilgisiz gibi algılanırlar (5). Örneğin bir web sayfasında iki metin bloğu birbirlerinden farklı renkte yapılmış ise, bunlar okunmadan farklı şeyler anlattığı düşünülür.(15)

Görsel ilişkiler ayrıca elemanların yerleşimleriyle de oluşturulur. Beyaz bir alan üzerinde tek başına duran bir obje, diğer elemanlarla çevrili olduğu sunumundan daha etkilidir (5). Veya iki eleman birbirine çok yakın olduğunda ilişkili oldukları hissini yaratırlar.

Web sayfalarında kullanıcıların dikkatlerini çekmek için görsel bir hiyerarşi oluşturulmalıdır. Bu, sıra ve denge hissi uyandırır. Başka bir deyişle bir web sayfasının bir başlangıcı ve sıralı bir şekilde ulaşılan bir sonucu olmalıdır. Bu da görsel hiyerarşiler yaratılarak gerçekleştirilir. Elemanların görsel hiyerarşide belli bir ayırt edilebilme sıraları olmalıdır. İlk algılanan, ikinci algılanan gibi. Bu hiyerarşileri oluşturmada görsel ağırlık kavramı ortaya çıkar. Görsel ağırlık bir elemanın dikkat ve ilgi çekme derecesidir. Bir sayfada görsel olarak baskın elemanlar ilk olarak algılanır. Bu elemanlar hikâyenin nereden başladığını anlatır ve hiyerarşiye bağlı olarak izleyicinin gözü bir noktadan diğer noktaya hareket eder (5).

Sayfadaki her eleman odak noktası olmaya çalışırsa izleyicilerin dikkatini dağıtır. Bu sebeple elemanlar dengeli bir biçimde yerleştirilmelidir (5).

Bu görsel hiyerarşiler benzerlikler ve karşıtlıklar sayesinde, kullanıcılar bir web sitesine girdiklerinde sayfayı şöyle bir taradıktan sonra belli görsel ipuçlarıyla sitede nasıl hareket edeceklerine dair zihinsel bir harita oluştururlar. Bu nedenle görsel ipuçları bilgilendirici ve tutarlı olmalıdır.

(5). Wroblewski, L., "Site-Seeing - A Visual Approach to Web Usability 1st ed", *Hungry Minds, Inc.*, New York, 2 (2002).
(7). Brinck, T., Gergle, D. and Wood, S.D., "Designing Web Sites That Work-Usability for the Web 1st ed", *Academic Press*, San Diego, 1-481 (2002).
(15). Yılmaz S. "Web Sayfalarının Görsel Kullanılabilirliği" Yüksek Lisans Tezi, *Gazi Üniversitesi,* Ankara, (2006)

SONUÇ
-Çoklu ortam tasarımı yapılacak uygulamanın, tek bir kurumsal yapıda olduğunu netleştirmek için renk konusunda ortak hareket etmek gerekmektedir.
-Her bir ortam tasarımında bilgiyi veya öne çıkması istenilen şeyin farklı bir renk kombinasyonuyla desteklenmesi gerekmektedir.
-Çoklu ortam tasarımında yapılan anasayfa belirgin olmalı, her altsayfada anasayfaya uygun renklerin kullanılması algıda bütünlük açısından önem arzetmektedir.
-Kullanılan renklerin varsa kurumsal kimliğe uygun eğer yoksa kullanılacak renk skalasının önceden netleştirilip daha sonraki uygulamalarda bu skalanın dışına çıkılmaması daha uygun görülmektedir.
-Gestalt kuramında olduğu gibi tüm renklerin kullanım açısından bir karşılığı olması gerekmektedir. Tasarımcının "yaptım, oldu" düşüncesinden öte kullanıcıda vereceği algıya göre hareket etmek gerekmektedir.
-Çoklu ortam tasarımında renkleri belirlerken kullanıcıda bırakacağı algıyı düşünerek parçalara değil, parçalar arasındaki bütünsel ilişkiyi baz almak gerekmektedir.

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WHAT IS A SUITABLE GEOMETRY FOR COMPUTER?

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For years, the principles of the design have been those relating to the classical interpretation of the Monge's geometry. It has demonstrated its validity in the application of two-dimensional media supports such as paintings and frescoes. The technological computer evolution has proposed a new type of support, the video, which is able to use an analytic geometry made of coordinates and spatial vectors.

For example, drawing a point on a paper requires an immediate action with a fast visible result. On the contrary, making the same operation with a mouse on a video requires many steps because you need a software, which translates the movement of the mouse and the pressure of its buttons to highlight and place that point in a given space.

This topic has prompted and encouraged the research of LABINF lab in order to create an own graphic platform without resorting to third-parties. The platform is entirely made of special studied and developed algorithms to experiment the new type of representation to the computer through the basics of analytic geometry. For this reason, it has also led to review the educational content and to adapt them to the requirements of a new geometry.

Keywords: graphic platform, geometry, representation, computer

WOMEN IN SOCIAL STUDIES PROGRAMS FROM 1968 TO THE PRESENT

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In recent times, Turkey has seen a dramatic increase in the violence against women. For this reason, it has become necessary to examine and discuss the interdisciplinary subjects of "women" and "women's rights" from a number of different perspectives and approaches. "Women" figure at the center of discussions concerning the shaping of gender roles by family, social environments and educational institutions; thus, as a subject that needs to be addressed through new approaches, "women" also represent an important area of study for education researchers. As one of the basic fields of education, and owning to their content and purpose, social studies and social studies courses are important areas/platforms for discussing the perception of women, sexism, and women's rights. In this context, it is important to identify the way in which the subject of "women" is being examined and addressed in social studies programs and textbooks is important. The aim of this study was to evaluate how women have been discussed and covered as a subject in elementary and middle school social studies programs implemented between 1968 and 2005.In this context, we determined the courses, course hours and units of these programs, as well as their objectives. As the subject of this study focused on a historical period, a descriptive and explanatory method was employed. The study design was thus based on the case study model, which is a qualitative study model. Within the scope of this study, we investigated the manner in which the subject of "women" was included and discussed in social studies programs from the 1968 elementary social studies program to the 2005 elementary school social studies teaching program. Data collection in this study was performed based on the document analysis method.

Keywords: Social studies program, social studies textbook, perception of women, women's rights

WOMEN'S EDUCATION IN THE MEDITERRANEAN REGION AND TURKEY

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The situation of education and womens' education show some clear differences whenwe compare them with some other regions and countries of the World.

First, related to the construction,improvements, it seems abowe the "avarage" or "medium" levels in the region.The Turkish education also seems closer to this situation.But,thesituation and improvements in Turkish education as well as women's education are closely related to the Republican Period.

In terms of total illiteracy rates Karabag,Bosna-Hersek,Arnavutluk and Turkey fallowed each other ,in the group. In terms of women's literacy rate Turkey is located at the fifth place.

It doesn't seem to have a direct relation between the literacy rates only. Some other factors and/or characteristics in this respect also seem affects.

Keywords: Women, education, the Mediterranean, Turkey

WRESTLING WITH THE FUTURE IN VOCABULARIES OF TRADITION: THE NEW ENTREPRENEURIAL SUBJECT OF THE POSTCOLONIAL ELITE SCHOOL

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In her book, *Neoliberalism as Exception*, Aihwa Ong usefully observes that the North American university has been dirempted from it historical role of preparing young people for democratic citizenship. It has instead, according to Ong, become the great global market place and grand bazaar for international students' ambitions. Drawing on Ong's insights, this presentation reports on a global ethnography study that looks at the way in which six form students in two Barbadian elite schools (Old Cloisters and Ardent Arbors) are orienting themselves to the future in a moment of aggressive recruiting by North American universities. These developments bring students' global imaginations into profound tension with historical narratives and traditions linking these schools to England. This new context is defined by the birth of the term "entrepreneur"— a term the students embrace boldly as they chart their way to futures in Canadian and US premier universities and colleges.

Keywords: Globalization, Postcolonial Schools, Entrepreneur, Transnational Elites

WRITING ANXIETY: A CASE STUDY ON EFL STUDENTS' MAJOR REASONS OF WRITING APPREHENSION IN WRITING CLASSES

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ABSTRACT

Writing apprehension has been a common problem among the second language learners. Many researchers have indicated that writing apprehension is a crucial determinant of learner's success in learning how to write effectively in English. Therefore, the purpose of this survey is to reveal the major reasons why students have difficulties in their writing courses. Ten pre-intermediate level English preparatory school students have participated in this research. They were interviewed and requested to reveal the main reasons why they do not feel comfortable while practicing writing. After sufficient data was collected, the most important reasons that made them feel demotivated and anxious while writing were emphasized. According to the results of this research, learners highlighted that they lack crucial writing strategies like organizing their ideas and combining them also they considered that they do not have sufficient knowledge of vocabulary, they have poor grammar and they cannot express their ideas clearly in English and they do not find the writing topic interesting to think about and write. By revealing these major reasons in writing process, this project will contribute to future research on similar topics.

Keywords: Writing anxiety, EFL students, and reasons of writing apprehension.

INTRODUCTION

Writing is an important language skill and it is really an essential part of academic success. However, writing is not an easy task as people consider; it is a complex and sophisticated skill when we compare it to the other skills in English. For the group of students, it is a complex activity because it involves certain level of English knowledge, writing rules, vocabulary and grammar. This process is a really hard one because the writer is supposed to think, compose and create ideas also it is really important to check the relevancy of ideas, the main idea of the topic, discard the irrelevant ideas and organize them in accordance with developing the main idea of the topic. As a result of this process the writer shows them on paper and this is called as the first draft. Then, the writer should revise his paper trying to correct the mistakes and get final draft. There are three different stages in writing, it involves pre writing, while writing and post writing. These three stages are strongly connected to each other and ordered in a sequence. Many L2 students need to use many techniques and strategies at the each stage of the writing process. In this process, pre writing stage includes planning and brainstorming to write. The second stage is called while writing, as it is named, the first draft is written by the students themselves. Finally the last stage is post writing stage. In this stage students revise their papers, focus on grammatical errors, and organization of the paper, ideas and also the use of vocabulary. After the final editing, they will be able to submit their final written work. Most EFL students face with some kind of problems while trying to write. They feel stressed, anxious and they even quit writing. In addition, most of the researches conducted researches on writing displaying that EFL students are quite weak in accomplishing the writing process. There are many reasons of this weakness among the students such as grammatical problems, lack of vocabulary, and demotivation towards writing courses, and unwillingness for the lesson. Considering all these reasons, L2 students experience high levels of apprehension in writing. This kind of apprehension or anxiety can deeply affect the success in acquiring and learning any languages not only in English. As a result, an important question arises; what are the major reasons that lead to EFL students face writing apprehension? This study is aimed to find out the common problems of L2 students in writing by observing EFL Prep school students; also it focuses on the reasons and results of these problems and how they are affected by these problems.

LITERATURE REVIEW

Writing apprehension is defined as a psychological construct related with a student's tendency to avoid certain writing process because of some amount of evaluation. Some teachers blame students because of their poor performances; however some teachers think with a positive attitude; students can write better drafts and also they can enjoy writing. Some of these teachers find it unnecessary to encourage students to write because students do not have adequate skill to be successful in writing. However encouragement and brief feedbacks will be really beneficial for those students. As I have mentioned, some students find writing really enjoyable. They see it as an enjoyable activity because they put their ideas on the paper and this makes them feel better and more confident during the writing process. On the other hand, for the other students this activity will be really difficult because they have difficulty in expressing their ideas by writing and this activity will be unpleasant and fearful one for

them (Daly, 1978). First of all, the causes and effects of the writing apprehension should be observed. There are many researches which are conducted to find the main reasons behind the problems that students have while writing. Some studies in writing have found out that there are many reasons of writing anxiety ranging from student's ability to write, the amount of preparation the student puts in paper to complete writing task, the fear of being evaluated and also various feedbacks that they receive from their teachers. According to a research, most writing problems stem from the complexity of language and complexity of writing skill (Brunning & Horn, 2000). Most of the students dislike writing and they find it really complicated so this affects their writing performance deeply. The success in writing is strongly related to the self-expression, flow of ideas, self-confidence and enjoyment of L2 students in writing process (Basturkmen&Levis, 2002).There is a relationship between the problems that students cope with and their writing performance. However, we should know whether these problems are the cause or result of poor performance. According to Nave-Benjamin's research (1991), anxious learners display low performance while writing because they are not successful in the acquisition stage however, the more they fail in the acquisition step, the more they feel anxious while writing. In addition, Sparks, Lanchow and Javorsky (2000) claim that student's disability to acquire language causes poor performance and this turns into an anxiety. On the other hand, Horwitz (2000) claims that students' poor performance in writing is not completely related to the acquisition of second language, this can be true to some extent but actually the learner's poor performance is due to their difficulties in retrieving information. The most common cause of apprehension is focus and overemphasis on form; grammar, punctuation, spelling… (Gungle and Taylor, 1989). Students generally have the fear of making mistakes so they believe that while writing they will make many mistakes and this will bring them low grades. Another cause is the evaluation process. Students develop high level of apprehension because of the evaluation process whether it is done by themselves, teachers or peers (Maria, 2006). In order to reduce the apprehension, teachers should give assignments which will not be graded. Negative feedbacks or overuse of criticism on writing paper can be another factor that contributes to the apprehension. Negative comments on the writing draft can lead the students to quit writing. Because too much criticism on the paper can make the students think that they will never be successful in writing and they can get the feeling of failure. Some important researches were conducted in order to find the relationship between anxiety and writing performance. Daud and Abu Kassim (2005) conducted a study. It aimed to observe the relationship between anxiety and writing performance.36 male students participated in the study and it was found that students' anxiety result from their lack of vocabulary knowledge and grammar use. Students were recommended to use English more and efficiently. Different strategies should be applied for the effective vocabulary learning. Moreover, writing teachers need to change the way of teaching and assessing. They require the students to correct the mistakes themselves. Teachers should only give them feedback to show their common mistakes but they should avoid from negative comments and criticism for their drafts. Barbara Kroll, an important figure in writing, states that teachers are really important for this process. She depicts the writing process as a journey of the teacher (Kroll, 2003).Teachers should be dedicated to enhance their students' writing abilities by providing courses or lessons that are aimed to move the students beyond their abilities. According to Kroll, teachers may apply some different writing strategies in order to enable students to acquire success in writing (Kroll, 2003).

PURPOSE

Most of the EFL teachers experience writing apprehension in their classes. Most of the students in their classrooms feel uncomfortable when they attempt to write their drafts. Students generally think that the cause of their anxiety or difficulty is due to the lack of accuracy in grammar, lack of vocabulary and not knowing how to organize their drafts. They have problems when they attempt to write because they are not able to write their introduction, they do not know how to link their sentences and also they have the fear of being evaluated by their teachers. Therefore this study will investigate the major problems they experience while writing and also the factors that contribute to their anxiety. The purpose of this study is to determine the factors that may affect EFL Prep students' attitudes towards writing and the causes of the problems they encounter when they attempt to write.

RESEARCH QUESTIONS

As it is mentioned before, this study aims to identify the major problems that students have while they are writing and also different factors that contribute to their apprehension. While investigating these factors and problems, the following questions need to be answered.

1. What are the main factors that contribute to EFL students' apprehension about writing?
2. Do the students have sufficient interest for the writing lessons?
3. Do the students experience lack of time and organization while attempting to write their drafts?

RESEARCH HYPOTHSES

Under the light of the problem of the current study and the research questions that have been emerged and after studying the literature related to this area, it is hypothesized that:

1. The difficulties that students encounter while writing are due to the lack of accuracy, grammar and target vocabulary of the students.

2. Students experience lack of interest for writing lessons, most of the time they find the topics and the lessons itself quite boring.

3. Since students have limited time to write, they have problems in brainstorming and arranging their ideas in a logical order to start writing.

METHODS

Subjects

Ten pre intermediate and intermediate levels of students were randomly selected from English Prep school classes and they took part in this research. The students are all Turkish. The reason why ten students from different levels were selected is that we will find out whether they all express the same reasons for their anxiety.

Measurements

These ten participants were interviewed one by one by the researcher. First of all, each student was asked to identify his/her level of English. Then, he or she was asked to order the most important three reasons that he/she thinks directly contribute to the level of writing anxiety or make him or her stressful while writing a draft during the writing lessons. These reasons that participants express will highlight why these students do not like writing, why they do feel nervous and stressful during the writing process.

RESULTS

Ten L2 learners from pre intermediate and intermediate levels were interviewed and the results and analysis as follows:

Participant 1.

The first participant who was interviewed by the researcher expresses why he/she experiences writing anxiety by saying;

1.Writing is a time taking activity and we have limited time.
2.The topics are not interesting and they do not attract my attention.
3.I am not comfortable with my English, and I fear to make mistakes while writing.

Participant 2

1.English is not my mother language, so sometimes I do not know how to express myself.
2.When we write an essay, we have to brainstorm and think about the topic. Nothing comes to my mind.
3.Writing is a real challenge for me.

Participant 3

1.I should follow the grammar rules while writing, but I am afraid I can make a mistake because of my poor grammar.
2.I do not have the ability of writing neither in Turkish nor in English.
3.It is really difficult to connect my ideas while writing.

Participant 4

1.I do not enjoy writing.
2.While we are writing, we have to think about the topic to find ideas and this makes me nervous.
3.Generally, topics do not appeal to me.

Participant 5

1.Writing topics are not creative.
2.I have difficulty in to organize and connect my ideas.
3.Most of the writing lessons are boring, because we only write drafts.

Participant 6

1.It really takes much time to write 5 paragraph essay.
2.Sometimes I am in need of using a word but I do not know that word.
3.Fear of making mistakes.

Participant 7

1.The amount of vocabulary that we know is not enough, so I use simple words and this makes my writing weak.
2.Sometimes I jump from one idea to another without any connection.
3.I feel anxious because I do not believe that my grammar knowledge is enough to write.

Participant 8

1.We should think before we write, and this is really tiring and we have limited time.
2.Most of the time, I do not like the given topics, that is why I feel nervous.
3.I find difficult to start my writing.

Participant 9

1.Writing in English requires a specific amount of knowledge in English, when I start writing, I find making sentences and express my opinion clearly difficult.
2.Sometimes I have no idea about the topic, so I feel bored.
3.I need to finish my draft in a limited time and this makes me feel nervous.

Participant 10

1.Writing topics are really difficult to find ideas.
2.I make structural mistakes while I am writing, and when my teacher corrects my mistakes, I feel nervous.
3.I like writing whatever comes to my mind, but this is not acceptable. I do not like following a structural order in writing.

ANALYSIS

As it can be seen from the participants' responses, these learners experience a specific amount of anxiety during their writing courses. According to their responses, the most important reasons of this apprehension is the lack of time and difficulty in organization of the ideas; learners have limited time to complete and submit their writings, during that limited time they find it difficult to think about the topic, arrange their ideas and write them down with a structural order. lack of sufficient amount of grammar and vocabulary knowledge; Despite being a pre intermediate student, learners do not count their grammar and vocabulary knowledge that is why they have the fear of making mistakes while writing or they complain about not finding the relevant word or making a completely grammatically correct sentence and lack of interest to the lesson, because leaners find the given writing topic uninteresting, these topic do not appeal to them that is why they have difficulty in collecting ideas that causes their boredom during the lesson.

DISCUSSION AND CONCLUSION

This case study was carried out in order to investigate second language learners' reasons of anxiety in their writing courses. Students were interviewed by the researcher and they were asked to find out students' attitudes in writing lessons. The participants were also asked to give three most important reasons that contribute to the level of writing anxiety during the lesson. According to the findings, it can be said that learners experience apprehension and they often avoid writing; have difficulty expressing their ideas clearly and putting their ideas into written words. In this case study, findings indicate that Prep school students experienced a specific level of apprehension, they find writing courses really difficult and boring so, they do not feel comfortable and relaxed while writing. They find the writing topic difficult and they have difficulty in finding ideas related to that specific topic. The learners claimed that they have fear of writing courses and they are not successful in writing because they are not used to writing, they have self-expression problem and they do not have sufficient knowledge of grammar and vocabulary. The results of this research highlight the importance of EFL learning. English teachers at universities need to be aware of apprehension level of students in writing. They need to use modern

techniques and apply useful strategies to teach writing, they need to motivate their students and encourage them to write more and more. English teachers need to allow their students to write in the classrooms, and give their students more control in in-class activities. Students should be motivated by saying that they have enough grammar and vocabulary knowledge to make logical sentences, if not so, they should be encouraged to complete the lacking parts of themselves with hard work and diligence. Students need to be motivated by saying that they can manage this, writing is not a difficult skill, with hard work and confidence students can have better results. If students are given more autonomy over how they learn things and what they do, their confidence will increase and positive attitudes towards writing will exist. When all these are considered, it will most probably lead to decrease levels of writing apprehension.

RECOMMENDATIONS FOR FURTHER STUDIES

Writing is not only a cognitive but also an emotional activity; thus the motivation of the learners strongly influence all the steps of the writing directly (McLeod, 1987).The result of our study highlights that most of the EFL students experience writing apprehension. Their anxiety stems from lack of accuracy, self-confidence and their negative attitudes towards writing courses. English teachers need to motivate their students in order to reduce the level of their anxiety. For this reason teachers should make every effort to help their students increase competence through confidence. As you can see, our survey provides evidence for the important reasons of writing apprehension, attitudes towards writing and development of self-expression of the learners. This survey could be regarded as a guide for the future studies .In a future study, it would be interesting to investigate whether students' attitudes or beliefs change and if their performance improves after sufficient training or assistance is provided.

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TABLE 1

TOPIC: WRITING ANXIETY: WHAT ARE THE MAJOR REASONS OF WRITING APPREHESION OF EFL STUDENTS IN WRITING COURSES?

The purpose of this survey is to reveal why the students have difficulties or problems in their writing courses. The main problems might be grammar mistakes, essay organization or differences in their proficiency level of English. They might have difficulties in these fields. This survey is aimed to why most of the students have problems or difficulties in these fields during their writing courses.

Section 1:

1. Gender   :   ( ) Male   (+) Female

2. Age   :   _____

3. Nationality   :   (+) Turkish   ( ) Other

4. Your Level   :   _____

Question: What are the major reasons of writing apprehension of EFL students in writing

courses? YOUR RESPONSES WILL BE HIGLY APPRECIATED

PLEASE WRITE THREE REASONS:

1.

2.

3.

YABANCI DİL OLARAK TÜRKÇE ÖĞRETİM SÜRECİNDE ÖĞRETMENLERİN SUNDUKLARI YAZILI DÜZELTME GERİBİLDİRİMLERİ VE ÖĞRENCİLERİN EDİMSEL ÇIKARIMLARININ İNCELENMESİ

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Bu araştırmanın amacı, yabancı dil olarak Türkçe öğretim sürecinde öğretmenlerin öğrencilerin yazılı metinlerine sundukları düzeltme geribildirimlerini yöneldikleri dilbilgisel boyut ve nitelikleri açısından incelemektir. Öte yandan, öğretmenler tarafından verilen geribildirimlerin işlevselliğini ortaya koymak için öğrencilerin edimsel çıkarımları, yani doğru düzeltme oranları incelenmiştir. Araştırmanın çalışma grubunda Niğde Üniversitesi TÖMER'de 2014-2015 öğretim yılında B1 düzeyinde öğrenimlerini sürdüren 15 öğrenci ve yabancı dil olarak Türkçe öğreten 4 okutman yer almıştır. Verilerin toplanması sürecinde öncelikle öğrencilere 200-250 sözcük uzunluğunda bir metin yazdırılmıştır. Öğrencilerin yazdıkları metinler 4 ayrı okutmana paylaştırılmış ve taslak metinlerde yer alan dilbilgisel yanlışlara yönelik geribildirimler yazmaları istenmiştir. Öğretmenlerin geribildirim verdikleri kağıtlar tekrar öğrencielere dağıtılarak, varolan geribildirimler doğrultusunda aynı metni düzelterek başka bir kağıda yazmaları istenmiştir. Öğrencilerin yazdıkları ilk metinde yer alan yanlışlar, öğretmenlerin verdikleri geribildirimler ve ikinci kağıtta öğrencilerin yaptıkları düzeltmeler iki uzman tarafından incelenmiş ve çözümlenmiştir

Keywords: Yabancı dil olarak Türkçe öğretimi, yanlış çözümlemesi, yazılı düzeltme geribildirimi

YARATICI DRAMA YÖNTEMININ TUTUMA ETKISI: BIR META ANALIZ ÇALIŞMASI

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Yaratıcı drama, öğrenme öğretme sürecine etkin katılımı, yaşamı çok yönlü algılamayı, araştırma ve öğrenmeye yönelik istek geliştirmeyi sağlayarak öğrencilerin tutumlarında bir değişim sağlayabilir. Bu araştırma ile yaratıcı drama yönteminin, öğrencilerin tutumlarına etkisinin deneysel desenlerle incelendiği çalışmaların sonuçları meta–analiz yöntemiyle birleştirilerek ortak etki büyüklüğünün belirlenmesi amaçlanmıştır. Yaratıcı drama yöntemi kullanılarak öğrenci tutumlarındaki değişimlerin incelendiği araştırmaların sonuçları birleştirilmesi ile ortaya çıkacak ortak etki büyüklüğünün alanyazın için önemli bir katkı sağlanacağı düşünülmektedir.

Araştırma yöntemi olarak meta–analiz türünde olan çalışma, veri toplama bakımından ise doküman incelemesidir. Çalışma kapsamına, 1997–2014 yılları arasında, yaratıcı drama yönteminin, öğrenci tutumuna etkisinin araştırıldığı, deneysel desenlerin kullanıldığı, deney ve kontrol grubuna ait birey sayısı ve anlamlılık (significant) değerlerinin yer aldığı 28 çalışma alınmıştır. Bu çalışmalar ulusal tez merkezi, ULAKBİM, ERIC, EBSCO, Google Schoolar gibi yaygın biçimde kullanılan veri tabanlarından elde edilmiştir.

Her çalışmaya ilişkin etki büyüklüğü ile meta–analize ilişkin ortak etki büyüklüğü rastgele etkiler modeliyle (Hedges's g) belirlenmiştir. "Q İstatistiği"ne göre çalışmaların heterojen olduğu ($Q=72,226$, $p<.01$, $I^2 = \% 62,6$) tespit edilmiştir. Rastgele etkiler modeliyle ortak etki büyüklüğünün anlamlı olduğu bulunmuştur ($SMD=0,605$; $Z=6,521$, $p<.01$). Çalışmada, karşılaştırma için deney grubu referans olarak belirlenmiştir. Sonuç olarak, deney grubunda yer alanların kontrol grubunda yer alanlara göre daha olumlu tutuma sahip oldukları belirlenmiştir. Aynı zamanda, funnel plot (huni grafiği) ile incelenen 28 çalışmada yayın yanlılığı belirlenmiş, çalışmaların heterojen olduğu tespit edilmiştir.

Çalışmada coğrafi bölgeler moderatör değişken olarak belirlenmiştir. Bölge moderatör değişkenine göre yapılan meta–analizde; Akdeniz ($SMD=0,968$; $Z=5,672$, $p<.01$), Ege ($SMD=0,446$; $Z=2,266$, $p<.05$), İç Anadolu ($SMD=0,689$; $Z=4,893$, $p<.01$) ve Karadeniz ($SMD=0,974$; $Z=4,676$, $p<.01$) bölgelerindeki araştırmalarda etki büyüklüğü anlamlı bulunurken; Marmara Bölgesindeki araştırmalarda etki büyüklüğü anlamsız ($SMD=0,238$; $Z=0,670$, $p>.05$) bulunmuştur.

Keywords: Yaratıcı drama, tutum, meta-analiz.

YÜZÜNCÜ YIL ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ ÖĞRENCİLERİNİN EĞİTİM FELSEFELERİNİN Q METODU İLE İNCELENMESİ

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ÖZET

Eğitimin temel öğelerini doğrudan etkileyen eğitim felsefesi akımları eğitimde uygulanmakta olan kavram, ilke, inanç ve tavırlarla ilgilidir. Öğretmen adaylarının benimsedikleri eğitim felsefesi anlayışları onların mesleki yaşantılarındaki takınacakları eğitimsel tutumlara temel oluşturması bakımından önem arz eder. Yapılan çalışmada daimicilik, esasicilik, ilerlemecilik ve yeniden kurmacılık eğitim felsefesi akımlarının temel ilkeleri "*Ben öğretmen olsaydım*" ifadesi ile başlayan sorular haline getirilmiş ve öğrencilerin bu ifadelere katılım düzeyleri belirlenmeye çalışılmıştır.

Çalışmada kullanılan veriler Yüzüncü Yıl Üniversitesi Eğitim Fakültesinin farklı bölümlerinde okumakta olan öğrencilerden şansa bağlı olarak belirlenmiştir. Araştırma 15 erkek ve 15 kadın öğrenci olmak üzere 30 birey üzerinde yürütülmüştür. Araştırmada daimicilik, esasicilik, ilerlemecilik ve yeniden kurmacılık eğitim felsefesi akımlarına ait toplam 30 ilke yer almaktadır. Q dizgisi +4 ve -4 aralığında oluşturulmuştur. Bu ilkeler "*Ben öğretmen olsaydım…*" ifadesiyle başlayan cümleler haline getirilerek numaralandırılmış ve kartlara basılmıştır.

Veriler elde edildikten sonra internet üzerinde ücretsiz olarak elde edilen Qmethod programına kodlanarak analiz işlemleri tamamlanmıştır. Çalışmada elde edilmiş olan veriler üzerinde yapılan temel bileşenler analizi sonuçlarına göre verilerin tek boyut altında toplandığı gözlenmiştir. Bu boyut varyansın %41'ini açıklamaktadır. "*Yaparak yaşayarak öğrenme anlayışını merkeze alarak süreçte öğrencimin aktif olmasını sağlarım*" ifadesi öğrencilerin en güçlü düzeyde (+4 düzeyinde) katılım sağladıkları ifadedir. Bu ifadeyi tercih sebepleri ise genel olarak **öğrencinin süreçte aktif olmasının hedeflere ulaşmada önemli bir etken olduğu, yaşayarak öğrenmenin öğrencinin aktif olma durumunu arttıracağı, öğrenmenin daha kalıcı olacağı, öğretmen adayının empati kurma ve düşünme yetisini geliştireceği** şeklinde özetlenebilir. Bunun aksine "*Öğrencilerin öğrenmeleri için süreçte katı bir disiplin anlayışını benimserim*" cümlesi ise öğrencilerin en zayıf (-4) derecede katılım gösterdikleri ifade olmuştur. Öğrencilerin bu ifadeyi tercih etme sebepleri ise, genel olarak **disiplinin olması gerektiği ancak fazlasının öğrenci için zorlu bir süreç yaratacağı, etkili bir öğrenme süreci için öğrencilere baskı ve katı kurallar uygulanmaması bunların yerine isteyerek ve severek öğrenmelerini sağlayacak ortamın oluşturulması gerektiği** şeklinde özetlenebilir. Öğrencilerin pozitif görüşlerinin ağırlıklı olarak ilerlemecilik yönünde olduğu belirlenmiştir. Negatif yöndeki görüşlerin ağırlığı ise esasicilik, daimicilik ve yeniden kurmacılık yönündedir. Yeniden kurmacılık ile ilgili maddelerin bir kısmı danegatif görüş alanı içerisinde değerlendirilmiştir.

Bu çalışma sonunda öğrencilerin genel olarak çağdaş eğitim felsefesi akımlarından özellikle ilerlemecilik akımının görüşlerine sahip oldukları ancak geleneksel akımları da benimsedikleri sonucu elde edilmiştir. Bunun yanı sıra özellikle esasicilik akımına ilişkin ilkelerde ise negatif yönde görüşe sahip oldukları belirlenmiştir. Çalışmada elde edilen bir diğer sonuç ise öğretmen adaylarının çağdaş eğitim felsefesi akımlarından olan yeniden kurmacılığın toplumsal değişim yönündeki ilkelerinde negatif görüş bildirmeleridir. Yaparak yaşayarak öğrenme anlayışı ve öğrencinin aktif olması ile öğrenmenin daha kalıcı olabileceği, öğretmen adaylarının empati kurabilme yeteneklerinin gelişebileceği ve aynı zamanda bireyin beş duyu organını öğrenme sürecinde kullanabileceği sonuçları elde edilmiştir. Öğrencilerin öğrenmeleri için süreçte katı bir disiplin uygulanması gerektiği görüşünün öğretmen adayı öğrenciler tarafından benimsenmediği belirlenmiştir. Katı bir disiplin anlayışı yerine öğrencilerin severek ve isteyerek öğrenmelerini sağlayacak ortamlarını oluşturulması gerektiği ve katı disiplinin öğrencinin öz saygısı üzerinde olumsuz etkilere neden olabileceği sonuçları elde edilmiştir. Öğrencilerin olumsuz görüş beyan ettikleri yeniden kurmacılık akımının sosyal değişim boyutuna yönelik görüşleri üzerinde tedbirler alınmalı ve öğretmenin toplumsal değişim ve gelişim üzerindeki etkisi hakkında daha fazla görüş sahibi olmaları sağlanmalıdır. Öğretmenliğin bütün alanlarında temel sosyoloji ve eğitim felsefesi derslerine yer verilmelidir.

Anahtar kelimeler : Q metodu, daimicilik, esasicilik, ilerlemecilik, yeniden kurmacılık

CONCEPT TEACHING TO MENTALLY RETARDED STUDENTS THROUGH MOBILE DEVICES

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ABSTRACT

In the process of design, refinement and selection of the software required for mentally retarded students' education, the characteristics of students should be taken into consideration. Mobile application software can be used as a supplementary material in the education of students who need special education. Many studies reveal that computer assisted programs increase the motivation and concentration time of mentally retarded students and they enjoy studying with mobile devices (Tablets, Smartphones).

Apart from ordinary students, mentally retarded students should also be provided with opportunities of technology in their education after developing technology gets into every aspect of the life and is also used in education. In this study, concept teaching based on animation and simulation is intended by making use of technology in the education of mentally retarded students. This process makes a valuable contribution to students in terms of concept learning at schools and rehabilitation centers which facilitate for learning by technology assisted visual programs.

This study was conducted with 40 students at four schools of mentally retarded and rehabilitation centers inning Sakarya. The evaluation of the data obtained from the application, students who have been learning the concepts of mobile learning tools revealed that they are more successful than those who had learned classical learning methods. According to these results, it can be said that mobile devices make a contribution to concept learning of mentally retarded students.

Keywords: Mentally retarded students, concept teaching and technology.

INTRODUCTION

Reintegrating disabled people into social life within the scope of social rule of law is accepted by all modern countries. In this regard, Information technologies assisted education which facilitates the development of mentally retarded individuals, helps them to get a better place in society and make them more social should be assisted by information technologies (Yıldız, 2010).

Intelligence is the result of the combination of many abilities that work in a harmony and include the functions of the mind as perception, thinking, reasoning and learning. Mental disability which results from the slow development of intellectual abilities is a state with extremely complex properties (Bilir 1986, Yörükoğlu 1998, Eripek 2002).

A Mentally retarded individuals associated with significant retardation than normal in general mental functions in the process of development and also shows inability in adaptive behaviors (Özsoy, Özyürek, Eripek,1988).

With the increasing use of information and communication technology, educators state that global education is inevitable and global education practices must be initiated. These rapid developments in communication technology affect the form and structure of the education and force educators to find new education programs and to develop new teaching-learning models (İşman, 2005). İşman states that with the active use of technology, countries make radical changes in their education systems by developing different methods in education and training.

Learning is basically a mental process. Mentally retarded individuals are expected to be less successful than others due to retardation in mental functions and showing maladaptive behaviors. Learning ability of the mentally retarded individuals is the most significant feature that distinguishes them from healthy individuals.

Individuals in need of special education are the kind of individuals that need a more special education in normal education process because of their cognitive, affective, sensory, communicative and physical features. Different educational efforts are needed for the education of these individuals. The requirements for the education of individuals with special needs are designing special curriculum, using special materials, getting help from

special education specialist, making special physical arrangements in places etc. (Güven, 2003). With developing technology, education systems and teaching methods are changing. The technology used as active in every aspect of education begins to be integrated into their education. It gives a chance to consolidate what they learn in order to ensure the permanence as well as learning a lot of things in a limited time.

In studies on special education, different teaching methods were developed, but technological studies have been began to be used in these methods for last years. In fact, mentally retarded individuals are member of the developing and changing time as well as other people and they are also curious about devices such as computers, mobile phones and tablets. By using their curiosity, information technologies make a huge contribution to educators in teaching of the concepts they use in daily life. A number of factors which are difficult to achieve with classical training are easy to put into practice through information technology. "Also, the studies that include the comparison of education through traditional education programs and computer assisted teaching programs show that computer assisted teaching has positive effects on the learning of mentally retarded children (Pişkin, 1995; Heimann et al, 1995; Moore, McGrath and Thorpe, 2000; Bosseler and Massaro, 2003; Hetzroni and Tanous, 2004; Özdener and Erkoç, 2006)."

Studies reveal that computer assisted teaching increases the motivation of disabled children, gets them to concentrate better and that disabled children love studying through computer (Bayram, 2008, p.3).

In order to teach concept to the mentally retarded, computer can be used efficiently. A study with ten autistic children ranging from 5 to 8 years old indicates that the success of the subjects who study with computer are higher than the success of the subjects who do not use computer while studying (Pişkin, 1995).

Features which use different sounds and perceptible moves of the objects make a significant contribution to mentally retarded children's learning (Moore & Calvert, 2004).

THE AIM OF THE STUDY
In mentally retarded children's education, animation and simulation based concept teaching is aimed in this study by making use of mobile devices. By using the program which is developed at the end of this study, the aim in the education of mentally retarded students through technological opportunities as visual and aural;
- reintegrating these individuals into society
- to raise awareness in the society
- providing the concepts that are a first step in their development through today's technology
- get them to use the technology
- not only in rehabilitation centers but also at any given time

THE UNIVERSE OF THE STUDY
The mentally retarded students in special education and rehabilitation centers in Sakarya constitute the universe of this study. These students are taught concepts through mobile education program.

Process of Illustration

The application of this research occurs in three different sequences. In the first phase, students' level of readiness is determined by applying pre-test. Thus, it is found out with which concept the training has to begin. The second phase is the education part. At this stage, the subject of the concept which is aimed is taught and with implementing a test, the comprehension of the subject is determined at the same time. At the final stage, by giving the final test it is checked whether the taught concept is permanent comprehended permanently or not.

LIMITATIONS
The limitations of the program which is developed for mobile phones can be summarized as follows:

- Socio-economic status of each student may not be convenient to buy tablet.
- Mentally retardation schools and rehabilitation centers may not prefer the use of tablets because of extra charges and prefer instead of this model the classical education model
- The attitudes of teachers towards the use of technology could be restrictive.

RESEARCH MODEL
As a research model, pre-test and post-test were used for experimental and control group models. At the end of the implementation, results of the post-test from the experimental and control groups were analyzed by using Paired samples t-Test.

DATA COLLECTION
The data used in this research, were obtained from results of mobile devices software application which was developed for students. The study is applied to twenty-one students at four different schools which are in the province of Sakarya. The aim of this work is to teach concepts with tablet computers to students with mental disabilities by using this education model.

DEVELOPED PROGRAMS FOR MOBILE DEVICES
The parts of the program which are used in teaching students with mental disabilities concepts are listed below.

MAIN MENU
Figure 1 shows the home page screen of the program. On this screen, it is shown how sections take place into the other areas of the program.

Figure-1 Home-page

The usage of menus and submenus will be explained in the order of appearance.

REGISTRATION
As seen in Figure -2, this screen contains the data such as name, surname, age, gender, language, level, sound, reinforcement and the photo of the student who will use this program. Once the personal information of the student is saved on the data base, the student just launches the program and work according to the previous given data.

Figure-2 Registration

APPLICATION SELECTION

With selecting a specified application, which are displayed on the selection screen in Figure 3 routing occurs. This is a sub-menu of the program.

Figure-3 Application selection

Pre-Test Screen

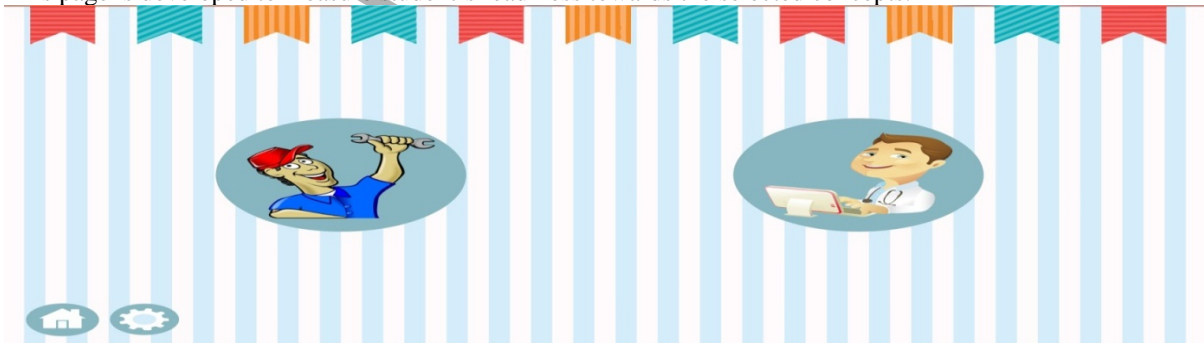This page is developed to measure student's readiness towards the selected concepts.

Figure-4 Pre-Test Screen

In the Figure 4, he question "Which is the doctor?" is voiced. When the student clicks on the right picture, positive reinforcement comes randomly on the screen. The reinforcement that appears with a motion picture is also voiced and appeal to the student with his/her name in voiced way.

This kind of study will motivate the students to increase and intensify their interest when they know the right answer.

REINFORCEMENTS
Random reinforcements appear in motion picture (GIF) if the student answers the question correctly.

Figure-5- Reinforcements

EDUCATION
By identifying the missing issues after applying the pre-test to the students, it can be passed to the education phase. First, the student chooses concept Figure-1 then moves on to Figure-3. On that screen, the training can be chosen and Figure-6 emerges in order to give training. On the concept training page, the theme varies according to the gender of the student. By clicking at the concept on the education page, it grows in the middle of the screen and repeats the concept three times voiced. Also, by adjusting the settings, it is possible to set the written version on the screen beside the sound.

Figure-6 Teaching Concepts

DATA ANALYSIS
The data are gathered from the research which is applied to four students from four diverse groups which learnability level is equal. They are located in the province of Sakarya and town of Hendek. Before starting to teach concepts through the developed program, the results of the pre-test are displayed on the table below by averaging the known concept with 1 and the unknown concept with 0. After giving training, the while-test results are gained with the same method. After two months since the training program, the results are gathered with the same technique which is mentioned above. The relation between the pre-test and the while-test is tested by using Paired Samples t-Test Method to determine the mean. Again, to test the durability of taught concepts, the relation between pre-test and post-test is tested with the same method and shown at the table below. The names of the schools and names of student from where the data were obtained are kept confidential.

First Group Data
Rehabilitation Centers: A
Students Name: X

Table-1

Vehicles	Pre-Test	While-Test	Post-Test
Apple	1	1	1
Pears	0	1	0
Orange	1	1	1
Lemon	0	1	1
Banana	0	1	1
Grapes	0	1	1

By looking at data of the pre-test results (Table-1), it can be deduced that the students of these groups do not know many of the concepts. After training students with the developed program for mobile devices and applying while-test, it is observed that they learned most of the concepts. Again after a certain period with implementing the post-test, it is scrutinized that students learned and comprehended the taught concepts permanently.

Table-2

EVALUATION	N	Ẍ	S	Sd	t	p
PRETEST	20	0,33	0,516	5	-3,12	0,025
WHILETEST	20	1,00	000			

The data of pre-test and post-test at Table-1 are measured through SPSS (Statistical Package for Social Sciences) program and Paired Samples t-test and the results are displayed at Table-2. As a result that value t is – 1.12, a significant change was observed between the pre-test and the post-test and this means that the program for teaching concepts has a great influence. Because the value of P is 0,025<.05, it is observed that this program has a significant contribution to students learning of concepts.

Table-3

EVALUATION	N	Ẍ	S	Sd	t	p
PRETEST	20	0,33	0,516	5	-1,12	0,045
POSTTEST	20	0,83	0,408			

The pre-test and post-test data in table-1 is obtained through Paired Samples t-Test via SPSS. Due to the t value of the table emanated negative, a significant change has been observed between the pretest and posttest data, and the program is seen as concept persistent. It has been observed that students made significant contribution on the persistency of the concepts since the P value is (0,046<.05).

Second group data
Rehabilitation Center: B
Student Name: Y

Table-4

Vehicles	Pre-Test	Mid-Test	Post-Test
Apple	1	1	1
Pear	0	1	1
Orange	0	1	1
Lemon	0	1	1
Banana	0	1	0
Grape	0	1	0

By taking the data in table 4 into consideration, in pretest results, most of the students in this group did not know most of the concepts and compared to X group, they knew less concepts, and in the mid-test they took after getting exercised through the program used in mobile devices, it has been observed that they learned the

concepts, moreover, in the posttest which was conducted after a while, it has been observed that they learned what was taught and their learning became persistent.

Table-5

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,15	0,308	5	-5	0,037
Midtest	10	1	000			

By applying Paired Samples t-Test of SPSS software to the data of group Y students' pre and mid-test data in table-4, the results in table-5 are obtained. Because of the t value is resulted as negative, a significant change has been observed between the pretest and posttest data, and the program has a meaningful contribution to concept teaching. The P value, 0,037<.05) shows that the program made a significant contribution to students in learning concepts

Table-6

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,19	0,422	5	-3,162	0,027
Midtest	10	0,83	0,423			

By applying Paired Samples t-Test of SPSS software to the data of group Y students' pre and mid-test data in table-4, the results in table-6 are obtained. Because of the t value is negative, a significant change has been observed between the pretest and posttest data, and the program is seen concept persistent. The P value, 0,027<.05) shows that the program made a significant contribution on the persistency of the concepts.

Third Group Data
Rehabilitation Center: C
Student Name: Z

Table-7

Vehicles	Pre-Test	Mid-Test	Post-Test
Apple	0	1	1
Pear	0	1	1
Orange	0	0	0
Lemon	0	1	1
Banana	0	1	1
Grape	0	1	0

By looking the data Table-7, it has been observed that, in pretest results, none of the students in this group knew any of the concepts and after taking courses via the program developed for mobile devices, they learned the concepts and the posttest done after a particular time proved that they learned most of the concepts and the concepts became persistent.

Table-8

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,00	0,000	5	-1,12	0,015
Midtest	10	0,67	0,516			

By applying Paired Samples t-Test of SPSS software to the data of group Z students' pre and mid-test data in table-7, the data in table-8 is obtained. Because of the t value is resulted as negative, a significant change has been observed between the pretest and posttest data, and the program has a meaningful contribution to concept teaching. The P value, 0,015<.05) shows that the program made a significant contribution on concept learning of the students.

Table-9

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,00	0,000	5	-2,236	0,096
Posttest	10	0,50	0,448			

By applying Paired Samples t-Test of SPSS software to the data of group Z students' pre and mid-test data in table-7, the data in table-9 is obtained. Because of the t value is resulted as negative a significant change has been observed between the pretest and posttest data, and the program is seen as concept persistent. The P value, 0,015<.05) shows that the program made an almost significant contribution on persistency of concepts.

RESULTS

Nowadays, computer assisted education has become widespread and lessons are given in interactive environments. Mobile education systems can be used to assess the success of the individuals in or out of the educational institutions. Main objective is that individuals continue their education without time and location.. While starting this project, our objective was to learn the benefits of mobile education to educable mentally challenged individuals.

At the end of the concept teaching based on animation and simulation via mobile devices project, according to the survey results and feedbacks from educators, it is understood that when concept teaching is carried out by using the materials featuring visual, audial and kinesthetic characteristics, this makes a significant contribution on students' learning concepts and knowledge of the concepts becoming persistent.

When the findings of the study are taken into consideration, the softwares prepared and applied by taking the features and learning styles of autistic kids into account increase the academic success.

SUGGESTIONS

The studies show that computers ensure the active participation of the students with special needs to education, increase their motivation, help them keeping themselves focused for longer time and provide more practice chance for what they learn.

Special educations departments and computer and educational technologies departments can work collaboratively on developing educational softwares covering all concepts (fruits, vegetables, vehicles, colors, numbers, shapes and etc.) for autistic students.

The softwares being developed targeting the mentally challenged kids can be developed covering the matching activities (find the same, find the different and etc.).

The studies show that computers have an important role in kids with special needs, especially mentally challenged individuals' education, as supportive materials. The softwares developed focus on just one need (like concept teaching) of an autistic individual. When these softwares are used as supportive material, they present more effective results.

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ÖĞRENME DENEYİMİ PORTFOLYO SİSTEMİ TASARIMI

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ÖZET

"Öğrenme deneyimlerinin yönetimi" yaklaşımı yaşam deneyimlerinin bir yaşam günlüğü sistemiyle yakalanması, deneyimlerin taranarak yorumlanması, deneyimlere eşlik eden bağlamların belirlenmesi, yaşam deneyimlerinin barındırdığı öğrenme deneyimlerinin anlamlandırılması ve deneyimlerin planlanması-izlenmesi-değerlendirilmesi aşamalarını barındırmaktadır. Öğrenme deneyimlerinin bireyin kendisi tarafından anlamlandırılmasına yardım eden araçlardan biri "yansıtma"dır. Deneyimin öğrenmeye dönüşümünü ifade eden "yansıtma" etkinliği bireylerin deneyimlerini tekrar yakalamaları, üzerinde düşünmeleri ve değerlendirmeleri süreçlerini içerir. Bu aşamaların üçüncüsü olan "deneyimi değerlendirmek", bireyin deneyimi kendi niyetleri ve varolan bilgisi ışığında tekrar incelemesi, bunun sonucunda elde edilen yeni bilgiyi kendi kavramsal çerçevesiyle bütünleştirmesi biçiminde gerçekleşir. Bu çalışmada "öğrenme deneyimleri yönetimi" yaklaşımı ile Boud ve arkadaşlarının "yansıtıcı öğrenme" süreci karşılaştırılarak yaşam günlüğü sistemiyle yansıtma sürecinin nasıl desteklenebileceği incelenmiştir. Ayrıca, bir yaşam günlüğü sistemiyle yakalanan deneyimlerin birbiriyle ilişkilendirilmelerine ve epizodlar ile öyküler halinde paketlenmelerine olanak sağlayan bir "deneyim portfolyosu sistemi" tasarlanmış ve yansıtıcı öğrenmeye sağlayacağı olanaklar tartışılmıştır.

Anahtar Sözcükler: Öğrenme deneyimleri, öğrenmeyi anlamlandırma, yansıtıcı öğrenme, yaşam günlüğü, deneyim portfolyosu

DESIGNING A LEARNING EXPERIENCE PORTFOLIO SYSTEM

ABSTRACT

Management of learning experiences approach contains stages such as capturing life experiences via a life logging system, interpreting these experiences by scanning them, determining contexts related to these experiences, giving meaning to the learning experiences they contain and planning-monitoring-evaluating the learning experiences. One of the tools that help the individual to give meaning to his/her learning experiences is reflection. As an activity, reflection, which implies transformation of experience to the learning, contains steps such as capturing experiences of individuals again, monitoring them and evaluating them. Evaluation of the experience, the third of these steps, occurs when experience is examined by the individual according to his/her own intentions and potential knowledge and then he/she integrates the new knowledge he/she gained as a result of this activity to his/her conceptual framework. In this study, the researcher examined how the life logging system can be supported reflective learning process of Boud et al. by using management of learning experiences approach. Moreover, a learning experience portfolio system which enables us to relate the experiences with each other which are captured by the life logging system and wrap them as both episodes and stories, is designed and the potential facilities provided by it to the reflection are discussed.

Key Words: Learning experiences, giving meaning to the learning, reflective learning, life logging, experience portfolio

GİRİŞ

Deneyimler bireyler için yaşamları boyunca etkili birer öğrenme kaynağıdır. Deneyimin öğrenmeye dönüşümü için "yansıtıcı öğrenme" yaklaşımı önerilmektedir. Boud ve arkadaşlarının (1985) "yansıtıcı öğrenme modeli" bireyin bilinçli olarak yaşadığı bir deneyime geri dönmesi ve onu tekrar değerlendirmesi için uygulanabilir bir yaklaşım içermektedir. Öğrenme deneyimleri yaşam deneyimlerinin içerisine dağılmışlardır ve önceden planlanan ve bilincinde olarak yaşanan deneyimlerin yanı sıra çoğu zaman önceden planlanmadan ya da bilincinde olmadan yaşanan deneyimlerden de bireyler kendileri için önemli bilgi, beceri ve tutumlar edinirler. Bu deneyimler kolayca

anımsanamadıkları için bu deneyimlere geri dönmek kolay değildir. Deneyimi anımsamak için deneyimin farkında olmak, deneyimi yaşam deneyimleri içerisinden ayrıştırabilmek, deneyimi daha belirgin hale getirerek tekrar yaşayabilmek gerekmektedir. Bunun için bireylerin tüm yaşam deneyimlerini yakalayacak ve tekrar yaşamalarına olanak sağlayacak gelişmiş bir yaşam günlüğü sistemine gereksinim bulunmaktadır. Böylece birey yaşam günlüğü sistemiyle deneyimlerinin dijital bir yedeğini alarak, daha sonra gereksinim duyduğunda, bu deneyimi "yansıtıcı öğrenme" yaklaşımıyla bir öğrenmeye dönüştürebilir.

Bu çalışmada, bireylerin yaşam deneyimlerine eşlik eden "yaşam genişliğinde öğrenme" deneyimlerinin, bu deneyimlere ait bağlamların ve içeriklerin yakalanabildiği "çoklu cihazlı ve çoklu algılayıcı" bir yaşam günlüğü sistemi kullanılarak, bireylerin deneyimlere geri dönmesi, deneyimi tekrar yaşaması ve değerlendirmesi sürecini destekleyecek bir "deneyim portfolyosu sistemi" tasarlanmıştır. Çalışmanın son bölümünde önerilen sistemin uygulanabilirliği tartışılmış ve geliştirilmesine yönelik önerilerde bulunulmuştur.

ARAŞTIRMANIN ARKA PLANI
Öğrenme deneyimi "öğrenme" ve "deneyim" kavramlarının ansiklopedik tanımlarından yola çıkarak "yeni bilgi, davranış, beceri, değer ya da tercihleri kazandıran, değiştiren ya da güçlendiren katıldığımız ya da maruz kaldığımız fiziksel, zihinsel, duygusal, ruhani, dini, sosyal ya da sanal olay ya da etkinlik" olarak tanımlanmaktadır (Mutlu, 2015a).

Öğrenme deneyimleri yaşam deneyimlerinin içerisine dağılmışlardır ve öğrenenler yaşam deneyimlerini bir "yaşam günlüğü" sistemiyle yakalayarak geçmiş öğrenme deneyimlerine erişebilirler. Öğrenme deneyimlerinin bir yaşam günlüğü sistemi yardımıyla yakalanması sürecinden yola çıkılarak "öğrenme deneyimlerinin yönetimi" yaklaşımı geliştirilmiştir. Bu yaklaşım, yaşam deneyimlerinin yakalanması; yorumlanması; deneyimlere eşlik eden bağlamların elde edilmesi; yaşam deneyimlerine eşlik eden öğrenme deneyimlerinin anlamlandırılması; öğrenme deneyimlerini planlama-denetleme/izleme-değerlendirme faaliyetleri yardımıyla yönetilmesi süreçlerini içermektedir (Mutlu, 2015a). Önerilen bu yaklaşımı "biçimsel olmayan öğrenme" deneyimlerinin yönetiminde deneyebilmek amacıyla düzenli olarak bireyin ekran ve kamera görüntülerini yakalayan, bir bulut hizmeti üzerinden aktararak bireyin çalışma bilgisayarında bir zaman çizgisi üzerinde biraraya getiren, bireyin bu görüntüleri tarayarak deneyimlerini yorumlaması, bağlamlarını çıkartabilmesi, anlamlandırabilmesi ve yönetebilmesine olanak sağlayan bir sistem geliştirilmiş ve birden fazla uygulamayla değerlendirilmiştir (Mutlu, 2015a; Mutlu vd., 2015).

Öğrenme deneyimlerinin yönetimi yaklaşımının sadece biçimsel olmayan öğrenme deneyimlerini yönetebilmek için değil, aynı anda birden fazla öğrenme ortamındaki öğrenmeyi içerebilen "yaşam genişliğinde" öğrenmeyi de yönetebilmek amacıyla kullanılabilirliği araştırılmaktadır. Bu amaçla "genişletilmiş yaşam genişliğinde öğrenme modeli" önerilmiş, öğrenme deneyimlerinin bu modele göre yakalanması, yorumlanması ve bağlamlarının elde edilmesi amacıyla kuramsal bir çerçeve geliştirilmiştir (Mutlu, 2014a, 2014b, 2015c). Elde edilen çerçeveyi oluşturan öğelerden başlangıç tasarım prensipleri olarak yararlanarak "çoklu cihazlı ve çoklu algılayıcılı bir yaşam günlüğü sistemi tasarlanmış ve geliştirilmiştir (Mutlu, 2015b).

Deneyimin Yansıtılması
"Öğrenme deneyimlerinin yönetilmesi" yaklaşımında öğrenenin yaşam deneyimlerine eşlik eden öğrenme deneyimlerini anlamlandırması süreci derinlemesine incelenmemiştir (Mutlu, 2015a). Öğrenme deneyimlerinin bireyin kendisi tarafından anlamlandırılmasına yardım eden araçlardan biri "yansıtma"dır. Boud vd. (1985)'e göre "yansıtıcı öğrenme", sürekli öğrenmeyi teşvik etmek ve gelecek deneyimleri geliştirmek amacıyla, geçmiş çalışma performanslarına ve kişisel deneyimlere dönmek ve yeniden değerlendirmek yoluyla öğrenmedir. Buna göre, deneyimin öğrenmeye dönüşümünü ifade eden "yansıtma" etkinliği bireylerin deneyimlerini tekrar yakalamaları, üzerinde düşünmeleri ve değerlendirmeleri süreçlerini içerir.

Boud vd. (1985) Yansıtıcı öğrenme modelinde öğrenmenin ilk aşaması **deneyim**in kendisidir. Buna göre öğrenen herhangi bir etkinlikte bazı davranışlar gerçekleştirir, sahip olduğu fikirleri uygulamaya koyar ve bu süreçte farklı hisler ve duygular deneyimler. Deneyimin yaşanmasından sonraki aşama **yansıtıcı süreç** aşamasıdır. Bu süreç, deneyime geri dönme, duyguları katma ve deneyimi yeniden değerlendirme aşamalarını içerir. "Deneyime geri dönme" aşamasında öğrenen tam olarak ne olduğunu anlamak amacıyla deneyim esnasındaki önemli olayları zihninde tekrar yaşar. Böylece deneyimi oluşturan olayları ve etkinlikleri hatırlar ve ayrıntılandırır. Yansıtıcı

sürecin bir sonraki aşaması "duyguları deneyimle ilişkilendirme" aşamasıdır. Öğrenme önündeki en önemli bariyerlerden biri duygulardır. Bu nedenle önce deneyime ilişkin olumlu duygulara odaklanılmalıdır. Örnek olarak deneyim anındaki yaşanan iyi anları ve hissedilen keyfi hatırlamak, deneyim sonunda elde edilecek potansiyel kazanımları öngörmek verilebilir. Diğer taraftan olumsuz duyguların birer engel haline gelmesinin önüne geçilmesi gerekmektedir. Bu amaçla deneyimle ilgili olumsuz duyguları yazarak ya da başkasına anlatarak dile getirmek, bu duyguların öğrenen tarafından kabul edilmesine ve deneyimin daha rasyonel bakış açısıyla ele alınmasına olanak sağlayacaktır. Yansıtıcı sürecin üçüncü aşaması olan "deneyimi değerlendirmek", bireyin deneyimi kendi niyetleri ve var olan bilgisi ışığında tekrar incelemesi, bunun sonucunda elde edilen yeni bilgiyi kendi kavramsal çerçevesiyle bütünleştirmesi biçiminde gerçekleşir. Bu aşamada aşağıdaki teknikler uygulanabilir (Boud vd., 1985):

- **Birleştirme,** öğrenen deneyimdeki fikirlerini ve hislerini var olan bilgisine dâhil etmesidir.
- **Tümleştirme,** yeni deneyim ve önceki deneyimler arasında ilişkiler ve örüntüleri belirlemesidir.
- **Onaylama,** öğrenenin yeni fikirlerini ne derece doğru oluşturduğunu belirlemesidir.
- **Benimseme,** öğrenenin öğrendiklerini gerçek dünyada uygulamaya hazır olmasıdır.

Yansıtmanın amacı bireyi yeni deneyimlere hazırlamaktır. Yansıtıcı sürecin sonunda öğrenen, deneyimle ilgili yeni ufuklar edinme, yeni yaklaşımlar ya da beceriler geliştirme gibi davranışlarda değişiklik, yeni fikirleri ve becerileri uygulamaya koyma için hazır olma, yeni yaklaşımları uygulamaya koymak için karar verme gibi **kazanımlar** elde eder. Birey gerçekte, yeni deneyim için uygulamaya geçtiğinde eski deneyime ait süreci sona erdirmiş olur (Boud vd., 1985).

Şekil 1: Yansıtıcı Öğrenme Süreci (Boud vd., 1985)

Önceden Niyet Edilmiş ve Bilinçli Olarak Yaşanan Deneyimler
Boud daha sonraları (1994) yansıtıcı öğrenme modelinde, öğrenenin deneyimin öncesinde deneyime hazırlanması, deneyim anında deneyimin farkında olması, deneyim anında öğrenmeyi destekleyecek müdahalelerde bulunması ve deneyim anında yansıtma faaliyetleri gerçekleştirmesi ve ardından yansıtıcı süreci uygulaması şeklinde, yansıtıcı öğrenmeyi kolaylaştıracak önerilerde bulunmuştur. Bu durumda yansıtıcı öğrenme modeli önceden niyet edilmiş ve bilinçli olarak yaşanan deneyimlerden yararlanmaya odaklanmış olmaktadır. Biçimsel öğrenme, yarı biçimsel öğrenme ve öz-yönlendirmeli biçimsel olmayan öğrenme deneyimleri önceden niyet edilerek ve bilinçli olarak yaşanan deneyimlerdir. Bu deneyimlerde deneyim öncesinde ve deneyim anında öğrenmeyi destekleyecek müdahalelerde bulunmak mümkün olabilir.

Yaşam deneyimlerine eşlik eden öğrenme deneyimleri, bireylerin en önemli öğrenme kaynakları arasında yer almalarına rağmen, çoğu kez önceden niyet edilmeden ve bilincinde olmadan yaşanırlar ve üzerinden uzun süre geçtiğinde anımsanmaları ve birbirinden ayırt edilmeleri zorlaşır. Birey bu durumda deneyimden bir şeyler öğrenmiştir ama bunu kavramakta ve ifade etmekte zorlanır. Bu tür öğrenme, "sözsüz öğrenme" ya da "üstü örtük öğrenme" adı verilen, önceden niyet etmeden ve bilincinde olmadan gerçekleşen biçimsel olmayan öğrenme türüyle benzer özelliklere sahiptir. Birey bu şekilde edindiği bilgi, beceri ve tutumları günlük yaşamında yine farkına varmadan, sezgisel olarak kullanır.

Biçimsel olmayan öğrenme türleri arasında bulunan, önceden niyet etmeden fakat bilincinde olarak yaşanan "tepkisel öğrenme" ya da "tesadüfi öğrenme" ile önceden niyet ederek fakat bilincinde olmadan yaşanan "bütünleştirici öğrenme" deneyimlerinde de deneyime ilişkin anımsatıcı bilgilerin ve deneyim anının tekrar yaşanmasını sağlayacak içeriğin bulunmadığı durumlarda Boud (1994) modelinin etkili biçimde uygulanması mümkün olmayacaktır.

Boud vd. (1985) "yansıtıcı öğrenme modelinin" önceden niyet edilmeden ya da bilincinde olmadan yaşanan deneyimlere de uygulanabilmesi için tüm yaşam deneyimlerinin aynı kalitede anımsanabilir ve tekrar erişilebilir durumda olması gerekmektedir. Bu durumu sağlamanın etkili bir yolu gelişmiş yaşam günlüğü sistemlerini kullanmaktır.

Yansıtıcı Öğrenmede Portfolyo Kullanımı

"Yansıtıcı öğrenme" düşüncesinin ilk dönemlerinde öğrenenin öğrenme deneyimlerini yansıtması amacıyla kâğıt ve kalem kullanımı öngörülmekteyken, 2000'li yıllarda elektronik portfolyo kullanımı önerilmeye başlanmıştır. Portfolyolar bireylerin gerçekleştirmiş oldukları yapıtları ve deneyimleri sergileyebildikleri ortamlardır. Portfolyo türlerine, sanatçıların eser portfolyoları, iş başvurusunda bulunanların kariyer portfolyoları ve öğrenenlerin öğrenme portfolyoları örnek verilebilir. Web 2.0 araçları öğrenenlerin elektronik portfolyo oluşturmaları için geniş olanak sunmaktadır. Öğrenen eğer bu amaçla geliştirilmiş bir e-portfolyo yönetim sisteminden yararlanamıyorsa, ücretsiz bir blog hizmetini kullanarak kendi e-portfolyosunu oluşturabilir (Barrett ve Garrett, 2009).

DENEYİM PORTFOLYOSU SİSTEMİ TASARIMI

Bu bölümde yaşam genişliğinde öğrenme deneyimlerini yakalamaya yönelik olarak geliştirilmiş olan yaşam günlüğü sisteminin araçları ve süreçleri tanıtılmış, ardından bu sistem üzerinde çalışacak bir deneyim portfolyosu sistemi tasarlanmıştır. Son olarak, "Öğrenme deneyimlerinin yönetimi" yaklaşımı ile Boud ve arkadaşlarının (1985) "yansıtıcı öğrenme" süreci karşılaştırılarak, yaşam günlüğüne dayalı öğrenme deneyimleri portfolyosunun yansıtıcı öğrenme amacıyla kullanımı tartışılmıştır.

Yaşam Günlüğüne Dayalı Araçlar ve Süreçler

Yaşam günlüğü sistemleri, bireylerin günlük deneyimlerine ait ipuçlarının, daha sonra incelendiğinde yaşanan deneyime ait ayrıntıların kolayca hatırlanmasını sağlayacak biçimde, sürekli olarak yakalanması ve tekrar erişilebilecek biçimde kaydedilmesine olanak sağlayan, algılayıcılarla donatılmış giyilebilir/taşınabilir dijital cihazlardır. Bu özelliklere sahip olacak biçimde yakın zamanlardan geliştirilen bir "çoklu cihazlı ve çoklu algılayıcı" yaşam günlüğü sisteminde kullanıcının masaüstü, dizüstü ve tablet bilgisayarları birer günlük yakalama aracına dönüştürülerek, gün boyunca pasif bir biçimde ekran görüntüsü, kamera görüntüsü ve konum verisi yakalanmakta; kullanıcı gereksinim duyduğunda aktif biçimde ses, video ve ekran videosu kaydedebilmektedir (Mutlu, 2015b). "Çoklu cihazlı ve çoklu algılayıcılı" yaşam günlüğü sistemindeki araçları kullanan ve süreçleri uygulayan uygulayıcılar deneyim havuzu, bağlam havuzu ve içerik havuzu olmak üzere üç veri kümesine sahip olacaklardır:

Deneyim Havuzu

"Çoklu cihazlı çoklu algılayıcılı" yaşam günlüğü sistemi yaşam deneyimlerini yakalamaya, yorumlamaya ve erişmeye olanak sağlayan araçları içermektedir (Mutlu, 2015b):

Deneyimleri Yakalama: Yaşam deneyimleri, görüntü yakalama, ekran görüntüsü yakalama, konum yakalama, ses yakalama, video yakalama ve ekran videosu yakalama yazılımlarıyla pasif ve aktif biçimde yakalanmakta; OneDrive bulut hizmeti üzerinden bir çalışma bilgisayarına birleştirilerek aktarılabilmektedir.

Deneyimleri Yorumlama: Kullanıcı, yakalanan ve çalışma bilgisayarına aktarılan tüm deneyimleri LifeLoggingViewer isimli bir yaşam günlüğü görüntüleyicisi yardımıyla bir zaman çizgisi üzerinde görüntüleyebilmekte; seçili veriler ve seçili gün, ay ya da yıl üzerinde bu deneyimlere ait sınırsızca yorum girebilmektedir. "Öğrenme deneyimlerinin yönetimi" yaklaşımında kullanıcının deneyimleri taradıktan sonra deneyime ait etkinlikleri ve olayları yorumlaması; birden fazla deneyimi birbiriyle ilişkilendirerek epizod yorumları oluşturması, birden fazla epizodu birbiriyle ilişkilendirerek öykü yorumları oluşturması öngörülmektedir. Kullanıcının etkinlik/olay yorumlarını günlük zaman diliminde, epizod yorumlarını aylık zaman

diliminde, öykü yorumlarını ise yıllık zaman diliminde oluşturması yaşam deneyimlerini hiyerarşik olarak düzenlemesine olanak sağlayacaktır (Mutlu, 2015a).

Örneğin, üniversite 1. Sınıfında okumakta olan bir bireyin T anındaki deneyimine ait etkinlik/olay yorumu şu şekilde olsun:

> "T anında evde Genel Matematik 1 dersinin "Ünite 2 - İşlevler" konusunu çalıştım. Genel Matematik ders kitabının yanı sıra internette ders anlatım videoları izledim."

Deneyimleri epizodlar ve öyküler biçiminde düzenlemenin tek bir yolu bulunmamaktadır. Bireyin yaşadığı deneyimlerin çeşitliliği, aynı anda yerine getirmek zorunda olduğu yükümlülüklerin ve üstlendiği rollerin sayısı, deneyimleri düzenlerken oluşturulacak epizod ve öykü hiyerarşilerinin derinliğini ve genişliğini etkileyecektir. Yukarıdaki deneyime ait epizod ve öykü için aşağıdaki örnek verilebilir:

> Epizod: 2014-2015 Güz döneminde alınan Genel Matematik dersi
> Öykü: 2014 yılında başlamış olan üniversite eğitimi

Kullanıcı bir deneyimi bir ya da daha fazla epizodla (bir epizod listesinden seçerek) ilişkilendirebilir; bir epizodu da bir ya da daha fazla öyküyle (bir öykü listesinden seçerek) ilişkilendirebilir.

Deneyimlere Erişme: Kullanıcının yaşam deneyimlerine yönelik oluşturduğu yorum kayıtları üzerinde kolayca arama yapılabilir ve yorumlarında seçili anahtar sözcüklerin geçtiği deneyimlere erişilebilir. Ayrıca belirli bir öyküye ait epizodları ya da belirli bir epizoda ait deneyimleri filtreleyerek listeleyebilir (Mutlu, 2015a).

Bağlam Havuzu
Yaşam günlüğü araştırmalarında günlük verilerinden bağlamların elde edilmesi konusunda yapılan çalışmalar geniş bir literatür oluşturmaktadır (Mutlu, 2015c). Bağlamlar, deneyimin içinde yer aldığı çevreye ve duruma ait olan, deneyimin daha sonra anımsanması, fark edilmesi, diğer deneyimlerden ayırt edilmesi ve anlamlandırılmasında yardımcı olan verilerdir. Deneyime ait anımsatıcı görüntülerin yanı sıra bağlamların da yakalanması ve deneyimi oluşturan öğeler biçiminde kaydedilmesi gerekir.

Bağlamları Çıkartma: Birey bir deneyime ait zaman, konum ve görüntü şeklindeki kanıtları inceledikten sonra, o deneyime eşlik eden kişi, yer, olay, davranış, varlık, duygu ve özelliklere ilişkin notlar oluşturabilir. Bazı bağlamlar, algılayıcılar ya da algılayıcı birleşimleri ile yazılımlar tarafından bir ölçüde belirlenebilmektedir:

- Saat yardımıyla deneyimin gerçekleştiği zaman,
- Konum algılayıcıları ile deneyimin gerçekleştiği yer,
- Hız algılayıcılarının konum algılayıcılarıyla birleşimi ile durma, yürüme, otomobil sürme vb. etkinlikler,
- Görüntü tanıma teknikleriyle bilgisayar kullanma, yemek yeme, birisiyle görüşme vb. etkinlikler,
- Ses algılayıcısı ile konuşma, kalabalık ortamda bulunma vb. durumlar,
- Işık düzeyi algılayıcı ile içeride olma, dışarıda olma vb. durumlar,
- Bluetooth algılayıcısı ile çevredeki kişiler algılanabilmektedir.

Yukarıdaki yöntemlerin günlük verileri üzerinde uygulanmasıyla, belirli bir zaman aralığındaki bağlamlara ait çıkarımlar gerçekleştirilerek, deneyime ait yorumlar desteklenebilir. Örneğin, zaman çizgisi üzerindeki bir tarihte belirli bir saat seçildiğinde, o saat diliminde en fazla süreyle hangi adreste bulunulduğu, en fazla hangi eylemin gerçekleştirildiği (oturma, yürüme, otomobille hareket etme, bilgisayar başında oturma, yemek yeme, televizyon izleme, bir topluluk içerisinde bulunma, vb.), çevrede en fazla süreyle kimlerin bulunduğu vb. bağlamlar belirlenerek, birer not olarak eklenebilir. Güncel teknoloji henüz davranış, duygu, özellik, olay vb. bağlamların algılayıcılar tarafından etkili biçimde yakalanmasına olanak sağlamadığı için, bu bağlamların deneyimi yaşayan bireylerin kendileri tarafından deneyimden çıkartılması ve kaydedilmesi gerekmektedir.

Bağlam Ontolojisi Oluşturma: Bireyin deneyimlerine eşlik eden bağlam değerlerindeki çeşitlilik zamanla azalacaktır. Bunun nedeni bireyin genellikle aynı kişilerle bir araya gelmesi, aynı mekânlarda bulunması, aynı

davranışları göstermesidir. Yine de bireyin deneyimlerine ait bağlamların aldığı farklı değerlerin oluşturduğu havuz büyüdükçe bu değerleri hiyerarşik biçimde düzenleme gereksinimi ortaya çıkacaktır. Böylece, bireyin yaşam deneyimlerinden elde edilen yedi farklı bağlam ağacı ile bir kişisel bilgi tabanı oluşacaktır.

Bağlamlara Erişme: Birey, deneyimlerine ait bağlam notlarını oluşturmanın yanı sıra, bu bağlam değerlerinden oluşturduğu kişisel bilgi tabanındaki bağlam düğümlerine ilgili deneyimleri not ettiği durumda, bağlamlar ve deneyimler arasında bir ağ oluşturmuş olacaktır. Bu ağ yardımıyla deneyimlerden bağlamlara, bağlamlardan da deneyimlere erişmek mümkün olacaktır (Mutlu, 2015c).

Bir etkinlik/olay yorumunda o ana ait bütün bağlam değerlerinin çıkartılması sonucunda, bu bağlam değerlerinin kümesi deneyimi tanımlamak/etiketlemek için yeterli olacaktır. Mutlu (2015c)'de örnek olarak verilen, T anına ait etkinlik/olay yorumu şu şekildedir:

> *"T anında evde Genel Matematik 1 dersinin "Ünite 2 - İşlevler" konusunu çalıştım. Genel Matematik ders kitabının yanı sıra internette ders anlatım videoları izledim. Ders çalışırken Ali geldi. Çalışmaya bir saat ara verdim ve Ali ile sohbet ettim. Çalışmanın sonunda ünite sonundaki soruları çözebildim. İşlevler konusunu kavramış oldum. Kendimi bu konuda yeterli hissediyorum".*

Bu yorumdan bağlam değişkenlerine ait bağlam değerlerinin çıkartılması sonucunda "T" anı için bağlamlarla etiketlenmiş aşağıdakilere benzer cümleler kurulabilir ve yaşam günlüğünün veritabanında etkinlik/olay yorumunun içerisinde ya da deneyime ait bir kayıt olarak saklanabilir:

```
[Yer] "Ev"
[Varlık] "Genel Matematik 1 - Ünite 2 - İşlevler"
[Davranış] "Ders çalıştım"
[Varlık] "Ders anlatım videoları"
[Davranış] "Ders anlatım videoları izledim"
[Kişi] "Ali"
[Olay] "Ali geldi"
[Davranış] "Ali ile sohbet ettim"
[Özellik] "İşlevler konusunu kavradım"
[Duygu] "Kendimi yeterli hissettim"
```

Eğer bağlamlara ait ayrıntılı bir ontoloji oluşturulabilirse, yukarıdaki örneği verilen etkinlik/olay yorumlarının anlamsal çözümlemesi bir yazılım yardımıyla gerçekleştirilebilir ve cümledeki bağlamlar kullanıcının gözetimi altında yukarıdaki gibi elde edilebilir. Bağlamlara ait başlangıç ontolojisi oluşturmak için başlangıçta kullanıcının katkısı daha fazla olacak; zamanla kişisel ontoloji olgunlaştıkça kullanıcıya düşen görev azalacak, yazılım daha fazla başarılı işlem gerçekleştirecektir.

Bir sonraki aşamada farklı bağlam değerlerinin bağlam ağaçlarına taşınması ve yaşanan deneyimin ağacın ilgili düğümlerine not edilmesi gerçekleştirilir:

```
1.    Yer
      1.1.   Yaşanan yerler
             1.1.1. Ev
                    T anındaki "ders çalışma" deneyimi
2.    Kişi
      2.1.   Arkadaşlar
             2.1.1. Ali
                    T anındaki "ders çalışma" deneyimi
3.    Davranış
      3.1.   Günlük davranışlar
             3.1.1. Ders çalışma
                    T anındaki "ders çalışma" deneyimi
4.    …
```

Bu işlem önceki aşamadaki anlamsal çözümleme esnasında elde edilen verilerin yardımıyla ve kullanıcının gözetimi altında bir yazılım yardımıyla gerçekleştirilebilir.

İçerik Havuzu

Yaşam günlüğü sistemleri genellikle deneyime ait anımsatıcı ipuçlarını yakalamak amacıyla kullanılırlar. Örneğin sıradan bir güne ait 16 saat boyunca her 30 saniyede bir görüntü yakalandığında 1920 adet fotoğraf elde edilir ve büyük bir ekranda Windows işletim sisteminin Dosya Gezgini ile bir-iki bütün resimlere hızlıca göz atılarak o güne ait birbirinden farklı sahnelerin farkına varılabilir. Eğer, aynı süreye ait deneyimler bir ya da birden fazla video şeklinde kaydedilmiş olsaydı bu videoları hızlandırılmış şekilde taramak çok daha uzun süre alacaktı. Bu nedenle ses ve video yaşam deneyimlerini geriye dönerek taramak için uygun ortamlar değildir. Fakat yaşam deneyimleri pasif bir biçimde durağan görüntüler halinde yakalanırken, aynı anda bireyin bir daha erişmesine ya da canlandırmasına olanak bulunmayan anların ses ya da video kaydının yapılması durumunda, tarama yine durağan görüntüler üzerinde yapılırken, ayrıntıya inilmesi gerektiği durumda video ya da ses kayıtlarına başvurulabilir. Bu çalışmada, ses, video ve ekran videosu ile deneyime ait içeriklerin kaydedildiği varsayılmakta ve bu nedenle ses, video ve ekran videosu dosyaları birer "içerik" dosyası olarak sınıflandırılmaktadır.

Yakalanan deneyimlerde ses, video ve ekran videosu kaydı yapılmadığı durumda da bir "içerik" öğesi bulunmaktadır. Örneğin, kullanıcının bilgisayarda internet üzerinden bir gazete okuduğunu varsayalım. Bu okuma deneyimine ait ses, video ya da ekran videosu kaydı olmasa da yaşam günlüğü sisteminin pasif yakalama özelliği bu deneyime ait ekran görüntülerini varsayılan olarak her 30 saniyede bir yakalayacaktır. Kullanıcı daha sonra ekran görüntülerinden yararlanarak bu okumayı tekrar yapabileceği gibi, içeriğe ait kaynağı hatırlayarak tekrar erişebilecektir. Bu nedenle, içerik yakalama işleminin, tekrar oluşturulması, tekrar yaşanması ya da bir daha erişilmesi kolay ya da mümkün olmayan içeriklerin-anların yakalanması amacıyla kullanılması daha anlamlı olacaktır.

İçeriği Yakalama: Yaşam günlüğü sisteminde kullanıcı ses, video ve ekran videosu yakalamak istediğinde ilgili yakalama yazılımında "Start" düğmesine tıklar ve "Stop" düğmesine tıklayana kadar yazılım varsayılan olarak her 360 saniyede bir 360 saniye uzunluğunda ses, video ya da ekran videosu kaydı gerçekleştirir (Mutlu, 2015b).

Geliştirilen çoklu algılayıcılı ve çoklu cihazlı yaşam günlüğü sisteminin tasarım tabanlı araştırma sürecinde gerçekleştirilen standart kullanıcı testlerinin yanı sıra, uygulayıcılar ses, video ve ekran videosu yakalamaya odaklanmış denemeler de gerçekleştirmişlerdir. Bu çalışmalarda bir yaşam günlüğü sistemine dâhil edilmiş ses, video ve ekran videosu yakalama yazılımlarıyla aşağıdaki türden günlük verilerinin yakalanabildiği gözlenmiştir (Kayabaş ve Mutlu, 2015; Kip Kayabaş ve Mutlu, 2015; Peri Mutlu ve Mutlu, 2015):

Tablo 1: Yaşam Günlüğü İle Yakalanan İçerikler

Ses yakalama	Video yakalama	Ekran videosu yakalama
Anları kaydetme (Birey pasif – kaydetme serbest ise bireyin içinde bulunduğu ortama ait sesler yakalanır)	Anları kaydetme (Birey pasif - kaydetme serbest ise bireyin içinde bulunduğu ortam videoya kaydedilir)	Anları kaydetme (Birey pasif - kaydetme serbest ise bireyin o anda kullandığı bilgisayardaki ses ve görüntü yakalanır. Bazı durumda birey bilgisayar ekranını televizyona yansıtarak seyredebilir)

• Kişisel anlar (Birey içerisinde bulunduğu, kendisine ve yakınlarına ait ortamın seslerini yakalar)
   • Müzik dinleme
   • Televizyon
   • Radyo
   • Doğayı kaydetme
   • Günlük faaliyetlerine ait sesler
   • …
• Kamusal anlar (Herkesin kayıt yapma serbestliğine sahip olduğu ortamlara ait ses yakalama)
   • Toplantılar
   • Topluluğa ait sesler
   • Kurumların ses yayınları
   • Sergiler
   • Etkinlikler
   • …
	• Kişisel anlar (Birey içerisinde bulunduğu kendisine ve yakınlarına ait ortamın videosunu yakalar)
	   • Gezi ve tatil kayıtları
	   • Doğayı kaydetme
	   • Arkadaş-aile çevresine ait anlar
	   • Günlük faaliyetlerine ait anlar
	   • …
	• Kamusal anlar (Herkesin kayıt yapma serbestliğine sahip olduğu ortamlara ait video yakalama)
	   • Konferans
	   • Ders/seminer
	   • Toplantılar
	   • Etkinlikler
	   • Kurumların etkinlikleri
	   • …
		• Kişisel anlar (Birey o anda kullandığı bilgisayarın ekranında gördüğü ve duyduğu herşeyi pasif bir biçimde yakalar)
		   • Müzik dinleme
		   • Film/video izleme
		   • Gazete/dergi okuma
		   • Günlük bilgisayar kullanımına ait anlar
		   • …
		• Kamusal anlar (Herkesin kayıt yapma serbestliğine sahip olduğu ortamlara ait ekran videosu yakalama. Kişisel bilgisayar "kişisel" bir ortam olduğundan dolayı kamusal an yaşanmaz. Fakat kişisel bilgisayarla bağlanılan sosyal medya ve "sanal dünyalar" gibi ortamlar "sanal" kamusal alanlardır)
		   • Sosyal medya
		   • Sanal dünyalar

• Ticari anlar (Ücret ödenerek dâhil olunan ortamlarda ses kaydetmek serbest olsa bile sesi dağıtmak serbest olmayabilir) 　• Sinema 　• Konser 　• Tiyatro 　• Gösteri 　• …	• Ticari anlar (Ücret ödenerek dâhil olunan ortamlarda video kaydetmek serbest olsa bile videoyu dağıtmak serbest olmayabilir) 　• Sinema 　• Konser 　• Tiyatro 　• Gösteri 　• …	• Çevrimiçi oyunlar • … • Ticari anlar (Ücret ödenerek dâhil olunan ortamlarda ekran videosu kaydetmek serbest olsa bile videoyu dağıtmak serbest olmayabilir) 　• Webcast 　• Podcast 　• Web TV 　• İnternet radyosu 　• …
Görüşmeleri kaydetme (Birey katılımcı - izin alarak) • Ders yakalama • Karşılıklı görüşmeleri yakalama • Bir ekip etkinliğine ait sesleri yakalama	Görüşmeleri kaydetme (Birey katılımcı - izin alarak) • Ders yakalama • Karşılıklı görüşmeleri yakalama • Bir ekip etkinliğini videoya kaydetme	Görüşmeleri kaydetme (Birey katılımcı – izin alarak) • Ders yakalama uygulamaları 　• Etkileşimli dersler 　• Çevrimiçi dersler 　• Sanal sınıflar 　• e-Öğrenme etkinlikleri 　• … • Canlı görüşmeleri yakalama (Skype, Hangout vb.) • Bilgisayar ortamında gerçekleştirilen ekip etkinliklerine ait ekran videolarını yakalama (İşbirliği yazılımlarıyla gerçekleştirilen etkinlikler. Örn: bir belge üzerinde aynı anda çevrimiçi bir sözcük işlemci kullanma)
Sesli not alma (Birey tek başına ve aktif) • Birey içinde bulunduğu ana ait bir notu sesli olarak kaydeder	Videolu not alma (Birey tek başına ve aktif) • Birey gerçekleştirdiği bir etkinliği videoya kaydeder	Ekran videolu not alma (Birey tek başına ve aktif) • Birey ekranda gerçekleştirdiği bir etkinliği yakalar (o anda sesli not ekleyebilir).

İçeriğin İlgili Olduğu Alanı ve Konuyu Belirleme: Bireylerin bir içerikle ilgilenme nedenleri genellikle (a) çalışma, (b) öğrenme ya da (c) hobi ve benzeri ilgi alanları olmak üzere üç grupta toplanabilir. Bu alanların her birinde bireyin motivasyonu farklı olacaktır. Birey aktif biçimde yakaladığı içerikleri zamanla sınıflandırmaya başladığında bu üç alan (domain) altında oluşturacağı konu gruplarına dâhil etmeye başlayacaktır. Ardından içerikle ilgili kapsam, gündem ya da kavram listesi oluşturarak, deneyime eşlik eden içeriği eksiksiz olarak kendi içerik tabanına dâhil edebilecektir. İçeriğe ait kapsam ya da gündem büyük ölçüde nesnel biçimde tanımlı iken, içeriğin kapsadığı kavramlar daha öznel bir alana temas eder ve sınırsızca olabilir; ama o anda birey sadece belirli bir kavram ya da kavram kümesine odaklanmıştır. Böylece birey bu süreçle, içerikleri deneyim ve bağlamlarla ilişkilendirmenin ötesinde, ayrıca konular ve kavramlar halinde kendi içerisinde tanımlayabilmekte, böylece kendi kavramsal çerçevesini oluşturan bir içerik tabanı oluşturabilmektedir. Sisteme eklenecek bu bileşen bireyin yaşadığı deneyime ait yeni bilgiyi kendi kavramsal çerçevesiyle bütünleştirmesine olanak sağlayacaktır.

Mutlu tarafından Şubat 2013 - Ağustos 2014 döneminde geliştirilen yaşam günlüğü sisteminde bireyin deneyimlerine eşlik eden içerikler birey tarafından bir "varlık" bağlamı olarak tanımlanarak sınıflandırılabilmekteydi (Mutlu, 2015a). Bu çalışmada kullanılan yaşam günlüğü sistemi ise deneyime eşlik eden içeriklere ayrıca yorum ve tanım ekleme olanağı sunmaktadır (Mutlu, 2015b).

Birey zamanla çalışma, öğrenme ve ilgi alanlarına ait konuların oluşturduğu kümeyi hiyerarşik olarak düzenleme ihtiyacı hissedecek ve bu amaçla bir konu haritası ya da ağacı oluşturacak ve içerikleri bu ağacın düğümlerine tanımlayacaktır. Zamanla oluşan kavram kümesi de bir kavram haritası ve ağacı oluşturmasına olanak sağlayacaktır.

Bireyin yeni bilgiyi kendi kavramsal çerçevesiyle bütünleştirmesi aşağıdaki aşamalarla gerçekleştirilir:

- Bilgiyi bir alanla ilişkilendirme (alan hiyerarşisi oluşturmak)
  - Bilgi daha önce var olan bir alana aitse bilgiyi onun altına eklemek,
  - Yeni bir alana aitse, yeni alanı alan havuzuna eklemek, ardından bilgiyi o alana dâhil etmek,
- Bilgiyi alana ait bir konuyla ilişkilendirmek (konu hiyerarşisi oluşturmak)
  - Bilgi daha önce var olan bir konuya aitse bilgiyi onun altına eklemek,
  - Yeni bir konuya aitse, yeni konuyu konu havuzuna eklemek, bilgiyi o konuya dâhil etmek,

- Bilgiyi konuya ait bir kavramla ilişkilendirmek (kavram hiyerarşisi oluşturmak)
  - o Bilgi konuyla ilgili hangi kavramlara yönelik? Kavram, eğer havuzda daha önce varsa bilgiyi o kavrama dâhil etmek,
  - o Yeni bir kavramsa, kavramı kavram havuzuna eklemek, ardından bilgiyi kavrama dâhil etmek,

İçeriği Alan, Konu, Kavram Verileriyle Etiketleme: Yaşam günlüğü görüntüleyicisi ile zaman çizgisi boyunca yakalanan içeriklere erişilebilir ve görüntülenebilir/oynatılabilir. Aynı araçla seçili içeriklere alan, konum ve kapsam/gündem/kavram etiketleri eklemek mümkündür. Ses, video ve ekran videosu içeriğini çözümlemek amacıyla yazılımlar geliştirilmektedir. Uzun dönemde bu algoritmalardan yararlanarak içeriklerden konu, kapsam, gündem ve kavramlara yönelik çıkarımlar elde edilebilir ve kullanıcının gözetiminde içeriği yorumlamak amacıyla kullanılabilir.

İçerik etiketlemeyle ilgili aşağıdaki örnekler verilebilir:

{Alan} Öğrenme - Programlama {Konu} C# {Medya} Webcast {Kavram} Background task	{Alan} Çalışma - Ders verme {Konu} Öğrenme Malzemelerinin Hazırlanması {Medya} Çevrimiçi ders {Kapsam} Çokluortam	{Alan} İlgi - Film İzleme {Konu} Bilim kurgu {Medya} "Ex machina" filmi {Kavram} Yapay zekâ

İçeriğe Erişme: Birey içerik havuzundaki içeriklere alan, konu ve kapsam/gündem/kavram etiketleri aracılığıyla tekrar erişebilir. Ayrıca içerikler üzerinde deneyimlerden yola çıkarak arama ya da filtreleme yapabilir.

Sistemin Başlangıç Tasarımı

Önceki bölümdeki araçlar kullanıldığında ve süreçler uygulandığında bireyin yaşam deneyimleri ile deneyimlere eşlik eden bağlamlar ve içeriklere ait bir kişisel bilgi tabanı ortaya çıkacaktır. Bu bilgi tabanı üzerinde gerçekleştirilebilecek seçme işlemleriyle birey deneyimlerine ait alt kümeler oluşturarak, bu deneyim kümelerini üzerinde çalışmak, başkalarına göstermek/sunmak ya da başka ortamlara aktarabilmek amacıyla paketleyebilir.

Deneyimlerden Portfolyo Oluşturmak İçin Yaklaşımlar

Seçilen bir zaman aralığındaki deneyimlerden bir deneyim portfolyosu oluşturmak için üç farklı yaklaşım uygulanabilir:

Olay-Etkinlik Bazlı Portfolyo Oluşturma: Teknik olarak bireyin yaşam günlüğünün bütünü bir portfolyodur. Fakat binlerce veri ve yüzlerce deneyimi içeren bu portfolyonun bir amaca yönelik kullanışlı bir alt kümesinin hazırlanması daha fazla tercih edilir. Bu amaçla bireyin yaşam günlüğündeki deneyimler içerisinde bireyin kendi belirlediği seçim ölçütlerine göre seçili olan olay/etkinlikler biraraya getirilerek paketlenir. Ayrıca, belirli bir epizod ya da epizodlara ait olay/etkinliklerden oluşan bir deneyim portfolyosu da oluşturabilir. Belirli bir öykü ya da öykü gruplarına ait epizodlar ve bunların içerdiği olay/etkinliklerden oluşan büyük portfolyolar da hazırlamak mümkündür. Örneğin bir konferans boyunca dâhil olunan etkinliklere ait deneyimlerin portfolyosu olay-etkinlik bazlı bir portfolyodur.

İçerik Bazlı Portfolyo Oluşturma: Deneyimlere eşlik eden içerikler üzerinden bir portfolyo hazırlamak gerekebilir. Örneğin bir dönem boyunca öğrenenin katıldığı çevrimiçi derslere ait ekran videolarından oluşan portfolyo içerik bazlı bir portfolyodur. Böylece seçili bir alanda seçili konulara yönelik seçili kapsam/gündem/kavramları içeren bir portfolyo bireyin sahip olduğu bilgi, beceri, tutum ve tercihlere kanıt oluşturmak amacıyla kullanılabilir.

Bağlam Bazlı Portfolyo Oluşturma: Birey belirli bir bağlam değerine ya da bağlam kümesine ait deneyimlerden oluşan bir portfolyo hazırlamak isteyebilir. Örneğin belirli kişilerle ilgili olan, belirli yerlerde geçen, belirli davranışların gerçekleştirildiği deneyimler anlamlı bir deneyim portfolyosu oluşturabilir. Bağlam bazlı portfolyo oluşturmak amacıyla kişi, yer, olay, davranış, duygu, özellik ve varlık bağlam ağaçlarına ait alt düğümlerin seçilmesi yeterli olacaktır.

Deneyim Portfolyosu Oluşturma Süreci ve İşlevleri

Deneyim portfolyosu işlemleri LifeLoggingViewer deneyim görüntüleyicisi üzerine eklenecek ek işlevlerle gerçekleştirilecektir. LifeLoggingViewer yazılımının menüsüne bu amaçla "Portfolio" seçeneği eklenecek ve bu menü başlığının altında ayrıntıları aşağıda açıklanan alt menü seçenekleri görüntülenecektir.

Portfolio Create (New): LifeLoggingViewer üzerinde, yeni bir boş portfolyo kaynak dosyası oluşturarak, portfolyoya dâhil olacak deneyimlerin arama ve filtreleme yardımıyla belirlenmesi ve seçilmesi işleminin başlatılmasını sağlar. Bu aşamada kullanıcıdan bir portfolyo ismi oluşturması istenir ve LifeLoggingViewer yazılımının deneyimler üzerinde dolanım, filtreleme ve seçim dışındaki yorum girme vb. diğer işlevleri pasif hale getirilir.

Portfolio Preview: LifeLoggingViewer yazılımı üzerinde, sadece açık olan portfolyodaki deneyimlere ait zaman çizgisinin (zaman ağacının) oluşturulması ve yeni bir pencere üzerinde açılarak ön izlemesinin yapılabilmesini sağlar.

Portfolio Export: LifeLoggingViewer üzerinde, yaratılmış portfolyoya ait deneyim kümesinin taşınabilir bir paketinin oluşturulması ve kaydedilmesini sağlar. İhraç edilen portfolyo paketi, portfolyo kaynak dosyasının ismiyle oluşturulan bir klasör altındaki portfolyoismi.pp dosyası, Portfolio Viewer görüntüleyici yazılımı ve deneyimlere ait medya dosyalarının tutulduğu LifeLogging alt klasöründen oluşmaktadır. İhraç işlemi ile, seçilen deneyimlerin portfolyoya dâhil olacak öğelerinin tümünün hedef klasörde bir kopyası oluşturulur. İhraç edilen bir portfolyo paketi üzerinde bir daha düzenleme yapılamaz. Hatalı bir portfolyo diskten elle silinerek, LifeLoggingViewer'daki kaynak portfolyo dosyası üzerinde düzeltme ve tekrar ihraç işlemi yapılmalıdır.

Portfolio Save ve Portfolio Save As… : LifeLoggingViewer üzerinde o anda açık olan portfolyo kaynak dosyasının kaydedilmesini ya da yeni isimle kaydedilmesini sağlar.

Portfolio Close: Açık olan portfolyo kaynak dosyasının kapatılmasını ve LifeLoggingViewer yazılımının diğer işlevlerine dönülmesini sağlar.

Portfolio Open: Kayıtlı bir portfolyo kaynak dosyasının açılması, yüklenmesi ve düzenlenebilir duruma gelmesini sağlar. Kullanıcı bu komutla açtığı bir portfolyo kaynak dosyası üzerinde önceki oturumda kaldığı yerden çalışmaya devam edebilir.

Portfolio Viewer: Dışarı aktarılmış portfolyonun salt-okunur durumda izlenebilmesini sağlayan bir görüntüleyici yazılımdır. Yazılım çalıştırıldığında aynı klasördeki portfolyoismi.pp dosyasındaki portfolyoyu görüntüler. Bu yazılımın sadece Exit menü seçeneği bulunmaktadır.

Portfolyoya Deneyim Ekleme/Silme İşlemi

Bir deneyim portfolyosu oluşturmak için ilk aşamada portfolyonun tarih aralığı belirlenir. Belirlenen tarih aralığındaki zaman çizgisine ait bütün deneyimler kullanıcının karşısına seçenek olarak gelir. Kullanıcı bu başlangıç ve bitiş tarihleri aralığındaki bütün deneyimleri bir portfolyo haline getirebileceği gibi, bunların arasında belirli tarihlerin seçimi, haftanın günlerinin seçimi (örneğin sadece hafta içi) ya da saat seçimi (örneğin sadece çalışma saatleri) gibi alt seçimler yapabilir.

Kronolojik seçimden sonra, kullanıcı seçili tarih/saatlere ait deneyimler üzerinde arama ve filtreleme işlemi yapabilir. Böylece yorumlar üzerinde anahtar kelimeler, bağlamlar ve içerik etiketleri ile arama, bağlam ağaçları üzerinde filtreleme ve içerik alanları, konuları ve kavramları üzerinde filtreleme gerçekleştirebilir. Ardından arama/filtreleme sonuçları üzerinden deneyimleri portfolyoya eklemek için seçme işlemini gerçekleştirir. Bu amaçla, arama/filtreleme sonuçlarının tümünü portfolyoya ekleme ya da arama/filtreleme sonuçları üzerinde elle seçme yaparak eklemeyi tercih edebilir.

Bir diğer seçim boyutu ise portfolyoya dâhil olacak öğelerin seçimidir. Bu seçme işlemiyle kullanıcı, kamera görüntüleri, ekran görüntüleri, konumlar, sesler, videolar, ekran videoları, olay/etkinlik yorumları, epizod yorumları, öykü yorumları, bağlam yorumları ve içerik yorumlarının portfolyoya dahil olup olmayacağını belirler. Kullanıcı portfolyodaki deneyimlerin seçimlerini her hangi bir anda iptal ederek bu seçimlere karşı gelen deneyimleri portfolyodan kaldırabilir.

DENEYİM PORTFOLYOSUNUN KULLANIMI

Deneyim Portfolyosunun Yetkinlik Portfolyosu Olarak Kullanımı

Öğrenenler yaşam deneyimlerinden yola çıkarak neleri öğrendiklerini deneyim portfolyosu yardımıyla kanıtlayabilirler. Deneyim portfolyosu sadece deneyimlere ait kanıtları içermektedir. Birey bu kanıtlara referans veren bir rapor oluşturmadıkça bu portfolyonun başkaları tarafından anlaşılması kolay değildir. Bu amaçla, birey hangi deneyimlerle ne öğrendiğini ve bu öğrenmenin sonunda hangi yetkinlikleri kazandığını içeren bir form doldurmalıdır.

Bu formda kazanılan yetkinlikler, bu yetkinliklere sahip olmak için hangi kazanımların elde edildiği ve bu kazanımlara kanıt olan öğrenme deneyimleri yer almalıdır. Yetkinlikler bilgi ve becerilerin çalışma-öğrenme ortamında kullanımını ifade etmelidir. Kazanımlar (sahip olunan bilgi ve beceriler) ifade edilirken Bloom'un dijital taksonomisindeki anahtar terimlere karşı gelen fiiller kullanılmalıdır (Churches, 2015). Kanıtlar ise deneyim portfolyosundaki belirli tarih/saat aralığındaki deneyimlere karşı gelmelidir.

YETKİNLİKLER	KAZANIMLAR	KANITLAR
Yetkinlik - 1	Kazanım - 11	Kanıt -111
		Kanıt -112
		…
	Kazanım - 12	Kanıt -121
		Kanıt -122
		…
	…	
Yetkinlik - 2	Kazanım - 21	Kanıt – 211
		Kanıt – 212
		…
	Kazanım - 22	Kanıt – 221
		Kanıt – 222
		…
	…	
…		

Şekil 2: Yetkinlikler Formu

Yansıtıcı Öğrenme Sürecinde Deneyim Portfolyosunun Kullanımı

Yaşam günlüğü sistemi ve onun üzerinde çalışan bir deneyim portfolyosu sistemi ile Boud vd. (1985)'nin yansıtıcı öğrenme modelindeki yansıtıcı süreç aşamasını desteklemek mümkündür. "Yansıtıcı süreç" aşaması yansıtıcı öğrenme modelinde yaşanan deneyim ile bu deneyimden elde edilecek kazanımlar arasında yer almaktadır. Yansıtıcı öğrenme aşamaları yaşam günlüğü ve deneyim portfolyosu sistemiyle aşağıdaki gibi kolaylaştırılabilir:

Deneyim: Deneyimlerin önceden planlanması ve bilinçli bir şekilde yaşanması bu deneyimden elde edilecek öğrenmenin kalitesini artıracaktır. Fakat yaşam deneyimleri her zaman önceden planlanamaz, çoğu zaman da o anda bir deneyim yaşandığının farkında olunmaz. Yaşam günlüğü sistemi bireyin önceden niyet ederek ve bilinçli bir şekilde yaşadığı deneyimlerin yanı sıra anlık olarak gelişen, hatta bilincinde olmadan yaşanan deneyimlerin de yakalanması, deneyime ait ipuçlarının, bağlamların ve içeriklerin kaydedilmesine olanak sağlayarak yansıtıcı öğrenme sürecinin uygulanabileceği deneyim havuzunun önemli ölçüde büyümesine neden olur.

Yansıtıcı Süreç: Modelin bu bölümünde birey deneyime geri döner, deneyimle duygularını ilişkilendirir ve deneyimi değerlendirir.

Deneyime Geri Dönmek: Dijital yaşam günlüğü sistemleri yaşanan deneyimlere geri dönebilmek için etkili bir ortam sunarlar. Çoklu cihazlı ve çoklu algılayıcı yaşam günlüğü sistemi deneyime ait çeşitli kaynaklardan gelen günlük verilerini eşzamanlı ve/veya ardışık olarak yakalar. Deneyime ait ipuçlarını inceleyen birey birden fazla bakış açısından gelen verilerle deneyimi zihninde gerçeğe en yakın biçimde yeniden yaşayabilir, deneyim esnasında gerçekleştirdiği etkinlikleri ve maruz kaldığı olayları tam ve doğru sırada hatırlayabilir, ayrıntılı biçimde yorumlayabilir.

Duyguları İlişkilendirmek: Yansıtıcı öğrenme modelinde deneyime ilişkin duyguların incelenmesi çok önemlidir. Üzerinden uzun zaman geçmiş deneyimlerde duyguları doğru biçimde anımsamak kolay değildir. Bireyin kendi duyguları kendisi tarafından en kolay çarpıtılabilen verilerdir. Bireyin deneyime ait ipuçlarından deneyime eşlik eden kişi, yer, olay, davranış, özellik ve varlık bağlamlarını da sistematik biçimde çıkarsamasıyla sadece deneyim anındaki gerçekleştirdiği etkinlik ya da maruz kaldığı olayların değil, deneyime ilişkin bağlamların da kendisinde yaşattığı dolaylı duyguları ve hisleri anımsamasına yardımcı olacaktır. Böylece, modelin önerdiği biçimde, olumlu duyguların öğrenmeyi desteklemesini sağlayabilir, olumsuz duyguların da öğrenmeyi olumsuz etkilemesini engelleyebilir.

Deneyimi Değerlendirmek: Yaşam günlüğüne dayalı deneyim portfolyosunun en güçlü olduğu aşama deneyimi değerlendirme aşamasıdır. Sistem, bireyin deneyimle elde ettiği yeni bilgiyi kendi kavramsal çerçevesiyle bütünleştirmesi için güçlü araçlar barındırmaktadır:

Deneyimi incelerken oluşturulan etkinlik/olay yorumu; bağlam yorumu ve içerik yorumlarıyla birey deneyime ait davranışlarını, fikirlerini ve hislerini var olan bilgisine dâhil eder (birleştirme).

Deneyime ait etkinlik ve olayların diğer deneyimlere ait etkinlik ve yorumlarla ilişkilendirilerek, epizodlar ve öyküler şeklinde hiyerarşik olarak düzenlenmesi; bağlamlara ait değerlerin bağlam ağaçlarında birer bağlam öğesi haline getirilerek, aynı bağlam değerini içeren diğer deneyimlerin farkına varılması; içerik yorumlarının alan, konu ve kavram hiyerarşileri halinde düzenlenerek diğer deneyimlerle ilişkilendirilmesi işlemleriyle; birey yaşadığı deneyim ile önceki deneyimler arasındaki ilişkileri ve örüntüleri ortaya çıkartır (tümleştirme).

Öğrenen, deneyim portfolyosu yardımıyla yaşadığı deneyimlerden elde ettiği kazanımları kanıtlarla belgeleyerek yeni fikirlerini ne derece doğru oluşturduğunu belirlemiş olur (onaylama).

Birey, deneyim portfolyosu yardımıyla deneyimlerden elde ettiği kazanımlar sonucunda oluşan yetkinliklerini tanımlayarak, deneyimlerden öğrendiklerini gerçek dünyada uygulamaya hazır hale gelir (benimseme).

Kazanımlar: Birey, deneyim portfolyosuyla, belirli bir alanda kendisini doğru biçimde değerlendirmesi için nesnel bir araca sahip olur. Birey, deneyim portfolyosuyla neyi öğrendiğini, öğrendiği bilgi ve becerilerle neleri gerçekleştirdiğini ve gelecekte de neleri yapabileceğini hem kendisine hem de başkalarına kanıtlama olanağı elde eder. Deneyim portfolyoları bireylerin hangi yetkinliklere sahip olduğunu gösterirken, aynı zamanda sahip olmadığı ya da geliştirebileceği yetkinlikleri de vurgular. Bu durum, bireyi yeni deneyimlere hazırlamada itici güç oluşturur.

SONUÇ VE ÖNERİLER
Yaşam günlüğüne dayalı öğrenme deneyimleri yönetimi yaklaşımı ve deneyim portfolyosu sistemiyle yansıtıcı öğrenme sürecini desteklemenin ve kolaylaştırmanın mümkün olduğu görülmektedir. Böylece, deneyimler o anda yakalanabilmekte, deneyimlere geri dönüş sağlanabilmekte, deneyimler bağlamlarla ve içerikle ilişkilendirilmekte, deneyimlerin değerlendirilmesi için ortam sunulmaktadır.

Boud vd. (1985) ve Boud (1994)'deki yaklaşımlarda, öğrenenin deneyimlerin önceden farkında ve bilincinde olması önemli bir koşulken, yaşam günlüğü yöntemi bu koşulu esnetmektedir. Öğrenen deneyimin önceden farkında olmayabilir, hatta deneyim anında deneyimin bilincinde olmayabilir. Daha sonra yaşam günlüğü üzerinde gerçekleştirilecek taramalar yaşanmış deneyimlerin farkedilmesi ve ayırt edilmesine olanak sağlamaktadır.

Deneyim portfolyosu sistemi bireyin deneyimlerini yaşamın değişik boyutlarına göre yeniden sıralamasına ve paketlemesine olanak sağlamaktadır. Birey örneğin, sadece seyrettiği filmlere ait deneyimleri, sadece belirli bir kentte yaşadığı deneyimleri, ya da sadece belirli bir kişiyle birlikte yaşadığı deneyimleri bir araya getirerek paketleyebilir. Böylece, kendi yaşam çizgisinde uzun zaman dilimine dağılmış olan belirli bir kategorideki deneyimlerini ardışık olarak izleyerek yeni ufuklar elde edebilir.

Bu çalışmada yaşam günlüğüne dayalı deneyim portfolyosu sisteminin sadece işlevsel tasarımı gerçekleştirilmiştir. Tasarlanan deneyim portfolyosu aracının yeni bir çalışmayla prototip yazılımının geliştirilmesi ve etkisinin gözlenmesi için kullanıcılar üzerinde uygulanması gerekmektedir.

Süreçle ilgili geliştirilmesi gereken boyutlar da bulunmaktadır. Örneğin, deneyimlerin bireyler tarafından anlamlandırılması sürecinin daha ayrıntılı anlaşılabilmesi amacıyla "sense-making" kuramından yararlanarak kuramsal bir çözümleme gerçekleştirilebilir. Benzer şekilde, deneyim, içerik ve bağlam arasındaki dinamik etkileşimin öğrenene kazandırabileceği becerilerin anlaşılması amacıyla kuramsal bir çalışma gerçekleştirilebilir.

Boud vd. (1985)'ne ait yansıtıcı öğrenme modeli sadece bir deneyime odaklanan bir modeldir. Deneyim portfolyosu sistemi öğrenenin birbiriyle ilişkili farklı deneyimleri bir araya getirmesini ve topluca değerlendirmesine olanak sağlamaktadır. Yansıtıcı öğrenme sürecinin bu olanaktan yararlanarak "çoklu deneyimleri" kapsayacak biçimde genişletilmesi konusu araştırılabilir.

"Kanıt tabanlı öğrenme" amacıyla elektronik portfolyoların kullanımı 2010'lu yıllarda önem kazanmıştır (Forkel ve Schumann, 2014; Coolin vd., 2014). Bu çalışmada geliştirilen deneyim - yetkinlik portfolyolarının "kanıt tabanlı öğrenme" çerçevesinde ele alınarak, öğrenmenin tanınması amacıyla kullanılabilirliği için süreçlerin geliştirilmesi gerekmektedir.

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ON A BASIC CONCEPT IN LINEAR ALGEBRA: EQUIVALENCE OF MATRICES

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ABSTRACT

Equivalence relations between matrices are widely used in linear algebra. Equivalence of systems of linear equations is usually the first time when a university linear algebra student explicitly encounters this concept. In this study, we focus on the concept of equivalence of matrices in linear algebra as it is in the central position for understanding and teaching elementary linear algebra.

We first give a review of topics, in which the notion of equivalence relations appear in an elementary linear algebra course and then analyze what it means to understand this concept, in connection with the other linear algebra concepts. For this purpose we suggest an approach of understanding the concept of equivalence relations in linear algebra and discuss, by means of illustrating, that it can be operationalized.

Key words: linear algebra, equivalence relations, equivalence of matrices

INTRODUCTION

Linear algebra training has risen in different disciplines such as, engineering, computer science, physics, biology, economics, and statistics. The importance of linear algebra in these areas is not communicated to students, and the influence of the technology is not felt in the classroom. Also, the selection of topics is not according to the discipline having linear algebra in its curriculum. Furthermore, many linear algebra researcher say that, an overemphasis on abstraction may overwhelm the students that they leave the course with little understanding (Dorier at all; 1997; Dreyfus, 1990; Hazzan, 1995; Sierpinska, 1992).One solution for the students' difficulties can be starting with systems of linear equations since they are relatively easy and are connected to the students' high school mathematics' knowledge. But, according to Uhlig, this only delays the understanding of abstract concepts of linear algebra (Uhlig, 2002). The students faced with the abstract concepts at the first time usually tend to consider less and more abstract topics of the course. At this point, It can be thought that equivalence relations as an connected concept with the other concepts of the course can be helpful in overcoming these difficulties, Since the concept of equivalence relations appears both concrete and abstract.

In this study, it is given a brief review of linear algebra concepts, in which equivalence relations of matrices appear, and analyzed the understanding level of the concept.

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THE POSITION OF EQUIVALENCE RELATION OF MATRICES IN LINEAR ALGEBRA

Equivalence relations between matrices and equivalence of systems of linear equations are usually the first time when a university student having linear algebra in his curriculum encounters the course. Matrix equivalence clearly appears in connection with rank, matrix similarity in connection with eigenvalues, eigenvectors, and congruence of matrices in connection with quadratic forms (Hoffman & Kunze, 1972). The following table describes the connections between the types of equivalence relations; the matrices P and Q are invertible (Uhlig, 2002).

Row equivalence
$B = QA$

Column equivalence
$B = AP$

Matrix Equivalence
$B = QAP$

Congruence
$B = P^T AP$

Similarity
$B = P^{-1} AP$
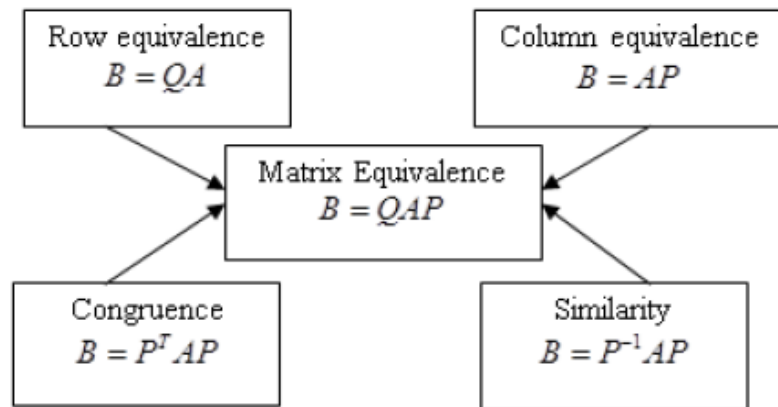
Table: The relation of matrix equivalence.

A relation α and a relation β in the table means that if relation α exists between two matrices, then so does relation β. As in the table, the matrices P and Q are invertible, and a one-side arrow between a relation α and a relation β means that if relation α exists between two matrices, then so does relation β.

We refer to 'understanding' a concept in a mathematical context as the capability to do different presentations of the concept, connect it to other concepts by mathematical relations, and analyze it in the subject. For the concept of equivalence relations in linear algebra, Mill gives the following definition (Mill, 2004).

- Formal understanding: capability to recall its formal definition.

- Instrumental understanding: capability to transform a matrix to an equivalent one.

- Representational understanding: capability to recall properties of an equivalence class and capability to find simple representatives of the equivalence classes.

- Relational understanding: capability to relate the relation to other concepts, including other equivalence relations (e.g., the table above).

- Application understanding: capability to identify problems in which the relation may be useful.

Mill stressed that there is no ordered relation between the different types of understanding. For example, a student may have relational understanding without instrumental understanding. Mathematics education says that the deepness of understanding can be occurred by comprehending of the relevant theory - proofs, different level of examples, problem-solving strategies, and application to different area.

According to the above definition, formal understanding is realized when the student can recall the relevant definitions. A student at the instrumental understanding can only perform the transformations. A representational understanding can only be occurred when a student can prove existence and uniqueness of the representatives. A students at the level of relational understanding knows how the equivalence relation relates to other concepts and proves these relations. And finally, application understanding is be performed when a student uses the concepts and the theorems of the course for the problems.

The analyze of understanding types of matrix equivalence

The concept of matrix equivalence can be classified in a linear algebra course as follow; additionally, we need to say that this classification is not necessary in a very basic linear algebra course.

Formal understanding: According to the many linear algebra text books, the students recall that matrices M and N are equivalent if one can be obtained from the other by a finite number of elementary, row or column, operations, or, equivalently, if N = QMP , where P and Q are invertible.

Instrumental understanding: the students can perform row and column elementary operations. Matrix M is row–equivalent to matrix N if N is obtained from M by a sequence of elementary row operations.

Representational understanding: For every mxn matrix M, M is equivalent to an mxn matrix F that the form of F,

$$F = \begin{bmatrix} I_{rxr} & 0 \\ 0 & 0 \end{bmatrix},$$ where I is the rxr identity matrix.

And, the students know that every mxn matrix M with rank r is equivalent to an mxn matrix F with the above form.

Relational understanding: the students know that mxn matrices M, N with real entities are equivalent if and only if they have the same rank, that equivalent matrices represent the same linear transformation, and that the row equivalence, column equivalence and similarity are special forms of matrix equivalence (see table 1).

Application understanding: the students can apply that a system of linear equations Ax = B, where A is mxn matrix and x, B are nx1vector, can be solved by reducing the augmented matrix [A: B] to a row equivalent to its row reduced echelon matrix [R: C]. More advanced applications include vector independence, finding a basis and matrix inversion. For more advanced application understanding of matrix equivalence, the students know that reducing an mxn matrix to its simple representation Where F is the above form, can be useful in problems from different areas of mathematics.

The concept of matrix equivalence is a basic concept and thus it is important that all students will develop all the five types of its understanding, at least at the basic level.

DISCOUSION AND CONCLUSION

Equivalence relations of matrices play an important role in linear algebra. This concept has many applications to some scientific areas and to the real world. In this study, for promotion to students' conceptual understanding in linear algebra, we try to explain what it means to

"understand" the concept of equivalence relations of matrices. We, benefiting from the definition of understanding types of matrix equivalence, analyzed how the definition can be operationalized by means of particular approaches.

The choice of the concepts for teaching, especially equivalence relations, depends on students and department having linear algebra in the curriculum. A general linear algebra course should include equivalence relations of vectors, matrix equivalence and similarity relations. The definition using for the understanding types of matrix equivalence may extend to the other concept of the course guiding the lecturer in planning the course to make more efficient presentation of linear algebra and develop the lecturers' pedagogical knowledge.

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SECOND LIFE ORTAMINDA MATEMATİK ÖĞRETİMİNİN ÖĞRENCİ BAŞARISINA ETKİSİNİN İNCELENMESİ

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Matematik öğretiminde üç boyutlu sanal dünyaların kullanılması öğretimin okula bağımlılığını ortadan kaldırmakla beraber konuların daha somut işlenmesini sağlamaktadır. Bu çalışmanın amacı: üç boyutlu sanal dünyaların sanal sınıf özelliklerini kullanarak bir matematik laboratuvarı oluşturmaktır. Bu laboratuvarda soyut olan matematik konuları geliştirilen materyallerle somutlaştırılmıştır. Bu durum henüz somut düşünebilen ortaokul seviyesindeki öğrencilerin öğrenmesini kolaylaştırmakla kalmayıp öğrenmeyi daha kalıcı hale getirmiştir.

Üç boyutlu sanal dünyalar ile ilgili ülkemizde işletme, sosyoloji, güzel sanatlar, mimarlık, reklamcılık, bilim ve teknoloji alanlarında çalışmalar mevcuttur. Öğretim ile ilgili sadece yabancı dil üzerine çalışma yapılmıştır. Matematik öğretimine katkısı ile ilgili henüz bir çalışma yapılmamıştır.

Bu amaç doğrultusunda yapılan çalışma için İstanbul Üsküdar ilçesi Fatih Ortaokulu 3. sınıf öğrencilerinden 28 kişilik deney grubu oluşturulmuştur. Bu grupla yapılan matematik öğretimi Second Life ile desteklenmiştir. Öğretimin başında ve sonunda başarı testi uygulanmıştır. Bu çalışma ile üç boyutlu sanal dünyaların matematik öğretimine pozitif etkisiyle birlikte öğrencilerin matematik dersindeki başarısının değişimde incelenmiştir ve .01 düzeyinde anlamlı bulunmuştur.

Anahtar Kelimeler: Second Life, Matematik Öğretimi, 3B Sanal Öğrenme Ortamları, 3B Sanal Dünyalar