



International Journal
on
New Trends in Education
and
Their Implications
(IJONTE)

January, 2013

Volume: 4

Issue: 1

ISSN 1309-6249

<http://ijonte.org>

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Dear IJONTE Readers,

International Journal on New Trends in Education and Their Implications- IJONTE appears on your screen now as Volume 4, Number 1. In this issue it publishes 20 articles. And this time, 33 authors from 9 different countries are placed. These are Brazil, India, Iran, Malaysia, Nigeria, Pakistan, Slovakia, Switzerland and Turkey.

Colleagues that are in editorial board worked hard to determine the articles of this issue. There are also some articles that were presented in "World Conference on Educational and Instructional Studies - WCEIS" that took place between 07-09 November 2012 with the contribution of 16 countries. Articles are evaluated by the referees that are either in editorial board or outside the board. According to the evaluations, some articles that were presented in "World Conference on Educational and Instructional Studies - WCEIS" will also be published in our next issue.

Our journal has been published for over three years. It has been followed by many people and a lot of articles have been sent to be published. 142 articles have been sent to referees for forthcoming issues. They will be published according to the order and the results. Articles are sent to referees without names and addresses of the authors. The articles who get positive responses will be published and the authors will be informed. The articles who are not accepted to be published will be returned to their authors.

We wish you success and easiness in your studies.

Cordially,

1st January, 2013

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USE OF SOCIAL NETWORKS IN TEACHER TRAINING PROGRAMS: A CASE STUDY

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ABSTRACT

In current society, Digital Technologies (DT) are powerful pedagogical resources; however, they require special teacher training. This paper analyzes a case study carried in a subject given in a *lato sensu* post-graduation course for teachers. The program promoted the discussion of the use of DT, and used an Internet social network (ISN) to support activities. Therefore, this article aims to analyze difficulties and advantages of the use of ISN in teacher education programs. The study starts with a reflection of the importance of training teachers in the use of DT and the pedagogical use of ISN. Following, the case study is contextualized, and the methodological procedures are described. The paper closes with a discussion of the difficulties and benefits of social networking based on data derived from the observation, questionnaire and students' posts on the network. Despite the difficulties, use of the ISN was considered a positive one.

Key Words: Internet social networks, teacher training, digital technologies.

INTRODUCTION

The rise of the internet, and Web 2.0¹ functionalities, in particular, have created new spaces for virtual communication exchanges. In this scenario, and with support of the Web 2.0 resources, social networking has expanded its horizons. Such resources have enabled new modes of relationships, regardless of time and space, by means of the so called internet social networks (ISN). By creating and sharing information, these networks have also allowed those who were mere consumers to become producers (Attwell, 2007).

In this scenario, research has been done to investigate the pedagogical use of ISN (Tairi et al., 2008, Ryberg, 2008, Moreira & Monteiro, 2010, Paião, 2010, Moran, Seaman & Tinti-Kane, 2011). Since this is a rather recent field of study, research related to that topic is essential.

This paper presents a case study in which the approach used to analyze data was predominantly qualitative. The study took place in the subject "Information and Communication Technologies in Education"² offered in

¹ The main fundamentals of Web 2.0 are: use of the Web as a platform, and the improvement of services as the number of users increase (O'Reilly, 2005).

² The main objective of the discipline is to contribute for the pedagogical use digital technologies in teaching practices, aiming at the knowledge construction.

the *lato sensu* post-graduation course “Teaching in the 21st Century”, at the Instituto Federal Fluminense³, from March through May 2012. The discipline promoted the discussion of the pedagogical application of digital technologies (DT) and, to support academic activities, an ISN was implemented on the Elgg platform. The use of this ISN was observed throughout classes in order to identify its drawbacks and benefits. Along with the observation, the study included data collected in questionnaires and students' posts on the network.

Therefore, the aim of this paper is to analyze the difficulties and advantages of using ISN, as identified in the case study. Section 2 of the article discusses the relevance of preparing teachers for the educational use of DT and social networking. Section 3 describes the context and methodological procedures used in the case study. Based on data collected in the investigation, the difficulties and advantages found in using ISN are analyzed in Section 4. The paper closes with considerations on the issues raised by the study.

PEDAGOGICAL USE OF DIGITAL TECHNOLOGIES: SIGNIFICANCE TO TEACHER EDUCATION

DT combine traditional elements related to hardware (processing, memory, input devices, display, peripherals, etc.), and to software (operational systems and application programs), to execute a wide range of activities including technical, communicative, and educational tasks (Clark-Wilson et al., 2011). Considering the current dissemination of these technologies, it is important to think of strategies that make DT feasible in schools, such as (Costa, 2008): i) integration of DT in all school departments (documents, academic records, etc.), and every subject area; ii) infrastructure and additional resources; iii) interest of school officials in incentivating the use of DT; iv) graduate follow-up. It is important to observe that these strategies do not guarantee successful programs.

Some failures and slowness in integrating DT into teaching activities may be related, according to Costa (2008), to the little attention given to the complexities of graduation curricular activities, and the peculiarities of students. After all, teaching presents its own specificities, singularities and uncertainties resulting from the complexities of the teaching and learning process, demanding, in turn, well trained professionals to deal with the various pedagogical situations in a grounded and adequate manner (Costa, 2008). For Imbernón (2010), there are many teacher training courses, but innovation is little or not proportional to the preparation they receive. One has seen little progress in ideas and practices in teacher education. This may be due to predominant policies and educators who strongly hold on to uniform and transmitting teaching practices, with emphasis on theories that are decontextualized and far from real-life issues (Imbernón, 2010).

In addition, continuing education courses that follow the unidirectional information flow, and in which the participants' context is not taken into consideration, do not, in most cases, generate changes in teaching practices. The study carried by Barcelos, Passerino and Behar (2010) shows evidences that the teachers who were interviewed tended to not put into practice knowledge acquired in the continuing education programs they participated in. There may be different reasons for this; one hypothesis is that standard graduation models, used by specialists who do not take into consideration the context in which student/teachers are involved make such transition even more difficult.

DT competency standards for teachers⁴ (Unesco, 2009) point out that changes in pedagogical practices must involve the use of different technologies, tools, and electronic content. It is also important that teachers know where and when to use technologies, or none at all. To do so, it is relevant that they be prepared to apply these new practices, since they play a significant role in integrating schools into the digital culture.

³ Campos dos Goytacazes, Rio de Janeiro, Brazil.

⁴ According to Perrenoud (2000), competence is the ability to mobilize several cognitive resources (knowledge, skills, information, etc.), in order to deal with a number of situations. The author adds that competences are linked to cultural and professional situations, as well as to social conditions.

There are several DT that teachers can use with students when aiming at improving teaching and learning processes (programming languages, simulation software, apps for mobile devices, videos, virtual learning environments, among others). This article, however, concentrates on social networking. Their pedagogical application is discussed in the following section. However, it is important to observe that teacher education demands participation, interaction, exchange of experiences, cooperation, contextualization, and teaching knowledge (Tardif, 2007). Therefore, we understand that ISN have great potential to support teacher training programs.

Pedagogical use of Internet Social Networks

A social network is defined as a set of two elements: actors, that is, nodes (people, institutions and groups), and their connections – interactions or links between nodes (Recuero, 2009). Araújo e Assis (2011) list four characteristic aspects of networks: i) they are sustained by the will and affinity of their members – responsible for reaching objectives; ii) they are non-linear, as they expand in different directions; iii) they present horizontality as main organizational feature (in other words, the network structure is an alternative to the pyramid organization); iv) they are multidimensional, as they orient users to many dimensions (levels, layers, circles).

In social networks, expression is accomplished when interactions are established between the network nodes (actors). Such interactions have a dynamic character, and their analysis allow for the understanding of what type of relationships emerge in the network, and which ones are actual social bonds. These can be either strong or weak, depending on the quality of the interactions, and on the social exchange carried by the actors. Strong bonds are those characterized by intimacy and proximity; whilst weak ones are distinguished by sparse relations, not resulting from intimacy and proximity (Granovetter, 2000). Thus, strong bonds build the least unstable networks. Exchanges in these environments generate immaterial elements built and negotiated among the actors, allowing for deeper bonds and group sedimentation (Recuero, 2009). According to Putnam (1993), social capital refers to connections among individuals, to the norms and values that govern interactions among them. The “social” feature of social capital demonstrates that those resources are not personal assets, but typically found in social networking.

To create ISN, it is necessary to use platforms such as: Orkut, Facebook, Ning, SocialGO, Meezoog, WackWall, Grouply, Elgg, among others. These platforms are not the ISN themselves, but represent them (Recuero, 2009). The networks *per se* are created from interactions, from established social bonds, and generated social capital. Platforms are also named as tools, systems, sites or software.

By mediating interactions, social networks have changed several areas since ancient times, including business, industry, economy, art, culture, and education (Clark & Roberts, 2010). An ISN is mostly used to make acquaintances, post photos, videos, comments, and sales. Nevertheless, they can also be an important resource to support educational activities (Clark & Roberts, 2010).

Recent studies have shown that social networking in educational settings may be an interesting pedagogical strategy (Paião, 2010). The study by Moreira e Monteiro (2010), in particular, pointed out that the creation of virtual environments to complement traditional learning is significant to promote and strengthen teacher-student and student-student interactions in sharing knowledge and cooperative work. Such networks can also contribute in continuing teacher education, as they allow them to actually experience the advantages of ISN functionalities and, therefore, feel confident to use social networking with their students (Barcelos, Passerino & Behar, 2010).

Goldfarb et al. (2011) list the benefits of the pedagogical application of social networking found in the literature: i) precocious identification of students' needs and academic assessment; ii) organization of

communities to share ideas, approaches, and resources; iii) student involvement due to their familiarity with ISN; iv) improvement of student performance resulting from greater involvement in classroom discussions; v) information management, supported by the power of ISN to integrate several tools; vi) opportunity to contact students who do not adapt to traditional teaching methods; vii) increase of accomplishment and self-confidence feelings.

A research carried in 2010 (edWeb.net et al., 2010)⁵ with educators in the USA (teachers, principals and librarians) presented comprehensive data on the policies and practices of pedagogical use of social networking. Its data comprised indicators, including the following: i) in general, most educators regard use of ISN as very relevant to education, despite some concerns, such as those related to confidentiality and privacy, legal responsibility, among others; ii) educators who participate in social networks are more likely to be optimistic about using them for educational purposes; iii) younger educators are more likely to join social networks, and feel more comfortable with this technology (but the research was not conclusive whether this means that younger educators do integrate social networks into education or not). Based on these data, the authors presented these recommendations on the educational use of ISN: i) principals and teachers must gain more experience on educational networking, which may, in turn, lead to the understanding of the possibilities opened by this technology; ii) promising practices must be publicized to show how teachers can effectively integrate social networks into the curriculum; iii) it is necessary to establish usage policies for sites that present social/collaborative features (edWeb.net et al., 2010).

Another study carried in the USA with 1920 college teachers showed that 80% participate on social networking, and that more than half of them use this medium in the classroom (Moran, Seaman & Tinti-Kane, 2011). Some of the relevant results from this survey are: i) the predominant use the ISN in classrooms are watching videos and listening to podcast; ii) evidence that teachers who are frequent web users are more aware of the pedagogical use of ISN; iii) level of teachers' awareness does not vary according to age or career stage, but usage level does; iv) 58% of the participants in the survey agree that using ISN can be a valuable resource to collaborative learning. In general, the study signalled that the way teachers use social networking in the classroom is still quite passive (Moran, Seaman & Tinti-Kane, 2011). It is important that teachers accept ISN as a means and possibility to expand educational spaces, decentralize access to knowledge, change the current communication logics and bring together teachers and students.

According to José Armando Valente (Klix, 2011), educational use of ISN in Brazil has been limited to blogging and other class resources; but mostly resulting from individual interests. The author adds that, in most cases, such usage is to publish contents that were not presented in class, or to receive materials sent by students. Valente (Klix, 2011) says that such actions are not innovative; on the contrary, they only contribute to transmitting information. The value of these actions is not questioned by the author, but he affirms that it is possible to expand them, as in the case study described in the following sections.

CASE STUDY: CONTEXT AND METHODOLOGICAL PROCEDURES

The case study described in this paper was conducted in the subject "Information and Communication Technologies in Education," one of the disciplines of the post-graduation course "Teaching in the 21st century" at the Instituto Federal Fluminense. The subject, given by the authors, had a workload of 32 h, from March 16 through May 11, 2012. The objectives were: i) analyze the pedagogical use of DT; ii) discuss public policies related to the implementation and use of these technologies in schools; iii) understand different approaches in the use of educational software in the teaching and learning process; iv) make critical evaluation of various

⁵The survey considered of two stages: i) one following a quantitative approach, with over 1200 educators (principals, teachers, and librarians); ii) a qualitative study with 12 principals who used social networking for professional reasons. The survey reported above using both approaches.

software and educational sites; v) analyze the internet as a technology that supports construction of knowledge.

All 27 students were graduate teachers of different educational areas and school levels (from Elementary to High School) – some being actual professionals. The students' classifications by gender and age group are shown in Table 1 and in Figure 1, respectively.

Table 1: Categorization by Gender

Gender	Students (%)
Female	85.19
Male	14.81

As shown in Table 1, the target audience of the case study was predominantly female. This is in accordance with findings from a research carried out in 2011 (Commonwealth Secretariat & UNESCO, 2011), which shows evidence of an international trend towards the predominance of female teachers in elementary schools and, in some countries, also at high school level. Data in Table 1 are also coherent with another survey by Unesco released in 2009 (Gatti & Barretto, 2009). Focusing on teaching in Brazil, this study shows a strong predominance of women working in all levels of basic education (from Elementary to High School).

Analysis of Figure 1 shows that the students' age ranged mostly from 21 to 32 years of age, but more experienced teachers, 33 to 50 years old, were also found.

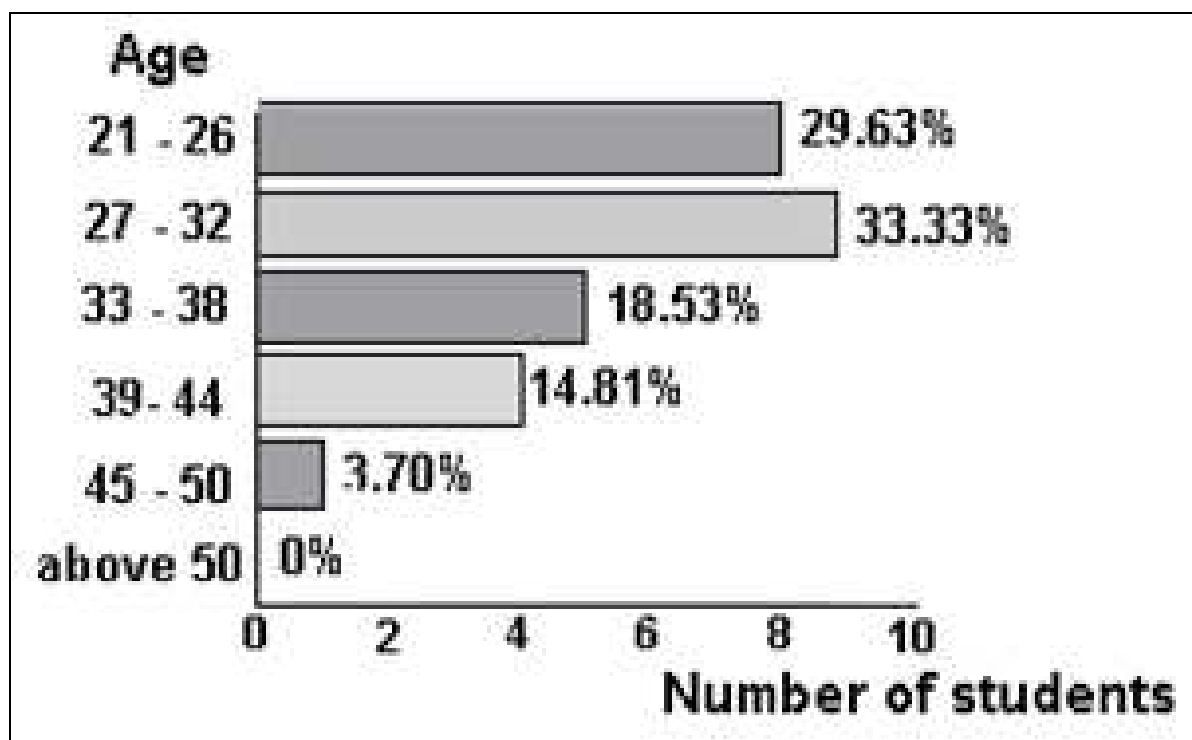


Figure 1: Students' Age Groups

For the course “Teaching in the 21st century,” a social network on Elgg platform was implemented. Figure 2 presents its homepage. This network was used in the subject “Information and Communication Technologies in Education,” to support activities, and expand time and space restrictions of the traditional classroom.

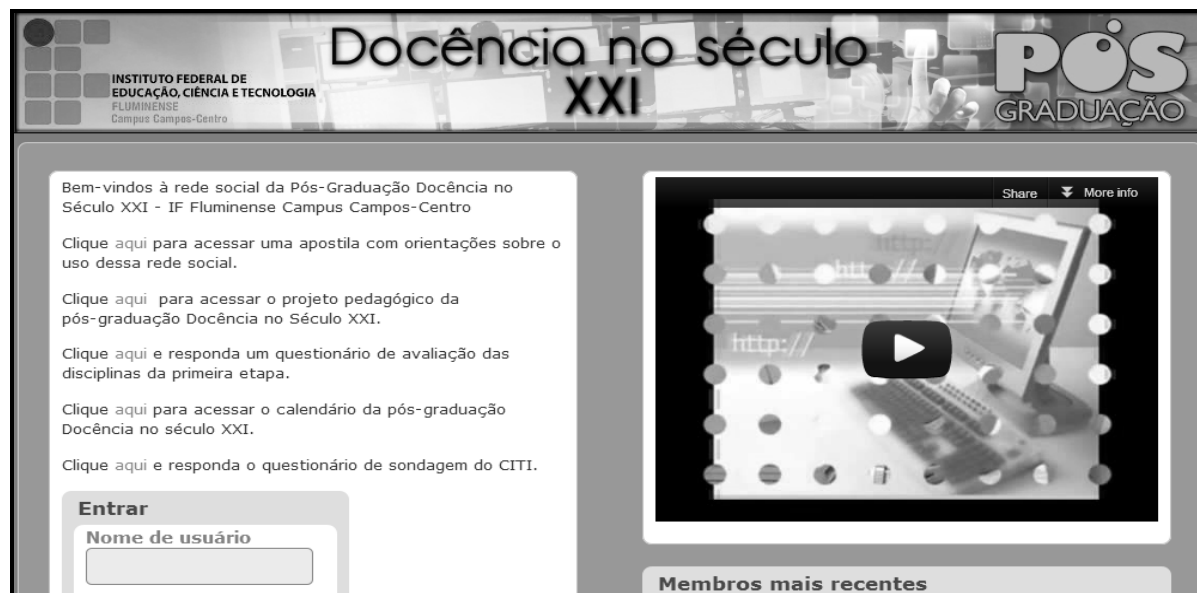


Figure 2: Elgg Social Network – Post-Graduation Course “Teaching in the 21st Century”

Selection of the Elgg platform was based on the following criteria: no costs, language (Portuguese), variety of tools, and user-friendly resources. The platform offers several Web 2.0 tools for knowledge management, like blogs, microblogs, file sharing, and tools for collaboration and communication. Content is displayed in personalized boxes, and can be organized according to the user's needs. Some studies on the use of Elgg in education have been done (Tairi et al., 2008, Ryberg, 2008, Dias, Oliveira & Alves, 2009); however, the authors found no studies on Elgg being used in continuing education of teachers.

Use of social networks was observed in class with the purpose of identifying possible difficulties as well as their positive aspects. For data collecting, the investigation used both quantitative and qualitative approaches. According to Creswell (2003), this type of analysis applies when quantitative and qualitative data are necessary in the same study – a necessity verified throughout the research. The quantitative analysis, however, only used Descriptive Statistics techniques, a field that comprises a collection of methods aimed solely at the organization and description of data (Silvestre, 2007).

Data collection was made through observation, questionnaire, and students' posts on the social network. Observation was non-structured, but this does not mean lack of focus in the analysis. It did not follow a structured instrument of investigation because that would demand a previous selection of the aspects to be eventually observed. Being rather restricted, structured observations might give the investigator only a partial view of the situation, or even a superficial one (Laville & Dionne, 1999). All considered the authors found the non-structured observation to be more adequate for this study, as it would allow for the apprehension of unpredictable situations, frequent as they are in educational settings.

Regarding the questionnaire, it was made up of three statements related to social networking, and eight referring to the network used in the course discipline. One of these in the second group was open to comments on the functionalities of the network and the student's participation.

Students' posts on the network itself were followed by means of the tools available in the platform. Creswell (2003) says that, regarding data, it is important to try to guarantee their consistency, and a strategy to do this is the triangulation of different sources. Therefore, the application of three different techniques aimed at assuring such triangulation, and more consistency to the results.

USE OF SOCIAL NETWORKS: BENEFITS AND DIFFICULTIES

The network was used to support academic activities, and as a means of communication between teachers and students, as well as among students. Initially, the students expressed their difficulties in using discussion forums, mostly regarding posting files and their links. Later on, we observed that use of the network became more natural for them. Yet, some had problems in identifying the correct space for posting their tasks – a sign of disorientation with the non-linear structure of the network. However, one could notice that the majority of the students felt comfortable using the network for educational purposes. In general, these individuals showed enthusiasm in becoming familiar with a current pedagogical tool in their training.

Data collected in the network itself were also analyzed. We could observe that comments and considerations made by students in the forums had excellent quality – presenting coherent and well-grounded arguments. This shows that the initial problems in using discussion forums were actually technical, not resulting from writing difficulties.

Use of micro blogs by the students also deserves to be discussed. They were used to: i) exchange information with teachers and classmates; ii) publish videos, sites and events related to computers in education; iii) express feeling and share novelties. By using the network functionality, e-mails between students and teachers was also relevant. The teachers often used e-mail to ask for corrections in activities, so that these could be discussed in a more personal manner. In general, students sent e-mails to justify their being absent from class.

As the discipline ended, other findings were obtained from a questionnaire answered by all the 27 students. These data are discussed next. Regarding use of social networks prior to the course, results are presented in Table 2.

Table 2: Use of Social Network prior to Post-Graduation Course

Options	Yes	No
Students (%)	74.07	25.93

These results show that most students had previously used social networks. The 20 individuals who answered “Yes” were then asked about which network they used. Figure 3 shows the percentages.

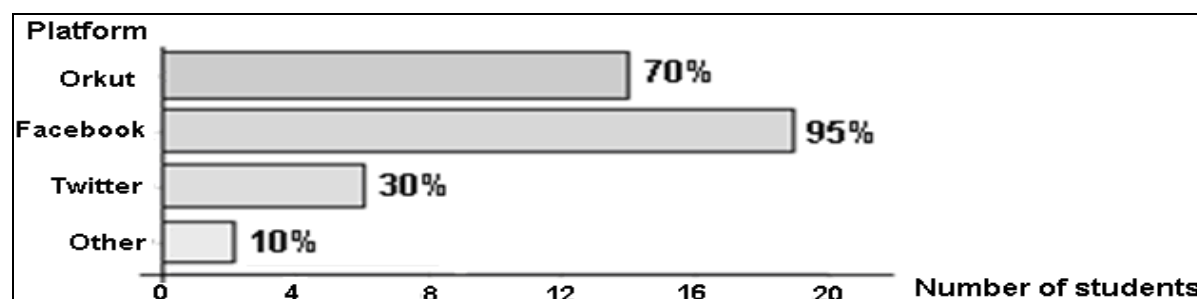


Figure 3: Platforms Used by Participants

This item of the questionnaire allowed for multiple answers, which explains why the total percentage is over 100%. Facebook received the highest percentage, followed by Orkut. In Brazil, Orkut used to be the most popular network, even when it was surpassed by Facebook elsewhere. However, by the end of 2011, Facebook had shifted this position in Brazil. Thus, results in the graph were coherent with reality in the country during the period of investigation. Two students checked the option "Other"; one answered MSN, and the other mentioned LinkedIn.

The 20 students who had previously used social networks were also inquired about their purposes in using the medium. Table 3 shows percentages of the options presented in the survey.

Table 3. Purposes of Social Networking

Purposes of Using Social Networks	Students (%)
Making friends	65
Sharing photos	65
Sharing videos	20
Sharing comments	90
Selling products	5
Analyzing personal life of job applicants	5
Provide educational materials for students	25
Interact with students and colleagues	55
Build and share digital materials	15
Exchange professional experience with fellow experts	60
Other	0

In the list above, the students were allowed to check more than one option. Regarding education, two options are significant: "Interact with students and colleagues" and "Exchange professional experience with fellow experts," which received 55% and 60% of the answers. However, options "Provide educational material for students" and "Build and share digital materials" received lower marks, an indication that social networking for educational purposes was more applied in actions involving interactions than in designing and sharing of materials.

The next list of questions is directly related to the social network used in the course. For each of the seven statements, students should select one of the following answers: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree. In all tables below, 100% of participants correspond to 27 students.

The first statement is "It was easy to participate in the discussion forums offered in the network." Table 4 presents the results.

Table 4: Ease of Participation in Discussion Forums

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	33.33	29.64	33.33	3.70	0

Percentages in Table 4 comply with what was observed in class. As students grew familiar with the network, their difficulties decreased, but not to a level in which some of the individuals found forum participation easy. Thus, the percentage for "Neither agree nor disagree" is coherent. Concurrently, options "Strongly agree" and "Agree" correspond to 62.97%, indicating that interacting in the forum was easy for the majority. Nevertheless, only 33.33% of the subjects strongly agreed with the statement, which seems to indicate that, in

general, participation was considered easy, but not very easy. The authors think these results may result from the fact that discussion forums are a novelty for most teachers – an aspect observed during classes.

As for the statement “In general, it was easy to identify the correct space for posting activities”, Table 5 shows the results.

Table 5: Ease of Identification of the Correct Space for Posting Activities

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	14.81	48.15	11.11	18.52	7.41

Again, percentages in Table 5 are coherent with the difficulties observed in class. Even though identification was easy for the majority (62.96%), seven people (25.93%) disagreed, and three (11.11%) neither agreed nor disagreed. It is important to remember that 25.3% of the students did not use social networks before the course. As mentioned above, those less familiar with the non-linear structure of social networks may be somewhat disoriented. Posting activities in different places from those indicated by the teachers is a good example of students’ difficulties.

Table 6 presents data related to the statement “The tools presented by the social network are satisfactory.”

Table 6: Satisfaction in Using Social Network Tools

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	33.33	44.45	11.11	11.11	0

Altogether, option “Strongly agree” and “Agree” add up 77.78%, which demonstrates that, for most, the tools were satisfactory. However, the specific percentage of option “Strongly agree” was not high, which may indicate that, in general, the tools can be improved for educational purposes.

Table 7 shows percentages related to the statement “Social networking contributed to the development of discipline activities.”

Table 7: Contribution of Social Networking to Discipline Activities

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	59.26	18.52	11.11	3.70	7.41

Percentage for option “Strongly agree” indicates good acceptance of the network. Considering the two options “Strongly agree” and “Agree”, the agreement percentage reaches 77.78%, a result that is coherent with what the authors observed in class. The other percentages can be justified by the technical difficulties presented by some students, as well as by the lack of experience in using digital resources to support academic tasks.

Results regarding the statement “Using a social network contributed to interactions with the teachers and fellow students” are shown in Table 8.

Table 8: Contribution of the Social Network for Teachers-Students Interaction

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	55.56	29.63	3.70	3.70	7.41

The 85.19% of agreement indicates that the network was quite relevant in promoting interaction among participants. The other percentages were considered pertinent to the situation. These data comply with the research carried out by Moreira and Monteiro (2010) which also showed that virtual spaces, such as ISN, used to support traditional learning, are significant inasmuch as they promote teacher/student and student/student interactions.

Table 9 presents results related to the statement “The possibility of sharing information by means of links, blogs, and microblogs on the network was important in the teaching and learning process.”

Table 9: Importance of Sharing Information by Using the Network Tools

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	48.15	37.04	3.70	11.11	0

Although the percentage of “Strongly agree” was lower than in Table 8, the overall percentage of agreement was 85.19% as well, indicating that information sharing contributed in the teaching and learning process. Information management, supported by the integration of the various tools found in the ISN, was mentioned by Goldfarb et al. (2011) as a positive aspect of the pedagogical use of social networking. Besides, these results signal the value of horizontal relations allowed by the typical features of ISN, as pointed by Araújo and Assis (2011).

Finally, Table 10 shows results regarding the statement “The functionalities of the network enabled less hierarchical relations between teachers and students.”

Table 10. Hierarchy Reduction in Teacher-Student Relations

Options	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Students (%)	44.44	37.04	7.41	3.70	7.41

These results indicate that, for most students, the network functionalities contributed to decrease student-teacher hierarchy. The possibility of establishing a community made up of teachers and students who shared information and resources was pointed by Goldfarb et al. (2011). According to these authors, ISN are encouraging and intrinsically democratic environments.

Analysis of the open question, which solicited comments on social networking, showed that, in general, the offer of a social network for educational purposes was well received by the students. Some of the comments, as the following, show that the initial difficulties were eventually overcome.

It was difficult for me to understand how to use the network. I had never used one, but I learned little by little (Student A);

For me, our network was a challenge. First, because I was resistant to this type of environment, not because I didn't like it, but for being afraid of not knowing how to use or interact on it. Later on, I realized that my difficulties and doubts were solved (Student F);

Although I had very little knowledge and domain of social networking, I could notice that, in the context in which we used it, it is of great important for communicating and interacting, not to mention its main aspect – using this resource in my educational practice (Student M).

For the most part, the initiative was a positive one and, as recommended by edWeb.net et al. (2010), it is important to disseminate promising experiments regarding the pedagogical use of ISN. In short, we conclude that the use of a network in the subject “Information and Communication Technologies in Education” was relevant for: i) developing activities proposed by the subject program; ii) interacting with the teachers and classmates; iii) sharing information by using tools available in the network; iv) reducing hierarchy in teacher-student relations; v) accomplishing the general objective of the discipline. Among other difficulties, we include: i) the identification of the correct space for posting activities; ii) posting files and links in the discussion forums.

FINAL REMARKS

ISN have the potential to collaborate in educational activities, as demonstrated in this case study. In the context of teacher training for the pedagogical use of DT, the authors think these technologies, besides their overall benefits, give teachers the opportunity to become familiars with a resource that can be applied with their own students.

Analysis of results of the survey showed that social networking was a positive strategy in developing and reaching the objectives of the discipline. As discussed, difficulties were observed; however, they may have resulted from lack of computer skills by some of the students. It is worthy mentioning that, despite their problems in participating in the forums, the discussions presented high-quality content.

Investigating beyond the social networking sphere, students were questioned about the contribution of the academic tasks in their training. To find out their opinion on this topic, the following statement was presented: “Activities proposed by the discipline contributed for your awareness and more grounded view of computers in education.” The total percentage of agreement was approximately 85% (70.37% strongly agreed and 14.81% agreed). Two students (7.41%) neither agreed nor disagreed, and two others strongly disagreed. The positive aspects of the discipline pointed by the students include the following: i) wide range of technological resources and current theoretical basis; ii) group interaction; iii) social networking. As for the negative aspects, the majority found that time (32 h) was insufficient to cover the several topics which were unfamiliar to them. Next time the discipline is offered, this may be accounted for by reducing the number of tasks, for example

Finally, it is relevant to mention that the use of the Elgg platform, within the parameters used in this study, requires installation in a Server and technical maintenance, demands that usually require institutional support. This is a relevant factor to be considered, since not every school has the opportunity or interest to provide such a support.

IJONTE's Note: This article was presented at World Conference on Educational and Instructional Studies - WCEIS, 07- 09 November, 2012, Antalya-Turkey and was selected for publication for Volume 4 Number 1 of IJONTE 2013 by IJONTE Scientific Committee.

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REFERENCES

- Araújo, F. O. de, & Assis, V. B. G. de (2011). *Redes Sociais na sala de aula: uma nova perspectiva para o sucesso profissional*. Niterói, RJ, Brazil: Editora da UFF.
- Attwell, G. (2007) Personal Learning Environments - the future of eLearning? Elearning paper, 2, n. 1.
- Barcelos, G. T., Passerino, L. M., & Behar, P. A. (2010). Proposta de Formação para Integração das Tecnologias de Informação e Comunicação às Práticas Docentes de Professores de Matemática. *Proceedings of the Congresso Iberoamericano de Informática Educativa (IE 2010)*, 1-3, Dec., Santiago, Chile.

Clark, L. A., & Roberts, S. J. (2010). Employer's Use of Social Networking Sites: A Socially Irresponsible Practice. *Journal of Business Ethics*, 95, 507–525.

Clark-Wilson, A., Oldknow, A., & Sutherland, R., Eds. (2011). *Digital technologies and Mathematics Education*. Report from a working group of the Joint Mathematical Council of the United Kingdom. Retrieved July 02, 2012, from http://cme.open.ac.uk/cme/JMC/Digital%20Technologies%20files/JMC_Digital_Technologies_Report_2011.pdf

Commonwealth Secretariat, & Unesco (2011). *Women and the Teaching Profession: Exploring the Feminization Debate*. Paris, France: Charlesworth Press, 2011. Retrieved July 02, 2012, from <http://unesdoc.unesco.org/images/0021/002122/212200e.pdf>

Costa, F. (Coord.). (2008). *Competências TIC: estudo de Implementação*, v.1. Lisboa: GEPE/ME (Gabinete de Estatística e Planeamento da Educação).

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. 2 ed. Thousand Oaks, California, USA: Sage Publications.

Dias, C. M. V., Oliveira, L. R. M., & Alves, M. P. C. (2009). Recognition, Validation and Certification of Competences Using Eportfolio. Contributions to Changing the Evaluation Paradigm and to the Development of Computer Science Literacy. In: Dron, J; Bastiaens, T., Xin, C. *Proceedings of E- Learn 2009: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*, 2535-2538, Chesapeake, VA : AACE.

edWeb.net, IESD, Inc., MCH, Inc., & MMS Education (2010). *School Principals and Social Networking in Education: Practices, Policies, and Realities in 2010*. Final Report. Retrieved July 03, 2012, from <http://www.edweb.net/fimages/op/PrincipalsandSocialNetworkingReport.pdf>

Gatti, B., & Barretto, E. S. de S. (2009). *Professores do Brasil: impasses e desafios [Teachers of Brazil: dilemmas and challenges]*. Brasília, Brazil: UNESCO. Retrieved July 02, 2012, from <http://unesdoc.unesco.org/images/0018/001846/184682por.pdf>

Goldfarb, A., Pregibon, N., Shrem, J., & Zyko, E (2011). *Informational Brief on Social Networking in Education*. Retrieved July 02, 2012, from http://www.p12.nysed.gov/technology/internet_safety/documents/InformationalBriefonSocialNetworkinginEducation.pdf

Granovetter M. (2000) La fuerza de los vínculos débiles. *Política y Sociedad*, n. 33. Madrid, p. 41-56.

Imbernón, F. (2010). *Formação continuada de professores [10 ideas clave: La formación permanente del profesorado – nuevas ideas para formar en la innovación y el cambio]*. Porto Alegre, RS, Brazil: Artmed.

Klix, T. (2011). Educador quer Redes Sociais no Currículo Escolar. *Último Segundo Educação*. Retrieved July 03, 2012, from <http://ultimosegundo.ig.com.br/educacao/educador%20quer%20redes%20sociais%20no%20curriculo%20escolar/n1238187320827.html%20>

Laville, C., & Dionne, J. (1999). *A Construção do Saber: manual da metodologia da pesquisa em ciências humanas [La construction des savoirs: manuel de methodologie en sciences]*. Porto Alegre, RS, Brazil: Artmed.

Moran, M., Seaman J., & Tinti-Kane, H. (2011). *Teaching, Learning, and Sharing: How Today's Higher Education Faculty Use Social Media*. Boston, USA: Pearson Learning Solutions.

Moreira, J. A. M., & Monteiro, A. A. (2010). O trabalho pedagógico em cenários presenciais e virtuais no ensino superior. *Educação, Formação & Tecnologias*, v.3, n. 2, p. 82-94.

O'reilly, T. (2005). *What Is Web 2.0 - Design Patterns and Business Models for the Next Generation of Software*. Retrieved July 12, 2012, from <http://oreilly.com/web2/archive/what-is-web-20.html>

Paião, C. (2010). Plataformas sociais auxiliam a construção do conhecimento? *Com Ciência: revista eletrônica de jornalismo científico*, 121. Retrieved July 10, 2012, from <http://www.comciencia.br/comciencia/handler.php?section=8&edicao=59&id=746>

Perrenoud, P. (2000). Dez novas competências para ensinar [Dix nouvelles compétences pour enseigner]. Porto Alegre: Artmed.

Putnam, R. (1993). *Making democracy work: civic traditions in modern Italy*. Princeton: Princeton University Press.

Recuero, R. da C. (2009). *Redes sociais na Internet [Internet social network]*. Porto Alegre, RS, Brazil: Sulina.

Ryberg, T. (2008) Privacy, power, place and identity – the construction of mixed spaces in an educational context. *Proceedings of the Internet Research 9.0: Rethinking Community, Rethinking Place*, 16-18, Oct., Copenhagen, Denmark.

Silvestre, A. L. (2007). *Análise de Dados e Estatística Descritiva [Data Analysis and Descriptive Statistics]*. São Paulo, SP, Brazil: Escolar Editora.

Tairl, K., McCormack, R., Leihy, P., & Ring, P. (2008). Fairy tales and Elggs: social networking with student rovers in learning commons. *Proceedings of the VALA 14th Biennial Conference and Exhibition*, 05-07, Melbourne, Australia.

Tardif, M. (2007). *Saberes docentes e formação profissional*. 8.ed. Petrópolis, RJ, Brazil: Vozes.

Unesco (2009). *Padrões de Competência em TIC para Professores: Marco Político [ICT competency standards for teachers: policy framework]*. Brasília, Brazil: UNESCO, 2009. Retrieved July 03, 2012, from <http://unesdoc.unesco.org/images/0015/001562/156210por.pdf>.

IMPLEMENTATION AND EVALUATION OF MODEL CAF IN EDUCATION ORGANIZATIONS

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ABSTRACT

In our contribution are described experiences concerning the development, implementation and evaluation of excellence model CAF in education organizations. There are described criteria and sub-criteria of model CAF and example of fulfilling these criteria by company Quality management Centre (CEMAKS) at the Slovak University of Technology in Bratislava. In contribution will be presented some ideas and opportunities for continuing improvement of quality level in education organization by application this model, analysis of model CAF criteria, methodology to develop this model, automated system of evaluation of model CAF which allows to measure quality level in time. This CAF model is useful tool for schools and universities on way to find new approach to increase quality level in education process.

Key Words: Quality, model, education, process.

INTRODUCTION

The Common Assessment Framework (CAF) is a total quality management tool inspired by the Excellence Model of the European Foundation for Quality Management (EFQM) and the model of the German University of Administrative Sciences in Speyer (Slovenská asociácia európskych štúdií;2006). It is based on the premise that excellent results in organizational performance, citizens/customers, people and society are achieved through leadership driving strategy and planning, people, partnerships and resources and processes. It looks at the organization from different angles at the same time, the holistic approach of organization performance analysis.

The CAF model is an European model based on Total Quality Management – TQM.(Paulová,Hekelová,, Šatanová&,Šalgovičová: 2008; Oakland: 2003) It is designed for all organizations of public sector that are interested in continuous improvement and progress towards excellence.

The main purpose of the CAF model is self-assessment of the organization in order to achieve continuous improvement of quality. It helps identify strengths and opportunities for improvement and encourages solutions. It allows for an independent view on the organization and its functioning.

The CAF model is a basis for assessment and evaluation of a business aspiring to receive the European Quality Award (EQA), but also the National Quality Award of the Slovak Republic. In order to win the EQA, the model must be applied for at least three years and yield the corresponding results.

The EFQM model may be used in any business as well as any governmental organization (Porter, & Tanner: 2004; Hakes; 2007; Oakland,2003)) (however, the Common Assessment Framework – the CAF model(Slovenská

asociácia európskych štúdií;2006). is specially designed for public administration). There are several literature sources, which describe the structure of EFQM and CAF model (Porter, & Tanner: 2004; Hakes; 2007) and offer methodology, how to implement and evaluate it, but for customers are very brief and hardly understandable. Therefore we decided in our research work to propose integrated electronic manual, which will offer to public organizations complex and total information concerning the implementation and evaluation of all criteria of CAF model. Our electronic manual contains total 9 criteria, 32 sub-criteria and 121 sub-sub criteria of CAF model. Users of this manual can self evaluate own activity in a given sub-criterion and using automated system (software) determines point value of quality level (see next chapters).

HISTORY AND STRUCTURE OF CAF MODEL

The CAF is a result of co-operation among the EU Ministers responsible for Public Administration. It is jointly developed under the aegis of the Innovative Public Services Group (IPSG), a working group of national experts set up by the Directors-General (DG) in order to promote exchanges and cooperation where it concerned innovative ways of modernizing government and public service delivery in EU Member States.

A pilot version was presented in May 2000 and a first revised version was launched in 2002. A CAF Resource Centre CAF (RC) was created at the European Institute of Public Administration (EIPA) in Maastricht following the decision of DGs in charge of public service.

Between 2000 and 2005 ca. 900 European public administrations used the CAF to improve their organizations. Also from outside Europe there is a lot of interest in using the tool e.g. from China, Middle East, Dominican Republic and Brazil. More than 300 CAF users met at the 1st and 2nd European CAF Users Events in Rome in 2003 and in Luxembourg in 2005. Two studies by EIPA, established in the context of these events, give detailed information on the use of CAF in Europe and they inspired the CAF 2006 revision.

A database on CAF applications is being further developed at EIPA, allowing integrating good practices in public administrations from all over Europe and maybe wider. A CAF e-tool will be soon fully available for the CAF community. The model is now translated in 19 languages. But also on the national level, many countries developed CAF support structures including training, e-tools, brochures, CAF users' events and CAF data bases. The Ministers responsible for Public Administration in the European Union expressed at the end of the Luxemburg presidency on 8 June 2005 their appreciation for the fruitful exchange of ideas, experiences and good/best practices between the Public Administrations of the EU Member states within the European Public Administration Network (EPAN) and for the development and use of tools such as the Common Assessment Framework. They asked to integrate even more the quality approach with the Lisbon agenda. The CAF 2006 revision has taken this demand into account.

The CAF is offered as an easy to use tool to assist public sector organizations across Europe to use quality management techniques to improve performance. The CAF provides a self-assessment framework that is conceptually similar to the major TQM models, CAF in particular, but is specially conceived for the public sector organizations, taking into account their differences. The CAF has four main purposes (Slovenská asociácia európskych štúdií;2006):

- to introduce public administration to the principles of TQM and progressively guide them, through the use and understanding of self-assessment, from the current "Plan-Do" sequence of activities to a full fledged "PDCA" cycle,
- to facilitate the self-assessment of a public organization in order to obtain a diagnosis and improvement actions,
- to act as a bridge across the various models used in quality management,
- to facilitate bench learning between public sector organizations.

The CAF model is based on 9 criteria (Slovenská asociácia európskych štúdií;2006): leadership, strategy and planning, people, partnerships and resources, processes, citizen/customer oriented results, people results, society results and key performance results. The first 5 criteria are enablers (what the organization has got) and the remaining 4 criteria are results (what the organization achieves). All criteria are divided into sub and sub-sub criteria. The diagram of the model, together with score for each criterion is shown in Figure 1. The direction of arrows shows the dynamic nature of the model. Innovation and learning help improve enablers, which leads to improved results. This process is continuous. Criteria and sub-criteria of the model are very sophisticated and deal with all areas of the organization, even with the environment surrounding it. The model emphasizes the ethical principle crucial for those who are exceptional.

SURVEY CONCERNING THE CAF MODEL IMPLEMENTATION

The survey concerning the CAF model implementation has been carried out during three months in year 2011 by the form of electronic and anonymous questionnaire. There were surveyed 150 public companies in Slovakia of all sizes. The questionnaire completed 40 of them. The issues were identified about whether the model has been applied for excellence in the organization, the purpose of its application (or the reasons not to apply it), as well as interest of the public company to introduce the CAF model in the future. Graphical interpretation of some of the responses is shown in Tables 1 and 2 and Figures 2 and 3.

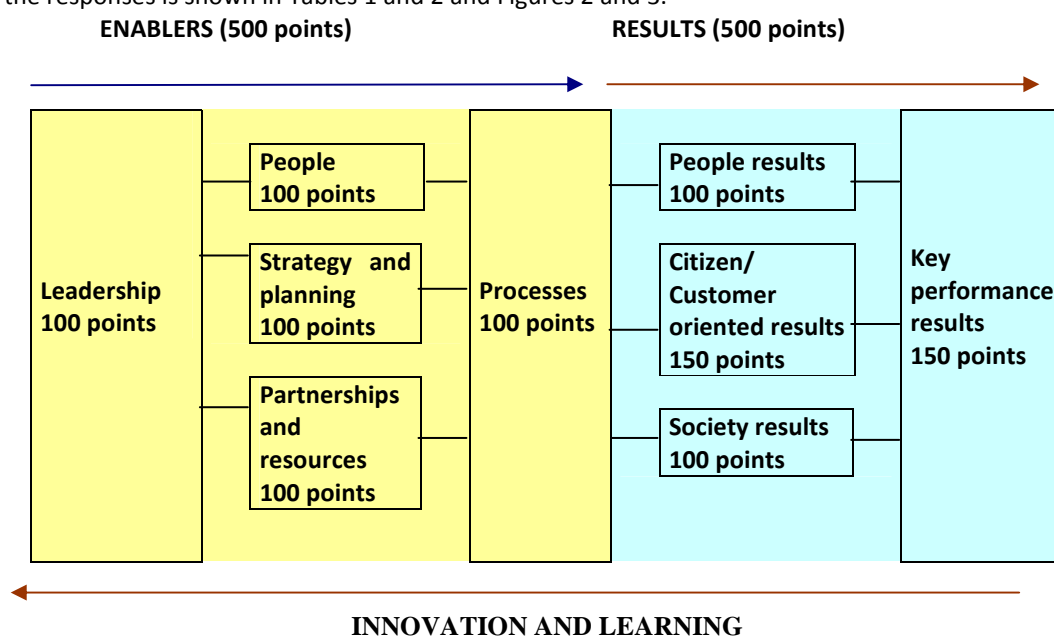


Figure 1: Structure of model CAF (last revision in year 2006)

Table 1: Application of the CAF model at present or in the past in surveyed companies

CAF application at present or in past	Number of answers	%
YES	6	15
NO	34	85
Total	40	100

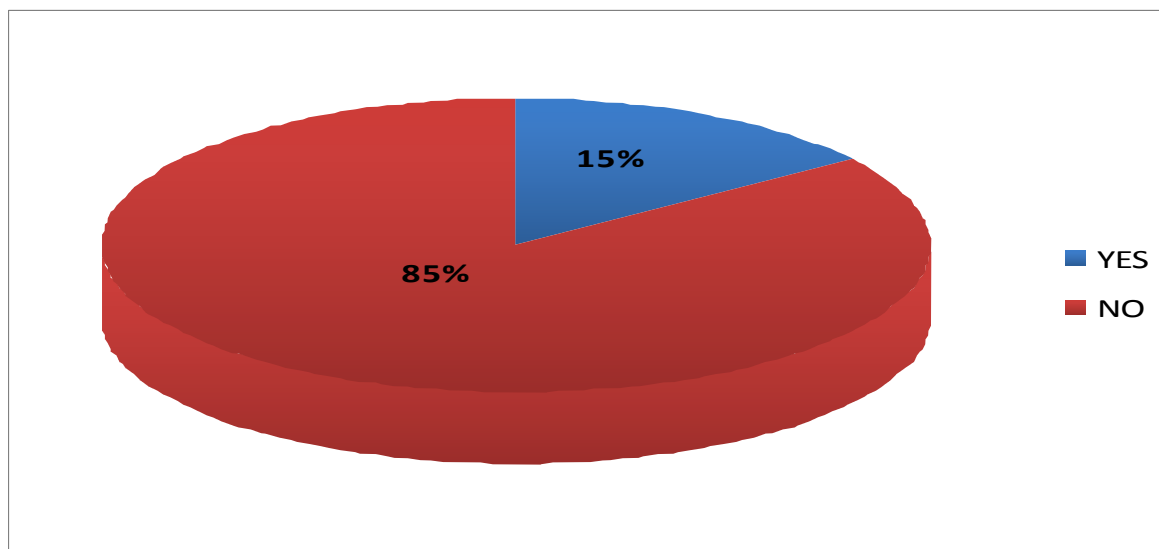


Figure 2: Application of the CAF model at present or in the past in surveyed companies

Table 2: Interest of surveyed companies to implement CAF model in future

Interest to implement CAF model in future	Number of answers	%
Definitely YES	15	38
Probably YES	20	50
Rather NOT	5	12
Certainly NOT	0	0
Total	40	100

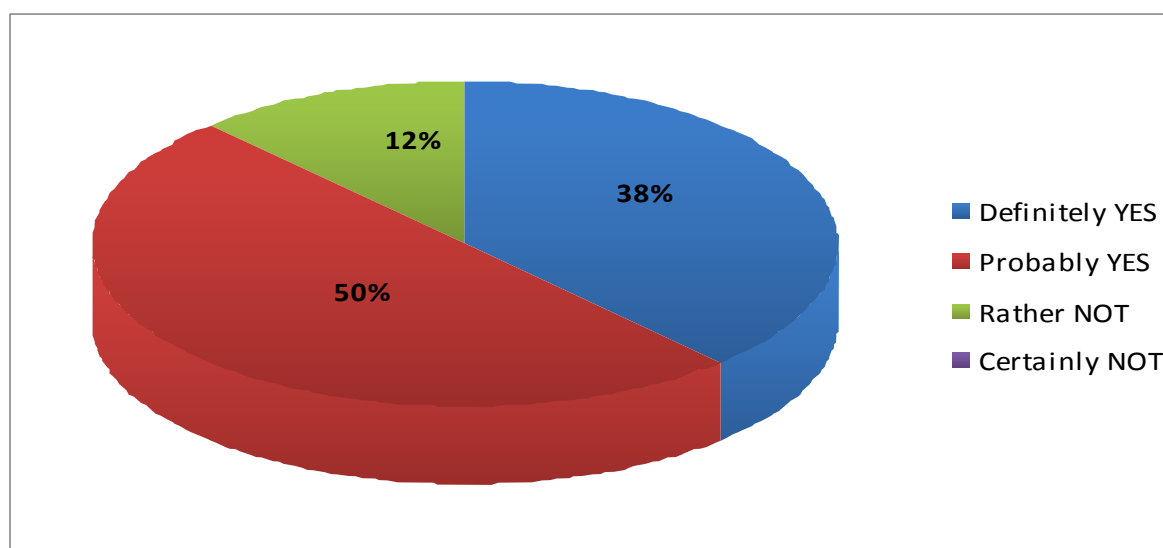


Figure 3: Interest of surveyed companies to implement CAF model in future

The results obtained by survey shows that the CAF excellence model and its application in practice in Slovakia are still relatively new, unexplored issues. Most companies do not exclude its application in the future, but they need much more necessary information about this model and effective training process. The solutions contained at this contribution can be helpful for the performance of the CAF model to organizations, which have aims to continually improve their quality management level and implement maximum positive effects in future activities.

Problems and areas for improvement regarding the CAF model application in education organizations

The study of the CAF model through consultations with trainers in the area of Quality Management and our own knowledge concerning this area of interest made us aware of areas for improvement and problems currently faced by Slovak companies striving for excellence when implementing the CAF model. Application of the CAF model in Slovak organizations is currently not a very frequent activity. Although the model seems simple, its application is a complex process in terms of time and resources. The CAF model can be described as a higher form of quality management in organizations. It is starting to be implemented mostly by organizations, which have successfully passed the introduction and certification of the Quality Management System (QMS) according to ISO 9001 and look for ways to further improve the quality of their products.

However, the management in most organizations fails to realize that this approach to improving quality is not as simple as it seems at the first sight. Although the nine main criteria of the CAF model seem like they were encountered when building the QMS, the CAF model contains a series of sub-criteria (32), which require a very detailed description of the functioning of the organization and many of the sub-criteria are often misunderstood by the management. Thus, the enthusiasm with which the management welcomes the introduction of the CAF model begins to fade when the model is implemented in practice. A deeper study of the CAF model makes directors come to conclusion that the whole process is too bureaucratic. Organizations often meet the CAF requirements, but fail to record their results sufficiently and as required. When aspiring to the National Quality Award of the Slovak Republic or the European Quality Award, the company has to prepare a self-assessment report according criteria of the CAF model, on the basis of which it is assessed. The preparation of the self-assessment report is an extremely complex and time-consuming process and requires involvement of key employees from all areas of business. Incorrect definition of processes and results in the self-assessment report may result in a low score of an otherwise successful organization from the professional CAF auditors. This leads to disappointment, conflicts and rejection of the whole process.

The path towards excellence according to the CAF model is a long-term process that must be upheld by the whole business from the top management to the last employee. If only the top management desires the introduction of the CAF model and then delegates the application duties to employees – failing to properly explain its effects – it encounters resistance and the process is doomed.

The current competitive environment in the global marketplace requires organizations to continuously improve quality. This applies not only to products, but also to processes and management. Today, it is often not enough to satisfy customer needs, but it is necessary to exceed them. This requires excellence in organizations. One of the tools that can help organizations on their path of improving and achieving a lasting success is the CAF excellence model understanding and effective implementation.

METHODOLOGY FOR THE CAF MODEL APPLICATION IN ORGANIZATION

During the research work at this area, we propose a methodology for application of the CAF model, which is proposed especially to education organizations, which have developed and implemented Quality Management System (QMS) according to standards ISO 9001 and plan further development and improvement of the existing management system using the model CAF. Steps of the methodology are illustrated in Figure 4.

The methodology is designed in conjunction with manual and automated self-assessment system to enable the organization to apply the CAF model in less time and evaluate their performance level and effectiveness by more transparent way. The methodology enables to get an idea of what is necessary to do in the process of CAF model application. The actual implementation of the methodology and the manual is designed to avoid confusion and unnecessary complexity, what require starting again and resulting to time loss.

Used scientific methods

Selected scientific methods of problem solution can be divided into two main groups: empirical and logic (scientific analysis and synthesis). Empirical methods are applied to an electronic survey that aimed to determine knowledge of the CAF model and its use in practice among organizations operating in Slovakia. The logical method was utilized for the problem solving analysis and synthesis. Methods of scientific analysis was used to evaluate the current issue of Quality Management level and CAF implementation in public sector, analysis of criteria and sub criteria of the CAF model, exploring the possibilities of applying the CAF model in public organizations and examination of existing systems of assessment under the CAF model. Scientific synthesis method was used during the process of CAF model development and implementation including the creation of electronic manual and during the process of automated evaluation system of public company quality management level.

MANUAL FOR THE CAF MODEL IMPLEMENTATION

Electronic manual is designed on the basis of the CAF model criteria and sub criteria requirements and helps to organization in a shorter time to understand and apply the CAF model and evaluate their own performance and effectiveness. The structure of the proposed manual consists of three main parts:

- analysis of CAF model requirements defined by criteria and sub criteria and determine the existing quality level of the organization and opportunities for improvement,
- self-assessment system of organization quality management level using the criteria and sub criteria of the CAF model by electronic automated system.

The evaluation system of the CAF model criteria

CAF model consists of enablers and results parts. For each of them is in the manual suggested a specific method of evaluation. In this paper we provide an example evaluation of enablers part of the CAF model.

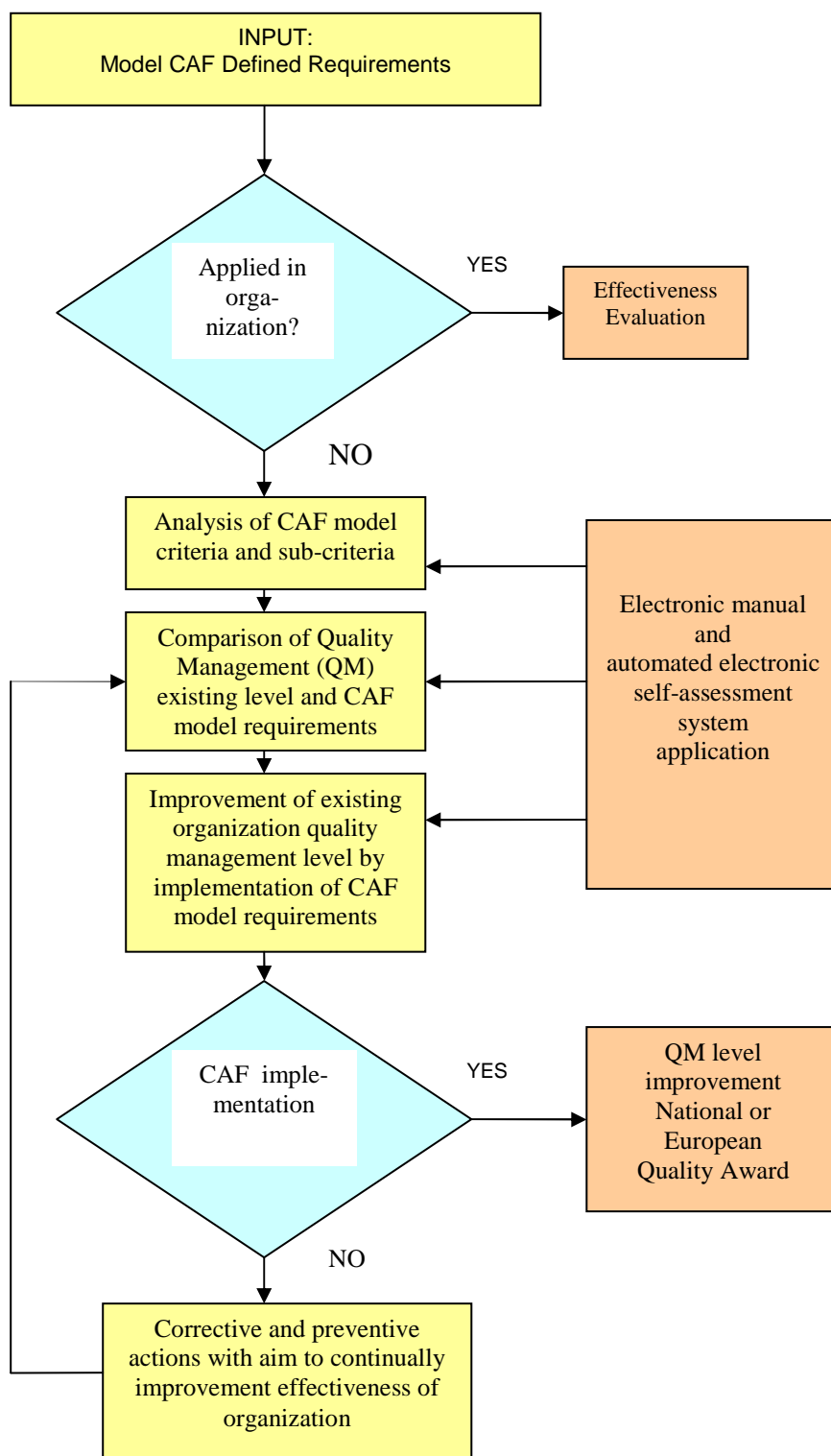


Figure 4: Steps to apply CAF model in education organization

In the process of self-assessment of the organization is for each of the manual requirements of enablers part of the CAF model selected phase of applications based on the Deming cycle (Table 3) and the performance level (Table 4).

Table 3: Evaluation of activity level application according to requirements of CAF model sub-criterion in organization

Activity is:	Description	Evaluation in %
P (planned)	Organization plans the activity to apply	10
D (done)	Activity is implemented	15
C (checked)	Organization checks the effects	20
A (acted)	In a case of positive effects activity is used in practice	25
B (benchmarked) (Zairi:2008; Bendell:1993)	Organization compares the activity with best organization in market	30

Table 4. Level of CAF model sub-criterion fulfilling in a given phase of application

Level of fulfilling	Description
0	There is no evidence to fulfill the requirements
0,25	There exist indicators of compliance requirements
0,5	Partial evidence of requirement fulfilling
0,75	Significant evidence of requirement fulfilling
1	Clear evidence of requirement fulfilling

The selected phase applications and performance levels are the basis for calculating the assessment for the achievement of the criterion and sub-criterion requirement. Position in the current phase of the application assumes management of the previous phases. If the company in meeting this requirement found for example in phase "act" with the degree to 0.5, the overall percentage achieved in meeting this requirement is:

$$1 \times 10 + 1 \times 15 + 1 \times 20 + 0,5 \times 25 = 57.5 (\%)$$

PLAN DO CHECK ACT

By this way is calculated the percentages evaluations for all requirements P_{KISj} . The percentage evaluation of each sub-criterion is the weighted average of achieved percentage values for each of its requirements, and a set of weights represents the coefficients of importance. P_{KISj} is calculated according to this formula Gašparik:2010):

$$P_{K_i S_j} = \frac{\sum_{r=1}^n P_{K_i S_j R_r} \cdot d_{K_i S_j R_r}}{\sum_{r=1}^n d_{K_i S_j R_r}} \quad (1)$$

where

P_{KISj} is achieved percentage evaluation of "j" sub-criterion in "i" criterion

$r = 1, 2, \dots, n$ – number of requirements in criterion K_i and sub-criterion S_j ,

d_{KISjRr} is coefficient of importance for "r" requirements of "j" sub-criterion in "i" criterion

Each of the criterions of the CAF model has a defined maximum point value which can be achieved. It is evenly distributed among the individual sub-criteria. The resulting number of points for the sub-criterion we obtain by multiplying of the achieved percentage value by maximum number of points. Generally we can for any criterion express (Gašparík:2010):

$$B_s = B_{\max} \cdot \frac{P_s}{100} \quad (2)$$

where

B_s is achieved score in evaluated sub-criterion

B_{\max} is maximum score which can be in a given sub-criterion obtained

P_s is achieved percentage evaluation for given sub-criterion

The resulting score for each criterion is the sum of achieved point value of its individual sub-criteria. The total achieved point value concerning the enablers is the sum of achieved points for criterion 1 to 5. The maximum possible score can be 500 points (see enablers - Figure 1).

Electronic evaluation of the proposed solution

Electronic solution of proposed evaluation system is realized by using Microsoft Excel Program(Gašparík:2010.. The aim was to design and develop an automated system using computer technology, which would on the basis of defined requirements in electronic manual and in evaluation system allow easy, fast and comfortably realize evaluation of business performance and effectiveness, as well as clear and understandable display output of the evaluation process. Entering of inputs is handled through a questionnaire form, by selection of predefined options from "drop down menu" (dropdown list). The user does not perform any calculations, nor inscribe the input values. The results are updated immediately after any change in input data. The selected values the user can change at all time during the evaluation process. Sheets "enablers" and "results" clearly show achieved percentage scores for each sub-criteria and requirements, and from these values is automatically calculated score for sub-criteria, and all criteria of "enablers" and "results" sections. Changes of point values are automatically transferred to the sheet CAF - assessment, in which is a graphical view of the structure of the CAF model with the nine criteria and the corresponding percentage and scoring for each of them for the "enable" and "result" part and also total assessment of all criteria.

APPLICATION OF THE PROPOSED METHODOLOGY AND MANUAL INTO EDUCATION COMPANY CEMAKS

Application of the proposed methodology and the electronic manual was made for an education company CEMAKS in Slovakia, in which both authors of this contribution are working.

CEMAKS (Quality Management Centre in Construction) was founded in the year 1996 at the Department of Building Technology of the Faculty of Civil Engineering of the Slovak Technical University in Bratislava with an aim to secure training and consulting activities at introduction and implementation of quality management systems and integrated management systems according to STN EN ISO 9001:2009, STN EN ISO 14001:2005 and STN OHSAS 18001:2009. In its training activities, CEMAKS provides its customers the world-class management trends, such as total quality management (TQM), the KAIZEN method, reengineering and excellence models EFQM and CAF. CEMAKS is, since the year 1998, a holder of a certificate for SMK according to ISO 9001, granted by the certification organization Bureau Veritas Slovakia.

CEMAKS identifies, manages, improves and develops its key processes with an aim to support the specified strategy and planning. The moving spirit of our organization is creativity and seeking new ways and ideas at creation of new products, which will surpass the expectations of our customers. Another important factor is innovation and the need to create added value for the customers and also for our citizens and other interested parties, in order to satisfy their desires, wishes and expectations. The main activities in this field are:

- identification of the key processes and their interaction, process management and control,
- permanent improvement of quality of the products and services of CEMAKS by education of the CEMAKS employees and by scientific and research activities,
- innovation and updating of methodic handbooks for training courses and education of the customers,
- innovation of methodic and specialist documents for the needs of construction organizations,
- improvement of quality of the consulting services on the basis of practical experience and train-up activities of the CEMAKS employees,
- willingness to consult with the customers the topic of managerial systems, free of charge,
- patience at preparation and realization of the processes of our organization,
- organizing courses, specialist colloquia and scientific conferences at home and abroad in the field of managerial systems,
- spreading the offered services abroad (Czech Republic, Kuwait, Cyprus, Ukraine).

For the 15 years of existence of CEMAKS, the following results may be considered as the most important:

- 145 construction companies certified for the system of quality management according to ISO 9001 in Slovakia and in the Czech Republic and 24 organizations certified for Integrated management System (IMS) according to ISO 9001, ISO 14001 and OHSAS 18001,
- at least 1300 students of the Faculty of Civil Engineering from all departments, trained for the function of „quality manager“, 5200 workers from practice trained in the field of quality management and 2550 workers from practice trained for the function of internal auditor of the quality management system according to ISO 9001,
- 20 publications and 30 lectures in the area of quality management abroad,
- 3 successfully finished research projects VEGA in Slovakia in the field of managerial systems and 2 projects abroad (Leonardo da Vinci) focused on quality,
- specialist and organizational guarantor of 3 international conferences (Bratislava, Bosnia); the most important of those was the international symposium on automation and robotics in construction (ISARC 2010) held in June 2010 in Bratislava, being of a world importance,

After the analysis of criteria and sub-criteria of the CAF model (see Figure 1), CEMAKS elaborated in the year 2009 a self-assessment report with an aim to investigate opportunities for further improvement of its activity. Process of self-evaluation of model CAF in CEMAKS was realized using our software for automated evaluation of quality management level in company according to CAF model criteria. By application of the higher described methodology and electronic manual company CEMAKS during one year increased quality management level in all criteria of the CAF model, (see Figure 5).

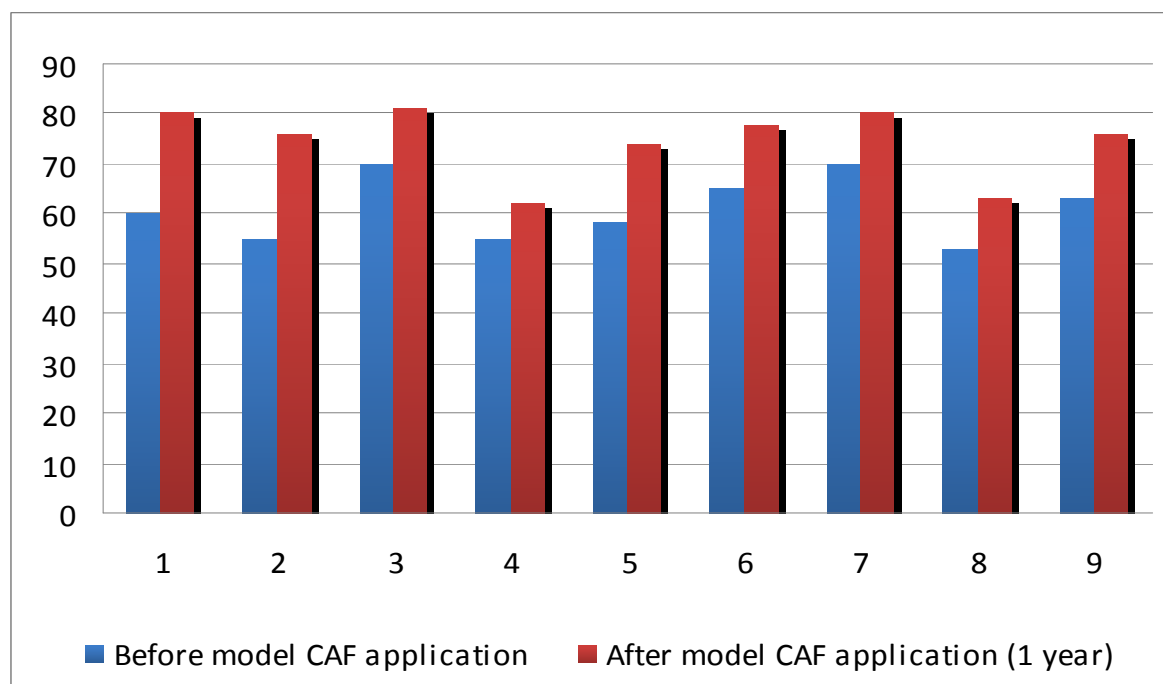


Figure 5: Effects in CEMAKS after model CAF application

Legend to Figure 5:

1 – Leadership 2 – Strategy and planning 3 - People (employees) 4 - Partnership and resources
5 - Processes, 6 – Citizen/ Customer oriented results 7 - People results 8 – Society results
9 – Key results

CONCLUSIONS

Model CAF is useful to implement after development and implementation of Quality Management System (QMS) according to ISO 9001. QMS represents very good basis for application of higher quality management philosophy, like TQM, KAIZEN or model CAF. Research work described at this contribution results in the form of its own methodology and electronic manual allows to public (education) organizations effectively introduce and implement CAF model requirements to practice in a relatively short period of time with aim to constantly improvement its performance towards excellence.

Model CAF is an effective tool for continual improvement of organization quality, which leads not only to higher level of quality, but also to customer satisfaction, success at national and world market and to increasing the culture of whole organization. This contribution was prepared as a part of scientific research project VEGA N. 1/0184/12.

BIODATA AND CONTACT ADDRESSES OF AUTHORS



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CEMAKS was the first training centre in Slovakia certified in Quality Management System according to ISO 9001. This certificate was given by Bureau Veritas based in London. In 1991-92 worked at University of Brescia in Italy. In past years he was a responsible solver of three successfully completed scientific domestic research projects focused on quality area and in 1998-2004 was a coordinator of two successfully completed international Leonardo da Vinci projects focused on social aspect of quality management. Research results were presented at conferences and workshops in Italy, Portugal, Belgium, France, Spain, Greece, Turkey, Egypt, Croatia, Cyprus, South Korea, Czech Republic and Poland.

Author is a member of executive of International Association on Automation and Robotics in Construction (IAARC). He won National Quality Award of the Slovak Republic for journalism in quality management field in 2008 and he was awarded as a professor of a year 2009 at the Faculty of Civil Engineering.

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REFERENCES

- Gašparík, M. (2010) "Increasing the effectiveness of organization by implementation of EFQM model." *Edition STU Bratislava*, 2010.
- Gašparík, J., Búciová, M. (2011) "Higher levels of quality management in construction companies." In *Organization, Technology and Management in Construction. Proceedings from 10th International Conference*. Šibenik Croatia, 2011.
- Hakes, C. (2007) "The EFQM Excellence Model to Assess Organizational Performance: A Management Guide. *Zaltbommel: Van Haren Publishing*.
- Hammer, M., Champy, J. (1993) *Reengineering – a manifesto for Business Revolution* New York: Harper Collins Publisher Inc.,
- Oakland, J. S. (2003) "Total Quality Management". *Oxford: Elsevier Ltd.*, p. 130-142.
- Paulová, I., Hekelová, E., Šatanová, A., Šalgovičová, J. (2008) "Metódy zlepšovania efektívnosti a účinnosti TQM." *Vydavateľstvo: STU Bratislava*.
- Porter, L. J., Tanner, S. J. (2004) "Assessing Business Excellence: A Guide to Business Excellence and Self-assessment." *Burlington: Butterworth-Heinemann*.
- Slovenská asociácia európskych štúdií. (2006). *The Common Assessment Framework (CAF) manual*. Gupress Bratislava.
- Zairi, M. (2008) "Effective Management of Benchmarking Projects", *Butterworth-Heinemann, Oxford*.
- Bendell, T. (1993) "Benchmarking for Competitive Advantage". *Longman, London*

ANALYSIS OF THE RELATIONSHIP BETWEEN STUDENTS' SUCCESS IN MATHEMATICS AND OVERALL SUCCESS

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ABSTRACT

In recent years, parents in Turkey have mobilized for their children to pass exams and attend the schools they want, which affects children's success and psychology severely. In this context, this study investigates the relationship between second level primary 7th and 8th grade students' math success and overall success in terms of the variables of parents' educational background and gender. The study was conducted with 472 students in Istanbul during the 2010-2011 academic year. The data was collected from the students' 2011 SBS (Elementary Proficiency Exam) results. This research was designed in the relational analysis model. The SPSS16.0 statistical package was used for the statistical analyses of the research data. Independent group t-test and ANOVA were used in the data analysis depending on the variables. The method of the Pearson product-moment correlation coefficient was used in the analysis of the relationship between dependent variables. According to the results of the findings, a significantly positive relationship was observed between students' overall and math success and there were significant relationships between the variables in terms of parents' educational background. A significant difference was observed in favor of female students in terms of gender. Some suggestions were presented moving from the fact that parents' educational background affects students' math success and overall success.

Key Words: Education, Elementary Proficiency Exam, math success, parents' level of education.

INTRODUCTION

The need for education continues to increase and to change in quality throughout history. Today, however, in parallel with scientific and technological developments and with rapid increase in the production and accumulation of information, this need is increasing by accelerating day by day. Although education needs quality in every field as a whole; when the importance of mathematics in scientific and technological

development is considered, it is inevitable that mathematics education has a significant place and weight in all education systems since a qualified education cannot be thought without mathematics.

The teaching of mathematics, which is the strongest means for the order and organization of the developing world, and acquisition of mathematical skills has become more important than before (Betz, 1978). According to the report by United States National Research Council (1989), basic skills of Mathematics and geometry are required for specialization in the seventy five percent of all occupations. Tobias (1978) emphasized the importance of basic high school mathematics knowledge in the examinations done for recruitment in the army, public and private sectors. When the "education level" in Mathematics which has such importance for society and human life is considered for Turkey, this level cannot be said so pleasant. The results of the examinations done nationally and internationally show that students are not successful enough especially in the field of Mathematics (Berberoglu, 2007).

The results of the examinations held nationally and internationally; and research works applied both in international examinations and assessments such as PISA and TIMSS and in national ones such as SBS and OKS show that Turkish students in primary education are not successful enough especially in the field of Mathematics. On the other hand, the vision of the mathematics teaching program which was newly developed by the Ministry of Education depends on the principle that every child are able to learn Mathematics (Ersoy, 2006'dan akt: Yüksel-Şahin, 2008). However, when 2008 SBS results are examined, it is seen that students answered 41 % of the Mathematics questions. Considering the point needed for passing grade in primary schools is 45, students attending SBS (Turkey in total) failed in Mathematics with 41 points (Erdoğan, 2010).

Examinations have an important place in an individual's teaching process (Semerci, 2007). Today, a person's life is affected by examinations, and lots of decisions are made regarding his/her life according to success in those examinations (Zoller ve Chaim'den akt: İlgar, 2010). Without disregarding the presence of many factors effecting success in examinations, when the studies done in the field are analyzed, education level of students' parents is seen as a crucial factor. When considered within the frame of Bandura's social learning approach, the effect of positive models in a child's academic development will be great. Considering that newspaper, book, and magazine reading habits of parents with a high education level are more advanced; it can be stated that those parents will be a positive model for their child since parents are the most influential role models in raising their children (Yıldız, 2010).

Another factor in succeeding is parents' consistency. The self-confidence of children whose parents display consistent behaviors will be stronger (Poyraz, 2012). It is an expected situation that individuals with high self-confidence are more successful than those with low self-confidence. Stressing the importance of creating achievement motivation to reach success, Ülgen (2007) expressed that family is very influential in creating achievement motivation. Parents who want their children to succeed in a short time assign them responsibility, and from time to time, they have trouble while waiting for their children to carry out that responsibility. At that moment, they take up their children's duty. This prevents the formation of self-motivation in the child which is essential for success (Poyraz, 2012). It is expected that attitudes of parents with higher education level are more positive.

In this context, this study has been planned with the idea of investigating the presence of positive relationship which is thought between overall examination success and mathematics success. In addition to that, it has been analyzed whether overall success and mathematics success differ according to gender and parents' education level. It is thought that findings of the research will illuminate researchers, mathematics educationalists and parents, besides contributing to the literature.

Aim of the Research

The aim of this research is to analyze the relationship between primary school second level students' success in mathematics and overall success. In accordance with this purpose, in the sub-problems of the research, it has been investigated whether students' overall success and their success in mathematics differ according to the variables of gender and parents' education level.

METHOD

The research is in the form of survey (descriptive survey). Survey model aims to describe a situation which existed in the past or still exists as it is (Karasar, 2005).

Participants

7th grade primary school students who are having education in the Anatolian side of the Province of Istanbul form the population of this research. And 7th grade students who were chosen by random method from randomly chosen three counties in the Anatolian side of Istanbul form the sample of the research.

Data Collection Tools

In the research, in order to obtain demographic information (mother education level-father education level), Personal Information Questionnaire which was developed by the researcher was used. For overall success, students' total exam points in the Placement Test which was done in the year of 2011 were used. As a criterion for success in mathematics, students' net scores in the same exam were used.

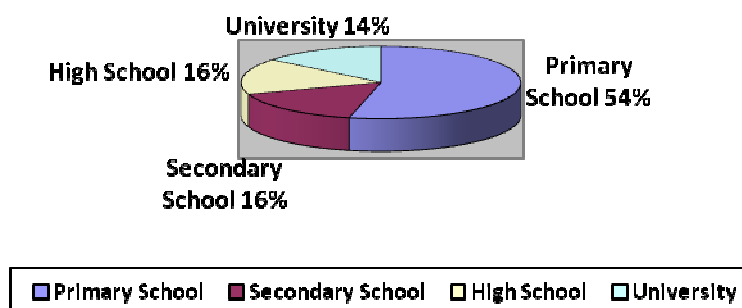
Data Analysis

In accordance with the general purpose of the study, necessary statistical analysis of data collected regarding to the problems to be answered was carried out by using SPSS 16.0 packet program. In the analysis of the data, independent group t test, Kruskal Wallis-H test and Anova were used depending on the variables. And the analysis of the relationship between dependent variables was calculated by applying Pearson Product Moment Correlation Coefficient technique.

FINDINGS

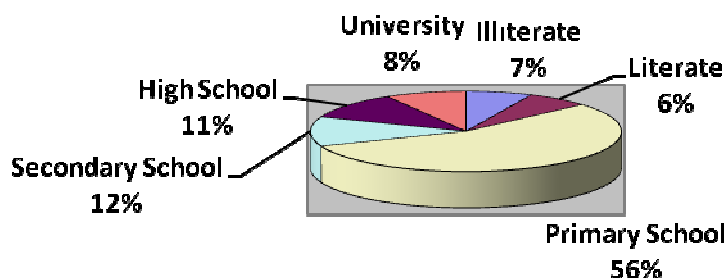
First in this part, demographic data regarding to mother and father education levels in the research is given.

Father Education Level



When students' father education level is analyzed, it is seen that a great majority of fathers with 54 percent are primary school graduates. Fathers of the students joining the research have the degree of primary school graduation at least. In the rest 46 percent, secondary school and high school graduate fathers are 16 percent, and university graduate fathers are 14 percent.

Mother Education Level



■ Illiterate ■ Literate ■ Primary School ■ Secondary School ■ High School ■ University

When the education levels of the mothers joining the research are looked upon, it is seen that there is a large span. The rate of illiterate mothers is % 7, and solely literate mothers' rate is again % 7. Similar to fathers' education level, primary school graduate mothers have the largest part in the diagram with % 55. Secondary school graduate mothers with % 12, high school graduate mothers with % 11 and university or higher level graduate mothers with % 8 share the rest % 31 portion.

In this section, findings obtained as a result of the research are given. Firstly, the analysis of the relationship between students' overall success and their success in mathematics is dealt with and data related to this finding is shown in Table 1.

Table 1: The Results of Pearson Product Moment Correlation Analysis Which Was Applied To Determine The Relationship Between Students' Overall Success And Their Success In Mathematics

Variables	N	r	p
Mathematic Score	261	,869	,000
SBS Score			

In Table 1, it is seen that the value of Pearson Product Moment Correlation Coefficient which was applied to determine the relationship between students' overall success and their scores in mathematics is ($r=,869$; $p<.001$). According to this result, it is seen that there is a meaningful positive relationship between overall success and success in mathematics.

One of the sub-problems of the research is to analyze students' overall success and their success in mathematics according to the gender variable. Data about the findings of this analysis is given in Table 2 and 3.

Table 2: The Results of Unrelated Group T-Test Which Was Done To Determine Whether Students' Overall Success Differ According To the Gender Variable

Score	Groups	N	\bar{X}	SD	t test		
					Sd	t	p
SBS Score	Male	107	339,11	80,09	259	-,898	,37
	Female	154	348,12	79,45			

In the Table 2, as a result of the independent group t-test which was done to determine whether SBS points make a meaningful difference according to the gender variable, it is seen that there is not a meaningful difference [$t(259)=-,89$; $p>0,05$] between male students ($X=339,11$) and female students ($X=348,12$).

Table 3: The Results of Unrelated Group T-Test Which Was Done To Determine Whether Students' Success in Mathematics Differ According To the Gender Variable

Score	Groups	N	\bar{X}	SD	t test		
					Sd	t	p
Mathematic Score	Male	107	8,23	4,61	259	,219	,827
	Female	154	8,10	4,77			

In the Table 3, as a result of the independent group t-test which was done to determine whether mathematics scores make a meaningful difference according to the gender variable, it is seen that there is not a meaningful difference [$t(259)=,21$; $p>0,05$] between male students ($X=8,23$) and female students ($X=8,10$).

As one of the sub-problems of the research, findings regarding to the analysis of students' overall success according to the variable of mother and father education level are given in Table 4 and 5. Findings regarding to the analysis of students' success in mathematics according to the variable of mother and father education level are given in Table 6 and 7.

Table 4: The Results of One-Way Variance Analysis (ANOVA) Which Was Done To Determine Whether Students' Overall Success Differ According To the Variable of Father Education Level

Overall Success Differ According To the Variable of Father Education Level										
Score	Groups	N, SS ve \bar{X} Variable			Source of Variation	ANOVA Results				
		N	\bar{X}	SD		S. S.	Sd	M. S.	F	p
SBS Score	Primary	140	319,34	64,94	Between G.	454206,5	3	151402,16	32,37	,000
	Middle	42	323,26	72,98						
	High	42	367,62	70,52	Within G.	1201741,13	257	4676,03		
	University	37	438,11	73,25						
			261	344,58	79,8	Total	1655947,6	260		

In The Table 4, as a result of one-way variance analysis (ANOVA) which was done to determine whether students' SBS points make a meaningful difference according to the variable of father education level, it is seen that the difference among the groups of father education level [$F(3-257)=32,37$; $p<0,001$] is statistically meaningful. Complementary post-hoc technique has been used to determine between which groups the difference is. Accordingly, it is seen that students whose fathers are university or higher education graduates have a higher overall success than the ones whose fathers are primary, secondary and high school graduates.

As for overall success of the students whose fathers are high school graduates, in comparison to the ones whose fathers are primary and secondary school graduates, a meaningful difference is seen in favor of high school graduates. According to these findings, it is seen that as father education level increases, so does their children's success.

Table 5: The Results of Kruskal Wallis-H Test Which Was Done To Determine Whether Students' Overall Success Differ According To the Variable of Mother Education Level

Score	Groups	N	M. S.	X ²	Sd	p
SBS Score	Illiterate	18	93,81	82,16	5	,000
	Literate	17	116,26			
	Primary	145	110,03			
	Middle	31	122,24			
	High	28	200,21			
	University	22	235,3			
	Total	261				

As seen in the Table 5, Kruskal Wallis Test was applied to with the aim of determining whether students' SBS points make a meaningful difference according to the variable of mother education level. As a result of the analysis, a meaningful difference in the scale total point ($\chi^2=82,16$, $p<.001$) was found statistically between the sequence average of the groups. As a result of the Mann Whitney-U tests which were done to determine between which groups the meaningful difference was; a meaningful difference was seen between the SBS points of the ones whose mothers graduated from high school or their equivalents, the ones whose mothers graduated from university or higher level, and the SBS points of the ones whose mothers are illiterate, literate, primary school graduates or secondary school graduates. Also a meaningful difference is seen between the students whose mothers are graduates of university or a higher level and the ones whose mothers are graduates from high school and their equivalents. All of the meaningful differences are in favor of the children whose mothers have a high education level.

Table 6: The Results of One-Way Variance Analysis (ANOVA) Which Was Done To Determine Whether Students' Success in Mathematics Differ According To the Variable of Father Education Level

Success in Mathematics Differ According To the Variable of Father Education Level										
Score	Groups	N, SS ve \bar{x}			Source of Variation	ANOVA Results				
		N	\bar{x}	SD		S. S.	Sd	M. S.	F	p
Mathematic Score	Primary	140	6,69	3,64	B. Groups	1776,01	3	592	37,73	,000
	Middle	42	7,07	4,31						
	High	42	8,83	4,2	W. Groups	4032,52	257	15,69		
	University	37	14,32	4,4						
	Total	261	8,18	4.72	Total	5808,53	260			

In The Table 6, as a result of one-way variance analysis (ANOVA) which was done to determine whether students' scores in mathematics make a meaningful difference according to the variable of father education level, it is seen that the difference among the groups of father education level [$F(3-257)=37,73$; $p<.001$] is statistically meaningful. Complementary post-hoc technique has been used to determine between which groups the difference is. Accordingly, it is seen that mathematics success of the students whose fathers are university or higher education graduates is a higher than the mathematics success of ones whose fathers are

primary, secondary and high school graduates. And mathematics success of the students whose fathers are high school graduates is higher than the success of the ones whose fathers are primary and secondary school graduates.

Table 7: The Results of Kruskal Wallis-H Test Which Was Done To Determine Whether Students' Success in Mathematics Differ According To the Variable of Mother Education Level

Score	Groups	N	S. S.	χ^2	Sd	p
Mathematic Score	Illiterate	18	107	76,84	5	,000
	Literate	17	104,24			
	Primary	145	110,55			
	Middle	31	122,87			
	High	28	198,79			
	University	22	231,3			
	Total	261				

As seen in the Table 7, Kruskal Wallis Test was applied to with the aim of determining whether students' scores in mathematics make a meaningful difference according to the variable of 'mother education level'. As a result of the analysis, a meaningful difference in the scale total point ($\chi^2= 76,84$; $p<.001$) was found statistically between the sequence average of the groups. As a result of the Mann Whitney-U tests which were done to determine between which groups the meaningful difference was; a meaningful difference was seen between the mathematics scores of the ones whose mothers graduated from high school or their equivalents, the ones whose mothers graduated from university or higher level, and the mathematics scores of the ones whose mothers are illiterate, literate, primary school graduates or secondary school graduates. Also a meaningful difference is seen between the students whose mothers are graduates of university or a higher level and the ones whose mothers are graduates from high school and their equivalents. All of the meaningful differences are in favor of the children whose mothers have a high education level.

DISCUSSION AND CONCLUSION

As a result of the findings, it is seen that there is a strong meaningful relationship between the overall success and mathematics success of the students in the sample. This result is a striking sing of the relationship between success in mathematics and overall success. It is clearly seen that overall success of the students who are successful in mathematics is high; and that, on the other hand, overall success of the students who are unsuccessful in mathematics is low. That the mathematics coefficient used in the calculation of SBS overall success point is high causes the mathematics to affect the overall success more. On the other hand, the possibility of being successful in other lessons is high for the students who are successful in a lesson, like mathematics, hard to succeed in and requiring regular study. Since mathematics lesson requires regular study, students have the obligation of practicing daily intermittent study system to succeed. Intermittent study is a more effective study strategy for learning to be long lasting (Kaya, 2012). For the students who gain the habit of intermittent study in mathematics, the possibility of using this habit in the study of other lessons is high. This means that students who are successful in mathematics are able to learn other subjects effectively and permanently. This situation may be leading to a high overall success for the students who are successful in mathematics. On the other hand, mathematics is related to every discipline. Describing mathematics as the most significant tools improving thinking, Umay (2003) stated that mathematics education is one of the most important building stones of basic education, or even the most important one. Hence, it can be said that all the positive developments and conveniences in life are related to mathematics. It is not possible to watch and follow the developments produced in any discipline sufficiently without enough mathematics culture (Işık and

Bekdemir, 1998). Considering mathematics is so important and its effect on success is so clear, it is an expected situation that overall success of the students who are successful in mathematics is high. In addition to that, another finding is that there is not a meaningful difference in terms of overall success and success in mathematics. It is known that gender is not the sole effect, and less important than education levels of families or income (Sammons, 1995).

When the findings of the research are analyzed, the effect of mother and father's education level is clearly seen in both overall success and success in mathematics. Students' overall success, besides their success in mathematics, differs according to mother and father's education level. It is known that family is extremely effective upon child's attitudes. As mother and father's education levels increase, they deal with education problems like creativity and motivation more effectively. Children of those families have, at the same time, the skill of arranging their study programs and free time by themselves. Therefore, as mother and father's education levels increase, it can be said that the child's confidence develops and level of success increases depending on providing the child with more academic guidance and support (Özan ve Yüksel, 2003). Researches show that the children whose parents are interested in their children's education develop better in terms of basic intellectual, academic and language skills; realize psycho-social adaptation and the attitude of behaving independently on a high level; and display less attitude problems in schools (Gürşimşek and et al., 2007). The fact that there is a positive relationship between the education level of parents who are graduates from high school or a higher level and their children's success might be attributed to that educated parents develop positive attitudes toward their children. In his study with Pakistani students, Ahmad and Khan (2012) found out that success of education increases as the socio-economic level of families increases. He states that children whose parents are educated get higher points in the examinations they take. Apart from that, it can be said that educated parents' giving importance to education, their culture levels and students' chance of getting help from their parents when needed contributed to this result. Moreover, in Şeker's research, it is determined that there is a positive relationship between parents' dealing with their children's education and students' academic success. In Şeker's study (2009), the relationship between parents' involvement, their school attitudes and academic success was tested on the basis of SBS points (Cited, İpek, 2011). The findings of our study show consistency with the findings of the studies done by Ahmad and Khan (2012) and Şeker (2009). It can be stated that educated parents have better school attitudes, are more willing to be involved in school environment and have more self-confidence in parent involvement.

RECOMMENDATIONS

- Overall success and success in mathematics can be analyzed with different variables thought effective in success
- Findings studied in this research can be evaluated on the level of primary and secondary school students from different steps.
- Overall success and success in mathematics can be evaluated in different grades in terms of gender.
- Parents' levels of effecting students' condition in terms of both overall success and success in mathematics can be analyzed qualitatively for both parents and students, and the situation can be put forward in a concrete way.
- Practices and education activities for increasing parents' education level should be given more importance.

IJONTE's Note: This article was presented at World Conference on Educational and Instructional Studies - WCEIS, 07- 09 November, 2012, Antalya-Turkey and was selected for publication for Volume 4 Number 1 of IJONTE 2013 by IJONTE Scientific Committee.

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REFERENCES

- Ahmad, I & Khan, N. (2012) Relationship between parental socio-economic conditions and student's academic achievements: A case of district dir, Timergara, Pakistan, Global Advanced Research Journal of Educational Research and Review (ISSN: 2315-5132) Vol. 1(7) pp.137-142, August, 2012 Available online <http://garj.org/garjerr/index.htm> Copyright © 2012 Global Advanced Research Journals.
- Berberoğlu, G. (2007) "Türk Bakış Açısından PISA Araştırma Sonuçları", Konrad Adanouer Stiftung Vakfı [Online] (<http://www.konrad.org.tr/Egitimturk/07girayberberoglu.pdf>)
- Betz, N. E. (1978) "Prevalence, Distribution and Correlates of Math Anxiety in College Students", Journal of Counselling Psychology, 25 (5), 441-448.
- Erdoğan, İ. (2010) "Milli Eğitime Dair", Nobel Yayınları, İstanbul.
- Gürşimşek, İ., Kefi, S. ve Girgin, G. (2007) "Okulöncesi Eğitime Babaların Katılım Düzeyi ile İlişkili Değişkenlerin İncelenmesi", Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 33, 181-191.
- Işık, A. ve Bekdemir, M. (1998) "Matematiğin Doğası ve Eğitimdeki Yeri", Çağdaş Eğitim Dergisi, Temmuz-Ağustos, 245-248.
- İlgar, Ş. (2010) "Eğitsel Rehberlikte Bazı Çalışma Alanları", In İlgar, Ş. ve İşmen-Gazioğlu, E. (Ed). Öğretmen ve Öğretmen Adayları İçin Rehberlik, Pegem, Ankara.
- İpek, C. (2011) "Velilerin Okul Tutumu ve Eğitime Katılım Düzeyleri ile Aileye Bağlı Bazı Faktörlerin İlköğretim Öğrencilerinin Seviye Belirleme Sınavları Üzerindeki Etkisi", Pegem Eğitim ve Öğretim Dergisi, 2011, (1) 2, 69-79.
- Karasar, N. (2006) "Bilimsel Araştırma Yöntemi", Nobel Yayınevi, Ankara.
- Kaya, Z. (2012). Gelişim ve Öğrenme, "Öğrenme ve Öğretme Kuramlar yaklaşımlar modeller", (Ed;Zeki Kaya), Pegem Akademi, Ankara.
- National Research Council (1989) "Everybody Counts: A Report to The Nation on The Future of Mathematics Education", National Academy Press, Washington, DC.
- Özan, M. B. ve Yüksel, Y. (2003) "Öğrencilerin Sınav Kaygılarının Öğrenmeleri Üzerindeki Etkileri. Fırat Üniversitesi, Eğitim Bilimleri Fakültesi", Doğu Anadolu Bölgesi Araştırmaları 3.
- Poyraz, C. (2010) "Fiziksel Gelişim", In Yıldız, S. A. ve Ergin, H. (Ed). "Gelişim Psikolojisi". Ankara, Nobel
- Sammons, P. (1995). Gender, ethnic and socio-economic differences in attainment and progress: A longitudinal analysis of student achievement over 9 years. British Educational Research Journal. 21(4), pp. 465-485.
- Semerçi, B. (2007) "Sınav Stresi ve Başa Çıkma Yolları", Merkez Kitapçılık, İstanbul.
- Şeker, M. (2009) "İlköğretim 5. Sınıf Öğrencilerinin Performans Görevlerindeki Başarıları ile Ailelerinin Eğitim-Öğretim Çalışmalarına Katılım Düzeyleri Arasındaki İlişkinin Belirlenmesi", Yayınlanmış Yüksek Lisans Tezi, Çukurova Üniversitesi Sosyal Bilimler Enstitüsü, Adana.

Tobias, S. (1978) "Overcoming Math Anxiety". New York: W.W. Norton Company, Inc.

Umay, A. (2003) "Matematiksel Muhakeme Yeteneđi", Hacettepe Üniversitesi Eğitim Fakóltesi Dergisi, 24, 234-243.

Ülgen, G. (1997) "Eđitim Psikolojisi", Alkım Yayınevi, İstanbul.

Yıldız, S. A. (2010) "Ahlak Gelişimi" , In Yıldız, S. A. ve Ergin, H. (Ed). "Gelişim Psikolojisi" Nobel Yayınları, Ankara.

Yüksel-Şahin, F. (2008) "Mathematic Anxiety Among 4. and 5. Grade Turkish Elemantrary School Students", International Electronic Journal of Mathematic Education, 3 (3).

THE RELATIONSHIP BETWEEN TEXT COMPREHENSION AND SECOND LANGUAGE VOCABULARY ACQUISITION: WORD-FOCUSED TASKS

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ABSTRACT

There have been major influential views on the learning of L2 vocabulary through reading. One approach promotes explicit vocabulary learning through vocabulary activities. However, it is not clear whether there is an effect of text comprehension on vocabulary learning when reading and doing exercises for vocabulary learning.

The present study was designed to investigate the relationship between text comprehension and learning vocabulary through word-focused activities.

The participants were 100 first year students. They were given a vocabulary checklist before the treatments to make it sure that all participants were unfamiliar with the target words. There were four groups and all groups read one text each week during eight weeks. Each text contained one target word which appeared six times in the text. The treatment group read the texts, answered the comprehension questions and they completed the vocabulary activities. Then, they answered the form-recognition and meaning recognition tests as the last step of the process. On the ninth week, and tenth week, the participants were given the delayed post-tests to investigate whether they are familiar with the target words after treatments.

First, participants' answers to comprehension questions were analyzed. Then, means were calculated for form-recognition and meaning-recognition tests. Comprehension and vocabulary learning were compared for treatment and control groups.

The analyses showed that the treatments have an effect on learner scores and results when learning an unknown word. One of the aims of the study was to explore the effect of completing a variety of vocabulary exercises while reading. It seemed to have tapped different levels of processing capabilities such as recognition and interpretation. The analysis showed that there is not a significant correlation between vocabulary learning through word-focused activities and text comprehension. It is concluded that to learn vocabulary through reading, text comprehension is a necessary condition.

Key Words: Reading comprehension, incidental vocabulary learning, intentional vocabulary learning, word-focused activities.

INTRODUCTION

Learning vocabulary is an essential part of mastering a second language (Schmitt, 2008) and it has been one of the challenging topics in second language acquisition (SLA). There is agreement among vocabulary specialists that lexical knowledge is the heart of language learning (Coady, 1997; Coady and Huckin, 1997). One way of vocabulary learning both in the first language (L1) and second language (L2) is reading.

Reading has been accepted as a major way for vocabulary learning over the years (Dupuy and Krashen, 1993; Krashen, 1989, 1997). Krashen (1989) argues that reading promotes L2 vocabulary learning. In his study, Krashen (1989) emphasizes “comprehensible input” and states that reading provides comprehensible input for L2 vocabulary learning. Krashen (1989) notes that the results of incidental studies (Barnes, Ginther and Cochran, 1989; Herman, Anderson, Pearson and Nagy, 1987 cited in Krashen, 1989) support that comprehensible input alone can do all work for vocabulary. Krashen states his claim in the following way: “My suspicion is that reading is not simply a way to develop vocabulary, spelling, and other important aspects of competence, it is the only way” (p.455).

Coady (1993) supports Krashen by stating that reading is essential for L2 vocabulary learning because less frequent words are only encountered while reading.

Hulstijn (2003) substantiates by stating that incidental learning has been suggested as the explanation for how L1 and L2 learners acquire a large vocabulary.

The basis of this line of research is drawn on input-oriented language acquisition theory, arguing that learners will make meaning-form connections while processing meaningful and contextualized input (Min, 2008). Therefore, this argument results in suggestions for large amounts of reading material to expose learners to vocabulary that they are going to learn.

However; there have been other researchers who claim that it is not an easy task to learn vocabulary by reading alone. Nagy (1997), for example, states that not all contexts provide clues that can help L2 readers infer the meanings of unknown words. According to Hirsh and Nation (1992) in order to comprehend any text adequately and infer the meanings of unknown words, a reader should know as many as 4000 word families in academic texts.

Another form of opposition to Krashen’s (1989) claim that reading is the only way to develop vocabulary comes from Laufer (2003). Laufer (2003) opposes Krashen’s claim stating that:

“I challenge some basic assumptions underlying the claim that reading is the major source of vocabulary acquisition in L2... (p.567). Reading alone is unlikely to be the best source of vocabulary acquisition. Word focused activities, whether they are combined with reading or not, play a crucial role in building the learner’s lexical knowledge. Teachers have to look more critically at learning through reading and be more accepting of direct learning”. (pp. 583-584).

Rott (1999) claims that in order to ensure a basic lexicon to advance beyond the basic requirement; learners should read for meaning under an enhanced condition. The enhanced condition refers to reading plus word-focused activities.

Laufer (2003) notes that word-focused activities may be more effective and less time consuming for vocabulary learning because they force the learners to notice the word.

This argument is based on an explicit (intentional) rationale for vocabulary learning. Schmitt (2008) claims that intentional vocabulary learning leads to greater and faster gains.

Given the brief overview of previous arguments above, today, there have been researchers who support intentional vocabulary acquisition, they think that reading promotes L2 vocabulary learning, but there is a need for other activities that accompany reading to promote L2 vocabulary learning.

The previous research is concerned with whether learners can learn vocabulary intentionally while reading for comprehension. However, it is not clear how much role the text comprehension plays in intentional vocabulary learning.

Nagy (2007) claims in his “metalinguistic hypothesis” that there is a correlation between vocabulary knowledge and reading comprehension. He notes “In The National Reading Panel in 2000, it was concluded that we know a little about what sort of vocabulary instruction is most effective at improving reading comprehension and there is not yet enough rigorous research on the vocabulary-comprehension relationship to allow for a meta-analysis” (p.67)

In the light of the arguments and research above, the purpose of the present study is to investigate the relationship between text comprehension and incidental and intentional vocabulary learning through word-focused exercises.

Considering the ways of data collection, the study was designed to measure form and meaning recognition, therefore; form and meaning recognition levels are referred to as vocabulary learning in this study. Productive level of vocabulary learning is not in the scope of this study due to limitations in the data collection.

Significance of the Study

Many language learners identify vocabulary as a major source of difficulty during their learning process; so, teachers need a sensible program to promote vocabulary growth. The main purpose of this study is to test whether reading comprehension is necessarily the main or the best way of learning vocabulary as suggested by many researchers who claim that it is. It is aimed to extend previous research and to provide empirical evidence in order to determine the relationship between reading comprehension and EFL intermediate level learners’ incidental and intentional vocabulary learning and retention.

REVIEW OF LITERATURE

Research in the field of SLA has stressed the need for instruction that addresses not only the social language needs of the students but also the academic, cognitive and language development that is critical to success (Hickman, Pollard-Durodola and Vaughn, 2004). Central to academic language development are the related elements of vocabulary and comprehension. The research emphasized different dimensions and relations between reading comprehension and vocabulary acquisition and development.

SLA theories consider comprehension to be an important factor in language acquisition, arguing that L2 input must be decoded in some comprehensible fashion in order for learning outcomes to occur (e.g. Cook, 2001; Gass, 1997; Krashen, 1985; Sharwood Smith, 1986; VanPatten, 1996). Reading research has also reported on the significance of comprehension.

Concerning comprehension and factors that effect comprehension, there have been several studies and arguments. For example, prior knowledge about a topic or background knowledge affects reading comprehension (Stahl, Hare, Sinatra, & Gregory, 1991; Stahl & Jacobson, 1986; Stahl, Jacobson, Davis, & Davis, 1989). The findings indicate that the more learners know about a topic, the more likely they are to understand a text about that topic (Webb, 2009). Learners may know all the words in a text, but if they have little knowledge of the topic, this may affect their performance on a comprehension test.

Another factor that may affect learners’ comprehension when reading a text is the context (Mezynski, 1983; Stahl, 1990). Stahl reports three contextual factors that affect reading comprehension: (a) the overlap between the meaning of the context and the word’s meaning, (b) the amount of information available in the context,

and (c) the importance of the word in the passage. Mezynski reports that redundant information in the context and syntactic cues may provide enough information for learners to correctly answer comprehension questions.

The other factor is the density of unknown words in a passage (Mezynski, 1983). Vocabulary instruction may have little effect if there remains a large number of unknown words in the text. Similarly, Stahl and Fairbanks (1986) suggest that a text must contain a large proportion of taught words if vocabulary instruction is to affect reading comprehension.

On the other hand, there has been research focusing on conceptual and background knowledge in vocabulary development through reading (Diakidoy, 1998; Nagy, Anderson, & Herman, 1987). Another area dealt with lexical inferencing and it is considered to be one of the important component processes involved in vocabulary acquisition through reading (Ellis, 1995; Sternberg, 1987). Research conducted in this vein has reported different accounts of the role of background knowledge and comprehension. On the one hand, several studies with participants from various LI language backgrounds found that L2 learners of all levels used background knowledge to infer the meanings of unfamiliar words encountered in expository texts (e.g., De Bot, Paribakht, & Wesche, 1997; Haastrup, 1989; Paribakht & Wesche, 1999; Parry, 1993, 1997). These studies mostly dealt with the relation between reading comprehension and incidental vocabulary learning through reading.

Concerning explicit language learning, Long (1997) defines FonFS as instruction that focuses on specific grammar teaching where learners are engaged in linguistic structures in isolation. Explicit instruction is defined as direct and systematic instruction of new information and instruction that directly draws the awareness of learners to specific information to be learned (Lee, 2003).

According to Long (1997) FonF refers to form-focused activities which are not planned in advance but occur incidentally as learners' and teachers' predominant focus, during meaning-based lessons. Ellis, Baştürkmen and Loewen (2001) suggest that FonF can also be pre-planned.

Ellis (2001) also classifies form-focused instruction into three categories: a) FonFS where primary attention is paid to form (both explicit and implicit) b) planned FonF where primary attention is given to meaning but tasks are focused on specific L2 forms c) incidental focus on form where primary attention is devoted to meaning and attention can be paid to different L2 forms.

Doughty and Williams (1998) note that the term form must not be limited only to grammar points. According to them it should include all aspects of the L2, including vocabulary. In the case of L2 vocabulary learning, explicitness can be assumed when the learners are asked to pay attention or to use words that are new to them, or the underlined words, or the words learned in a previous learning session. These applications show explicitness in the sense that they are intentional, that is the teacher intentionally draws the attention of the learners to the learning of the unknown L2 words.

Laufer and Girsai (2008) propose that the notion of Form-focused instruction was developed in the context of grammar learning, but it can be extended to vocabulary as well. They provide the following examples: "When reading a text, or engaging in a group discussion, learners may come across unfamiliar words and look them up in a dictionary. This activity constitutes Focus on Form since the words, which are attended to, are necessary tools for task completion. Conversely, learners' attention can be drawn to words in non-communicative, non-authentic language tasks, as in the case of matching words that were taught and are listed in column A to their definitions in column B, or filling in these words in given sentences, one word in each sentence. These are examples of FonFs in the sense that they entail teaching and practicing discrete lexical items, which are treated as the objects of study and not as tools of language use" (Laufer and Girsai, 2008; 695).

A student's level of vocabulary has been shown to be an important predictor of reading ability and reading comprehension for language learners (Grabe, 1991; MacLaughlin, 1987). However, whether comprehension of the text has an effect on vocabulary learning is a matter that has not yet been investigated. One reason for the lack of significant findings on this matter is that there are many factors involved in understanding a text. Giving a brief overview of studies on reading comprehension and vocabulary development, there have been a few studies concerning the relation between reading comprehension and explicit vocabulary teaching. Webb (2009), for example, conducted a study investigating the effects of pre-learning vocabulary on reading comprehension and writing. The participants were Japanese students studying English as a foreign language who learned word pairs receptively and productively. In order to measure reading comprehension, writing, and receptive and productive vocabulary knowledge four tests were used. Webb (2009) found that pre-learning FL vocabulary may be an effective method of improving reading comprehension and writing.

Nagy (2007) proposed that there is a correlation between vocabulary knowledge and reading comprehension and he called his proposal "metalinguistic hypothesis".

In the light of the research above, there has been some evidence that vocabulary knowledge has an effect on reading comprehension. Moreover, the evidence suggests that teachers need to focus on intentional vocabulary teaching for better vocabulary learning results. However, whether comprehending a reading text results in better vocabulary learning scores is a matter that has not been investigated yet. Therefore, the purpose of the present study is to provide evidence on how much role comprehending a text plays in learning vocabulary intentionally.

METHODOLOGY

Procedures

The purpose of the present study is to investigate the relationship between reading comprehension and intentional vocabulary learning when reading for comprehension.

The study was designed to measure word gains as form and meaning recognition, therefore; productive level of vocabulary learning is not in the scope of this study due to limitations in the data collection.

Moreover, while reading the texts, learners encountered nouns and verbs as target words throughout the study. There may be an effect of grammatical class on word learning as previous studies have claimed that there is (Ellis and Beaton, 1993; Kweon and Kim, 2008). Therefore, in order to find out whether there is an effect of grammatical class, gain and retention of nouns and verbs were compared for each group.

Non-equivalent pre-test post-test design was used in the present study. There were six groups of first year students when the study was conducted. Four groups were asked to take part in the study. Two groups were randomly chosen to be WFT (Word-focused tasks) group. WFT group read the texts, answered the comprehension questions, completed a group of vocabulary exercises, and then completed vocabulary gain measures. The remaining two groups which are called RO (Reading Only) group acted as a control group. RO group read the texts and answered comprehension questions and completed vocabulary gain measures.

Before starting the study, in order to control dependent variables in the study, all participants were given a TOEFL test for the level and a Vocabulary Knowledge Scale to ensure that they are unfamiliar with the target words. Treatments lasted eight weeks. Each week, groups read a different text containing one target word which appeared six times in the text. During the study, the participants got their treatments and immediately after the treatments, they got immediate post-tests. In order to investigate whether the participants can recall the words and whether time plays an important role in recalling, nine weeks later a delayed post-form-recognition test and ten weeks later a delayed post-meaning-recognition test was given.

Participants

The research was conducted at Anadolu University Education Faculty English Language Teaching Department, during 2009-2010 spring semester. The participants were 100 first year students. The students were given a TOEFL test one week before the instructional treatments to make sure that all the participants are at the same level. The students were given structure and written expression part and reading comprehension and vocabulary part, i.e. sections II and III, of the TOEFL test. The students who got between 65 and 75 out of 100 questions of the TOEFL test were selected as the participants in the study.

Before starting the study, the students, who agreed to take part in a study that would take ten weeks, signed a consent form stating that they agreed to take part in this study. Then to avoid the use of name, the students were given codes to be used on each of their paper.

The students were also given a vocabulary checklist before the treatments to make it sure that all participants were unfamiliar with the target words. Besides, all the participants were at similar ages, between 17-19 and all of them were in their first year at Education Faculty. All the participants had the same L1 background, Turkish.

Materials

Selection of the texts based on readability: Eight texts were chosen from daily, weekly or monthly magazine, journal or newspaper web-sites such as the *BBC* website, *The New York Times*, *Science Daily* or books. For each text, a target word was selected (See selection of target words). Each text contained a target word and this target word appeared six times in the text because learners need to encounter unfamiliar words repeatedly in order to make effective use of reading as a source for vocabulary growth (Rott, 1999). Some non-target words that could be either familiar or unfamiliar to learners were replaced with high-frequency words to make text comprehension manageable for participants.

The texts were analyzed by using "Readability Index Calculator" at www.standards-schmandards.com/exhibits/rix/. Readability Index Calculator makes two types of analyses and gives two types of scores: Flesch-Kincaid Grade level and Flesch-Kincaid Reading Ease scores. Flesch-Kincaid Grade level was 12 for each text and Flesch-Kincaid Reading Ease scores were between 39 and 43.

Along with the analysis for text difficulty, the length of the texts were considered and all eight texts were about 415-445 words. The texts were selected considering student interest. Based on students' answers to what kind of texts they like reading and they think interesting, texts were selected from magazine, journal or newspaper web-sites. During the selection process of the texts it was important to find texts that dealt with up to date and interesting topics and such texts that would contain a target word which will be unfamiliar to the learners and which may occur several times in the text.

Concerning readability and unfamiliar words apart from target words, the texts were adapted. The following factors were taken into consideration while adapting the texts: It was important to have a text

- in which the target word will occur six times
- in which other words will be comprehensible for the learner so that their attention will be on unfamiliar target words not other words
- which will be of interest to the participants so that they will want to read.
- which will be suitable for their age and level.

Since it was difficult to find such texts in which target words appeared six times, all of the other words are familiar, eight texts that have the same length and reading difficulty level which is suitable to our learner

profile. Therefore, the texts were adapted and they were read and checked by two native speakers to make sure that they still sounded native and authentic.

Reading Comprehension Tests: Each reading comprehension test consisted of ten multiple-choice questions to measure students' ability of comprehending the texts. Each item had one point and the total score of the test was ten. The reading comprehension tests were first, checked by a colleague who has been teaching reading for fourteen years at the same department. Then, in order to determine whether each test is reliable Cronbach's Alpha was calculated for each test. The smallest score is .69, which is close to +1. These results show that the tests are reliable.

Selection of the Target Words: Target words were chosen from low-frequency words and checked from intermediate level textbooks to make sure that they are unfamiliar to the learners. Moreover, in order to determine the frequency levels of the words in the texts, the texts were submitted to an online version of lexical frequency profiles at <http://www.lextutor.ca/vp/>. created by Tom Cobb at the University of Quebec.

Vocabulary frequency profile is a text analysis program used to investigate the proportions of high-low frequency words in a written text. The program has performed a type and token analysis. A token is any occurrence of a word form in the text, regardless of whether it is occurring for the 1st time or many times. A type is any word form which occurs once; regardless of how many more times it might occur. Both numbers and percentages of occurrences are given. A word family is the base form of a word, such as might appear as a headword in a dictionary, plus all the derived and inflected forms of it. A word family is the base form of a word, such as might appear as a headword in a dictionary, plus all the derived and inflected forms of it.

This profile was developed and is used by Tom Cobb available at <http://www.lextutor.ca/vp/>. The web-site informs that Vocabulary Profilers break texts down by word frequencies in the language at large and divide the words of texts into first, second thousand levels, academic words, technical words and the remainder are offlist words. Offlist shows that the words are not in the first 3 lists and are therefore by definition low frequency.

In the present study, selected texts were analyzed for the target words to make sure all target words are at the same frequency level. All of the target words were off-list words.

Eight target words were formed of four nouns and four verbs to control any possible effect of the grammatical category of the unknown lexical items because previous studies claimed that there is an effect of word category in the learning of vocabulary. Concerning the number of words to be learned throughout one semester, other word categories were excluded from the study.

Moreover, the target words in the texts gave enough clues to the learners so that they can infer the meaning by using context clues but there is no direct definition of the target words in the text.

Word focused tasks: For each text, to be given to WFT group, vocabulary tasks were prepared. These contextualized exercises were given to participants after they read the text and answered the comprehension questions.

Paribakht and Wesche (1997) grouped tasks of vocabulary from the vocabulary teaching books and put the tasks into five distinct categories:

1. Selective attention: Providing learners with a list of target words in the beginning of a text and asking them to read the list and notice where the word appears. This category is used to draw the learners' attention.
2. Recognition: Matching the word with definition or synonym, recognizing the meaning from a multiple choice of meanings, choosing the correct picture after seeing the target word or choosing the right word to label a picture. This category is used only to recognize the target words and their meanings.

3. Manipulation: Giving derivations of words, using stems and affixes to construct words. These tasks draw on learners' knowledge of morphology and grammatical classes.
4. Interpretation: Finding the odd word in a series of related words, multiple-choice cloze exercises, guessing the meaning of target words in context. This category involves analysis of meanings of words with respect to other words that are given in the context.
5. Production: Open cloze exercises, labeling pictures, finding the mistake in an idiom. This category requires the learners to use the target words in appropriate contexts.

Referring to Paribakht and Wesche's (1997) categories of task types, recognition tasks were used in this study.

The tasks for each text were prepared by the researcher and were checked by one nonnative teacher of reading and two native teachers of English and one native-like expert to find whether they really draw learners' attention to target words.

Vocabulary Checklist Test: A vocabulary pretest in the form of a checklist was given to make sure that target words are unfamiliar to the participants. Anderson and Freebody (1983) introduced a yes/no format test asking participants to indicate if they are familiar or unfamiliar with the word in the list. This test has been found to be sensitive to partial word knowledge and it has been extended by Knight (1994) by requesting learners to supply the meaning of the word they check as familiar.

The vocabulary checklist test in this study asked participants to indicate if they are familiar with the word or not and request them to supply the meaning of the word they indicate as familiar. This vocabulary pre-test was adapted from Paribakht and Wesche (1997). It contained four parts.

1. I have never seen this word before.
2. I have seen this word before, but I don't know what it means.
3. I know what this word means.
4. The meaning of the word (either in English or in Turkish).

The first part asked students to indicate if they think they have never seen this word before. The second part asked participants to indicate whether they have seen this word before albeit without knowing its meaning. The third part asked participants to indicate if they know the meaning and fourth part asked participants to give the meaning if they thought they knew the meaning.

Vocabulary Gain Measures: To assess acquisition (form and meaning recognition) two types of tests were administered to measure different levels of word learning through reading texts and to receive more generalizable data.

The first test contained the same parts used in the pre-test. It was used as a form-recognition test. The participants were presented with a total of six words consisting of one target word. The participants were asked if they have seen the words before, and if they know the meaning of the words in the list.

The second vocabulary test was administered in the form of a meaning-recognition test to measure receptive gain of meaning at the level of recognition. This test presented six words including the target word in the form of a list and participants were asked to match the correct definition of the word on the next column which consisted of two distracters.

There is a receptive-productive continuum involved in learning a word. Receptive processing is for comprehension and productive processing is for production. These are two different types of cognitive processes. It is assumed that reception precedes production and probably develop in different ways (Laufer,1998). Therefore, these distinctions have important implications in designing vocabulary gain measures.

The purpose of the present study is to find out if there is correlation between text comprehension and vocabulary learning through reading, so it is preferred to measure receptive vocabulary learning.

After all the data was gathered, a scoring procedure took place before the analysis. In order to avoid the element of subjectivity which may be involved in the scoring procedure, another judge marked the tests, too. While determining whether a translation or synonym was appropriate in the form-recognition test, it was possible that different judges could have different judgments. To solve this problem, the other judge, who is a colleague and has been teaching at the same department with the researcher for 14 years, also marked the tests independently. Then the results of the researcher and the judge were compared and in the case of discrepancies, the judge and the researcher arrived at an agreement.

RESULTS AND DISCUSSION

First, comprehension test mean scores were calculated for each test to find out whether there are statistically significant differences among treatment (WFT) and control (RO) groups. The average mean score results are given in Table 1.

Table 1: Descriptive Statistics of the Students' Scores on Reading Comprehension

	N	Minimum	Maximum	Mean	SD
WFT scores on Reading Comprehension	80	70	80	75	3.56612
RO scores on Reading Comprehension	80	68	80	74	2.48420
Valid number (list wise)	80				

According to average calculations on reading comprehension tests, WFT group lowest score is 70 and RO group lowest score is 68. WFT group highest score is 80 and RO group highest score is 80. The mean score is and 75 for WFT group and 74 for the RO group. The results show that both treatment and control groups comprehended the texts.

Mean scores were calculated for each word in order to find whether there are statistically significant differences among WFT and RO groups in the immediate form-recognition and meaning-recognition tests. For the mean analysis of the form-recognition; the following scoring scale test was adapted from Paribakht and Wesche (1997) which was used to find the differences within the groups. The scoring scale was as follows:

Form-recognition

Word	I. I have never seen this word before	II. I have seen this word before, but I don't know what it means	III. I know what this word means (Correct definition)	IV. I know what this word means (Incorrect definition)
score	1	2	3	2

The key for the scoring scale was prepared before the data analysis. A colleague from the same department with the researcher checked the participants' answers independently and then the researcher and the judge

compared their results and got agreement on whether to accept the answer as correct or incorrect if the participants said they know the word and gave the definition.

The mean scores for each target word for the form-recognition test and for the meaning recognition test were calculated. Table 2 shows average mean scores for the form-recognition test and Table 3 shows average mean scores for the meaning-recognition test.

Table 2: Mean analysis results (Form-recognition test)

Factor		disentangle	expedite	altruism	demise	scrutinize	inculcate	deprivation	allure
RO	m	2,1000	1,7600	1,6400	1,9600	1,9600	1,8400	2,4200	2,2600
	n	50	50	50	50	50	50	50	50
	sd	,70711	,43142	,56279	,63760	,53299	,54810	,57463	,72309
WFT	m	2,8400	2,7200	2,7800	3,0000	2,8400	2,9000	3,0000	2,9600
	n	50	50	50	50	50	50	50	50
	sd	,37033	,45356	,41845	,00000	,37033	,36422	,00000	,19795
Total	m	2,5200	2,1467	2,2000	2,3933	2,3333	2,3000	2,7267	2,6000
	n	100	100	100	100	100	100	100	100
	sd	,64214	,60631	,67556	,65433	,59828	,66302	,47624	,61306

Table 3: Mean analysis (Meaning-recognition test)

Factor		disentangle	expedite	altruism	demise	scrutinize	inculcate	deprivation	allure
RO	m	5,0400	4,2000	5,6200	5,3600	6,0400	6,0000	6,4600	4,6400
	n	50	50	50	50	50	50	50	50
	sd	2,49865	2,14761	1,97835	2,08747	2,01990	1,90595	1,98165	2,31023
WFT	m	6,5400	7,1600	7,6600	7,8000	7,7600	7,9200	7,6800	7,5800
	n	50	50	50	50	50	50	50	50
	sd	1,45980	2,05397	,79821	,60609	,62466	,34047	,79385	,97080
Total	m	5,7067	5,5400	6,2400	6,3467	6,6400	6,7333	6,8400	5,9400
	n	100	100	100	100	100	100	100	100
	sd	2,27784	2,35913	2,06498	1,92471	1,83288	1,70930	1,70306	2,18976

The results of WFT group show that most participants say "I know the word" for TWs *disentangle*, *expedite*, *altruism*, *demise*, *scrutinize*, *inculcate*, *deprivation* and *allure* and given meaning for each of the TW is correct. These results indicate that WFT group recognizes and knows the meaning of TWs.

The results of RO group show that most of the participants say they have never seen the TWs *expedite*, *altruism* and *inculcate* although they have encountered these words six times in the texts while reading for comprehension. In the RO group, for the TWs *disentangle*, *demise*, *scrutinize*, *deprivation* and *allure* most of the participants say they have seen these words but they do not know what it means or they say they know these words but given meaning is not correct. This result shows that the participants in the RO group are able to recognize some of the form of the TWS.

The results of mean analyses show that on the meaning-recognition test, WFT group got an approximate score of 8 for each of the TWs. This highest score means that most of the participants in the WFT group matched the TWs with the correct definitions; however, RO group was not as successful as the WFT group in matching the correct definition of the TW.

An Independent T-test was run between WFT and RO groups' scores on immediate form-recognition test and meaning recognition-test for each TW. The highest value is .044 which is less than 0.05. The results of the t-tests for both form-recognition and meaning-recognition show that there is a significant difference between WFT and RO groups in their form-recognition and meaning-recognition.

In order to find out the relationship between vocabulary learning and reading comprehension, Pearson Correlation Coefficient scores were calculated for each TW for form and meaning-recognition tests and comprehension tests. The results of the analysis show that the highest score is .743 which is not very close to +1. The results show that there is not a significant relationship between reading comprehension and vocabulary learning through word-focused activities.

A further analysis compared immediate and delayed post-tests for each group in order to examine how much each group recalled the TWs one or eight weeks after encountering the words. Immediately after the treatments, each group got the form-recognition tests. After all the treatments ended eight weeks later, the participants in each group were given the delayed post-tests for the form-recognition and the meaning-recognition. Paired sample t-tests were run to compare immediate and delayed posttests. Paired-sample t-tests can be used to determine if two means are different from each other when the two samples that the means are based on were taken from the matched individuals.

The results of the post-tests show that RO group cannot recall the target words. This result proves that reading any text for comprehension does not result in vocabulary learning in the long term learning process. Although the participants in the RO group recognized both the form and meaning in the immediate post-tests, they failed to recognize these in the delayed post-tests.

The results of the study did not prove when learners comprehend better they learn vocabulary better by completing word-focused tasks because both WFT and RO groups comprehended the texts. So, the main finding of the study is that comprehension of the text is necessary in order to learn vocabulary. As Stahl and Nagy (2006) argue, words are tools we use to access our background knowledge, express ideas, and learn new concepts. The words the reader knows determine how well they can comprehend texts. Stahl and Nagy (2006) make a note of Stanovich's (1986) reciprocal hypothesis-that the relationship between vocabulary knowledge and reading comprehension goes in two directions. On the one hand, knowing more words would make one a better reader. On the other hand, being a better reader means that one reads more, and if person's vocabulary is gained through reading, better readers would develop larger vocabulary.

Moreover, the results of the present study provide evidence for the debate over incidental versus intentional vocabulary learning. It has confirmed that second language learners can acquire vocabulary through reading for comprehension. According to the supporters of incidental vocabulary acquisition, extensive reading which exposes learners to large quantities of material is beneficial because it is pleasurable and efficient.

However, more effective way proved to be giving learners word-focused activities as they read for comprehension. The study demonstrated that the most word gain is achieved when the learners read for comprehension and later complete a series of word-focused tasks. Completing a series of vocabulary exercises seemed to have tapped different levels of processing capabilities such as recognition and interpretation. WFT group completed a variety of exercises during the instructional period so; they had more opportunities to consciously go through an elaborated mental processing of these words.

As for the pedagogical implications of the study, learners should be given reading texts, encounter the intended vocabulary several times in the reading text to promote acceleration of incidental vocabulary. However, sole reliance on reading is a questionable reading strategy in terms of vocabulary learning. Many important words in the texts will not be learned incidentally. When learners are reading any text for comprehension, they may learn words which are unfamiliar to them if they are given word-focused activities to enhance their receptive vocabulary.

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REFERENCES

- Barnes, J.A., Gintler, D. & Cochran, S. (1989). Schema and purpose in reading comprehension and learning vocabulary from context. *Reading Research and Instruction*, 28(2), 16-28.
- Coady, J. (1993). Research in ESL/EFL vocabulary acquisition; putting it in context. In T. Huckin, M. Hynes and J.Coady (Eds). *Second Language Reading and Vocabulary Learning*, 3-23. Norwood.
- Coady, J. (1997). L2 vocabulary acquisition through extensive reading. In J. Coady & T. Huckin (Eds.). *Second Language Vocabulary Acquisition*, 225-237. New York, NY: Cambridge University Press.
- Coady, J., & Huckin, T. (1997). *Second Language Vocabulary Acquisition*. New York, NY: Cambridge University Press.
- Cook, V. (2001). *Second language learning and language teaching*. London: Arnold.
- de Bot, K., Paribakht, S., & Wesche, M. (1997). Towards a lexical processing model for the study of second language vocabulary acquisition: evidence from ESL reading. *Studies in Second Language Acquisition*, 19, 309-329.
- Diakidoy, I. N. (1998). The role of reading comprehension in word meaning acquisition during reading. *European Journal of Psychology of Education*, 13, 131-154.

- Doughty, C., & Williams, J. (1998). Focus on form in classroom second language acquisition. Cambridge: CUP.
- Dupuy, B., & Krashen, S.D. (1993). Incidental vocabulary acquisition in French as a foreign language. *Applied Language Learning*, 4(1), 55-63.
- Ellis, R. (1995). Modified input and the acquisition of word meanings. *Applied Linguistics*, 16, 4.
- Ellis, R. (2001). Form-focused instruction and second language learning. *Language Learning*, 51 (Suppl.1).
- Ellis, R., Baştürkmen, H., & Loewen, S. (2001). Preemptive focus on form in the ESL classroom. *TESOL Quarterly*, 35(3), 407-432.
- Ellis, N.C., Beaton, A. (1993). Psycholinguistic determinants of foreign language vocabulary learning. *Language Learning*, 43(4), 559-617.
- Gass, S. (1997). Input, interaction and the second language learner. Mahwah, NJ: Lawrence Erlbaum.
- Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly*, 25, 375-406.
- Haastrup, K. (1989). The learner as word processor. *AILA Review*, 6, 34-46.
- Herman, P., Anderson, R., Pearson, P. and Nagy, W. (1987). Incidental acquisition of word meaning from expositions with varied text features. *Reading Research Quarterly*, 22(3), 263-284.
- Hickman, P., Pollard-Durodola, S., Vaughn, S. (2004). Storybook reading: Improving vocabulary and comprehension for English language learners. International Reading Association, 720-730.
- Hirsh, D., Nation, P. (1992). What vocabulary size is needed to read unsimplified texts for pleasure? *Reading in a Foreign Language*, 8, 689-696.
- Hulstijn, J.H. (2003). Incidental and intentional learning. In C.J. Doughty and M.H. Long (Eds.), *Handbook of second language research*, 349-381. Malden, MA: Blackwell.
- Krashen, S.D. (1985). *The Input Hypothesis: Issues and Implications*. Harlow: Longman.
- Krashen, S.D. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *Modern Language Journal*, 73, 440-464.
- Krashen, S.D. (1997). The comprehension hypothesis: Recent evidence. *English Teachers' Journal* (Israel), 51, 17-29.
- Kweon, S., & Kim, H. (2008). Beyond raw frequency: Incidental vocabulary acquisition in extensive reading. *Reading in a Foreign Language*, 20(2), 191-215.
- Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? Some empirical evidence. *The Canadian Modern Language Journal*, 59(4), 567-587.
- Laufer, B., & Girsai, N. (2008). Form-focused instruction in second language vocabulary learning: A case for contrastive analysis and translation. *Applied Linguistics*, 29(4), 694-716.

Laufer, B., & Hill, M. (2000). What lexical information do L2 learners select in a CALL dictionary and how does it affect word retention? Language Learning and Technology, 3(2), 58-76.

Laufer, B., & Hill, M. (2003). Type of task, time on task and electronic dictionaries in incidental vocabulary acquisition. IRAL, 41(2), 87-106.

Lee, S.H. (2003). ESL learners' vocabulary use in writing and the effects of explicit vocabulary instruction. System, 31, 537-561.

Long, M.H. (1997). Focus on form in task-based language Teaching. Retrieved February 9, 2009 from <http://www.mhhe.com/socscience/foreignlang/top.htm>

McLaughlin, B. (1987). Reading in a second language: Studies with adult and child learners. In S.R. Goldman and H.T. Trubea (Eds.) *Becoming literate in English as a second language*, 57-70. Norwood, NJ: Ablex.

Mezynski, K. (1983). Issues concerning the acquisition of knowledge: Effects of vocabulary training on reading comprehension. Review of Educational Research, 53, 253-279.

Min, H. (2008). EFL vocabulary acquisition and retention: Reading plus vocabulary enhancement activities and narrow reading. Language Learning, 58(1), 73-115.

Nagy, W.E. (1997). On the role of context in first and second language vocabulary learning. In N. Schmitt and M. McCarthy (Eds.) *Vocabulary description, acquisition and pedagogy*, 64-83. Cambridge, UK: CUP.

Nagy, W. (2007). Metalinguistic Awareness and the vocabulary-comprehension connection. In R.K Wagner, A.E Muse and K.R. Tannenbaum (Eds.) *Vocabulary acquisition: Implications for reading comprehension*, 62-77. The Guilford Press: New York.

Nagy, W., Herman, P. and Anderson, R. (1985). Learning words from context. Reading Research Quarterly, 20, 233-253.

Paribakht, S. and Wesche, M. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary acquisition. In J. Coady and T. Huckin (Eds.) *Second language vocabulary acquisition*, 174-200. Cambridge: CUP.

Paribakht, S. and Wesche, M. (1999). Reading and incidental L2 vocabulary acquisition: An introspective study of lexical inferencing. Studies in Second Language Acquisition, 21, 195-224.

Parry, K. (1993). Too many words: Learning the vocabulary of an academic subject. In T. Huckin, M. Haynes, & J. Coady (Eds.), *Second language reading and vocabulary acquisition*, 109-129. Norwood: Ablex.

Parry, K. (1997). Vocabulary and comprehension: Two portraits. In T. Huckin & J. Coady (Eds.), *Second language vocabulary acquisition*, 55-68. Cambridge: Cambridge University Press.

Rott, S. (1999). The effect of exposure frequency on intermediate language learners' incidental vocabulary acquisition and retention through reading. Studies in Second Language Acquisition, 21(4), 589-619.

Schmidt, R. (1990). The role of consciousness in second language learning. Applied Linguistics, 11(2), 129-158.

- Schmitt, N. (2008). Review article: Instructed second language vocabulary learning. Language Teaching Research, 12(3), 329-363.
- Sharwood-Smith, M. (1986). Comprehension versus Acquisition: Two Ways of Processing Input. Applied Linguistics, 7(3), 239-274.
- Stahl, S.A. (1990). Beyond the instrumentalist hypothesis: Some relationships between word meanings and comprehension. Urbana: University of Illinois, Center for the Study of Reading.
- Stahl, S.A., & Fairbanks, M.M. (1986). The effects of vocabulary instruction: A model-based meta-analysis. Review of Educational Research, 56, 72-110.
- Stahl, S.A., Hare, V.C., Sinatra, R., & Gregory, J.F. (1991). Defining the role of prior knowledge and vocabulary in reading comprehension: The retiring of number 41. Journal of Reading Behavior, 23, 487-508.
- Stahl, S.A., & Jacobson, M.G. (1986). Vocabulary difficulty, prior knowledge and text comprehension. Journal of Reading Behavior, 18, 309-323.
- Stahl, S.A., Jacobson, M.G., Davis, C.E., & Davis, R.L. (1989). Prior knowledge and difficult vocabulary in the comprehension of unfamiliar text. Reading Research Quarterly, 24, 27-43.
- Stahl, S.A. & Nagy, W.E. (2006). Teaching word meanings. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 21, 360-407.
- Sternberg, R. J. (1987). Most vocabulary is learned from context. In M. G. McKeown & M.E. Curtis (Eds.), *The nature of vocabulary acquisition* (pp.89-105). Hillsdale, NJ: Lawrence Erlbaum.
- VanPatten, B. (1996). Input processing and grammar instruction in second language acquisition. Norwood, NJ: Ablex.
- Webb, S. (2009). The effect of pre-learning vocabulary on reading comprehension and writing. The Canadian Modern Language Review, 65 (3), 441-470.

THE EFFECT OF COMIC STRIPS ON EFL READING COMPREHENSION

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ABSTRACT

The purpose of this study is to investigate the effects of comic strips on reading comprehension of Turkish EFL learners. 167 university students from two proficiency levels (lower-intermediate and upper-intermediate) were divided into four treatment groups: low-level text only, low-level text with comic strips, high-level text only, and high-level text with comic strips. Students read the texts given and wrote what they remembered about the text on a separate answer sheet. The collected data were analyzed through scoring the Immediate Recall Protocols (IRP) by dividing each recall protocol into acceptable pausal units and ranging them from 1 to 4 based on their salience to the message of the text based on a sample value list. The results of the quantitative analyses showed that all students with a comic strip effect, regardless of proficiency and text level, performed better than the ones without the comic strips. The findings of the study confirm the Dual Coding Theory (DCT) on the account that students are better at comprehending reading texts that are accompanied with visuals. The results of the study are discussed along with the existing literature on the use of visuals for developing reading skills. Certain implications for language teachers and some suggestions for further research are also provided.

Key Words: Reading comprehension, comic strips, language teaching, language learning, Dual Coding Theory (DCT)

INTRODUCTION

The focus of the educational community has shifted from teaching basic skills to teaching higher-level thinking. The higher level thinking skills are identified as the ability to learn, to reason, to think creatively, to make decisions, and to solve problems; and these skills are seen as critical for success in the classroom (Sherman & Wright, 1996). The reinforcement of these higher skills is mostly possible through providing a secondary stimulus for learners in the learning process of a second language.

In this respect, language teachers all over the world give their students reading materials providing visuals accompanied with the texts. Also, most course books to teach English contain visual materials to help students connect their attention to reading passages. As Wright & Sherman (1994) suggests, visuals, especially comics are commonly used to encourage and develop students' interests and competencies in reading.

In particular, the common practice among EFL and ESL teachers is the use of reading materials accompanied by certain visuals in their classrooms. Types of visuals used with reading texts can be listed as pictures, cartoons, comic strips, maps, video films, photographs, etc.

Comic strips, as an inevitable component of visual materials, have been analyzed in terms of their uses as instructional tools as comic books (Williams, 1995) and short strips (Purnell & Solman, 1991) in the last two

decades. The recent literature on the use of visuals in reading comprehension has pointed out that the visual aids can be good teaching tools (Wright & Sherman, 1999), valuable companies for reading comprehension passages (Liu, 2004), and a fruitful research tool to elicit information especially for the production of language (Gambrell & Jawitz, 1993). Nevertheless, there has been little attempt to identify the possible effects of comic strips as a type of visual on reading comprehension of ESL/EFL learners.

Considering the theoretical and practical suggestions in the reading comprehension literature, this study aims to investigate the effects of comic strips on reading comprehension; and the following research questions were addressed:

1. What effect does presenting text with comic strips have on Turkish EFL students' reading comprehension?
2. Does using comic strips with a text geared toward the student's proficiency level improve the student's reading comprehension more than using comic strips with a text that is either above or below the student's proficiency level?

REVIEW OF LITERATURE

This section of the paper describes the theoretical background to the problem in this study and reviews the studies conducted on reading comprehension in L1 and L2, and the effects of visuals, comic strips in particular, on reading comprehension performance.

Does using visual aids help L2 readers?

Many reading comprehension studies consider the extent to which visuals, help readers to comprehend the information presented within the texts. Certain functions of visuals in reading were identified as:

- *Representation*: Visuals repeat the text's content or substantially overlap with the text.
- *Organization*: Visuals enhance the text's coherence.
- *Interpretation*: Visuals provide the reader with more concrete information.
- *Transformation*: Visuals target critical information in the text and recode it in a more memorable form.
- *Decoration*: Visuals are used for their aesthetic properties or to spark readers' interest in the text. (Liu, 2004: 226)

One of the theoretical frameworks to describe, explain, and predict the effects of visuals on cognition is the Dual Coding Theory (DCT). According to Liu (2004: 226), "the DCT, which concerns the nature of language and imagery, can perhaps provide a framework to unify these disparate theories. Paivio (1986; cited in Richardson, 2003; Liu, 2004) states:

"Human cognition is unique in that it has become specialized for dealing simultaneously with language and with nonverbal objects and events. Moreover, the language system is peculiar in that it deals directly with linguistic input and output (in the form of speech or writing) while at the same time serving a symbolic function with respect to nonverbal objects, events, and behaviors. Any representational theory must accommodate this dual functionality."

In this respect, Figure 1 represents the working system of the DCT for human cognition, and how comprehension takes place as an interaction of verbal and nonverbal processes.

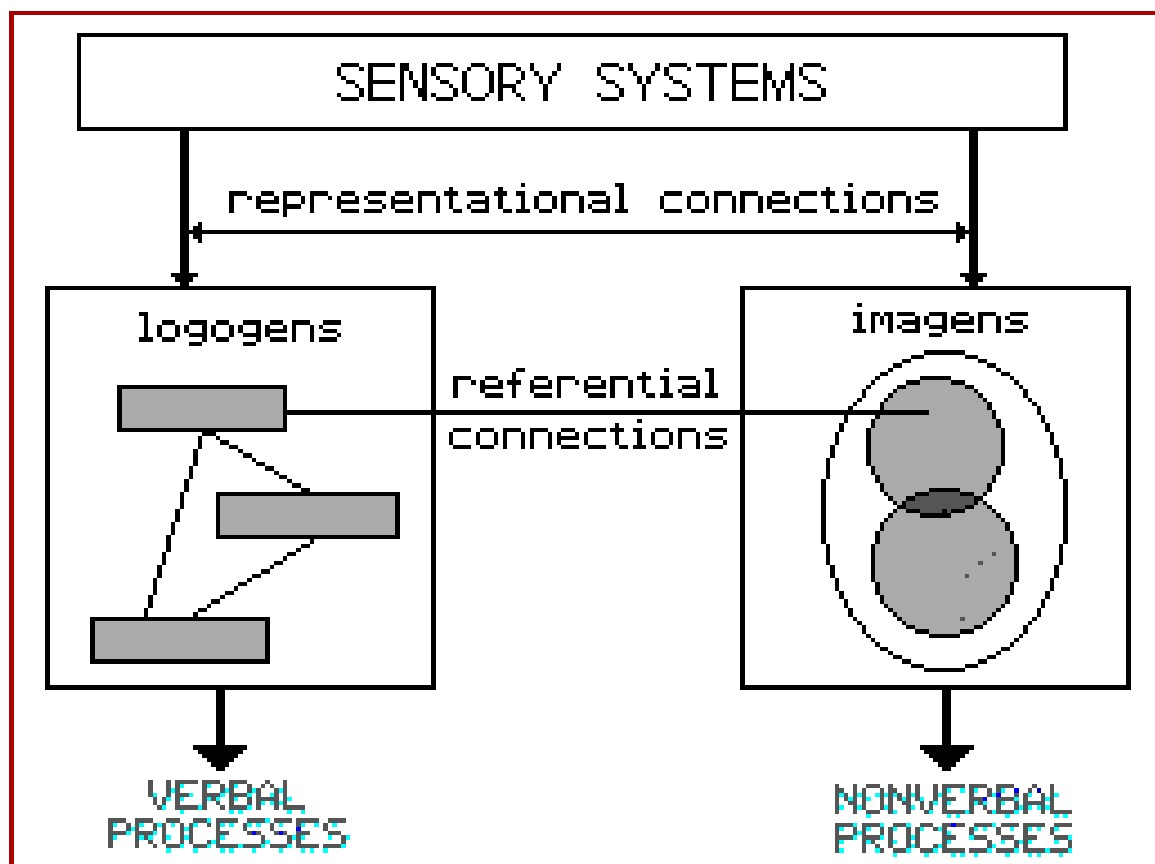


Figure 1: Mental Representation of the DCT

As Figure 1 indicates, the linguistic coding system can be called as the 'verbal system', and the nonverbal coding system can be called as the 'imagery system'.

DCT has been used as a theoretical framework in both L1 and L2 reading research. Certain researchers found that visuals duplicating information in the text improve reading comprehension and memory (Hallenbeck, 1976; Arlin, Scott & Webster, 1978-1979; Kulhavy, Lee & Caterino, 1985; Purnell & Solman, 1991; Gambrell & Jawitz, 1993; Qadiri, 1999).

In one experiment, Purnell & Solman (1991) investigated the effects of illustrations on first language learners' reading comprehension. In Experiment 1, the same basic geographical text was read by three groups of 25 students each; additional, related content was presented (a) as an illustration, (b) as text, or (c) as both text and illustration. The presence of related content in an illustration did not improve comprehension of the basic content; however, the group that received the additional content as both text and illustration (Group 3) outperformed the other two groups on that content. In Experiments 2, 4, and 5, content presented in the form of both text and illustration resulted in higher comprehension than simple repetition of either the text or the illustration. In Experiments 2, 3, 4, and 5, content presented in an illustration only was comprehended better than the same content presented in text only. These results suggest that technical content that lends itself to presentation as an illustration will be comprehended better as an illustration than as text, and will be comprehended best of all if presented in both forms.

In another study, Gambrell & Jawitz (1993) investigated the effectiveness of induced mental imagery, attention to story illustrations, and both together. The main hypothesis of the study was that mental imagery and text-relevant illustrations play similar roles in the processing chains involved in comprehension, and these two strategies, when used in combination, interact in positive, interconnected ways that result in enhanced reading comprehension. 120 fourth-grade students enrolled in three Florida public elementary schools were the subjects of the study. A text, illustrations of the text, and a reading comprehension assessment were used as the research instruments. Subjects were randomly assigned to one of these treatment conditions:

1. Induced mental imagery and attention to text illustrations.
2. Induced mental imagery
3. Attention to text illustrations
4. General memory (Control Group)

The MANOVA analyses showed that the combined strategy of induced mental imagery and attention to text-relevant illustrations is the most potent comprehension strategy. Also, there is a positive relationship between mental images and text illustrations

DCT is also a useful framework for studying the effects of visuals on L2 learning and L2 reading comprehension in certain research studies. (Yaygingöl, 1990; Henley, Herron, and Cole, 1995; Min, 1998; Avci, 1999; Nassaji, 2003).

In one of these studies, Henley, Herron, and Cole (1995) investigated the effects of two visual advance organizers on comprehension and retention of a written passage in a FLES (Foreign Language in the Elementary School) Program: *Video Pictures + Teacher Narrative*. 62 English-speaking child foreign language learners of French formed the subjects of the study. Subjects were randomly assigned to two groups: the *Video Condition* or the *Picture + Teacher Narrative Condition*. An immediate test, midterm and final tests, and a survey were the research instruments. Results of the independent samples T-test for immediate test, and the chi-square tests for the midterm and final exam results showed that *Video* was more effective advance organizer than *Pictures + Teacher Narrative*. Also, the scores for the *Video Condition* were significantly higher than the scores for the *Pictures + Teacher Narrative Condition*.

In a recent paper, Nassaji (2003) investigated the role of higher-level syntactic and semantic processes and lower-level word recognition and graphophonic processes in adult ESL reading comprehension. In particular, the study aimed to examine the extent to which these processes can discriminate skilled from less skilled readers in a sample of fairly advanced ESL readers. 60 adult ESL learners in Canada (30 in skilled group and 30 in less-skilled group) were the participants of the study. A reading task from the reading section of the Nelson-Denny reading test (reliability of the test: .85) was used as the research instrument. Word recognition, phonological processing skills, orthographic processing skills, and syntactic processing skills were measured by the task. The analysis of the data with Wilks' Lambda scores showed that all four processes (Word recognition, phonological processing skills, orthographic processing skills, and syntactic processing skills) were contributing significantly to the distinction between skilled and less-skilled ESL readers.

These findings suggest that effective lower level processes are an integral part of second language reading comprehension, and thus different text processing skills must not be neglected even for highly advanced ESL readers.

What is a comic strip?

A comic strip can be defined as "a series of pictures inside boxes that tell a story" (Liu, 2004: 229). During the past two decades, a number of studies have introduced techniques for using comic strips in education and particularly in language classrooms (Arslan, 1989; Wright & Sherman, 1994; Gower, 1995; Williams, 1995; Sherman & Wright, 1996; Cortazzi et al, 1998; Wright & Sherman, 1999; Bryan et al, 2002; Liu, 2004).

As one of these studies, Wright & Sherman (1994) identified the features of comic strips that make them an ideal medium for reading and English courses. In their paper, the researchers analyzed the readability (interest, availability, suitability, comprehensibility, and flexibility) of comic strips for teachers and students based on the relevant literature. The authors suggested that comic strips can be used effectively to build reading skills in a three-step model in the language classrooms.

In another study, Sherman & Wright (1996) introduced a teaching strategy using newspaper comic strips to promote higher level thinking in elementary and secondary students. The researchers explained and demonstrated two functions of questioning (centering and expansion) using a Peanuts comic strip. Wright & Sherman (1999) later claimed that teachers can promote literacy, higher level thinking, and writing skills by encouraging students to combine words and pictures to create comic strips.

Williams (1995) investigated how comic books can be used as instructional materials for ESL students with low-intermediate-level English learners and limited discourse and interactive competence. The researcher found that using comic strips in second language classrooms can guide students to hypothesize about the cartoons' language, to raise awareness of pragmatics, and to emphasize language's underlying regularity.

Finally, a recent study (Liu, 2004) investigated the effects of comic strips on L2 learners' reading comprehension. 107 university level students of English were divided into two proficiency groups: intermediate proficiency group and high intermediate proficiency group. Two texts were used as the research instrument: First, a text was created for high intermediate proficiency group, and a second text was simplified to make it a low level one by the English-speaking professionals. Students in each group were divided into four treatment groups: T1, low-level text only; T2, low-level text with comic strips; T3, high-level text only; and T4, high-level text with comic strips. The data were collected with immediate recall protocols (IRP) in which students wrote what they understood from the text after they read and analyzed the given texts as long as they wished. Data was analyzed by scoring the IRP results. First, each recall was divided into pausal units and was ranked from 1 to 4 according to their semantic significance to the text. Later, three raters scored each protocol individually and a high inter-rater reliability was achieved (.95). To see the statistical results, a three-way ANOVA was carried out among the three variables: student proficiency, text level, and comic strip effect. The results of the study showed that the low level students taking the high level text with the comic strip scored significantly higher than the low level students taking the high level text only; providing a comic strip with the high-level text did not improve the high-level students' recall; and high-level learners were better than the low-level ones at overall scores with or without the comic strips

Based on the results of the study, the researcher claims that he is able to confirm the dual coding theory as well as the beneficial effects of using visuals for reading comprehension. He also states that further studies are needed in different contexts to shed more light onto the field.

METHODOLOGY

Purpose

The overall purpose of this study was to investigate the effects of comic strips on reading comprehension of Turkish EFL learners.

Participants

The participants of the study were 167 students enrolled at Anadolu University School of Foreign Languages (AUSFL). The characteristics of the participants are provided in Table 1. The participants were given a Michigan Placement Test by the administration of AUSFL before the beginning of the term and placed in either the elementary, lower-intermediate, intermediate, upper-intermediate, or advanced groups. The participants of

this study were the four groups of lower-intermediate and four groups of upper-intermediate students. The students are from a variety of disciplines as their majors from Engineering to Fine Arts. The students are provided with four skills and a grammar in context as the courses offered by the AUSFL.

Table 1: Characteristics of the Participants

Level		Upper-Intermediate					Lower-Intermediate					All
Groups		A	B	C	D	Sub-total	E	F	G	H	Sub-total	Total
Gender	M	11	10	6	14	41	12	10	16	13	51	92
	F	12	9	7	9	37	8	12	9	9	38	75
	T	23	19	13	23	78	20	22	25	22	79	167
Mean Age		19,8	19,2	19,5	19,3	19,45	19,9	19,5	19,9	19,6	19,73	19,59

Instruments

The research instruments were two reading texts: A high-level text and a low level text developed by Liu (2004). Each text was originally developed for students at one of each proficiency level. Text 1 was created at the lower-intermediate level (250 words). The text was linguistically simple in terms of vocabulary use, simple syntax, and controlled use of slang and idioms. Text 2 was created for students at the upper-intermediate level (300 words). It was more complicated than Text 1 in terms of vocabulary use, syntax, and the use of idioms and slang. One version for each text was provided with comic strips and the other without comic strips (Appendix A)

Data Collection

The students in each level of proficiency were divided into four treatment groups:

- T1, low level text only
- T2, low-level text with comic strips
- T3, high-level text only
- T4, high-level text with comic strips

To differentiate treatments and to ease data collection, different colored papers were used for each treatment group: white for T1, pink for T2, green for T3, and yellow for T4.

Students were told to read the texts given and write what they remembered about the text they read on a separate answer sheet. This process is called the Immediate Recall Protocols (IRP), which is a valid means of assessing reading comprehension for foreign language students. According to Bernhardt (1991; cited in Liu, 2004: 254), "the immediate recall protocol avoids many of the pitfalls commonly found in other assessment measures."

Data Analysis

The collected data were analyzed through scoring the IRPs. First, each recall protocol was divided into acceptable pausal units (each unit refers to a pause during normally paced oral reading).

Second, each unit was ranked from 1 to 4 based on their salience to the message of the text based on the sample value list provided by Liu (2004) (See Appendix B).

Third, two researchers analyzed the one fourth of the data separately, and the inter-rater reliability was calculated as .90. Then, the rest of the analyses were conducted by the researcher independently based on the agreements with the co-rater.

Fourth, the numerical values were converted to percentages to provide statistical easiness. All scores were given out of 100 in the forms of percentages.

Finally, descriptive statistics for each treatment group for correct recalls and t-tests for testing the significance of the possible differences were calculated.

RESULTS

This section of the study presents the findings according to the descriptive statistics and statistics of significance to answer the research questions addressed.

In order to answer the first research question, “What effect does presenting text with comic strips have on Turkish EFL students’ reading comprehension?”, first of all, the participants’ mean percentages of correct recalls in terms of proficiency (upper-intermediate vs. lower-intermediate), text level (low-level text vs. high-level text), and comic strip effect (with vs. without comic strips) were identified. As shown in Figure 2, all participants with a comic strip recalled better than the ones without a comic strip. Moreover, all participants with a higher proficiency level recalled the texts better than the ones with a lower proficiency level. Finally, the participants with a low-level text recalled better than the ones with a higher-level text.

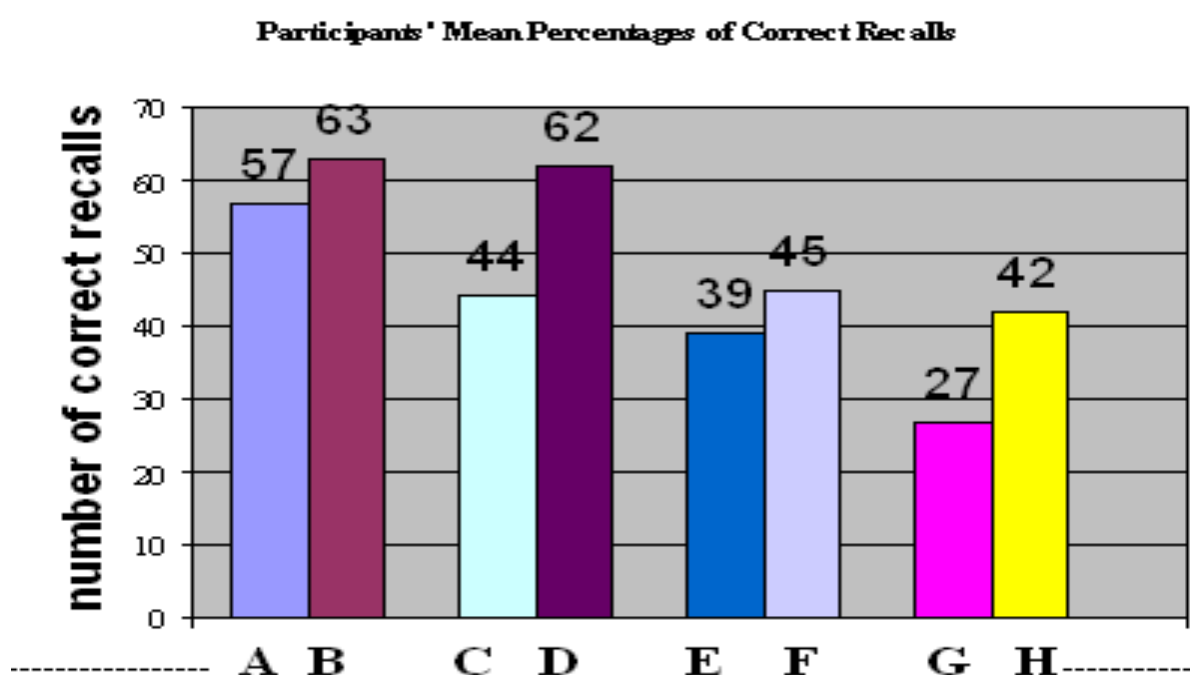


Figure 2: Participants’ Mean Percentages of Correct Recalls

Note: A= Upper-Intermediate, Low-Level Text, Without Comics; B= Upper-Intermediate, Low-Level Text, With Comics; C= Upper-Intermediate, High-Level Text, Without Comics; D= Upper-Intermediate, High-Level Text, With Comics; E= Lower-Intermediate, Low-Level Text, Without Comics; F= Lower-Intermediate, Low-Level Text, With Comics; G= Lower-Intermediate, High-Level Text, Without Comics; H= Lower-Intermediate, High-Level Text, With Comics.

The analysis of the data related to the significance of the differences among the mean scores was calculated using the 2X2X2 ANOVA analysis (Table 2).

Table 2: Results of the 2X2X2 ANOVA

Source	df	Mean Squares	F	Sig.
Proficiency	1	13761,998	95,110	,000
Text Level	1	2059,924	14,236	,000
Text Type	1	4995,671	34,525	,000
P*TL	1	4,745	,033	,857
P*TT	1	18,089	,125	,724
TL*TT	1	1185,679	8,194	,005
P*TL*TT	1	19,909	,138	,711
Error	159	23006,594		
Total	167	423528,000		

P= Proficiency, TL= Text Level, TT=

As Table 2 shows, proficiency has a significant effect on reading comprehension scores of the participants ($F=95,110$, $p=.000$, $p<.05$). On the other hand, the analysis showed that proficiency has no interaction with any other variables such as text difficulty ($F=.033$, $p=.857$, $p>.05$) and comic strip use ($F=.125$, $p=.724$, $p>.05$).

When considered as separate variables text-level and text type have effects on scores ($F=.14,236$, $p=.000$, $p<.05$ and $F=.34,525$, $p=.000$, $p<.05$). However, the analysis indicated an interaction between TL and TT ($F=.8,194$, $p=.005$, $p<.05$). This interaction shows that students with low-level text with comics ($m= 54.10$) performed better than students without comics ($m= 48,39$). Similarly, students with high-level text with comics ($m= 52.38$) performed better than students without comic ($m= 35.81$). Therefore, the difference between scores in high level text with comic and without comic (16,57) and the difference between scores in low level text with comic and without comic (5.71) are significant. This means students read low level with or without level and it does not a significant difference; however, students read high level with comics have significantly higher scores.

DISCUSSION

The findings of this study revealed that all students with a comic strip effect, regardless of proficiency and text level, performed better than the ones without the comic strips. This expected finding is supported by the literature suggesting the facilitating effect of the use of comic strips (Wright & Sherman, 1994; Williams, 1995; Sherman & Wright, 1996; Cortazzi, Rafik-Galea & Jin, 1998; Wright & Sherman, 1999; Liu, 2004) and other visual cues (Hallenbeck, 1976; Arlin et al, 1978-1979; Kulhavy et al, 1985; Purnell & Solman, 1991; Gambrell & Jawitz, 1993; Qadiri, 1999) for a better reading comprehension.

On the whole, the pattern of results in this study is consistent with DCT. Both proficiency groups, this means all of the students, did well on recalling the text with the provision of a comic strip. On the other hand, the students without the provision of a comic strip together with the text had difficulties in comprehending the texts when compared to their counterparts who read the texts with comic strips. In fact, the DCT claims that the process of reading involves at least two coding systems: a verbal system and a nonverbal system. These two systems are interconnected but independent. As Liu (2004) suggests, this working system is able to explain the reasons why comic strips had a significant effect on reading comprehension. The comic strips provided in this study are not stored in the verbal code, but in the nonverbal code which is associated with their respective text descriptions in the verbal code.

The findings of this study partly correlate with the findings of the similar study conducted by Liu (2004) with Chinese students. While Liu's study suggests that the use of comic strips significantly enhanced the performance of low-level students, but had little effect on high-level students; our study found that using comic strips enhanced both low-level (lower-intermediate) students and high-level (upper-intermediate) students. This might be due to the fact that the low-level and high-level discrimination is a factor in determining the study groups.

The findings of this study can also be explained with the text differences effect as well as the mere factor for the use of comic strips. As Nassaji (2003) found out, the word recognition, phonological processing skills, orthographic processing skills, and syntactic processing skills are the basic factors affecting the performance for both skilled and unskilled readers. It might be claimed that the students who had better recall of reading have better-developed skills in these respects.

Furthermore, induced mental imagery and attention to text-relevant illustrations Gambrell & Jawitz (1993) are the effective factors in comprehending a reading text. In this respect, another explanation for the effect of comic strips use on reading comprehension is from what Schmidt (1990; cited in Mitchell & Myles, 1998) put forward as 'noticing'. According to this hypothesis, if students experience difficulty related to the linguistic difficulty of the text when they are reading the text, the comic strip can call their attention to the linguistic input. Therefore, we can understand the possible reason behind the fact that students with a comic strip performed better than the students without a comic strip.

CONCLUSION

This study aimed to investigate the effect of comic strip use on reading comprehension of EFL students. It was found that high proficient students recalled significantly better than low proficient students. Also, students who read the low-level texts recalled significantly better than the ones who read the high-level texts. Finally, as the research interest of this study, comic strip use had a significant effect on students' recall of both the high-level and low-level texts for both high proficient and low proficient learners of English.

Implications and Suggestions for Further Research

This study found that comic strip use noticeably facilitated the reading comprehension of students at both levels. Once again, it was proved that students be provided texts with a visual material, the comic strips in particular, in their reading comprehension classrooms. As Wright & Sherman (1999) suggests, the teachers might even create their own strips together with their students, and present them in the classroom for developing high-level thinking.

Furthermore, as Liu (2004) puts forward, the effect comic strips on reading comprehension largely depends on the quality of the repetition effect. When readers are able to integrate the information from the text and from the illustration, these two work "as if the information was presented twice, thus enhancing performance" (Gyselick & Tardieu, 1999; cited in Liu, 2004, p. 238).

Another implication based on the findings of this study is for the material developers. The material developers for reading comprehension must be very careful at selecting their reading comprehension texts and the illustrations they provide with those texts. In the same manner, classroom teachers should use comic strips or other visual aids very carefully considering the proficiency level of their students. Although this study found that comic strip use influence comprehension positively regardless of proficiency level, certain factors must be taken into account by classroom teachers.

This study was conducted with lower-intermediate and upper-intermediate students as a replication of Liu's (2004) study. Since the study explored certain differences within these two studies, future research is needed

to shed more light onto the field. The study should be replicated in different contexts with different proficiency levels, and age groups.

Moreover, future research can deal with different text types and different visual materials than the comic strips such as pictures, maps, photographs, etc. Therefore, the effect of visuals in reading comprehension can be rather clear for language teachers and materials developers.

Finally, the research method used in this study is a recall protocol which requires language production for comprehending a text. Future studies are needed with other research tools, especially recognition tasks such as Multiple-Choice items, True/False items, or both to see any possible differences due to the difference in the data collection methods.

NOTE: A brief version of this paper was presented orally at PALA 2010 Conference in 21-25 July, 2010 in Genoa, Italy.

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REFERENCES

- Arlin, M. Scott, M. Webster, J. (1978-1979). The effects of pictures on rate of learning sight words: a critique of the focal attention hypothesis. *Reading Research Quarterly*, 14(4), 645-660.
- Arslan, H. (1989). Teaching English idiomatic expressions through comic strips. Unpublished MA Thesis. Eskişehir: Anadolu University.
- Avcı, H. (1999). Using video film segments in reading classes to improve low level prep-school students' comprehension. Unpublished MA Thesis. Eskişehir: Anadolu University.
- Bryan, G., Chilcoat, G. W. & Morrison, T. G. (2002). Pow! Zap! Wham! Creating comic books from picture books in Social Studies classrooms. *Canadian Social Studies*, 37(1).
http://www.quasar.ualberta.ca/css/Css_37_1/index37_1.htm (2011, June 28)

- Cortazzi, M., Rafik-Galea, S. & Jin, L. X. (1998). Seeing through texts: developing discourse-based materials in teacher education. *The English Teacher*, 27, 39-68.
- Gambrell, L. B. & Jawitz, P. B. (1993). Mental imagery, text illustrations, and children's story comprehension and recall. *Reading Research Quarterly*, 28(3), 264-276.
- Gower, D. L. (1995). Health-related content in daily newspaper comic strips: a content analysis with implications for health education. *Education*, 116(1), 37.
- Hallenbeck, P. N. (1976). Remediating with comic strips. *Journal of Learning Disabilities*, 9(1), 22-26.
- Hanley, J. E. B., Herron, C. A. & Cole, S. P. (1995). Using video as an advance organizer to a written passage in the FLES classroom. *The Modern Language Journal*, 79(1), 57-66.
- Kulhavy, R. W., Lee, J. B. & Caterino, L. C. (1985). Conjoint retention of maps and related discourse. *Contemporary Educational Psychology*, 10(1), 28-37.
- Liu, J. (2004). Effects of comic strips on L2 learners' reading comprehension. *TESOL Quarterly*, 38(2), 225-243.
- Min, D. (1998). Using comic strips on the Internet for English teaching: a new data base. *Primary English Education*, 4(1), 153-166.
- Mitchell, R. & Myles, F. (1998). *Second Language Learning Theories*. London: Arnold.
- Nassaji, H. (2003). Higher-level and lower-level text processing skills in advanced ESL reading comprehension. *The Modern Language Journal*, 87(2), 261-276.
- Purnell, K. N. & Solman, R. T. (1991). The influence of technical illustrations on students' comprehension in geography. *Reading Research Quarterly*, 26(3), 277-299.
- Qadiri, M. A. (1999). The effect of exaggeration of cartoons on the performance of field dependent learners. Unpublished Dissertation. Virginia Polytechnique Institute and State University.
<http://scholar.lib.vt.edu/theses/available/etd-061799-155009/> (2011, June 28)
- Richardson, J. T. E. (2003). Dual coding versus relational processing in memory for concrete and abstract words. *European Journal of Cognitive Psychology*, 15(4), 481-509.
- Sherman, R. & Wright, G. (1996). Ourchestra. *Reading Improvement*, 33(2), 124-128.
- Williams, N. (1995). The comic book as course book: why and how. Long Beach, CA: Annual Meeting of the Teachers of English to Speakers of Other Languages. (ERIC Document Reproduction Service No. ED 390277).
- Wright, G. & Sherman, R. (1994). What is black and white and read all over? The funnies! *Reading Improvement*, 31(1), 37-48.
- Wright, G. & Sherman, R. (1999). Let's create a comic strip. *Reading Improvement*, 36(2), 66-72.
- Yaygingöl, B. (1990). Enhancing reading comprehension by using video in EFL. Unpublished MA Thesis. Eskişehir: Anadolu University.

ATTITUDE OF STUDENT TEACHERS TOWARDS USING GRAMMAR GAMES FOR TEACHING ENGLISH

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ABSTRACT

This article deals with the analysis of attitude of student teachers towards using the grammar games for teaching English. Using the conventional method of teaching, the teaching learning process, especially for English language, is not interesting for the students and the English language teachers, which in turn, the achievement in English of the students may also be severely affected. Realizing this fact, being the teacher educator of English optional, the investigator made an attempt to measure the attitude of student teachers towards using grammar games for teaching English. Using a self-made tool, the investigator collected data from the student teachers in Tirunelveli district and analyse the data with the help of Mean, SD and 't' test. The results of the study indicated that majority of the student teachers have a favourable attitude towards the using grammar games for teaching English at the secondary level. Moreover, the female student teachers are found to be more favourable towards using grammar games than their male counterparts. Similarly, the UG qualified student teachers are more favourable regarding using the grammar games than the PG student teachers.

Key Words: Grammar Games, Teaching English, Attitude of Student Teachers, Grammar Games in Teaching, Using Games for English Teaching

INTRODUCTION

Language is one of the unique possessions of a man. It is a door through which a child contemplates the past, grasps the present and approaches the future. It distinguishes man from the rest of the entire animal kingdom. The successful usage of a language makes an individual successful personality in life, by developing cognitive, affective and psychomotor aspects. Thus it becomes imperative that all children are taught to learn not only mother tongue but also other proven languages like English and teachers are trained in teaching of English. Diane Larsen Freeman (2004) says, "When teachers are exposed to methods and asked to reflect on their principles and actively engage with their techniques, they can become clearer about why they do what they do".

Significance of The Study

One hundred and fifty years of intimate contact has made English an integral part of our educational system and this cannot be changed without injury to the cause of education in India. In addition, English has today become one of the major languages of the world, and the Indians can neglect its study at the risk of loss to themselves. For teaching English as a second language, the curriculum designers make use of prose, poetry, grammar, composition and supplementary readers to enable the learners in the gaining mastery over the communicative competencies in English. Among these contents, grammar is the foundation and plays a vital role in English teaching and yet teaching of grammar has never been an easy for teachers as Mario Rinvolutri and Paul Davis (2008) affirms, "Teaching the grammar of English is not simply a question of handing over clear, linguistic information to the learners" rather the success lies in using it with perfection in oral and written day-to-day communications. Without the knowledge and its application of grammar, no teacher can be effective, which in turn, it would affect the teaching-learning process.

At present, the teachers handling English and the students learning English tend to think grammar as a difficult subject, because of its intricacies and complexities involved. In this context, teaching of grammar is made interesting and effective through the use of grammar games. Andrew Wright et. al. (2010) defines the term 'game' to mean an activity in which the learners play and usually interact with others. The various grammar games in usage are categorized into cooperative, competitive and communicative games. The researcher has strongly opined that the English teachers and the would be teachers should be trained to use the grammar games for grammar teaching more pleasurable and meaningful. Being the teacher educator, the investigator has made a variety of discussions with the student teachers regarding the use of grammar games, based on which, he is of the opinion that they do not have much exposure to grammar games. Hence, the study of attitude of student teachers towards using grammar games for teaching English is the need of the hour.

STATEMENT OF THE PROBLEM

ATTITUDE OF STUDENT TEACHERS TOWARDS USING GRAMMAR GAMES FOR TEACHING ENGLISH

OPERATIONAL DEFINITIONS

Attitude

The investigator means a hypothetical construct that represents an individual's degree of like or dislike an item. Attitudes are generally positive or negative views of a person, place, thing or event - this is often referred to as the attitude object.

Student Teachers

By 'student teachers', the investigator means the students doing their B.Ed. degree course in Colleges of Education in Tirunelveli District.

Grammar Games

By 'Grammar Games', the investigator means the activities or games provided to the students while they learn grammar in the English class.

Teaching English

It refers to teaching of English in schools in a formal leaning classroom.

Objectives

1. To find the nature of attitude of student teachers towards grammar games in Teaching English.

2. To find the nature of attitude of student teachers towards grammar games in Teaching English with regard to gender, educational qualification, optional subject and type of management.
3. To find the significance of difference in the attitude of student teachers towards grammar games in Teaching English with regard to gender, educational qualification, optional subject and type of management.

Null Hypotheses

1. There is no significant difference in the attitude of student teachers towards grammar games in Teaching English with regard to gender.
2. There is no significant difference in the attitude of student teachers towards grammar games in Teaching English with regard to educational qualification.
3. There is no significant difference in the nature of attitude of student teachers towards grammar games in Teaching English with regard to optional subject.
4. There is no significant difference in the nature of attitude of student teachers towards grammar games in Teaching English with regard to type of management.

METHOD USED

The investigator used survey method for the present study. The population of the present study is all the student teachers doing their B.Ed. degree course in the Colleges of Education in Tirunelveli District. From the population, the investigator selected 250 student teachers using simple random sampling technique as the sample of the study. The investigator prepared and validated an attitude scale for measuring the attitude of student teachers towards using grammar games for teaching English. For analyzing data Mean, Standard Deviation and 't' Test were used as the statistical techniques.

Analysis Of Data

1. To find the nature of attitude of student teachers towards grammar games in Teaching English.

Table 1: Nature of Attitude of Student Teachers towards Grammar Games in Teaching English

Variable	Negative		Neutral		Positive	
	N	%	N	%	N	%
Attitude towards Grammar Games in Teaching English	70	23.33	125	41.67	105	35.00

From the above table, it is found that 23.33% of student teachers have negative attitude, 41.67% of them have neutral attitude and 35% of them have positive attitude towards grammar games in teaching English.

2. To find the nature of attitude of student teachers towards grammar games in Teaching English with regard to gender.

Table 2 : Nature of Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Gender

Gender	Negative		Neutral		Positive	
	N	%	N	%	N	%
Male	41	25.15	66	40.49	56	34.36
Female	29	21.17	59	43.07	49	35.77

From the above table, it is found that 25.15% of male student teachers have negative attitude, 40.49% of them have neutral attitude and 34.36% of them have positive attitude towards grammar games in teaching English. Among the female student teachers, 21.17% of them have negative attitude, 43.07% of them have neutral attitude and 35.77% of them have positive attitude towards grammar games in teaching English.

3. There is no significant difference in the attitude of student teachers towards grammar games in Teaching English with regard to gender.

Table 3: Difference in Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Gender

Gender	N	Mean	SD	Calculated 't' Value	Table Value	Remark
Male	163	74.91	11.82	2.69	1.96	S
Female	137	78.90	13.53			

From the above table, it is found that the calculated 't' value (2.69) is greater than the table value (1.96) for 298 degrees of freedom at 5% level of significance. Hence, the null hypothesis is rejected. The female student teachers have more positive attitude than the male student teachers.

4. To find the nature of attitude of student teachers towards grammar games in Teaching English with regard to educational qualification.

Table 4: Nature of Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Educational Qualification

Educational Qualification	Negative		Neutral		Positive	
	N	%	N	%	N	%
UG	12	10.43	54	46.96	49	42.61
PG	58	31.35	71	38.38	56	30.27

It is found from the above table that 10.43% of the student teachers with UG qualification have negative attitude, 46.96% of them have neutral attitude and 42.61% of them have positive attitude towards grammar games in teaching English.

Among the student teachers with PG qualification, 31.35% of them have negative attitude, 38.38% of them have neutral attitude and 30.27% of them have positive attitude towards grammar games in teaching English.

5. There is no significant difference in the attitude of student teachers towards grammar games in Teaching English with regard to educational qualification.

Table 5: Difference in Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Educational Qualification

Educational Qualification	N	Mean	SD	Calculated 't' Value	Table Value	Remark
UG	115	79.87	12.41	3.43	1.96	S
PG	185	74.78	12.62			

From the above table, it is found that the calculated 't' value (3.43) is greater than the table value (1.96) for 298 degrees of freedom at 5% level of significance. Hence, the null hypothesis is rejected. The student teachers with UG qualification have more positive attitude than the student teachers with PG qualification.

6. To find the nature of attitude of student teachers towards grammar games in Teaching English with regard to optional subject.

Table 6: Nature of Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Optional Subject

Optional Subject	Negative		Neutral		Positive	
	N	%	N	%	N	%
English	2	1.80	24	21.62	85	76.58
Non-English	68	35.98	101	53.44	20	10.58

It is inferred from the above table that 1.80% of the student teachers who have English as one of their optional subject have negative attitude, 21.62% of them have neutral attitude and 76.58% of them have positive attitude towards grammar games in teaching English.

Among the student teachers who not have English as one of their optional subject, 35.98% of them have negative attitude, 53.44% of them have neutral attitude and 10.58% of them have positive attitude towards grammar games in teaching English.

7. There is no significant difference in the nature of attitude of student teachers towards grammar games in Teaching English with regard to optional subject.

Table 7: Difference in Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Optional Subject

Optional Subject	N	Mean	SD	Calculated 't' Value	Table Value	Remark
English	111	86.55	9.67	12.96	1.96	S
Non-English	189	70.97	10.68			

From the above table, it is found that the calculated 't' value (12.96) is greater than the table value (1.96) for 298 degrees of freedom at 5% level of significance. Hence, the null hypothesis is rejected. The student teachers who have English as one of their optional subject have more positive attitude than their counterparts.

8. To find the nature of attitude of student teachers towards grammar games in Teaching English with regard to type of management.

Table 8: Nature of Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Type of Management

Type of Management	Negative		Neutral		Positive	
	N	%	N	%	N	%
Aided	21	10.50	96	48.00	83	41.50
Self-financed	49	49.00	29	29.00	22	22.00

From the above table, it is found that 10.50% of the student teachers studying in aided colleges have negative attitude, 48% of them have neutral attitude and 41.50% of them have positive attitude towards grammar games in teaching English.

Among the student teachers studying in self-financed colleges, 49% of them have negative attitude, 29% of them have neutral attitude and 22% of them have positive attitude towards grammar games in teaching English.

9. There is no significant difference in the nature of attitude of student teachers towards grammar games in Teaching English with regard to type of management.

Table 9: Difference in Attitude of Student Teachers towards Grammar Games in Teaching English with regard to Type of Management

Type of Management	N	Mean	SD	Calculated 't' Value	Table Value	Remark
Aided	200	80.19	12.34	7.52	1.96	S
Self-financed	100	69.83	10.66			

From the above table, it is found that the calculated 't' value (7.52) is greater than the table value (1.96) for 298 degrees of freedom at 5% level of significance. Hence, the null hypothesis is rejected. The student teachers studying in aided Colleges of Education have more positive attitude than the student teachers studying in self-financed Colleges of Education.

FINDINGS

1. 23.33% of student teachers have negative attitude, 41.67% of them have neutral attitude and 35% of them have positive attitude towards grammar games in teaching English.
2. 25.15% of male student teachers have negative attitude, 40.49% of them have neutral attitude and 34.36% of them have positive attitude towards grammar games in teaching English. Among the female student teachers, 21.17% of them have negative attitude, 43.07% of them have neutral attitude and 35.77% of them have positive attitude towards grammar games in teaching English.
3. Significant difference is found between the male and female student teachers in their attitude towards using grammar games for teaching English. The female student teachers have more positive attitude than the male student teachers.
4. 10.43% of the student teachers with UG qualification have negative attitude, 46.96% of them have neutral attitude and 42.61% of them have positive attitude towards grammar games in teaching English. Among the student teachers with PG qualification, 31.35% of them have negative attitude, 38.38% of them have neutral attitude and 30.27% of them have positive attitude towards grammar games in teaching English.
5. Significant difference is found between the UG and PG qualified student teachers in their attitude towards using grammar games for teaching English. The student teachers with UG qualification have more positive attitude than the student teachers with PG qualification.
6. 1.80% of the student teachers who have English as one of their optional subject have negative attitude, 21.62% of them have neutral attitude and 76.58% of them have positive attitude towards grammar games in teaching English. Among the student teachers who have other optional subjects, 35.98% of them have negative attitude, 53.44% of them have neutral attitude and 10.58% of them have positive attitude towards grammar games in teaching English.

7. Significant difference is found between the student teachers of English optional and Non-English optional in their attitude towards using grammar games for teaching English. The student teachers who have English as one of their optional subject have more positive attitude than their counterparts.
8. 10.50% of the student teachers studying in aided colleges have negative attitude, 48% of them have neutral attitude and 41.50% of them have positive attitude towards grammar games in teaching English. Among the student teachers studying in self-financed colleges, 49% of them have negative attitude, 29% of them have neutral attitude and 22% of them have positive attitude towards grammar games in teaching English.
9. Significant difference is found between the student teachers of aided and self-financed colleges of education in their attitude towards using grammar games for teaching English. The student teachers studying in aided colleges have more positive attitude than the student teachers studying in self-financed colleges.

CONCLUSION

Based on the findings drawn analysis, it is concluded that the highest number of student teachers have a neutral attitude towards using grammar games in teaching of grammar. This implies that they are not for or against grammar games, exhibiting their lack of awareness, and hence proper orientation, exposure, training and assistance could be given to use grammar games that would make learning grammar student friendly. Next comes the higher level of student teachers who have a positive attitude towards grammar games, a welcoming sign, and these teachers should be further encouraged and even this segment of student teachers could serve as a motivational factor for those teachers who have a negative attitude. The least and the last group of small number of student teachers have a negative attitude towards grammar games and a study could be taken up to find out why they have developed a negative attitude and based on that proper guidance and convincing reasons could be given to develop a positive attitude and use grammar games for adopting a joyful grammar learning atmosphere. Implementing this research based finding would indeed a catalyst to step ahead in academic advancement in English for "the knowledge of English was and is necessary for the economic, scientific, technological and literary progress of India" (S.K.Verma and Krishnaswamy, 1989) and the Indian citizens.

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REFERENCES

- Bob, O. (1999). *The Grammar Activity Book: Resource Book of Grammar Games for Young Students*. Cambridge: Cambridge University Press.
- Colman, M. A. (2009). *Dictionary of Psychology*. New York: Oxford University Press.
- Davies, P., & Pearse, E. (2009). *Success in English Teaching*. Oxford: Oxford University Press.
- Freeman, D. L. (2004). *Techniques and Principles in Language Teaching*. New Delhi: Oxford University Press.
- <http://www-stat.wharton.upenn.edu>.
- Mowla, S. (2004). *Techniques of Teaching English*. Hyderabad: Neelkamal Publications.
- Rinvolutri, M., & Davis, P. (2008). *More Grammar Games: Cognitive, affective and movement activities for EFL students*. New Delhi: Cambridge University Press.
- Tickoo, M L, (2003). *Teaching and Learning English: A Sourcebook for Teachers and Teacher-Trainers*. Hyderabad: Orient Longman.
- Verma S.K., & Krishnaswamy, N. (1989). *Modern Linguistics: An Introduction*. New Delhi: Oxford University Press.
- Wright, A., Betteridge, D., & Buckby, M. (2010). *Games for language learning*. New Delhi: Cambridge University Press.

THE EFFECT OF 5E LEARNING CYCLE MODEL IN TEACHING TRIGONOMETRY ON STUDENTS' ACADEMIC ACHIEVEMENT AND THE PERMANENCE OF THEIR KNOWLEDGE

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ABSTRACT

In this study, the effect of 5E learning cycle model, based on the constructivist approach, which is used for teaching trigonometry in 10th grade of elementary mathematics education, on the students' academic achievement and on the permanence of their trigonometry knowledge is investigated. The participants of this research are 10th grade students registered for spring semester of 2010-2011 academic year to an Anatolian high school in Kastamonu. These students divided into two equal groups, a control and an experimental group. The students in the experimental group took the course about trigonometry from the researcher in an environment where the 5E learning model based on the constructivist approach is used. The students in the control group took the same course from their mathematics teacher in an environment where the activities of official mathematics curriculum are used. The statistical findings of the research show that the experimental group students' scores of academic achievement and permanence of trigonometric knowledge are higher than those in the control group. The difference between these groups is statistically significant and is in favor of the experimental group.

Key Words: Mathematics Education, Trigonometry Teaching, 5E Learning Cycle Model.

INTRODUCTION

Teaching is "the process of using appropriate method, staff and material in order to reach in the most effective manner to the predetermined goals". Teaching is a conscious and purposeful activity. Oriented to the predetermined goals and aimed to earn desirable behavior, teaching activities usually take place in the institutes of educations. Planned, controlled and organized teaching activities that occur in schools are called instruction (Uzun, 2002).

According to Renate and Geoffrey Craine (1990), there are some basic points about effective ways which can be learned in brain-based researches in learning and teaching:

Previous experiences and significations effect the brain in the way that it operates new experiences and organizes new information. Our senses and our knowledge share an important relation. We can think only one thing at a moment; in contrast, our brain can realize many brain functions and organize many stimuli at the same time.

According to Selçuk(2000), the new concepts, information and principles to be learned can only make sense when they are related to the previous ones. Since the quality of learning, as a process in education, depends on the complete, in every way, participation of the individual to this process, in actual learning approach, the

student-centered instruction is accepted as the basic principle. Designed according to students' interests, needs, talents and skills, the student-centered teaching environment creates successful individuals (Altunay, 2004).

Piaget claims that a child can learn a lot of things when he/she plays with mud, and in the Piaget's view, when a child interacts actively with his/her environment, he/she gives meaning better to the events and objects (Onur, 1993). If an individual associates meaningfully pieces of knowledge in the active interaction and forms connections, he can classify, organize and code this knowledge easily. The knowledge gathered in this way can be kept in memory for long time (Bruner, 1972).

5E Learning Cycle Model

Grounded on learning cycle, 5E model was developed by Robert Bybee. According to Bybee (1997), the foundation of this model was affected by works of German philosopher Freidrich Herbart. Furthermore, in his view, this model is based on the ground of John Dewey and Jean Piaget. As a very frequently used model in constructivist learning approach, 5E learning cycle model's name comes from the number of its phases and the initials of each phase. These five phases are:

- Engage/Enter
- Explore
- Explain
- Elaborate
- Evaluate

The 5E learning cycle model is a constructivist model which provides learning a new concept or comprehension deeply a known concept. This model which increases students' merak of research, by satisfying expectations of students, consists of active research's skills and activities that are necessary for knowledge and comprehension (Ergin, Ünsal and Tan, 2006). The 5E model targets at the discovery and the association with previous knowledge of new concepts by students. With the aid of planned and applied learning-teaching activities, students form themselves their own knowledge about a specific problem (<http://www.bap.gazi.edu.tr/projeler/gefp/devrim.htm>).

5E model motivates students to be included into a topic by several phases of learning, to explore a subject, to be given a definition for their experiences, to obtain more detailed information about their learning and to evaluate it (Wilder and Shuttleworth, 2005). 5E learning cycle is one of the complete constructivist models in the cases of research-based learning or brain-storming which are used in the classroom (Campbell, 2000). Students have to think creatively and complex for overcoming problems and difficulties and as a result, they have to think in an integrative manner in order to unify their thoughts. This situation can only occur when students have higher order thinking skills. These skills are called also critical thinking skills.

Grounded on the constructivist approach, 5E learning and teaching model includes higher order thinking skills. Stimulating students to explore, to inquiry, to get experience, 5E model transmits also the critical thinking skill to students (Ergin, 2006). 5E model is a learning cycle model that facilitates learning and creates beneficial opportunities for students while learning (Lorsbach, 2006).

Phases of 5E Learning Cycle Model

1. Engage/Enter

The purpose of this phase is to focus students' attention on the topic. Asking pointed questions, explaining a scenario, a demonstration of an event, showing a picture or making a discussion can be used to focus the students' attention on the tasks that will follow and connections to past learning and experience can be invoked (<http://www.miamisci.org/ph/>). In this phase, there is no lecturing and the subject of course is not told

to students. Students should be encouraged and the tasks for learning are defined. In this phase, past experiences are connecting with actual experiences. The basis of work for upcoming activities is organized.

Students derive some questions and try to find answers to them. For teachers, this phase provides opportunities for determining their students' misconceptions (Balci, 2005). In addition, this phase can be used to create disequilibrium in students' mind and to motivate students for using related real-life situations. In this phase, where teachers ask questions for arousing students' interest about topic and for motivating them, teachers avoid defining and making explanations about concepts (Carin and Bass, 2001). This aroused interest leads students to the "explore" phase where they use concrete experiences for observation, collect information, test and reformulate hypotheses (Wilder and Shuttleworth, 2005).

2. Explore

Motivated to the subject in engage/enter phase, student makes some research activities which consist of gathering data, observation, guessing and testing them and making hypotheses (Wilder and Shuttleworth, 2005). The step, where students try to understand and to explore the subject via only their own experiences and thoughts, by making and testing hypotheses, can last short or long (Temizyürek, 2003). After giving short explanations about the activity that will follow, teacher can give to student a concept map to fill out, may want students to make experiments or may make organize a demonstration. Students can work in small groups for this activity (Lord, 1999).

The phase that students make the most activities is the explore phase. In this phase, students try to solve the given problem by working, discussing and experimenting in groups. Meanwhile, teachers should only guide students, not participate entirely to the students' work. While guiding, if a teacher sees students' mistake, he/she should not directly correct it, but should give some hints or show some ways to students for correcting themselves. As students interact with each other, they are not passive in this process. They can announce freely their opinions, test every idea and enregister the results. They try to interpret and explain the results of their observations (Carin and Bass, 2001).

3. Explain

In the explain phase, students explain scientifically the results obtained from their observations and data. Appropriate verbal repertoire should be associated with students' data and experiences (Wilder and Shuttleworth, 2005). A representative in each group, formed in the explore phase, explain the results of their work and let their friends discuss about them. The explain phase is a teacher-centered phase in 5E model; because teachers become active for correcting mistakes and completing the missing parts in students' results. Teachers may choose lecture method or may use another interesting method like showing a film or a video, making a demonstration or giving an activity which leads students to define their work or to explain their results. In this phase, teachers give formal definitions and scientific explanations. Furthermore, by giving explanations in basic knowledge level to students, teachers, whenever possible, help them to unify together their experiences, to explain their results and to form new concepts (Bybee, 1997). The aim of this phase is to correct mistakes in students' findings before the next phase (Hançer, 2005).

4. Elaborate

In this phase, students can practice their new knowledge, suggest solutions, create new problems and make decisions and/or introduce logical implications. These situations can be realized by presenting a new research activity or by extending the activities done in the explore phase (Wilder and Shuttleworth, 2005).

Working in groups also in this phase, students are close to end up the asked problem. The groups present and explain their final situations. This phase can be considered as the extension of research step because of the existence of supplement problems. Small group works or whole class discussions provide opportunities for students to understand the subject, to defend and to present their thoughts. To use the new learned concept in different situations or to repeat several times the applications related to the concept is necessary for being

put in the long term memory and being permanent. The elaborate phase is important because the new learned is corroborated and its permanence is supported.

5. Evaluate

The evaluate phase has the importance in determining whether or the students learn the concept correctly in scientific context and reflect it to the context. This phase may be realized in formal or informal method (Wilder and Shuttleworth, 2005). In this phase, some evaluations are made for revealing students' constructed knowledge. Students may answer to oral questions, make short summaries, fill out empty maps, read graph and evaluate tables. Furthermore, students are asked to associate what they have learned, with real life situations. This phase is the phase where students may exhibit their attitudes about learning and may change their thinking style or behaviors. The evaluation is realized over and over whenever teachers and students try to control the development in reaching to new comprehension (Hançer, 2005). This phase reveals how students constructed scientific knowledge and they generalize it to other situations (Wilder and Shuttleworth, 2005).

The phases of 5E learning cycle model are schematized as below:



Figure 1: Phases Of 5E Learning Cycle Model

Research Problem

In teaching trigonometry, does 5e learning cycle model have an effect on students' academic achievement and the permanence of their knowledge?

Purpose of Research

The common purpose of researches in education is to focus on how to increase students' achievement. Participatory learning grounded on students' participation to course has to be realized in order to obtain the permanence of the learning. Constructive approach has a great importance in the formation of meaningful and complete learning. With the aid of constructivist approach, students can easily stay away from the rote learning and make connections between subjects by exploring.

The purpose of this study is to investigate the effect of, 5e learning cycle model in teaching trigonometry on students' academic achievement and the permanence of their knowledge.

Significance of Research

Trigonometry is one of the important components of mathematics. Students have usually difficulties in this subject. In primary, elementary, high school and higher education, students that meet with trigonometric

concepts like sinus, cosines, tangent and cotangent, have difficulties to associate them with real life situations and don't know where these concepts come from. If the formation, the association with real life situations and the importance of using of these concepts are explained to students, these concepts may be learned better. In more positive words, students can consider trigonometry, not as an external concept to mathematics, but as one of its components (Adamek, Penkalski and Valentine, 2005).

Nowadays, trigonometry is used in physics for understanding the space, in engineering and in chemistry. In mathematics, it is used first of all in calculus and in other branches such as linear algebra and statistics. The importance of this research relies on the fact that it is an evaluation of effectiveness of an alternative learning model is in teaching correctly trigonometry. Furthermore, by showing how 5E learning cycle model can be applied in a learning environment, this research is also important.

Restrictions

This research is limited by the basic concepts of trigonometry in 10th grade high school mathematics.

During the application of research, the equality of course hours of both control and experimental group is satisfied; but no specific precaution has taken about scheduling.

The research is limited by 8 weeks ($4 \times 8 = 32$ course hours).

METHODOLOGY

In this section, the information about the design of the research, the working group, the data gathering and the data analysis are mentioned.

Design of the research

The design of this experimental research is chosen as randomized pretest-posttest control group design. In this design, there exist two groups formed by random assignment. One of them is used as an experimental, the other as a control group. The students in the experimental group took the course about trigonometry from the researcher in an environment where the 5E learning model based on the constructivist approach is used. The students in the control group took the same course without intervention of the researcher, from their mathematics teacher in an environment where the activities of official mathematics curriculum are used.

Working Group

The working group of this research consists of 49 students in 10th grade registered for spring semester of 2009-2010 academic year to MK Anatolian high school in Kastamonu. In the experimental group, there are 25 students (13 girls, 12 boys) and in the control group, there are 24 students (12 girls and 12 boys). When the experimental and control groups are determined, their mathematics' grades for autumn semester and their scores in the pre-test about dependent variable (academic achievement in trigonometry) are took into consideration and randomly the class 10-D and 10-C are selected respectively as experimental and control group. If the effect of a new teaching method on learning is investigated in a research, the groups' equalization in gender and in past achievement is crucial (Büyüköztürk et al., 2008).

Students' mathematics' grades for autumn semester of 2009-2010 academic year

Independent samples t-test is used to determine whether there is a statistically significant difference between experimental and control group students' mathematics' grades for autumn semester of 2009-2010 academic year.

Table 1: Independent Samples T-Test For Experimental And Control Group Students' Mathematics' Grades For Autumn Semester

Group	Number of students (N)	Mean (\bar{X})	Sd.	df.	t	Sig. (p)
Experimental	25	3,00	1,63	47	0,773	0,444
Control	24	3,31	1,52			p>0,05

As seen in table 1., there is no statistically significant difference between experimental and control group students' mathematics' grades [$t(47) = 0,773$, $p>0,05$]. As a result, before the start of experimental application, these two groups are considered as equal in their mathematical pre-knowledge.

Pre-test scores of students in the experimental and control group

Independent samples t-test is used to determine whether there is a statistically significant difference between experimental and control group students' scores in the achievement test for trigonometry used as pre-test.

Table 2: Independent Samples T-Test For Experimental And Control Group Students' Scores In The Pre-Test

Group	Number of students (N)	Mean (\bar{x})	Sd.	df.	t	Sig. (p)
Experimental	25	4,640	1,350	47	0,183	0,856
Control	24	4,708	1,267			p>0,05

As seen in table 2., there is no statistically significant difference between experimental and control group students' scores in the achievement test for trigonometry [$t(47) = 0,183$, $p>0,05$]. As a result, before the start of experimental application, these two groups are also considered as equal in academic achievement for trigonometry.

Data Gathering

Academic achievement test is used to gather necessary data for the statistical analysis of research problem and to determine the effect of using 5E learning cycle model in teaching trigonometry on students' academic achievement. Consisting of 50 questions, a test is prepared for measuring each acquisition of trigonometry by at least 2 questions and it is applied to 120 students from upper grade. The content validity of the test are provided by a commission of five persons which are specialists in the field, in program development and in evaluation. After the pilot application, an item analysis is done, the item distinctiveness and the item difficulty index are checked. By eliminating depending on their proprieties, the final version of test which consists of 28 questions is prepared. The KR 20 reliability constant of the test is found as 0,88.

This academic achievement test is used for several purposes: first of all, as a pre-test, it is applied to students in order to determine their pre-knowledge and readiness about trigonometry. Moreover, as a post-test, it is used in order to determine the effect of teaching method. Finally, as a permanence test after one month later than post-test, it is applied in order to investigate the permanency of knowledge.

Procedure of experimental application

Registered for spring semester of 2009-2010 academic year to an Anatolian high school in Kastamonu, 10th grade students mathematics' grades for autumn semester and their scores in the pre-test about dependent variable which is the academic achievement in trigonometry are taken into consideration. As a result, the groups are found equal in mentioned variables and randomly the class 10-D and 10-C are selected respectively as experimental and control group.

The students in the experimental group took the course about trigonometry from the researcher in an environment where the 5E learning model based on the constructivist approach is used. Before the beginning of the courses, course plans are prepared, checked and corrected by the specialists in that field.

A pilot study for testing the applicability of the course plans is done with another group that is independent of research. The research lasted 8 weeks ($8 \times 4 = 32$ course hours).

The classroom and computer laboratories are used as environments for courses. Some teaching materials, which the mathematics teacher considered as necessary, are used by him. At the end of experimental application, the post-test is applied to both of the groups.

One month later, the academic achievement test is applied one more time as a permanence test.

Analysis of data

For the analysis of data obtained in research, SPSS15.0 (Statistical Package for the Social Sciences) package program is used. All the analysis is made in computer and statistical analysis methods, which are appropriate to the properties of data, are used.

FINDINGS

In this section, the findings from the analysis by SPSS15.0 of data obtained in research are presented with tables and graphics. Comparison of experimental and control group students' post-test scores The mean and the standard deviation of post-test scores of students in the experimental group, where the 5E learning model based on the constructivist approach is used, and of those in the control group, where the traditional teaching activities (lecture method, question-answer method etc.) are used, in academic achievement test about trigonometry are given in the table 3.

Table 3: Independent Samples T-Test For Experimental And Control Group Students' Scores In The Post-Test

Group	Number of students (N)	Mean (\bar{x})	Sd.	df.	t	Sig. (p)
Experimental	25	20,76	3,205	47	5,677	0,000
Control	24	16,00	2,620			

As seen in table 3., the mean of post-test scores of students in the experimental group is found as $\bar{x} = 20,76$ and the mean of those in the control group is found as $\bar{x} = 16,00$. It is determined that the mean of academic achievement of the experimental group is higher than the one of control group. Independent samples t-test is used to determine whether this difference is statistically significant. As a result, as t score is determined as

5,677 with $df = 47$ and $p=0,000$, the difference between means is found statistically significant at the level of 0,05 significance.

These findings show that there is a learning level difference in favor of the experimental group. Thus, the 5E learning model based on the constructivist approach used in the experimental group is more effective in teaching trigonometry than the traditional teaching methods used in the control group.

Findings about the permanence test scores

In this section, the findings about the students' scores in the permanence test which is used to determine the permanence of students' knowledge about trigonometry are given. The permanence test is applied 4 weeks later than the post-test. The experimental and control group students' score in the permanence test are shown in the table 4.

Table 4: Independent Samples T-Test For Experimental And Control Group Students' Scores In The Permanence Test.

Group	Number of students (N)	Mean (\bar{x})	Sd.	df.	t	Sig. (p)
Experimental	25	18,840	2,718	47	6,446	0,000
Control	24	13,291	3,290			

As seen in table 4., there is a statistically significant difference between experimental and control group students' scores in the permanence test in favor of the experimental group [$t(47) = 6,446$ and $p=0,000 < 0,05$]. The permanence test scores of students in the experimental group, where the 5E learning model based on the constructivist approach is used, is higher than those in the control group. As a result, it can be interpreted that the trigonometry learning by the activities appropriate to the 5E learning model based on the constructivist approach is more permanent than the traditional teaching.

DISCUSSION AND RESULTS

As a result of this research, it is found that 5E learning cycle model effects not only the students' achievement but also the permanence of knowledge. The researches about 5E learning cycle models in both domestic and international literature are generally made in science education. Saka(2006), Lawson(2001), Balcı (2005), Bleicher (2001), Akar(2005) and Özsevgeç (2007) have researched the effect of 5E learning cycle model on academic achievement. The findings of this research show similarity to these mentioned researches.

A statistically significant difference is determined between experimental and control group students' scores in the post-test. By the analysis of findings, when their post-test scores are taken into consideration, students in the experimental group, where the 5E learning model based on the constructivist approach is used, are found as more successful than those in the control group. A statistically significant difference is determined between experimental and control group students' scores in the permanence test. It is determined that this difference is in favor of the experimental group.

In accordance with these results, some suggestions, thought as beneficial, are given below:

Mathematics teachers should provide opportunities to students for learning by exploring and reaching themselves to knowledge. The students should be asked to give all reasons of solving steps of the given problem. Whenever possible, the passage to the application should be done directly by students and also during the application, the mistakes and errors should be found directly by them. Teachers should only orientate students, help them.

Teachers should be careful about choosing teaching activities and working papers, which they want to use in the application of 5E learning model, in the sense that these materials should be attractive and appropriate to the students' level and also they provide opportunities for students to construct their own knowledge. This research is limited by the trigonometry subject. The effect of 5E learning model on other subjects in mathematics can be researched.

The students of the last grade in faculty of education should be asked to analyze and/or to research such models (5E learning model) as homework or project etc. Moreover, they should be asked to prepare course plans according to these models and to apply them, whenever possible. These course plan examples should be evaluated by the authorities. Such works provide opportunities for pre-service teachers to learn about these methods in other subjects of mathematics and also these teachers may use these methods when they begin to work.

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REFERENCES

Adamek, T., Penkalski K., ve Valentine G., (2005). "The History of Trigonometry, History of Mathematics" , [www.math.rutgers.edu/~mjr/History Of Trig.pdf](http://www.math.rutgers.edu/~mjr/History%20Of%20Trig.pdf)web (12.05.2009).

- Akar, E., (2005). "Effectiveness of 5E Learning Cycle Model on Students" Understanding of Acid and Base Concepts. Unpublished Master Thesis. Middle East Technical University, Ankara.
- Altunay, D., (2004). "Oyunla Desteklenmiş Matematik Öğretiminin Öğrenci Erişine Ve Kalıcılığı Etkisi". Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Yayınlanmış Yüksek Lisans Tezi, Ankara.
- Balcı, S., (2005). "Improving 8th Grade Students' Understandin of Photosynthesis and Respiration in Plants By Using 5E Learning Cycle and Conceptual Change Text". Unpublished Master Thesis. Middle East Technical University, Ankara.
- Bleicher, R. E., (2005). "Learning The Learning Cycle: The Differantial Effect on Elementary Preservice Teachers". School Science and Mathematics. 105(2), 61-72.
- Bruner, J.S., (1972). Models of The Educational Researcher
- Büyüköztürk, Ş., (2001). Deneyisel Desenler: Ön Test Son Test Kontrol Gruplu Desen. Pegema Yayıncılık, Ankara.
- Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö.E., Karadeniz, Ş., Ve
- Bybee, R.W., (1997). Improving Instruction. In Achieving Scientific Literacy: From Purposes To Practice. Portsmouth, Nh: Heinemann.
- Caine, R. N., & Caine, G. (1990). "Understanding A Brain Based Approach To Learning And Teaching." Educational Leadership, 48(2), 66-70.
- Campbell, M.A., (2000). "The Effects Of The 5e Learning Cycle Model On Students' Understanding Of Force And Motion Concepts". Ms Thesis. University Of Central Florida.
- Carin, A. A. & Bass, J.E., (2001). Teaching Science As Inguiry. New Jersey, Ninth Edition. Prentice-Hall, Upper Saddle River.
- Demirel, F. (2008). Bilimsel Araştırma Yöntemleri. Pegema Yayıncılık", Ankara.
- Ergin, G., Ünsal, Y. & Tan M. (2006). "5e Modeli'Nin Öğrencilerin Akademik Başarısına Ve Tutum Düzeylerine Etkisi": Yatay Atış Hareketi. Örneği. Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi. 7 (2), 1-15.
- Hançer, A. H., (2005). "Fen Eğitiminde Yapılandırmacı Yaklaşım Dayalı Bilgisayar Destekli Öğrenmenin Öğrenme Ürünlerine Etkisi", Doktora Tezi. Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.
- Lawson, A. E., (2001). "Using The Learning Cycle To Teach Biology Concepts And Reasoning Patterns". Journal Of Biological Education, 35 (4), 165–169.
- Lord, T. R., (1999). "A Comparison Between Traditional And Constructivist Teaching İn Enviromental Science". The Journal Of Enviromental Education, 30 (3), 22–28.
- Lorsbach, A. W., (2006). "The Learning Cycle As A Tool For Planning Science Instruction". <http://www.coe.ilstu.edu/scienceed/Lorsbach/257lrcy.htm>. (11.04.2010)
- Meb (2005). Ortaöğretim Matematik Ders Programı, www.meb.gov.tr. (11.04.2010).

Piaget, J., (1992). To Understand Is To Invent. Newyork, Grossman

Selçuk, Z., (2002). Gelişim Ve Öğrenme, Nobel Yayın Dağıtım, Ankara.

Turgut, F. & Diğerleri. (1997). İlköğretim Fen Öğretimi, Yök/ Db Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi Yayınları, Ankara.

Özsevgeç, T., (2007). “İlköğretim 5. Sınıf Kuvvet Ve Hareket Ünitesine Yönelik 5E Modeline Göre Geliştirilen Rehber Materyallerin Etkililiklerinin Belirlenmesi” Yayınlanmamış Doktora Tezi, Karadeniz Teknik Üniversitesi Fen Bilimleri Enstitüsü.

Uzun, N., (2002). “Ortaöğretim Biyoloji Programında Genetik Konularının Değerlendirilmesi Ve Öğrencilerin Genetiğe İlişğinin Saptanması”, H.Ü Fen Bilimleri Enstitüsü, Bilim Uzmanlığı Tezi

Wilder, M., Shuttlesworth, P., (2005). “Cell Inquiry: A 5e Learning Cycle Lesson. Science Activities”. Winter, Vol:41,No:4,37-43.

APPENDIX

EXAMPLE OF COURSE PLAN IN TRIGONOMETRY TEACHING BASED 5E LEARNING CYCLE MODEL

Acquisitions : Students state the cosine law and make applications related to this law

Pre-acquisitions :

Students state sine law and find the formulate the area of a triangle

Students state the trigonometrical ratio of acute angles in a right triangle

Duration : 45+45=90 minutes

ENGAGE

Before beginning of learning new things, a human being has to be aware of what he already knows. Therefore, the first thing that teacher have to do is to help students to determine what they know about subject.

Students should be led to think on given problems and they should be encouraged to make brainstorming by saying their ideas, to share their thoughts and to make connections with the new subject.

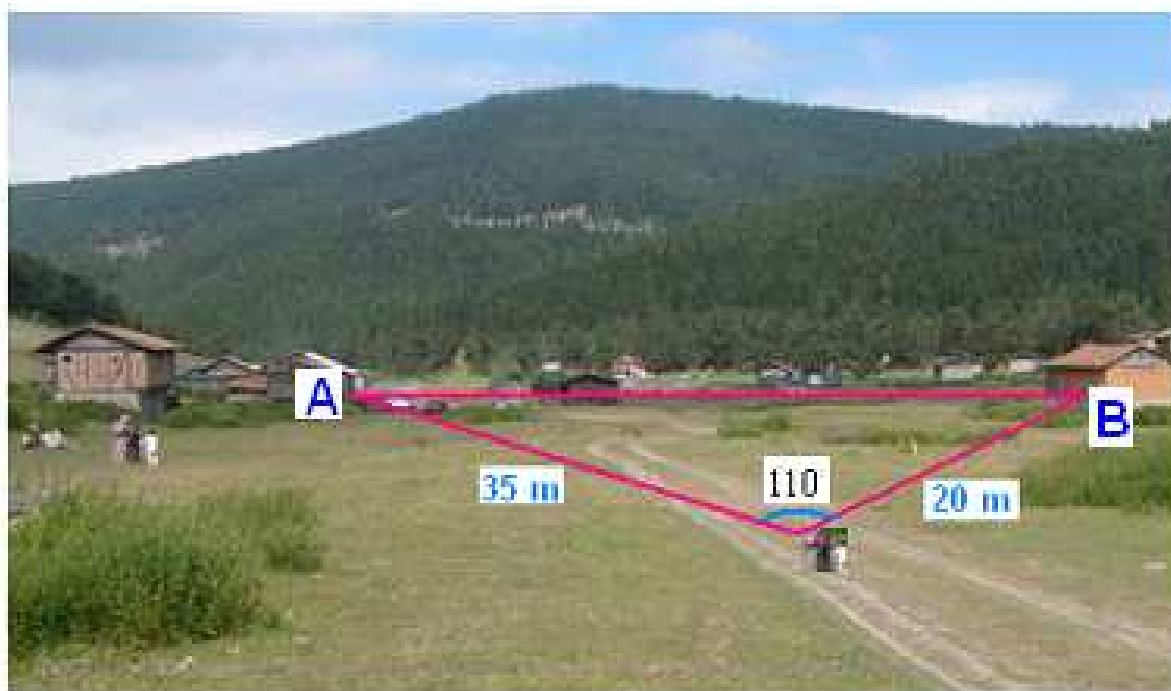
An environment where students aren't judged and can declare freely their own ideas has to be created.

In this phase, students are motivated and teacher should leave question marks over their minds. Moreover, teacher may stimulate students to interrogate their ideas by these question marks.

Meanwhile, teacher can observe the readiness of students and can increase students' motivation for learning. Therefore, by stimulating students' interest, teacher prepares them for the next phase.

Teacher shows the following picture to students on the screen and asks the prepared questions. The aims of these questions are to determine whether students know the sine law, as one of the pre-acquisitions, and the trigonometric functions, to determine misconceptions about them and to create the infrastructure of why to use the cosine law.

According to the data in the figure above,



How can you find the distance between two houses?

Can you obtain the solution by drawing the height of the side opposite to the corner where the angle is 110° ?

Can you find the unknown side (the distance between two houses) by using sine law?

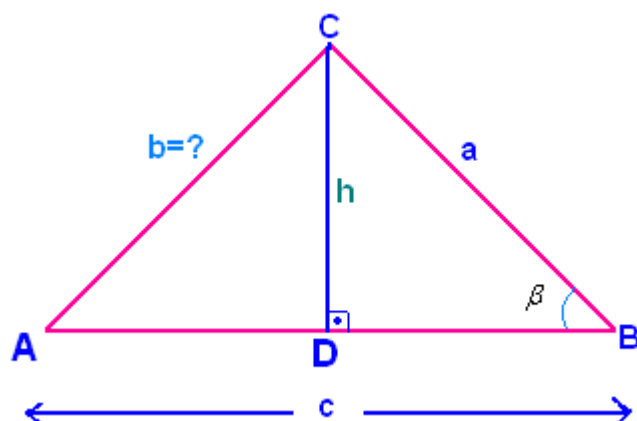
Can you solve the problem by using the area formula in the sine law where two sides and the angle between them are given?

EXPLORE

In this phase, teacher provides an environment where students discuss between them and try to find answers to the questions in their minds formed in the previous phase. Teacher strolls among the students, observe them and asks if needed some challenging questions to students.

Students are provided some opportunities to construct themselves the knowledge in question. In this phase, by using purposive materials, students try to reach the target knowledge. Students are asked to work in pairs and are given enough time to complete activities. Students create ideas and take notes on working papers.

The activity paper below is distributed to each group composed of 3 students and they are asked to make necessary operations.



In the figure above, supposing that $|AB| = c$, $|BC| = a$ and $\hat{ABC} = \beta$ are given, try to find $|AC| = b$.

The height h of the side is $|AB|$ already drawn.

If $|BD|$ equals to x , how can you write $|AD|$ in terms of x ?

Using the Pythagorean relation, write a^2 and b^2 in two right triangles.

$$a^2 = \dots\dots\dots$$

$$b^2 = \dots\dots\dots$$

Watch that there is h^2 in both of two equalities.

Find h^2 in both equalities.

$$h^2 = \dots\dots\dots$$

$$h^2 = \dots\dots\dots$$

Are these h^2 equal? Why?

$$a^2 - x^2 = \dots\dots\dots (1)$$

Do these equalities still contain x ?

In order to eliminate x in the equalities, instead of x , trigonometric value of which angle, should you write?

Write $\cos \hat{B}$.

What is x in this value?

$$x = \dots\dots\dots$$

Write this x into (1)

The result that you have found, does it contain a, b, c and $\cos \hat{B}$? Leave b^2 alone in the equality.

$$b^2 = \dots\dots\dots$$

This equality that you deduced is called cosine law.

Similarly, by using $\cos \hat{C}$ find another equality.

$$c^2 = \dots\dots\dots$$

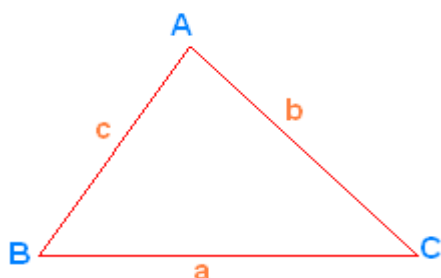
$$a^2 = \dots\dots\dots$$

EXPLAIN

Most of the time, students have difficulty of finding new thinking ways without the help of their teacher. As teacher help students to change their old insufficient thoughts by the correct new ones, this phase is considered as the most teacher-centered phase. Teachers may choose lecture method or may use another interesting method like showing a film or a video, making a demonstration or giving an activity which leads students to define their work or to explain their results.

In this phase, teachers give formal definitions and scientific explanations. Furthermore, by giving explanations in basic knowledge level to students, teachers, whenever possible, help them to unify together their experiences, to explain their results and to form new concepts.

In this phase, teacher and students listen to the explanations of each group. Then, teacher corrects the possible wrong concepts and explains what the cosine law is and why it is necessary. Students take notes on their notebook.



Given any triangle $\triangle ABC$;

$$a^2 = b^2 + c^2 - 2bc \cdot \cos \hat{A}$$

$$b^2 = a^2 + c^2 - 2ac \cdot \cos \hat{B}$$

$$c^2 = a^2 + b^2 - 2ab \cdot \cos \hat{C}$$

These equalities hold and they are called as Cosine Law.

ELABORATE

In this phase, students apply the knowledge or the problem solving approach reached together to new events or problems. Through this way, they learn new concepts that haven't been in their minds.

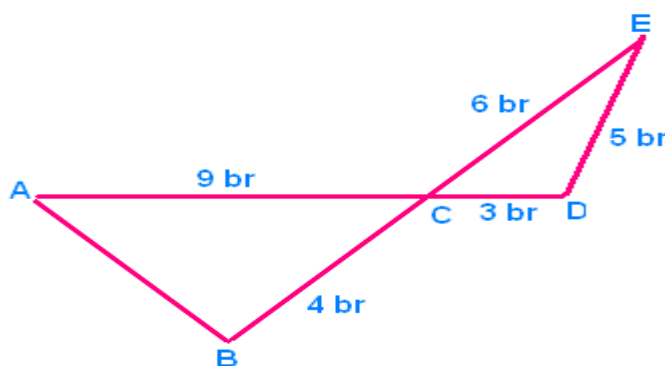
Students are asked to be more correct and more responsible for applying the learned knowledge to the new situations. Students are stimulated to use formal terms and definitions and also to exhibit their comprehension. By asking different types of questions, teacher makes students use what they learned, in new situations. By interchanging their ideas in the group, students try to answer the questions.

Students, now, can solve the questions in the engage phase. Furthermore, teacher help students to make connections between the cosine law and the older knowledge, by asking questions related to them.

For this, different typed questions like below can be asked to students:

In a right triangle, by using the cosine law, show that the Pythagorean relation is one of special situation of the cosine law.

By using the cosine law, how can you prove that a triangle with sides $a = 2\text{cm}$, $b = 3\text{cm}$ and $c = 11\text{cm}$ can't be drawn?



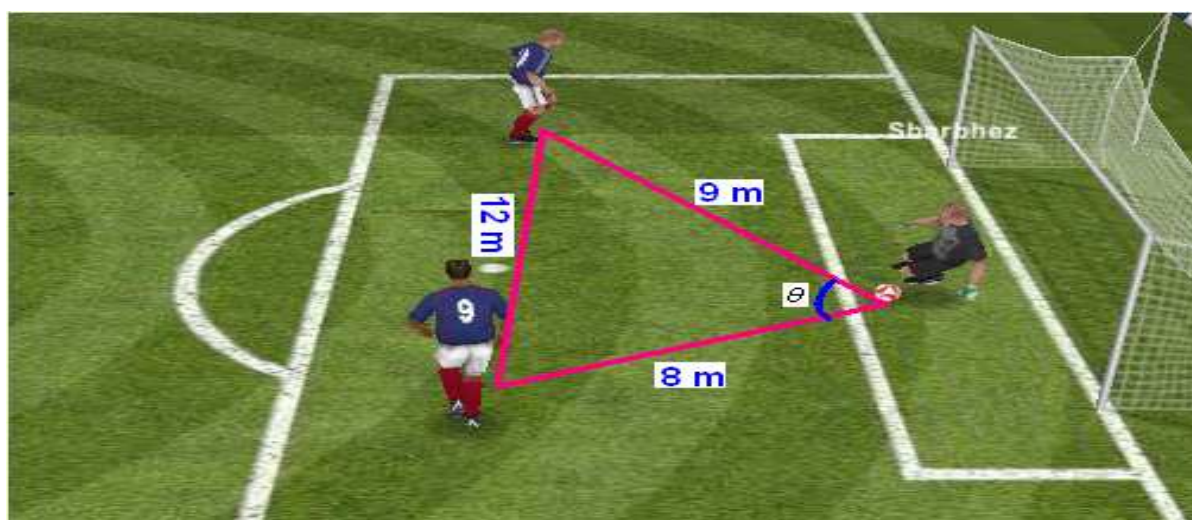
According to the above figure, calculate $|AB|$ by using the cosine law.

EVALUATE

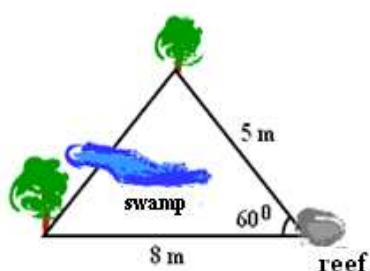
Up to this phase, students' activities are evaluated through the process. But in this phase, the whole class is evaluated. Here, the aim is to determine whether students have understood the concepts mentioned in the subject, they have learnt the subject and they can apply it to the new situations.

For this, students are asked to solve problems related to the cosine law. By examining the students' answers to the question, teacher can understand how much students have learned. Therefore, teacher can correct the mistakes of students and complete if they haven't completely learnt. Students' working papers are examined and evaluated by the teacher.

1. Calculate the angle θ in the figure below.



- 2.



In the adjoining figure, the distance of the reef to two trees is 5 and 8 meter, respectively. Because of the swamp between trees, the distance between them cannot be calculated directly. According to the data given in the figure, calculate the distance between trees.

INFLUENCE OF SUPPLEMENTING THE COURSE OF CHEMISTRY LABORATORY WITH THE WEB ENVIRONMENT ON STUDENTS' ATTITUDES TOWARDS THE COURSE

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ABSTRACT

The present study examined the influence of supplementing the course of Chemistry Laboratory with the web environment on students' attitudes towards the course. For this purpose, on the web page of <http://www.diclekimyaegitimi.org>, the students were presented the contents of the course of Basic Chemistry Laboratory II. In the study, the pretest-posttest experimental design with a control group was used. The study group included a total of 107 junior students from the departments of Physics Teaching, Chemistry Teaching and Biology Teaching at Ziya Gokalp Education Faculty of Dicle University in the academic year of 2009-2010. The study was carried out with three groups: two of them were the experimental groups, and one of them was the control group. The first experimental group (web-based group), prior to the lesson, examined the experiments transferred into the web environment, and the second experimental group (web-based group) followed the lesson both in the laboratory environment and via the web. As for the control group, the lesson was taught via the demonstration method. In order to determine the students' attitudes towards the course of chemistry laboratory, the "Chemistry Laboratory Attitude Scale" developed by the researcher based on the Physics Laboratory Attitude Scale – which was developed by Nuhoğlu and Yalçın (2004) – was used. The research data were analyzed with the package software of SPSS 17.0. The results revealed a statistically significant difference regarding the students' attitudes towards the Chemistry Laboratory in favor of the web-based group. The results revealed a statistically significant difference in the students' post-test scores regarding their attitudes towards the Chemistry Laboratory in favor of the web-based group.

Key Words: Web-based instruction, Web-assisted instruction, Chemistry laboratory.

INTRODUCTION

In the present era, the rapid developments in information technologies influence economic and social systems. This influence is increasingly perceived especially in the field of education. According to Akgündüz (2007:22), each part of a civilization system is in direct and indirect interaction with other parts. As a sub-social tradition, the interaction of education with the other parts has a more complex structure. The reason is that all the functions of social experience are in relationship with the education system that connects subjective and objective components to the same vision as reasons and results Web-based education systems are considered to be a top point in terms of use of the developments in computer and Internet technologies in education. There are different concepts used in literature regarding web-based education/instruction. Among these concepts are online learning, web-based instruction, web-assisted instruction, Internet-based instruction,

Internet-aided instruction, education via the Internet, synchronous education, asynchronous education, virtual education and computer-aided education. All these concepts and other similar ones not only include different applications but also explain the teaching-learning processes conducted via computer networks (Aydın, 2002). Web-based instruction involves the use of Internet services for the distribution of course materials, for the management of education, for the evaluation of students and for the establishment of communication with students (Mutlu and Öztürk, 1999). Web-based instruction can be defined as “an environment which allows synchronous and asynchronous learning in sharing information found in different information environments with the use of the Internet and computer sub-structure rather than traditional instructional methods for the purpose of helping students learn about a subject”. Web-based education is the complement of face-to-face instruction carried out in class environment. The development of web-assisted instruction first occurred with the Internet – one of information networks - in 1990s and with the spread of its use. In a number of sources, web-assisted instruction and web-based instruction are used in the same meaning. However, when these two concepts are examined in terms of their applications, it is seen that web-based instruction can be applied alone, while web-assisted instruction is used to increase students’ learning regarding a subject and or a course and to supplement the teaching-learning process in cases of failure or inefficiency of other instructional methods and techniques (Uzunboylu, 2002).

Today, the number of web-based and online courses is increasing rapidly, and these courses constitute an important part of the education pedagogy throughout the world. Online learning, or e-learning, is especially influenced by the use of such communication technologies and www tools as electronic mail, bulletin board systems, electronic white boards, chat rooms and desktop video conferences (Suanpang et. al., 2003 cited in Engelbrecht and Harding, 2005). At universities, web-assisted education, which provides important contributions to the development of new sources, is regarded as one of the instructional approaches most commonly used in the world (Zhang, Niu, and Jiang, 2002 cited in Çakır, 2003).

Creating changes in individuals’ attitudes and values is considered to be an important process. Studies conducted generally focused on achievement, yet attitudes towards an event, a situation or a phenomenon plays constitutes the basis of achievement and of behavior. Attitudes are, in general, tendencies that lead to behavior (Kağıtçıbaşı, 2006, 106).

This study examined the influence of the course of Basic Chemistry Laboratory taught via web-based and web-assisted instruction methods on students’ attitudes towards the course.

METHOD

In the present study conducted to determine the influence of supplementing the course of Chemistry Laboratory with the web environment on students’ attitudes towards this course, the pretest-posttest experimental design with the control group was used. This design, which provides the researcher with a high level of statistical strength, allows interpreting the findings within the reason-result context (Büyüköztürk, 2010).

Study Group

The study group was made up of 107 junior students taking the course of “Basic Chemistry Laboratory” who were all attending such departments as Physics Teaching, Chemistry Teaching or Biology Teaching at Ziya Gokalp Education Faculty of Dicle University in the Spring Term of the academic year of 2009-2010. In the study, the students from these three departments were divided in three groups with the help of the probability sampling-random selection method: control group (n=34), experimental group 1 (n=38) and experimental group 2 (n=35). Before the research process, the experimental group students received approximately one hour long training.

Data Collection Tools

In order to determine the students' attitudes towards the chemistry laboratory, the "Chemistry Laboratory Attitude Scale" developed by the researcher based on the Physics Laboratory Attitude Scale – which was developed by Nuhoğlu and Yalçın (2004) – was used. In the scale development process, first, the attitude-related statements found in the Physics Laboratory Attitude Scale were adapted to chemistry laboratory. This Likert-type scale made up of 36 items was adapted to the course of Chemistry Laboratory by excluding one item. In the scale including 22 positive and 13 negative items, the options were "I completely agree", "I agree", "I'm neutral", "I disagree" and "I completely disagree". This scale structured was applied to 65 students who had taken the course of Chemistry Laboratory. The validity and reliability studies of the scale were conducted by the researcher, and the Cronbach Alpha internal consistency coefficient was calculated as 0.825. In this study, the internal consistency coefficient of the scale was found to be 0.932. These results demonstrated the reliability of the scale. At the beginning of the 15-week training, a pretest was applied to the students in the research sample group to determine their attitudes, and the same scale was applied as posttest at the end of the training.

Research Design

Table 1 presents the pretest-posttest research design with the control group.

Table 1: Research Design

Group	Before the experiment	Experimental Process	Following the experiment
Control	Pretest (KLTÖ)	Traditional in-class Learning	Posttest (KLTÖ)
Experiment 1	Pretest (KLTÖ)	Web-based learning	Posttest (KLTÖ)
Experiment 2	Pretest (KLTÖ)	Web-assisted learning	Posttest (KLTÖ)

During the research process, the experiments regarding such subjects as "Substance Properties and Its Identification, Preparation of Solutions, Acid-Base Titrations, *Diffusion of Gases and Law of Conservation of Mass*" were taught to the control group students in the laboratory environment via the demonstration method. The experiments conducted previously by the researcher were transformed into a video course with the help of a professional video-camera. After the theoretical information necessary for the experiment was uploaded as a text on the web-page, the web-page was made ready. The students in experimental group 1 followed the experiments in the web environment independently of time (on online basis out of class hours). The students in experimental group 2 followed the course both in the laboratory environment and on online basis.

With the help of such tools as forum, e-mail group and messaging, the out-of-class communication was established, and information sharing was achieved.

Data Analysis

The data collected in the study was analyzed with the package software of SPSS 17.0. In order to test the significance of the difference between the pretest scores and posttest scores of the students in the control group and those in the experimental groups, one-way ANOVA tests were applied. For these tests, the significance level was determined as $\alpha = 0.05$.

FINDINGS

Table 2 presents the results of the descriptive analysis of the pretest attitude scores of the teachers found in the control and experimental groups regarding web-based instruction before the experimental application.

Table 2. Descriptive Analysis of Pretest Attitude Mean Scores

Group	N	Mean	SD
Control	34	4.0126	0.39722
Experimental 1	38	3.8038	0.58298
Experimental 2	35	4.0327	0.50234

The analysis results demonstrated that there was a difference between the pretest attitude mean scores of the preservice teachers in the control and experimental groups regarding the course of chemistry laboratory. In order to reveal whether there this difference was statistically significant or not, analysis of variance was conducted. The results of the analysis of variance are presented in Table 3.

Table 3: Analysis of Variance regarding the Pretest Attitude Mean Scores

Source of Variance	Sum of squares	Degree of freedom	Means of Squares	F	p
Inter-groups	1.182	2	0.591	2.332	0,102
Intra-group	26.362	104	0,253		
Total	27.544	106			

When Table 3 is examined, it is seen that there was no statistically significant difference between the posttest attitude scores of the preservice teachers in the experimental groups and of those in the control group regarding the course of chemistry laboratory; $p=0.102$, $p<0.05$.

Following the experimental study, the descriptive statistics regarding the posttest attitude scores of preservice teachers found in all the three groups regarding the course of chemistry laboratory are presented in Table 4.

Table 4: Descriptive Analysis of the Posttest Attitude Mean Scores

Group	N	Mean	SD
Control	34	3.9580	0.4722
Experimental 1	38	3.8850	0.4940
Experimental 2	35	4.3396	0.3665

The results of the analysis demonstrated that there was a difference between the posttest attitude mean scores of the preservice teachers found in the control and experimental groups regarding the course of chemistry laboratory. In order to find out whether this difference was statistically significant or not, analysis of variance was conducted. Table 5 presents the results of analysis of variance.

Table 5: Analysis of Variance regarding the Posttest Attitude Mean Scores

Source of Variance	Sum of squares	Degree of freedom	Means of Squares	F	p
Inter-groups	4.253	2	2.127	10.552	0,000
Intra-group	20.959	104	0,202		
Total	25.212	106			

As a result of the analysis conducted, a statistically significant difference was found between the posttest attitude mean scores at the significance level of $p < 0.05$. In order to find out between which groups this difference occurred, post hoc tests were run. For this purpose, Scheffé test was applied, and the results obtained are presented in Table 6.

Table 6: Scheffé Test Results of Control and Experimental Groups

Groups	X	Standard Error	p
Control Group-Experimental Group 1 (WTÖ)	0.07302	0.10598	0.789
Control Group-Experimental Group 2 (WDÖ)	-0,38161*	0.10810	0.003
Experimental Group 1 (WTÖ)- Experimental Group 2 (WDÖ)	-0,45463*	0,10517	0,000

According to the results of Scheffé Test presented in Table 6, there was a significant difference between experimental group 2 and the control group – the former receiving Web-Assisted Instruction and the latter receiving traditional instruction – and between experimental group 2 and experimental group 1 – the former receiving Web-Assisted Instruction and the latter receiving Web-Based Instruction. Depending on these results, it could be stated that web-assisted laboratory instruction applied to experimental group 2 had positive influence on students' attitudes towards the course of Chemistry Laboratory than the other instructional methods applied.

DISCUSSION AND CONCLUSION

The quantitative results of the study revealed that the web-assisted method used in teaching the course of Basic Chemistry Laboratory had positive influence on the students' attitudes towards this course. The web-based and web-assisted methods used as the experimental process in the present study constituted the independent variable, and the students' attitudes towards the course of Basic Chemistry Laboratory constituted the dependent variable. In the study, the students participating in the instructional applications of the Web-assisted course of Basic Chemistry Laboratory had significantly higher levels of attitudes towards the course than those who did not participate in such applications did. However, there was no significant difference between the attitudes of the students who took part in the course applications conducted via the demonstration method (control group) and the attitudes of those who followed the course only by watching the videos of the teacher and by accessing the theoretical information about the course via the web-site (web-

based group). The affective contributions of the video lessons to the course which were watched by the students who were exposed to the experimental process were as follows: the students in both groups found the video lessons interesting and entertaining and focused only on the subject while watching the video lessons. In addition, the students were more motivated because they were able to access the video lessons in the web environment whenever they wanted and because they reviewed the videos as many times as they wanted based on their own paces of learning. The opportunity to re-access the video lessons via the web-site at different times and to watch repeatedly the parts they failed to understand influenced their attitudes positively.

According to the results obtained via the research findings and to the results of other studies reported in related literature;

Studies on the influence of multimedia use in educational settings on students' attitudes towards the course could be conducted.

In addition, further research could be designed to examine how use of interactive instructional web-sites involving different instructional methods and instructional design models especially in chemistry courses will influence students' attitudes towards web-based instruction.

Also, studies could be carried out to examine how use of videos to teach chemistry in educational institutions where there is no opportunity to conduct experiments could influence students' attitudes towards web-assisted courses.

Finally, research could be conducted to investigate how students' attitudes towards computers and the Internet influence their attitudes towards web-based and web-assisted instruction.

IJONTE's Note: This article was presented at 3rd International Conference on New Trends in Education and Their Implications - ICONTE, 26-28 April, 2012, Antalya-Turkey and was selected for publication for Volume 4 Number 1 of IJONTE 2013 by IJONTE Scientific Committee.

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REFERENCES

- Akgündüz, H. (2007). Eğitimin Felsefi ve Tarihi Temelleri I Ders Notları.
- Aydın, C. H. (2002). Çevrimiçi (on-line) öğrenme toplulukları. Açık ve Uzaktan Eğitim Sempozyumu 23-25 May, 2002, Eskişehir: Anadolu University.
- Büyüköztürk, Ş. (2010). Bilimsel Araştırma Yöntemleri. Ankara: Pegem Akademi Publications.
- Çakır, H. (2003). Web destekli öğretimin Cobol programlama dili dersindeki öğrenci başarısına etkisi. Gazi University Üniversitesi Endüstriyel Sanatlar Eğitim Fakültesi Dergisi, 13,44-55.
- Engelbrecht, J. and Harding, A. (2005). Teaching Undergraduate Mathematics on the Internet. Part 1: Technologies and Taxonomy. Educational Studies in Mathematics, 58(2), 235-252.

Kağıtçıbaşı, C. (1999). Yeni İnsan ve İnsanlar Sosyal Psikolojiye Giriş. İstanbul: Evrim Yayınevi, 10th Edition, Sosyal Psikoloji Dizisi:1.

Mutlu, M.E. and Öztürk, M. C. (1999). İnternet üzerinde bilgisayar destekli eğitim yazılımı geliştirme ve sunum araçlarının gereksinimleri karşılama düzeyleri. Bilişim Teknolojileri Işığında Eğitim Konferansı ve Sergisi Bildiriler Kitabı, Ankara: Middle East Technical University.

Nuhoğlu, H. and Yalçın, N. (2004). Fizik Laboratuvarına Yönelik Bir Tutum Ölçeğinin Geliştirilmesi ve Öğretmen Adaylarının Fizik Laboratuvarına Yönelik Tutumlarının Değerlendirilmesi. Gazi University, Kırşehir Education Faculty. Volume 5, Page 2, 312-327.

Uzunboylu, H. (2002). Web destekli ingilizce öğretiminin öğrenci başarısı üzerindeki etkisi. Phd Thesis, Institute of Educational Sciences, Ankara University, Ankara.

TEACHING AND ASSESSING OF AFFECTIVE CHARACTERISTICS: A CRITICAL MISSING LINK IN ONLINE EDUCATION

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ABSTRACT

Online education, defined as a platform for delivering educational content and facilitating instructor – student interaction over a computer network (Shelton & Saltsman 2005, pp 3-4) came of age in the 1990's and grew rapidly over the next decade (Allen & Seaman, 2010). 96% of US Universities currently offer online learning opportunities; with over 3 million students enrolled (Ebersole 2007). In addition, several colleges and universities around the globe now offer degrees that can be accomplished online. The promise and potential of online education is laudable; it has the ability to make education more convenient and accessible. Advances in technology has made this possible since learning can occur "asynchronously" anytime, anywhere, anyplace (Sloan 2010). However, studies (for example-Gerlaugh et al 2007, Popham 2009, Saxon and Calderwood 2008) have shown that teaching and assessment in schools; within the in-class, blended and online set up, are concentrated on cognitive achievement to the detriment of affective and psychomotor development of learners. In the light of this, and because of the fact that comprehensive assessment is an indispensable aspect of any meaningful educational program, attempt is made in this paper to examine the implications of the aversion to the teaching and assessing of affective characteristics in online education. The paper also makes strategic suggestions as a way forward.

Key Words: Affective, cognitive, assessment, in-class, online educators, online learners.

INTRODUCTION

Online education has grown significantly over the past ten years. Due to the rapid adoption of electronic communication and media, many educational institutions are delivering a large portion of their classes and curricula online. It is predicted that online course enrolments will continue to grow in all sectors of education (Allen & Seaman 2008). According to Ebersole (2007), in a society where people are changing jobs and careers more frequently, while simultaneously raising families, online learning is emerging as one essential and sensible alternative. Online students are not just adults aiming to bring about professional development but also young people. This fact has aroused the interest of a large number of institutions, which offer courses in the form of blended learning models, a combination of face to face and online systems, or totally online, which offer flexible and choice options that are more and more adaptable to the objectives and interest of students of all ages and cultures who live anywhere in the world.

Though on-line education is a relatively new but promising development, there are cautionary notes from some researchers concerning this innovation. For example Capra (2011) observes that while the promise and potential of online education is impressive, it is not without unintended negative consequences. Drago and Warner (2004) submit that "on-line education is here to stay", they however argued that if quality education is expected through this mode of delivery, its relationship to various learning styles should be investigated.

Furthermore, Reeves (2006) points out that the success of any learning environment, including e-learning, is determined by the degree to which there is adequate alignment among eight critical factors: 1) goals, 2) content, 3) instructional design, 4) learner task, 5) instructor roles, 6) student roles, 7) technological affordances, and 8) assessment. However, Reeves and Hedberg (2003) highlight the fact that the evaluations of traditional, online, and blended approaches to teaching indicate that the most commonly misaligned factor is assessment. In the same vein, Sperber (2005), Saxon and Calderwood (2008) among other researchers confirm the observations of Reeves and Hedberg (2003) in their submission that most instruction in higher education is focused on the cognitive domain to the exclusion of the affective and the psychomotor domains.

Following the aforementioned observations and cautionary notes, coupled with the fact that online education continues to gain momentum and captivate the interest of more people by the day, this paper examines the implications of the absence of teaching and assessing of affective characteristics in on-line education. In setting the background therefore, attempt is made to clarify the concept of affective domain, trace the origin of affective education and also highlight the taxonomy of affective qualities.

CONCEPT CLARIFICATION

Birbeck and Andre (2009) rightly point out that the affective domain is a vague concept that could relate to at least three different aspects of teaching and learning. According to them, the affective domain firstly could be about the teacher's approach to teaching in terms of Philosophy and what this communicates to the student. In this case, the affective domain relates to the way in which the teacher interacts with students to establish a relationship. Secondly, the affective domain could be about stirring up the affective attributes of students as a deliberate form of engagement. The essence of such a method could be to show disapproval or annoyance at an act of injustice and by so doing, some students may be encouraged to take a greater level of participation. With the first and second perspective of affective domain, the onus is on the teacher to establish the learning environment. It is expected that students will respond positively or otherwise. However, they do not initiate. Thirdly, the affective domain could be about learners being engaged with the development and understanding of their own motivations, attitudes, values and feelings with respect to behavior as a citizen and a professional. The discussion in this paper is based on the third perspective.

THE SOURCE OF AFFECTIVE LEARNING

Affective learning characterizes the emotional area of learning reflected by beliefs, values, interests, and behaviors of learners (Krathwohl et al, 1964; Smith & Ragan, 1999; Gronlund & Brookhart, 2009). Affective learning is concerned with how learners feel while they are learning, as well as with how learning experiences are internalized so they can guide the learner's attitudes, opinions, and behavior in the future (Miller 2005).

There are two main schools of thought concerning affective education. The first school of thought maintains that the content of affect (values, morals and ethics) is found in sources external to human experience. This idea has its source in the philosophy of Realism and Idealism as well as in Religion. According to this school of thought, beliefs; values are to be found in divine inspiration and the wisdom of the elders over the years. For example individuals of the Christian persuasion accepts Gods commandment by faith, reason being that the source is seen as supernatural and that God is sovereign. Other injunctions that have been in operation for years are also accepted based on culture as lay down by the elders. In the field of education therefore, when beliefs are identified, it is expected that these beliefs be inculcated in the learners and the learners' be made to comply. This is an absolutist affective education and it works through indoctrination. The second school of thought maintains that the content of affect should be derived mainly from the analysis of human experience. This view has its source in the philosophy of Pragmatism enunciated by Dewey (1939). According to this school of thought, values are developed as the individual or group goes through a process in stages. These stages as put forward by Dewey for the individual or group are:

1. Interact with the environment
2. Reflective thinking on the meaning of the interaction
3. Based on the reflective thought, formulate values or beliefs
4. .Based on reflective thinking apply the formulated values to new situations

As reflective thinking continues concerning the new situation, the original values or beliefs will either be reconfirmed or changed. This school of thought does not envision a society of entirely autonomous values (Raths 1975) but emphasis the capacity of human beings to engage in meaningful reflective thinking. Within the context of the school system this view leads to developmental affective education. What the school does therefore when operating on the basis of this view is to guide learners to come up with values or beliefs through reflective thinking and also encourage learners to embrace values that are fundamental such as the right to human dignity. This conception of affective education has a lot in common with telonomic position put forward by Phenix (1969) with his emphasis being on the need for schools to promote a lifelong enquiry for values through critical thinking. Similarly, Raths values education (1978) and Kohlberg's moral education (1978) can be traced to this conception of affective education.

Apart from the absolutist and the Pragmatic views, another conception that one cannot ignore in any discussion of affective education has to do with the psychological theories of Carl Rogers, Abraham Maslow, Earl Kelley and Arthur Combs (1962). These emphasize the cardinal role of personality and perception in learning. They recommend that priority attention be given to self concept, interpersonal relations and the discovery of personal meaning in the curriculum. Within the school system, this view is generally known as humanistic education. The work of Raths (1972) on emotional needs and that of Combs (1972) on value development reveals a similarity between developmental education and humanistic education. A major difference however is that Dewey and the members of his school of thought place emphasis on social development whereas the humanistic psychologist place emphasis on personal growth. Developmental affective education therefore is based on the works of John Dewey and that of the humanistic psychologist.

TAXONOMY OF AFFECTIVE QUALITIES

Krathwohl et al (1964) proposed a five level taxonomy of the affective domains arranged in a hierarchy according to complexity.

The first level of the affective taxonomy is referred to as "receiving". At this level, the learner is aware of the topic, stimuli, event or issue and is willing and ready to learn about it or respond to it. It follows therefore that in order to progress in the taxonomy; a learner must be aware of and attend to the issue or event in question. Where the learner fails to receive information, progress on affective hierarchy becomes stocked. A common example of this level of affective learning is class attendance and concentration during lectures at school. During the process of "receiving" the learner comes across new ideas and makes effort to understand them.

The Second level, "responding" ranges from compliance by voluntary response to having a sense of satisfaction in doing what is required. For example, a learner obeys class rules and regulations, complies with teacher's instructions and participates in class activities as required.

The third level is referred to as "Valuing". At this level the learner voluntarily manifests behaviors that are consistent with certain beliefs. For example, when a learner demonstrates kind gestures towards others, comes punctually to school, does and submits assignment as and when due. Students demonstrate "valuing" when they consistently prioritize time effectively to meet academic obligations and when they, for example, practice the safe handling of equipment and materials in a laboratory science course throughout a semester (Gronlund & Brookhart, 2009).

At the fourth level of the taxonomy; "Organization" the learner organizes a set of values into a value system (i.e. the learners general set of values) that are used to respond to diverse situations. Gronlund (1991) confirms the increasing complexity of this form of learning in his observation that: "as affective outcomes move from simple to complex, they become increasingly internalized and integrated with behaviors..... to form complex value systems and behavior patterns" (P.55).

The fifth level and which is the highest level in the hierarchy of affective taxonomy is "characterization by a value or value set" and this occurs when a student's behavior is consistent and predictable as if it has been adopted as a life style (Gronlund, 1991, P. 34). In other words, the student has internalized the values to the extent that they characterize him or her.

THE AVERSION TO AFFECTIVE DOMAIN IN ONLINE EDUCATION: SOME IMPLICATIONS

Though in existence for long, affective learning taxonomy has neither been recognized nor used in curriculum development to the same degree as the cognitive taxonomy. There are numerous factors that contribute to higher education's collective aversion of the affective domain (Pierre & Oughton, 2007). A school of thought opines that affective learning is a byproduct of cognitive learning and for this reason it is argued that affective learning outcomes do not need to be indicated, taught, or assessed separately. Furthermore it is maintained that there are in fact, close parallels between Bloom's taxonomy for the cognitive domain and Krathwohl's taxonomy for the affective domain (Smith & Regan, 1999) and because of this, special attention should not be given to the affective domain. Further challenges in affective learning and assessment is said to arise from difficulties in precisely stating desired affective learning outcomes because they involve opinions, beliefs, and attitudes (Bloom et al 1956; Smith and Regan, 1999).

Yet another School of thought that seeks to explain the lack of attention given to the affective domain maintains that the cognitive domain is intuitive in that it seems to make sense to concentrate on the body of knowledge, makes sense for students to develop problem solving skills and to critically question science and society and makes sense to have graduates who have the capacity to develop creative response to difficult and complex problems (Krathwohl et al, 1964; Pierre & Oughton, 2007). It is also argued that the cognitive domain is relatively easy to assess and to apply sound assessment practices like moderation to ensure some level of objectivity and fairness (Pierre & Oughton, 2007). On the other hand the affective domain is said to be contentious raising all manner of fundamental challenges and questions that go to the very heart of the purpose of education at a tertiary level and asks hard questions about social and cultural power in education, such as:

- How does one judge intrinsic qualities such as values, motivation, feelings and attitudes?
- Is higher education an appropriate place to develop qualities such as hard work or having a goal?
- If so how should they be assessed?
- What will be used as a standard upon which one judges?
- How does one ensure any sense of validity and transparency?
- How can one tell if students are authentically displaying these intrinsic traits and not just "playing the game"? (Birbeck. & Andre (2009)

Again, and in a sense most pervasively, affective learning in traditional and online education has suffered from benign neglect, wherein faculty have failed to identify and describe their legitimate aims for students' affective learning (Colby & Sullivan, 2009; Pierre & Oughton, 2007; Shephard, 2008). Shephard further submits that some individuals avoid specifying student affective learning outcomes because they are afraid of being accused of indoctrination or brainwashing.

Plausible as these arguments may be or seem to be, one opines that they do not justify the apathy concerning affective education and its assessment in online education. According to Stiggins (2005, P.199 – 200),

"motivation and desire represents the very foundation of learning. If students do not want to learn, there will be no learning. Desire and motivation are not academic achievement characteristics, they are affective characteristics". This being the case, the only avenue of working on learners' desire and motivation has long remained unattended to in online education. Nolting (2007) points out that performance in Mathematics has almost as much to do with students' attitudes and beliefs as it has to do with their mathematical knowledge. Mathematics and the sciences have for many years been seen as dreaded areas by many students and the situation is still the same. More often than not, the blame is on the "innocent" students while not many are ready to admit the fact that the curriculum is lopsided and the students' negative attitude could also be due to this.

At all levels of online education there is the possibility for the level of interest in learning and the desire to excel academically to diminish over time. While some learners do drop out of online education program for inability to see the relevance in the curriculum, some of those who succeeded in completing the program do end up totally disengaged from the educational process for the same reason. This is also one of the implications of the absence of teaching and assessing of affective characteristics embedded in the curriculum. Such assessment if put in place would enable online educators to keep regular watch on students' beliefs concerning their ability to meet educational objectives and standards as well as the students' attitudes concerning the relevance and importance of the content they are learning. Affective construct therefore puts the online educator in a good position to identify on time students with the likelihood of dropping out of the system. Since not much use is being made of the affective construct, a lot of casualties continued to be recorded by way of learners dropping out of school or losing interest after completing a segment of the educational system successfully. For example, According to Aragon and Johnson (2008) Institutions of higher Learning, particularly Community Colleges report that withdrawal rates in online courses have surpassed traditional courses by at least 20%. Similarly, Capra (2011) observes that for many institutions, online education is creating an interesting paradox; growing demand and enrolment coupled by higher withdrawal and failure rates.

Popham, (2011, P.233) argues that the reason such affective variables such as students' attitudes, interest and values are important is because they typically influence future behavior. He highlights further that it is necessary to promote positive attitudes towards learning because students who have positive attitudes towards learning today will be inclined to pursue learning in the future. It follows therefore that where the machinery through which the affective status of online learners are not put in place it becomes practically impossible to know how students are predisposed to behave in subsequent years. This is the prevailing scenario within online education system and the implication of this is that the online learners who would have been helped while still within the system lost the opportunity because there was no way of knowing their affective status.

Ideally, Education is to equip the learner for citizenship and citizenship precludes an individual who is not just able to read, write, carry out mathematical operations, think critically, be an effective employee or employer but also possess a general sense of social responsibility. However, for many years now, looking at the products of online education, a learner with pass marks in his or her courses/program of study receives a certificate at the end of the course no matter how "unruly" he or she may be. This is all because the affective traits do not count towards obtaining a certificate. Apart from the certificate that shows academic attainment, Institutions operating online programs do not issue any document that shows affective characteristics and such document with Institutional authentication is not required in the job market either. To some extent, the 'moral complications' in the society can be traced to this.

Griffith & Nguyen (2006) rightly liken the cognitive domain when focused upon alone in the curriculum at the expense of the affective domain to a skeleton without the skin. Strangely enough that is what the curriculum of online education has continued to be for years. It is frightening to imagine the impact that such

incomprehensive curriculum will have on the society in the distant future going by what is all over the place now. Olubor & Ogonor (2007) carried out a study that hinges on production theory. The crux of the theory is that within a learning environment, if the change agents adequately process the inputs into the system the desired output can be attained. In online education, the online teachers and pupils are both the inputs while the online teachers are also the main agents in the processing stage. The ability of the online teachers to successfully carry out the processing stage diligently, determines the expected output which in the study is the good citizen. They however submit that citizenship education can best be taught by using teaching methods in the affective domain. They correctly observe that this is the right approach to the acquisition of learning which has to do with values, beliefs, attitudes, social relations, emotional adjustments, habits and life styles. While a pressing need and the pride of every nation is good citizens in increasing number, paradoxically the only viable means of attaining this; the teaching and assessment of affective characteristics is not receiving the necessary attention in online education. This explains to some extent why the cry for good citizenship in many nations is not bringing in the expected result.

Even with the focus on the cognitive domain, our schools are still producing many students that fall short in this area. The biggest critics of today's educational system are the business community and those who have graduated from in-class education and or online education program. Though many of them also passed through both or either of the educational programs, they can now see that the programs are not actually giving those passing through them what it takes to actually perform excellently out there in the wider world. As Griffith & Nguyen (2006) point out, "what good is the acquisition of a vast range of academic skills if we are unable to integrate them?" They observe that students need to be able to communicate value, organize and characterize, to effectively utilize and make sense of what they have learnt. These however are affective characteristics. This being the case, it is extremely difficult, if not totally impossible to attain maximally in the cognitive domain unless the complementary skills in the affective domain is not only taught well but carefully developed.

Sumsion and Goodfellow (2004) in their work mapping generic skills across a number of curriculums articulate their concerns with what they describe as "unproblematised accounts of the development of generic skills and qualities" (P330). They claim that the skills that one might develop in an environment such as in a Higher Education setting might not automatically transfer to other settings. Furthermore, they assert there is a difference between capacity and competence such that "—capacity extends beyond competence; it involves an ability and a willingness to apply understanding, knowledge and skills to unfamiliar contexts and unfamiliar problems (P.332). Precisely, the argument is that while cognitive skills may be developed well enough in online education, unless the student has certain affective capabilities they are less likely to be able to use their cognitive skills and understanding across a range of environments. (Boud & Falchikov, 2006). Consequently, there must be an explicit relationship between cognitive learning, assessment and "capability" (Sumsion & Goodfellow, 2004).

Crebert, Bates, Bell, Patrick and Cragnolini (2004) claim that a student's ability to integrate and demonstrate generic skills across contexts "Requires ethics, judgment and self confidence to take risks and a commitment to learn from experience" (P.148). *"The idea of skills, even generic skills is a cull de sac. In contrast, the way forward lies in construing and enacting pedagogy for human being. In other words, learning for an unknown future has to be understood neither in terms of knowledge or skills but of human qualities and dispositions"*. (Barnett, 2004, P.247). In 'Learning for an unknown future' Barnett (2004) states that a being capable of thriving with uncertainty needs dispositions; "Among such dispositions are carefulness, thoughtfulness, humility, criticality, receptiveness, resilience, courage and stillness" (P.258). The reality of the submissions of Crebert et al & Barnet can be seen in the common cases of graduates from online education with certificates showing brilliant academic attainments but who cannot "actually deliver in the society".

The cognitive and the affective domains are interdependent. For this reason, focusing on cognitive constructs to the exclusion of affective construct in online education can only unavoidably lead to an incomplete educational experience for online learners and this has been the situation in online education for some time. The implication of this, among other things is that we have online learners for example with an advanced knowledge of their specific fields and with great abilities but with little or no regard for their professions or the ethical standards that govern them. Educators can only foster the desired positive change in learners' dispositions, attitudes, values and ethical perspectives by obtaining necessary information through a diligent and consistent assessment of the affective domain. Incidentally this is the domain that has been left dormant for some time now in online education. The essence of assessing dispositions is to ensure that the online learners have positive productive attitudes, values, etc so that online educators can capitalize on these, work on them to bring about increased attainment on the part of online learners. Where the assessment reveals negative feelings, the onus is on the online educators to labor for necessary educational experiences that will bring about the anticipated positive dispositions.

Krathwol, Bloom & Masia (1964, P.60) in their seminal work describe the affective domain by contrasting it with the cognitive domain thus: "In the cognitive domain we are concerned that the student shall be able to do the task when requested.. In the affective domain we are more concerned that he does do it when it is appropriate after he has learned he can do it" Krathwohl's definition shows that the emphasis in the affective domain is : "did you" or didn't you" when you knew how? . With this definition the problem of subjectivity is totally ruled out. Birbeck (2008) gives a practical application of Krathwohl's distinction within the traditional classroom set up when he writes: *" I once taught Ethics to fourth year Education students. The final assessment asked the students to discuss their understanding of ethics and they were encouraged to use examples from their experiences on preceding practicum placements. One student wrote about how he came to believe that a student in his year two class had been sexually abused. He reported the matter to his mentor teacher and his ethical discussion in his essay centered on the fact that to his knowledge the teacher did not comply with South Australian law in terms of mandatory notification. What was not covered in the essay was that the student had completed his mandatory notification training and was under an equally compelling obligation as his mentor teacher to notify. Arguably, he had a higher obligation as it was his conviction of the abuse that raised the issue. ----He could have reported but he did not-----he has not demonstrated that he has the capacity to protect his students; an expectation placed on his profession by society, his employer and by his profession".*

Applying Krathwohl's et al (1964) description in online education enables one to judge an outcome in the affective domain without necessarily occupying the untenable position of judging another's attitude, values, feelings or motivations. The judgment is carried out by aligning the student's actions with what is expected by the particular profession in question.. This is one of the things that the "abandoned" affective characteristics would take care when given the necessary attention in online education.

THE WAY FORWARD

Effort has been made in this paper to highlight the fact that in online education, emphasis has been on instruction in the cognitive domain to the neglect of teaching in the affective domain. As highlighted in the paper also, several reasons have been put forward to justify this neglect. However, going by the implications of this continued neglect of the affective domain in favor of the cognitive domain as discussed in this paper, unless the necessary balance between the affective and the cognitive domains in online education is restored and the move started without further delay in a significant way, time will doubly prove the curriculum of online education to be grossly incomplete. Should this happen, then the implications that are emanating now as a result of the imbalance will only be a tip of the ice bag because by then the consequences would have become aggravated. The bottom line therefore is that the critical importance of affective learning in "whole person development" can no longer be ignored in 21st century online education.

If there will be appreciable result, then the modality of redressing the said imbalance between the cognitive and the affective domains in the curriculum of online education must be comprehensive in nature and properly coordinated by relevant authorities’.

In restoring the balance between the affective and the cognitive domains in online education, some learning and teaching activities can be used. These include: problem based learning, group analysis of case studies, perspective sharing and reflection and the use of the multimedia to trigger responses. These activities, if well handled and integrated by online educators will go a long way in fostering the teaching and assessment of affective characteristics.

The measurement of important personal and social qualities, including affect, cannot occur directly. Unlike the measurement of height and weight, which involve the use of well calibrated and standardized tools that directly measure stable qualities, the measurement of temperament, personality, attitudes, feelings, emotions, and values may involve the use of tools that are not as well calibrated. However, despite these difficulties, progress can still be made by using some less complicated methods such as, observations, interviews, self-report, questionnaires and surveys. Measurement generally is enhanced when information from various informed and knowledgeable sources is considered. For example, when working with adolescents, measurement of important affective traits may be enhanced by acquiring information directly from the target adolescents as well as from their parents and siblings, teachers, friends and other peers, together with others who are very close to them. The acquisition of information from other sources may be particularly beneficial when the traits being measured are displayed externally (as opposed to ones, like preferences, that are displayed internally).

Furthermore, an accurate understanding of one important trait is enhanced by information about various other important traits. For example, an understanding of qualities associated with extroversion-introversion generally is enhanced by knowledge of a person’s age, gender, intelligence, achievement, language, self concept, and other important qualities.

Restoring and maintaining the balance between affective and cognitive domains in online education will amount to additional workload for online educators. It is therefore important that this onerous responsibility be adequately compensated for in terms of commensurate remuneration.

Institutional administrator of online education, online educators and assessment specialists will need work together and ensure that regular conferences, workshops and in-service trainings are carried out in the area of affective characteristics and their assessment within the framework of online education. The outcome of such exercise should also be strategically and wisely disseminated. The relevant authorities will also need to make available Research grants in the area of affective characteristics and their assessment in schools. To follow this up, Institutions and individuals are to be encouraged to apply for these grants and carry out in-depth Research that will further address current and anticipated issues in the area of affective education and affective assessment in online education. Some of the issues that online educators need to focus upon for solution include:

- What methods of affective education would be legitimate to adopt in a situation where young online learners do not have the capacity to think logically at higher cognitive levels?
- What happens if genuinely and carefully formulated values and actions go contrary to established values and traditions of Institutions offering online programs?
- What public value may be promoted within the scope of the law such that the rights of the learners and the rights of the society will both be protected?

These and many other issues about affective education and affective assessment in online education can definitely not be sorted out in one go. However the journey towards solution must start actively and in a

coordinated and comprehensive way somewhere. If this is done, before long, the needed balance between affective and cognitive domains in online education will be restored and online educational experience will be complete and rewarding.

CONCLUSION

Following the discussion in this paper, it can be deduced that affective education is a necessary condition for effective online education. In the light of this there must be a quick end to being enamored only with knowledge acquisition in online education. The impression that is long been given that cognitive thinking education is equal to academic courses devoid of affective education is misleading and should not become embedded in online education.

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REFERENCES

- Allen, I.E & Seaman J (2008) Sizing the opportunity: The quality and extent of Online Education in the United States, 2002 and 2003. The Sloan Consortium, Needham, Massachusetts. Retrieved. February 12, 2004 from <http://www.sloan-.org>
- Anderson, L.W. (1981). Assessing Affective Characteristics in Schools. Ally & Bacon, Boston.
- Barnett, R. (2004) Learning for an unknown future. High Education Research and Development, 23, 247-260.
- Barnett, R. 92004). Learning for an unknown future. High Education Research and Development, 23 (3), 247 - 260.
- Beane, A.J. (1986). The Continuing Controversy over Affective Education. Educational Leadership. January.
- Birbeck, D & Andre, K (2009), The affective domain: beyond simply knowing, ATN Conference, RMIT University.

- Birbeck, D & Andre, K (2009), The affective domain: beyond simply knowing, ATN Conference, RMIT University.
- Birbeck, D. (2008), Graduate Qualities and the affective domain; New horizons to explore. Occasional Papers on Learning and teaching at UniSa – Paper 1.
- Birbeck, D. (2009). Graduate qualities and the affective domain: New Horizons to explore. Adelaide University of South Australia.
- Bloom, B.S, Engelhart, M.D, Furst, E.J, Hill, WH, & Krathwohl, D.R (Eds) (1956). Taxonomy of educational objectives; The classification of educational goals. Handbook I; The cognitive domain. New York; David McKay Co Inc.
- Boud, D. & Falchikov, N. (2006). Aligning assessment with long term learning. Assessment and evaluation in Higher Education, 31(4), 399-413.
- Capra, T. (2011). Online Education: Promise & Problems. Merlot Journal of Online Learning and Teaching. Vol. 7 No 2 June.
- Colby, A, & Sullivan, W.M.(2009). Strengthening the foundations of students' excellence, integrity, and social contribution, Liberal Education, 95(1) 22-29.
- Combs, A, ed (1962). Perceiving, Behaving, Becoming. Washington DC. Association for Supervision and Curriculum Development.
- Combs, A. (1972). Helping Teachers Change their Values. In Developing Value Construct in Schooling Inquiry into Process and Product. Edited by James Phillip. Washington Ohio Association for Supervision and Curriculum Development.
- Crebert, G, Bates, M, Bell, B, Patrick, CJ, & Cragolini, V. (2004), Developing generic skills at university, during work placement and in employment; graduates' perception. High Education Research and Development, 23(2), 147 -165.
- Dewey, J.(1939). Theory of Valuation. University of Chicago Press.
- Drago, W.A & Wagner, R.T.(2004). VARK Preferred Learning styles and Online education. Management Research News, 27(70), 1-3.
- Ebersole, J.F. (2007). Online Education: Advancing the Learning Curve. The New York Times. PA21.
- Fuller U & Keim, B (2007), Should we assess our students' attitudes? Paper presented at the Seventh Baltic Sea Conference on Computing Education Research, Finland.
- Gerlaugh, k. Thompson, L. Boylan, H and Davis, H (2007). National Study of developmental education 11: Baseline data for community colleges, Research in Developmental Education, 20 (4), 1-4.
- Griffith, G.K & Nguyen, D.A. (2006). Are Educators Prepared to Affect the Affective Domain? National Forum of Teacher Education, Journal-Electronic. Volume 16 Number 3E, 2005-2006.
- Gronlund, N.E.(1991). How to write and use instructional objectives(4th ed) New York: Macmillan Publishing Company.

Gronlund, N.E., & Brookhart, S.M.(2009). Writing instructional objectives (8th ed). Upper Saddle River, NJ; Pearson Education.

Howe, A. (2003), "Twelve tips for developing professional attitudes in training", Medical Teacher, Vol 25. No 5, PP. 485 -7.

Kohlberg, L. (1975). The Cognitive Development Approach to Moral Education. Phi Delta Kappan 61(670-677).

Krathwohl, D.R., Bloom, B.S. & Masia, B.B. (1964) Taxonomy of Educational Objectives: Handbook 2: The Affective Domain, London, Longman, Green and Co Ltd.

Maas Weigert, K, (2006), "Justice, integrity and action: individuals and institutions", Improving University Teaching, paper presented at 31st International Conference, available at :www.iutconference.org/2006/pdfs/MaasWeigert.pdf

Menix, K.D. (1996). Domains of learning: Interdependent components of achievable learning outcomes. The Journal of Continuing Education in Nursing, 27(5),200-208.

Miller, G, Frank D, R. & Getto, C. (1989). Non Cognitive criteria for assessing students in North American Medical Schools. Acad. Med. 64, 42-45.

Miller, M. (2005) "Learning and teaching in the affective domain", in Orey, M.(Ed.) College of Education eBook University of Georgia, Athens.

Nolting. P. (2007) Winning at math(5th) Bradenton, FL: Academic Success Press Inc.

Oakland, T. (1997) .Affective Assessment.Paper presented at CONPE, Rio de Janeiro, 1997.

Olubor, R.O. & Ogonor, B.O. (2007). Instructional activities of Staff personnel in the affective domain in selected secondary schools in Southern Nigeria. International Education Journal, 8(1), 82-88.

Paice, E., Heard, S.and Moss, F. (2002), How important are role models in making good doctors?" BMJ,Vol. 325, pp707-10.

Phenix, P. (1969). The Moral Imperative in Contemporary American Education. Perspectives in Education.

Pierre, E, & Oughton, J, (2007). The affective Domain: Undiscovered Country. College Quaterly, 10(4),1-7.

Popham, W.J. (2009). "Unlearned Leasons:Six Stumbling Blocks to our School's Success". Harvard Education Press.

Popham, W.J. (2011). Classroom Assessment: What teachers need to know. Boston, M.A: Pearson.

Raths, L.E(1975). Social Change and Values, Impact on Instructional Improvement.

Raths, L.E. (1972) Meeting the needs of children; Creating Trust and security. Ohio, Charles E. Merrill.

Raths, L.E.(1978). Values and Teaching.2nd ed. Ohio. Charles, E. Merril.

Reeves, T.C. (2006) How Do you know they are learning?: the importance of alignment in higher education. *International Journal of Learning Technology*, Vol. 2 No 4.

Reeves, T.C. and Hedberg, J.G (2003) *Interactive Learning Systems Evaluation*, Englewood Cliff, NJ: Educational Technology Publications.

Russell, M. (2004). The importance of the affective domain in further education classroom culture. *Research in Post-Compulsory Education*, 9(2), 249-270.

Saxon, P. & Calderwood, B. (2008). Affective Assessment for Developmental Students, Part 1. *Research in Developmental Education*. Vol. 22, Issue 1, 2008. Appalachian State University.

Saxon, P. & Calderwood, B. (2008). Affective Assessment for Developmental Students, Part 1. *Research in Developmental Education*. Vol. 22, Issue 1, 2008. Appalachian State University.

Shephard, K. (2009). Higher education for sustainability: Seeking affective learning outcomes. *International Journal of Sustainability in Higher Education*, 9(1), 87-98.

Sloan Consortium Commons. (2010). Glossary of Online Terms. Retrieved from <http://commons.sloanconsortium.org/document/glossary-alphabetic-listing-definitions-about-online-learning-jain>

Smith, P.L. & Ragan, T.J. (1999). *Instructional design*. New York: John Wiley & Sons, Inc.

Smith, P.L., & Ragan, T.J. (1999). *Instructional design*. New York: John Wiley & Sons, Inc.

Smith, P.L., & Ragan, T.J. (1999). *Instructional design*. New York: John Wiley & Sons, Inc.

Sperber, M. (2005) 'How undergraduate education became college -lite and a personal apology' in R.H. Hersh and J. Marrow (Eds) *Declining by Degrees: Higher education at Risk*, New York: Palgrave. Macmillan, pp243-310.

Sterling, M. (1967). What Task for Schools. *Saturday Review* 49. January 14.

Stiggins, R.J. (2005). *Student-involved assessment for learning*. Upper Saddle River, NJ: Pearson.

Sumsion, J. & Goodfellow, J. (2004). Identifying generic skills through curriculum mapping: a critical evaluation. *High Education Research and Development*, 23(3), 329-346.

THE USE OF ARCHIVES IN EDUCATION: EXAMPLES FROM ABROAD

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ABSTRACT

Archives are institutions in which materials which have to be stored over a long period of time are maintained and brought into use. The archival material has administrative, financial, judicial, and more over, historical value. Thus, this material has the ability to shed light on the past and the future. Therefore, archives should be used as part of primary, high school and university education programmes. In particular, national archives abroad use different practices and techniques in order to extend the use of archives to educational programmes. Moreover, these national archives design practices and techniques according to the ages and area of interests of the students.

In this study, entitled “The Use of Archives in Education: Examples from Abroad”, the practices of national archives that have understood the importance of archives in education and have organized special programmes for teachers and students will be explained. These national archives include those in the USA, England, Scotland and Australia. Also in this study, in addition to the contributions of the four national archives to education, the ways in which we can improve the role of archives in Turkey for education will be discussed.

Key Words: Archival Material, Education, National Archives.

INTRODUCTION

Binark states the importance of archives as follows (Binark, 1995:258):

‘Every nation owns an historical heritage. An important part of this heritage consists of cultural properties, both material and virtual, such as archives, libraries and ancient remains. These cultural properties play a big role in being and continuing to be a nation.

Archives are the deed of a country, the identity, the diary and the whole existence of a people, the fundamental feature and the most valuable cultural and historical treasury of a country connecting the past with the present and the present with the future by carrying the rights and the priorities.’

Materials that are preserved by archives have historical, evidential, informational, fiscal, administrative and legal value. These unique materials are the primary sources that should be used for education. Thus using primary sources for education is a great opportunity both for students and teachers.

Over the past fifteen years archivists have made millions of primary source documents available on the Web. The availability of online primary sources precipitated a fundamental transformation in the past decade of how elementary through high school students learn history. Students now routinely evaluate and incorporate primary sources in their history projects. In addition to textbook narratives, students evaluate original source materials, formulate their arguments, and learn to defend their opinions about the past. This generation of

students is arriving on college campuses more prepared to deal with primary source documents than any previous generation (Malkmus, 2008: 47-48).

This study entitled 'The Use of Archives in Education: Examples From Abroad' aims to stress the importance of archives and the primary sources they provide for education and also to illustrate the use of archives. Within this context the practices of national archives that have understood the importance of archives in education and have organized special programmes for teachers and students will be examined. It is also important to mention that this study focuses exclusively on the use of archives in education of undergraduates.

ARCHIVES IN EDUCATION

Archives are one of the rare organisations that can provide primary sources both for educators, students and other people interested. There is little doubt that primary sources can be of real value in the classroom. Primary sources give students a connection with the past, bridging the gap between often seemingly distant historical phenomena and the present. They train students to recognize historiographic bias, interpret evidence, and read and digest intellectually and syntactically difficult material. Moreover, primary sources present students with the materials from which to shape informed opinions of their own, relatively free of the pedagogical interference of textbook authors and editors (Newmark, 1997: 283).

Despite the lack of studies on this subject the advantage of using primary sources for educational purpose has been recognized by some authorities. Several examples to those studies are:

In 2002, Matthew Lyons wrote an article comparing electronic and non-electronic resources in K-12 classrooms that deal with primary source materials. He discusses how primary source materials and digital technology enhances K-12 teaching:

'Providing schools with digital access to archival materials can strengthen both student learning and archival practice. It can help students learn to approach history actively, creatively, and critically, and it can help archival institutions broaden and deepen their public service and community ties. But such benefits are not automatic, and the advantages of digital access should not be allowed to blot out the advantages of hands-on access. Ideally, archives should encourage teachers and students to use both approaches.' (p. 20)

Hendry in his article 'Primary sources in K-12 education: Opportunities for archives' states that (Hendry, 2007:129):

'The movement toward using archival documents in the K-12 classroom, fueled by trends in educational theory and the current zeal for standardized testing, present an unprecedented opportunity for the archival community to become involved in elementary and secondary education encouraging the use of its records by students can improve the diversity of a repository's user base and create broader access to the materials in its care. Such outreach activities can also help to create ties to the community and help cultivate the next generation of archival users, donors, and supporters.'

History is the main usage area of the primary sources provided by archives. Study of historical records shows students the value of historical source material. It provides an exciting introduction to the primary material of history, shows students how history is recovered and represented from historical records and shows them that history may be unclear and has to be derived and interpreted from incomplete and sometimes inconsistent or contradictory sources. Study of historical records also improves reading, analytical and writing and presentation skills (Dearstyne, 1993:204).

As seen through the examples above the importance of primary sources (archival material) is beyond

argument. At this point it is strategically important to promote the use of primary sources in education. In order to achieve this aim both archives and schools should develop special programmes and create an interactive relation with each other.

Ken Osborne discusses 8 ways to bring schools and archives together. These ways are (Osborne, 1986:28):

1. Teacher education projects and activities,
2. Classroom units of instruction on the work and role of archives,
3. Exhibition and visits,
4. Projects involving students in archival research,
5. The production of archives-based teaching kits,
6. The use of students to identify and collect material of interest to archives,
7. The formation of school-based archives and
8. The establishment of organizational linkages between teachers and archivists

Osborne also suggests 6 main ways that can be done for establishing collaboration between archivists and educators (Osborne, 1986:39):

- Archivists should get themselves on the mailing lists of people and organizations involved in history and social science education.
- Conversely archivists should include such groups in the mailing list of relevant archival publications.
- Archives staffs could be represented on appropriate curriculum committees, advisory groups, specialist teachers organizations and so on.
- Archivists should contact professional development staff of teachers' federations in order to become part of the network of resource people and givers of in-service programmes.
- Archivists could work out in-service programmes which would be made available to teachers.

Carini in his article 'Archivists as Educators: Integrating Primary Sources into the Curriculum' points out the importance of drawing students into and exciting them about the use of the primary sources and defines some specific concepts include the following (Carini, 2009: 48):

- The definition of a primary source,
- How to use observation as a tool to understanding and analyzing documents,
- An understanding of audience and its importance when evaluating primary sources (is the audience an individual as in the case of a private letter, or the world as in the case of a press release?),
- The relationship between the creator and the audience (what one writes to a parent from college is different from what one writes to a friend or sibling and should color the use and evaluation of the content),
- The importance of date (even subtle things about a date, such as it was written in winter in colonial New England, can add to the researchers understanding of the context surrounding the document and its creation),
- The tone of a document, which can tell things about the creator, their mood, and their outlook,
- The physical evaluation of documents, the quality of the paper, the ink, the handwriting, and the impression if printed,
- An understanding of the importance and role of chronology,
- How to create a narrative to form an understanding of the information in primary sources (narratives are always supplied in secondary sources, but this is not the case with many primary sources),
- An understanding of the nature and syntax of a variety of document types and sources including written, printed, visual, and financial,
- How to identify collections appropriate to research needs,
- How to identify appropriate materials within a collection,
- How to interpret silences in the archives,

- How to interpret evidence surrounding underrepresented or illiterate groups and
- The importance of a flexible research process that lends itself to change and deviation when appropriate

THE EXAMPLES FROM ABROAD

There are some countries that are leading the way in professional archival processes. These countries' archives are well aware of the importance of archival materials for education. In this part of the study the special programs and systems developed by these national archives for education are being examined.

USA

The importance of primary source documents in education was already recognized in USA even before the web became a classroom resource.

Archivists at the Library of Congress and the National Archives and Records Administration (NARA) collaborated with teachers to prepare primary source documents for use in schools. Beginning in the 1970s, several state archives and NARA published primary source documents with accompanying teacher's guides (Malkmus, 2008: 55).

NARA is the national archives of USA. It has a special section on its website called 'Teachers' Resources' and it is designed for the teachers and students who want to use NARA's primary sources for education.

Teachers' Resources has 4 sections and these are (<http://www.archives.gov/education/>):

1. Lesson Plans and Activities
2. School Tours and Activities
3. Using Primary Sources and
4. State and Regional Resources

Lesson Plans and Activities section contains reproducible copies of primary documents from the holdings of the National Archives of the United States, teaching activities correlated to the National History Standards and National Standards for Civics and Government, and cross-curricular connections. Teaching with primary documents encourages a varied learning environment for teachers and students alike. Lectures, demonstrations, analysis of documents, independent research, and group work become a gateway for research with historical records in ways that sharpen students' skills and enthusiasm for history, social studies, and the humanities (<http://www.archives.gov/education/lessons/>).

NARA has also established a special and unique learning system as a school activity called 'Boeing Learning Center'. This center has two areas which are; 'Resource Room' and 'Learning Lab'. In the Resource Room students can obtain copies of documents featured in the archives' exhibits, participate in Archival Adventures—hands-on activities that encourage historical discovery; explore online resources; preview the archives' educational publications; and sign up for Teaching with Documents workshops. The Resource Room is open Monday through Friday 10 a.m. to 4 p.m., and reservations are not required. The Learning Lab provides an on-site collaborative research experience for classes of up to 36 middle school students. The problem solving exercise inspires young visitors to connect to our nation's exciting, and very instructive, past (<http://www.archives.gov/nae/visit/learning-center/>).

England

The National Archives of England has also established a systematic programme for education. The basic parts of this programme are (<http://www.nationalarchives.gov.uk/education/>):

- Lessons,
- Workshops,

- Videoconferences,
- Virtual classroom,
- Podcats and
- Professional development

Lessons are single stand-alone investigations mapped to the curriculum that can be covered in a single period or followed up for homework. Each lesson has a PDF for easy printing and supports text resizing for whiteboards. Students can use them 'as is' or adapt them to fit their group's needs (<http://www.nationalarchives.gov.uk/education/lessons.htm>). The National Archives offers a wide range of workshops at The National Archives in Kew in their purpose-built classroom, giving groups an exciting opportunity to work directly with real documents (<http://www.nationalarchives.gov.uk/education/workshops.htm>). Students can work with documents, annotate and analyse evidence through their web browser and ask questions over the microphone or in the chatbox in virtual classroom (<http://www.nationalarchives.gov.uk/education/virtual-classroom.htm>). Podcast series features a mix of lectures from top academics specifically aimed at pupils alongside radio-style investigations of historical topics using primary documents from the National Archives read by actors. Students can download individual podcasts from this page, read transcripts of the shows and lectures and see images of the documents that the archives discuss (<http://www.nationalarchives.gov.uk/education/podcasts.htm>). Lastly archives' professional development programme gives teachers access to unique collections and supports them in developing new source based activities. With academic partners, the archives gives teachers the choice of working online, on an accredited Master's module or with teachers from overseas. This flexible programme combines the expertise of the archives' education team with that of university academics and record specialists ([http:// www.nationalarchives.gov.uk/education/cpd/professional-development.htm](http://www.nationalarchives.gov.uk/education/cpd/professional-development.htm)).

Scotland

The Learning section of the National Archives of Scotland (NAS) website, which promotes the use of archives and helps teachers and students of all ages understand the content and context of historical records. Outreach Services Branch creates resources to support the Scottish school curriculum and lifelong learning, and arranges talks and group visits in the NAS by members of staff.

Scottish Archives for Schools is the education website designed to support Curriculum for Excellence in primary and secondary schools. The Scottish Archives for Schools website is run by the National Records of Scotland as separate education website for schools and colleges. It aims to promote a greater knowledge and understanding of Scottish history and to provide learners with access to original sources (<http://www.nas.gov.uk/learning/default.asp>).

The National Records of Scotland (NRS) offers a wide range of opportunities for teachers and pupils to work with original sources that bring the past to life. (<http://www.scottisharchivesforschools.org/workshops.asp>). The National Records of Scotland aims to support learning and teaching within Curriculum for Excellence and National Qualifications. Resources can support the teaching of Scottish history and social studies, act as an inspiration for expressive arts, and provide opportunities for cross-curricular learning. Archives provides access to unique holdings and to specialist expertise through workshops, Glow Meet sessions and website resources (<http://www.scottisharchivesforschools.org/teachers.asp>).

Australia

The National Archives of Australia has special programmes for education too. Primary and secondary students can discover original source documents spanning more than 100 years on (<http://www.naa.gov.au/visit-us/education/>):

- Federation,

- Immigration,
- Defence,
- Intelligence,
- Foreign policy and
- Indigenous Australians

The archives' education programme helps students and teachers through (<http://www.naa.gov.au/visit-us/education/>):

- School visits to the National Archives in Canberra,
- Resources for students and teachers,
- Vrrroom online classroom and
- National History Challenge.

CONCLUSION

The prestige of archives can increase only when people are aware of and utilize them. It is beyond argument as mentioned before that archives play an important role in education. Cook indicates the advantages of using archives in education as follows (Cook, 1997:107):

'Extending Access to archives to the school community has a number of distinct advantages for an archive. For a profession saddled with an exceedingly low and, some would say, doddering profile, educational use permits an archives to create a positive 'image' at the same time as awareness and appreciation of its services are promoted. Users and the general public can be educated about the value and potential use of the holdings, allowing the archival unit to claim some measure of financial support in return.'

There are lots of things that can be done to promote the use of archives in education. But it is important to start with basic steps. These steps can be:

- Special publicity programs should be prepared in archives. These programs can feature the importance of archives in education and the primary sources maintained.
- Archivists can prepare entertaining and easy to learn finding aids especially for the undergraduates.
- The collaboration between archivists and educators is one of the most important strategu to promote the importance and use of archives. Thus archivists are the ones to know the content of archival materials best but teachers can determine which archival materials help students, support course objectives and are appropriate for student levels of skills.

In conclusion in the Information Age that we live, the obstacles to the acess of information are being eroded with the help of technological developments. As a very important source for education archives should promote themselves fully and should take more of a role in education processes and it is also strategically important that archivists believe in the materials' positive impact on students' education.

IJONTE's Note: This article was presented at World Conference on Educational and Instructional Studies - WCEIS, 07- 09 November, 2012, Antalya-Turkey and was selected for publication for Volume 4 Number 1 of IJONTE 2013 by IJONTE Scientific Committee.

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REFERENCES

- Binark, İsmet. (1995). Archival Studies, *Türk Kütüphaneciliği*, 9(3), 258-264.
- Carini, Peter. (2009) 'Archivists as Educators: Integrating Primary Sources into the Curriculum', *Journal of Archival Organization*, 7: 1, 41 — 50.
- Cook, Sharon Anne. Connecting Archives and the Classroom, *Archivaria*, 44, 102-117.
- Dearstyne, Bruce W. (1993). The Archival Enterprise. Chicago: American Library Association.
- Hendry, J. (2007). Primary sources in K-12 education: Opportunities for archives. *American Archivist*, 70(1), pp. 114-129.
- <http://www.archives.gov/education/>, Retrieved October, 29, 2012
- <http://www.naa.gov.au/visit-us/education/>, Retrieved October, 29, 2012
- <http://www.nas.gov.uk/learning/default.asp>, Retrieved October, 29, 2012
- <http://www.nationalarchives.gov.uk/education/>, Retrieved October, 29, 2012
- Lyons, M. (2002). K-12 instruction and digital access to archival materials. *Journal of Archival Organization*, 1(1), 19-34.
- Malkmus, Doris J. (2008): Primary Source Research and the Undergraduate: A Transforming Landscape, *Journal of Archival Organization*, 6:1-2, 47-70.
- Newmark, M. S. (1997). Navigating the internet for sources in American history. *The History Teacher*, 30(3), 283-292.
- Osborne, Ken. (1987). Archives in the Classroom, *Archivaria*, 23 , 16-40.

ROLE OF SCHOOL PRINCIPAL IN PROMOTION OF SCHOOL HOME RELATIONSHIP: CASE OF GOVERNMENT SECONDARY SCHOOLS IN KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT

Principal is the bridge between community and school. However, principal' role in parental participation in education is negligible in Pakistan. This has affected the quality of education in the country. The purpose of this study is to analyze the role of principal in parental participation in education at secondary level in district Chitral, Pakistan. This study investigated the perceptions of 100 government secondary school principals. Questionnaire was used to collect data. The collected data was interpreted and presented in simple percentage and diagrams. Results of the study showed that in Pakistan school principals do not play an active role in promoting parental participation. According to principals parental participation means sending their children to schools only. Hence, parents are not encouraged to participate in the education process of their children. School principals at secondary level do not know the ways and means of involving parents in the education process. They lack motivating and management skills to engage parents in education process. The study further discovered that principals consider parental involvement in education as interference in school affairs. Ironically, the principals accept that parental participation is essential for education. However, the study explored that principals consider parents ill-equipped in terms of knowledge and skills to understand the process of education. According to the principals parental involvement in education will create more management issues for schools rather than solutions. On the basis of this study it recommended that principals should be provided comprehensive training on the concept of parental participation in education. For this purpose strong parent teacher associations should be formed and actively monitored. Schools teachers could be trained in keeping close relationship with parents whose children are in the school. Parents could be invited to schools through conferences, meetings and other national and international events. This will strengthen the relationship between school and home and improve the quality of education as well.

Key Words: Parental participation, role of principal, secondary school, quality of education.

INTRODUCTION

Parental participation in education has positive effects upon quality of education. It also leads to students' better academic achievements and overall success of school. Parental involvement in education not only improves the academic performance of students but also motivates schools to show better results which increases trust and confidence of parents in schools. School principal is a leader of a school. The role of principal is foremost in the development of positive school home relationship (Van Velsor and Orozco, 2006). In Pakistan the overall process of parental participation in education is negligible. There are many factors responsible for this issue. Amongst which poor role of school principal is an important factor. Principals can

play a crucial in the promotion of school parent relationship. The role of school principal is that of a bridge that connects school and home. This is crucial both for students' development and success of schools (Payne, 2006). Since the inception of Pakistan the process of education has been neglected. In government schooling, due to bureaucratic culture the parental involvement in the education process could be promoted. Parents think that their role is confined to sending children to schools. The rest of the responsibility was put on the shoulders of teachers and school. This tradition badly affected the relationship between school and home. Resultantly, school principals considered parental role in education as a useless activity. Parents were sidelined by considering them illiterate and uneducated. It was believed by the principals and teachers that parent's role was only to send their children to schools. Thus an important aspect of education was overlooked which resulted in mistrust, misunderstanding and narrow perceptions between parents and schools. This practice has also affected the role of school principals. Principals do not know the ways and means to involve parents in the process of education.

There has been consistent dearth of training of principals in parental engagement in schools. As a consequence, principals think that their role is only to manage the process of teaching and learning in schools. They have nothing to do regarding involvement of parents in schooling of their children.

Statement of problem

Education is an activity in collaboration. It is not an activity in isolation. Parental participation has a positive impact upon quality of education. There is a close relationship between parents, teachers and students (Sirvani, 2007). Literature says that parental involvement in education has positive impact on academic achievements of students on one hand and overall success of schools on another (Cohen, 1988). In Pakistan the process of parental participation generally and role of school principal in improving and strengthening participation involvement particularly has been very poor. School principal has not been able to play his/her role effectively in engaging parents in the process of education. Therefore, this study explores the perceptions of school principals about their roles in promotion of parental participation in education.

Objectives of the study

Following are main objectives of this research study.

1. To explore government secondary school principals' perception of parental participation in education.
2. To identify government secondary principals' perception of their roles in parental participation in education.
3. To analyze issues faced by government school principals to engage parents in the process of education.
4. To present recommendations on the basis of this study for improvement of the role of government secondary school principals for promotion of parental participation in education.

Delimitation of the study

Due to lack of resources and time this study is delimited to the role of school principals in government secondary schools in Chitral, a remote district in the extreme north of Khyber Pakhtunkhwa, Pakistan.

Significance of the study

This study is important for the following reasons.

1. The study will clarify the concept of secondary school principals' parental participation in education.
2. The study will explore some of the issues which create barriers to the role of school principals in improving parental participation in education.
3. The study will improve the knowledge of school principals about the importance of parental participation in education.
4. The study will provide good knowledge to policy makers, planners and experts in the field of education to make policies and plans in the light of the needs and developments of the society and state.

5. The study will explore deeper literature regarding the important role of school principals in parental participation in education.
6. The study will contribute to the pool of research knowledge in the field of education.
7. The study will inform parents and teachers the role of school principals in the promotion parental participation in education.

Research questions

This study was directed by the following questions.

1. What are the government secondary school principals' perceptions of parental participation in education?
2. What are the government school principals' perceptions of their roles in parental participation in education?
3. What are the different issues faced by government secondary school principals to engage parents in the process of education?
4. What recommendations could be presented on the basis of this study for improvement of the role of government secondary school principals in the promotion of parental participation in education?

Review of Literature

Parental participation in education has close relationship with success of schools and development of students. Successful schools have close ties with parents and communities. Education is a three tier process where parents, teachers and students work together. Parents are strong stakeholders in the process of education. Role of school principal is that of a bridge and connector. Effective schools have principals who keep close ties with parents (Epstein and Jansorn, 2004). Principals can play an effective role in the promotion of school family ties. Principals and parents need to know that parental involvement is essential for social, emotional and intellectual development of children (Anderson and Minke, 2007). When parents value education and show it through encouraging their children and support the school, children also realize the importance of schooling and learning. In this way a strong sense of ownership develops among parents, students and the community which is essential for a successful educational process. Some people think that parental participation in education is that parents should give time to school through participation in meetings, events and some of the activities. In reality this is not parental participation. It is more than that. It is at all levels (MacNeil and Patin, 2007). Principals can promote parental involvement in schools in various ways such as allowing parents to volunteers. Children like their parents to be in the school which increases their confidence and self-esteem. The range of participation is very broad. It is not confined to only participation in meetings or seminars. Rather, it starts from school conference and events to meetings, committees, tutoring of children and helping children at home with home work assignments (Christie, 2005). Parents can help their children in the completion of the school assignments. For this purpose they provide supportive home environment and ensure that children observe regularity in school attendance. School principals can provide clear instructions to parents about how to help the children at home with their school assignments or home work (Dessoiff, 2009). Principals may look closely at the relationship between teachers, parents and students. In this regard principals may keep high expectations for the parents and principals so that students grow under the guidance and support of parents and teachers alike. This will help in instilling feelings of collaboration between parents and teachers (Wherry, 2005).

Principals may create and share the goals of education with parents. This will help develop sense of ownership of the teaching and learning among the parents. They in turn will provide supportive environment for their children at home (Goldring and Sims, 2005). This will also develop a relationship of trust among parents, administrators and teachers. Establishment of goals, keeping expectations and determination of common values promote bonds among these stakeholders (Machen, Wilson and Notar, 2005). There are different barriers to parental participation in education. Many parents simply cannot participate in the education process due to job, remoteness from school, transportation, ignorance, indifferent attitude of school staff, lack of awareness, illiteracy and so on (Gordon and Seashore-louis, 2009). Principals can provide solutions by

encouraging parents, providing them social facilities such as accommodation in school premises, advising teachers to keep constant contacts with parents, inviting them on special events, days, meetings and conferences. This will increase their confidence and self-esteem. Studies show that many parents do not attend school activities simply because they are not liked by the school staff. This barrier could be effectively removed by the school administration which will ultimately lead towards development of understanding and mutual respect and trust between school and home (Pattnaik and Srim, 2010). Principal may improve the process of parental participation in education through by improving the teacher parent relationship. Teachers are considered the primary connections between home and school. Their relationship is vital for the success of students in the process of education. For this purpose principals may provide relevant training to their teachers so that they could communicate with parents effectively on issues of children in the process of education (Million, 2003).

Establishing close relationship with parents at the start of the year may pave the way for development understanding on all issues in a better way. Principals may play a proactive role in this regard. It will provide strong foundation for future relationship between parent and school (Wong and Hughes, 2006). Providing a nonthreatening environment to parents in school will make the parents feel that they are an integral part of the education process as well. The parents will provide their services voluntarily without any condition. This will help in the promotion of relation of trust between home and school (Barth, 1990). Principals may identify some of the parents who are more active, aware, and enthusiastic and committed about education. Such parents can easily provide their services as volunteers. In this way parents can be recruited and their services can be acknowledged to encourage them. For this purpose principals may take parents as members of school committees and boards (Stelmach and Preston, 2008). This will provide parents wider opportunities to work for the development of school and their children. Principals must remain in close communication and contact with these parents and coordinate their services in the school and their contributions must be acknowledged. This step of the school administration will stabilize the school home relationship on sustainable grounds (Hasley, 2003). Principals may create a climate of trust and collaboration between school and home through effective planning throughout the year and its implementation by involving parents. In this regard parents need to be ensured that their participation is critical for the success of school and their children education (Gorvine, 2010). Each school has different culture, work environment and goals which must be shared with parents so that parents are aware of the needs, ways and procedures of the activities to be performed in school (Howard, 2007). Principals must share with parents the values, norms and climate of the school. In this way parents will be aware of the school goals and will play their role clearly and strongly. This will also remove some of the misperceptions and misconceptions that may arise during the process of participation (Matsuzney, Banda and Coleman, 2007).

METHODOLOGY

This is a descriptive study which explores the perceptions of government secondary schools principals about their roles in the promotion of parental participation in education. The population of the study consists of all the government male and female secondary schools in district Chitral. Due to constraints of time and finance the study was delimited to only 100 government secondary schools in district Chitral in the extreme north of Khyber Pakhtunkhwa province of Pakistan. Due to cultural reasons female schools could not be sampled.

Instrumentation

The nature of the study is descriptive. Therefore, for data collection a close ended questionnaire was developed. The questionnaire was designed on Five Point Likert Scale. This provides respondents with wider options to give their responses. For this purpose the questionnaire provides the following degrees such as Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SDA).

Sampling

The subjects of this study were selected randomly sampled. For this purpose 100 government secondary school principals were selected from 100 schools in six Tehsils of district Chitral.

Pilot study

Before distributing the questionnaire among the sample, the study was piloted in three government secondary schools in the main town of district Chitral. On the basis of the results of the pilot study, the questionnaire was further refined and its items were revised for assurance of reliability and content validity. Besides, the questionnaire was also shown to three experts in the field of educational research. Finally, the questionnaires were revised and distributed among the entire sample. After a week the researchers collected the sample and the rate of return was 100 % as all the questionnaires were returned by the respondents.

Analysis of data

For the purpose of data analysis, the collected data is tabulated and presented in simple percentage below. For more clarification, the results are also shown on diagrams. This helps in deeper explanation of the data.

Areas of investigation

For the purpose of deeper analysis the present study investigated into the following five key areas (aspects) only regarding the role of the school principals in promotion of parental participation in education in government secondary schools. Since the concept of parental participation is very broad, therefore, these five areas or aspects were identified as a result of extensive and critical analysis of literature for the present study only.

1. Concept of parental participation in education
2. Level of parental participation in education
3. Types of parental participation in education
4. Benefits of parental participation in education
5. Challenges for parental participation in education

FINDINGS AND RESULTS

The results of this study are presented in the below tables. Each table provides different statements (items) concerning the various aspects of the role of principals in promotion of parental participation in education.

Table 1: Concept of parental participation in education

S.#	Parental participation in education means that:	SA 100%	A 100%	U 100%	DA 100%	SDA 100%
1	parents are customers in the process of education	60%	30%	00%	10%	00%
2	parents are stakeholders in the process of education	25%	15%	02%	48%	10%
3	parents need to only send their children to schools	55%	15%	05%	15%	10%

Table 1 indicates that out of the total respondents, 60% strongly agree that parents are only customers in the process of education. Similarly, 48% disagree that parents are stakeholders in the process of education. Whereas, 55% of the respondents strongly agree that parents need to only send their children to schools.

Table 2: Level of parental participation in education

S.#	School principals must indemnify that:	SA 100%	A 100%	U 100%	DA 100%	SDA 100%
1	parents are engaged at primary level of education	45%	25%	00%	14%	16%
2	parents are engaged at secondary level of education	40%	42%	08%	07%	03%
3	parents are engaged at all levels of education	10%	10%	40%	20%	20%

Table 2 indicates that 45% of the respondents strongly agree that parents are engaged at primary of education level only. At the same time, 40% strongly agree that parents are engaged at secondary level of education only. Whereas, interestingly, majority of the respondents that is 40% do not know that parents are engaged at all levels in the process of education.

Table 3: Types of parental participation in education

S.#	School principal must ensure that:	SA 100%	A 100%	U 100%	DA 100%	SDA 100%
1	parents attend only school meetings	53%	20%	07%	15%	05%
2	parents attend only school conferences	40%	10%	10%	17%	23%
3	parents attend all activities in schools actively	33%	12%	37%	10%	08%

Table 2 shows that majority of the respondents that is 53% strongly agree that parents should attend only school meetings actively. Whereas, 40% strongly agree that parents should attend only school conferences. Ironically, 37% of the respondents do not know that parents attend all activities in schools actively.

Table 4: Benefits of parental participation in education

S.#	Parental involvement in education:	SA 100%	A 100%	U 100%	DA 100%	SDA 100%
1	enhances students' academic achievements	20%	15%	40%	15%	10%
2	needs encouragement of parents to participate	10%	20%	09%	40%	21%
3	need principals to use various ways to engage parents	23%	20%	00%	45%	12%

Table 4 shows that majority of the respondents, that is, 40% do not know that parental involvement in education enhances students' academic achievements. Ironically, 40% disagree that parental involvement needs encouragement from principals to participate in the process of education. Similarly, 45% disagree that parental involvement in education need school principals to use various ways of parental engagement.

Table 5: Challenges for parental participation in education

S.#	Parental engagement in education:	SA 100%	A 100%	U 100%	DA 100%	SDA 100%
1	is an unnecessary interference in school affairs	50%	30%	05%	09%	06%
2	is essential but it creates more problems for schools	35%	30%	10%	15%	10%
3	is difficult as parents are ill-equipped to participate	60%	30%	00%	07%	03%

Table 5 indicates that a great majority of the respondents that is, 50% strongly agree that parental engagement is an unnecessary interference in school affairs. At the same time, 35% strongly agree that parental participation in education is essential but it creates more problems for schools. Similarly, 60% strongly agree that parental participation in education is difficult as parents are ill-equipped to participate in the process of education.

DISCUSSION

The analysis shows that principals have a very narrow understanding of the concept of parental involvement in education. They do not consider parents as stakeholders in the process of education. Rather, according to majority of the principals parents should only send their children to schools. In their view this is parental participation in education. On the other hand literature does not support this view. Research says that parents are strong stakeholders in the process of education. For example, Epstein and Jansorn (2004) argue education is a three tier process in which parents, schools and students are equally important. Parents are strong stakeholders in the process of education.

The study further explores that principals are not fully aware of the process of parental participation in education. According to majority of them parents should participate only at primary or secondary levels. The principals do not know that parents should participate at all levels of education, that is, primary, secondary and even at higher level. In view of MacNeil and Patin (2007) parental participation in education is that parents should give time to school through participation in meetings, events and some of the activities. In reality this is not parental participation. It is more than that. It is at all levels.

The study also discovered that the school principals have weak understanding of the types of parental participation in education. They do not know how parents should take part in the process of education. Majority of them think that parents should only attend school meetings and conferences. This would be enough. A large majority remains ignorant that parents should participate in all activities of the school. According to Christie (2005) the range of participation is very broad. It is not confined to only participation in meetings or seminars. Rather, it starts from school conference and events to meetings, committees, tutoring of children and helping children at home with home work assignments.

The study shows that the school principals do not know that parental participation enhances students' academic achievements. At the same time majority of them also opine that there is no need to encourage parents to participate in the process of education. They also think that there is no need for school principals to use various ways and means to engage parents in the process of education. All this shows that the school principals have a very narrow concept of parental involvement in education and its benefits. Literature says that it has unlimited benefits both for school, parents, teachers, principals and students. Parental involvement in education not only improves the academic performance of students but also motivates schools to show better results which increases trust and confidence of parents in schools. School principal is a leader of a school. The role of principal is foremost in the development of positive school home relationship (Van Velsor and Orozco, 2006). The study shows that principals consider involvement in education as an unnecessary interference in school affairs. According to majority of them, parental involvement creates more problems rather than solutions for schools. According to them parents are ill-equipped in terms of knowledge and skills to participate in education effectively. Research negates this theory. For example, Dessoff (2009) concludes that parents can help their children in the completion of the school assignments. For this purpose they can provide supportive home environment and ensure that children observe regularity in school attendance. School principals can provide clear instructions to parents about how to help the children at home with their school assignments or home work.

CONCLUSIONS

On the basis of this research descriptive study the following conclusions are drawn. The study concluded that in Pakistan school principals do not play an active role in promoting parental participation.

The study also found that according to the school principals, parental participation means sending their children to schools only. Hence, parents are not encouraged to participate in the education process of their children.

The study further concluded that school principals at secondary level do not know the ways and means of involving parents in the education process. They lack motivating and management skills to engage parents in education process.

The study also discovered that principals consider parental involvement in education as interference in school affairs.

Ironically, the study found that the school principals accept that parental participation is essential for education. However, they consider parents ill-equipped in terms of knowledge and skills to understand the process of education.

The study also explored that according to the school principals parental involvement in education will create more management issues for schools rather than solutions.

RECOMMENDATIONS

On the basis of this research study the following recommendations are presented.

1. The school principals should be provided comprehensive training on the concept of parental participation in education.
2. Strong parent teacher associations should be formed and actively monitored at different secondary school levels.
3. Principals may ensure that schools teachers could be trained to keeping close relationship with parents whose children are in the school.
4. Parents could be invited to schools through conferences, meetings and other national and international events. This will strengthen the relationship between school and home and improve the quality of education as well.
5. Parents could be encouraged to participate in school activities at different levels, such as meetings, seminars, events, conferences, committees and so on. This will enhance their confidence and build up feelings of trust and care. As a result parents will own the school which is the first step toward quality in education.
6. Principals may ensure that teachers keep close relationship with parents. This will pave the way for development of feeling of togetherness between home and school.
7. Principals may invite some of the active parents individually to volunteer their services for school. These parents could be used as change agents in the community to get support of other members of the community.
8. Principals may improve the image of the school in the wider community by acknowledging the service provided by parents in different levels of school life. This will set precedents for other parents and wider community that the school belongs to them.
9. Modern concept of schooling is that it school is a community in miniature. The principal may share with parents the aims and goals of the school. This will deeply strengthen the bonds of coordination and cooperation between school and parents.

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REFERENCES

- Anderson, K., & Minke, K. (2007). *Parent involvement in education: Toward an understanding of parents' decision making*. The Journal of Educational Research, 100 (5), 311-323
- Barth, R.S. (1990). *Improving schools from within: Teachers, parents and principals can make a difference*. San Francisco: Jossey-Bass Publishers
- Christie, K. (2005). *Changing the nature of parental involvement*. Phi Delta Kappan, 86 (9), 645-646.
- Cohen, A.L. (1988). *Early education: The parents' role*. London: Paul Chapman
- Dessoff, A. (2009). *Parent engagement pays off*. District Administration, 45 (5), 16-20
- Epstein, J.L., & Jansorn, N.R. (2003). *School, family and community partnerships link the plan*. Education Digest, 69 (6) 19-23.

- Goldring, E., & Sims, P. (2005). *Modeling creative and courageous school leadership through district community partnerships*. Educational Policy, 19 (1), 223-249.
- Gordon, M., & Seashore-louis, K. (2009). *Linking parent and community involvement with student achievement: Comparing principal and teacher perceptions of stakeholders influence*. American Journal of Education, 116 (1), 1-31.
- Gorvine, B. (2010). *Head start fathers' involvement with their children*. Journal of Family Issues, 31 (1), 90-112.
- Hasley, P.A. (2004). *Nurturing parental involvement: Two middle level teachers share their secrets*. The clearing House, 77 (4), 135-137.
- Howard, G. (2007). *As diversity grows, so must we*. Educational Leadership, 64 (6), 16-22. Machen, S.M.,
- Wilson, J.D., & Notar, C.E. (2005). *Parental involvement in the classroom*. Journal of Instructional Psychology, 32 (1), 13-16.
- Million, J. (2003). *Talking to Parents*. Education Digest, 68 (5), 52-53.
- Matsuzney, R., Banda, D., & Coleman, T. (2007). *A progressive plan for building collaborative relationship with parents from diverse backgrounds*. Teaching Exceptional Children, 39 (4), 24-31.
- Pattnaik, J., & Sriam, R. (2010). *Father /male involvement in the care and education of children*. Childhood Education, 86 (6), 354-360
- Payne, R. (2006). *Working with parents: Building relationships for students' success*. Highlands, TX: Aha. Process
- Stelmach, B., & Preston, J. (2008). *Cake or curriculum: Principal and parent views on transferring the parental role in Sakatchewan school*. International Studies in Educational Administration, 36 (3), 59-74.
- Sirvani, H. (2007). *The effects of teacher communication with parents on students' mathematics achievements*. American Secondary Education, 36 (1), 31-46.
- Van Velsor, P., & Orozco, G. (2006). *Involving low income parents in the school: Community centric strategies for school counselors*. Professional School Counseling, 11 (1), 17-24.
- Wherry, J. (2004). *Two perspectives on parental involvement*. Principal, 83 (5), 6-10.
- Wherry, J. (2005). *Parental involvement: Turning up the hear*, Principal, 84 (2), 6-8.
- Wherry, J. (2005). *Do you have parental involvement disconnect?* Principal, 84 (4), 6-13.
- Wong, S., & Hughes, J. (2006). *Ethnicity and language contributions to dimensions of parent involvement*. School Psychology Review, 35 (4), 645-662.

TRAINING OF GENIUS TO MERITOCRACY AND ELITISM

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ABSTRACT

One of the most controversial issues in the history of education is training of genius or cognitive (g) superiority. Together with enlightenment, democratic community, which based on achievement, converted to the school systems. Hence, the meritocracy thesis, which defends social inequalities are an inevitable result of individual differences, has begun to rise. Some of the anti-theses, which use some terms such as meritocracy, IQism, and g-centrism, have hampered the classifying of education according to aristocracy of intelligence. From this point of view, aim in this study is not ignoring individual differences or equalizing neurological differences, but on the contrary, unlike approaches considering humans as simple, measurable/gradable beings, emphasizing that human being is complicated. At this point, genius or cognitive superiority requires a discussion within on the basis of equality of opportunity. Because, the cognitive superiority and giftedness issues are not only particular concern for pedagogy, but also field of interests of education economy and educational sociology. Thus; in this study, firstly, development of the subject in the literature for the elite is questioned, then (2) how elitism was contextually turned into IQism in modern period is discussed historically and conceptually, and finally (3) by looking at the situation in Turkish educational system, the probable results of a model, which had previously proposed, have been discussed.

Key Words: Giftedness, meritocracy, elitism.

INTRODUCTION

Man has learnt to survive against severe nature conditions first. Since he started to live in groups, the desire to be superior on the others has existed in the power concept. This power has expressed itself in a series of ways from physical ways to witchcraft or more complicated methods such as displaying some powers the others have not had. Phenomenologically in the name of power, there has even been a tendency to put oneself in a place between God and human being. Caste and slavery systems can also be said to have been nurtured from man's desire for superiority over the others and have continued to exist in a way, in the form of a social contract. Today's modern class/strata system on the other hand includes softer but more complicated power and superiority components. At this point; when considered in a psychological dimension, it can be said that the issue has become a problem that should be treated multi dimensionally in sociological sphere not whether there has become a change/progress in human beings' desire to be superior or not. Here, evolution of democracy ideal and aftermath with enlightenment period, developments in the society has been influential. Thus, two ways were opened for the formation of class/strata in the society. First, is wealth by inheriting/superiority based on property, the second is meritocracy, superiority gained through skills or intelligence.

In a context apart, the concept "superior" that precedes intelligence in Turkish Language Institution (Türk Dil Kurumu=TDK) Dictionary also denotes "higher", "upper" or being higher compared to similar ones or exceeding them. Antonym of the word connotes ordinariness. "Superior" proceeding above mentioned intelligence and desire to be superior to have power don't have the same context. Yes. On the other hand, when I consider the pure race projects, or projects for arranging the race, this subject leads to a very controversial field. From this standpoint, the period before and after Second World War is an important date that shows how far Eugenism's results can go. In this period, IQ measurements and strictly following these measurements which were time to

time used by Eugenics caused for a while an elitist understanding such as intelligence aristocracy, but on developments, it started to be intensively criticized after the Second World War.

From this point of view, aim in this study is not ignoring individual differences or equalizing neurological differences, but on the contrary, unlike approaches considering humans as simple, measurable/categorizable beings, emphasizing that human being is complicated. So, contrary to the explanations to be produced for the systems running on action-reaction principle, it is emphasizing that individuals or communities individually differing and getting more complicated can not be classified as to their mental characteristics in clear and accurate intervals on a scale. Aim is emphasizing that classifying neural functions with fixed, permanent intervals has various drawbacks and those problems caused by marking humans with rigid measurements and expressing its problems exist in education. Every person has improvable sides and provision of proper conditions suitable for mental development is a topic expressed in several fields. So, whatever individual differences and characteristics are, equality of man originating from his existence, considering and respecting this is an issue easy to talk but in fact it is a seriously difficult stage of struggle. If such a struggle had not been necessary such approaches as disintegrated rights (rights for mentally impaired ones, rights of the black people, women rights) wouldn't have been the need.

At this point, genius or cognitive superiority requires a discussion within on the basis of equality of opportunity. Because, the cognitive superiority and giftedness issues are not only particular concern for pedagogy, but also field of interests of economy of education and educational sociology. Thus; in this study, firstly, development of the subject in the literature for the elite is questioned, then (2) how elitism was contextually turned into IQizm in modern period is discussed historically and conceptually, and finally (3) by looking at the situation in Turkish educational system by years, the probable results of a model which previously proposed have been discussed.

WHAT DOES THE ELIT LITERATURE SAY?

"Elite" (Latin: eligere: to choose) defines the people with extraordinary skills (functional elite) or social groups in power or sovereign (ruling elite) in a society. The concept it is as old as systematic thoughts related to social order (Cevizci, 2007). According to historical and archeological records, "nobility, elitism" seen in communities from Antic Babylonia to Persia, Hebrew, or Antic Greece is formed from hierarchical components like rich, poor, strong, weak, free, slave (Tumin, 1967). Even in City State of Athens, which had founded people's ruling called democracy, only members of the high stratum (of the free ones) were entitled to get education. Furthermore, in Platon's –who systematically wanted to change this system- book 'State', three strata of society were determined, the peasants, artisans, and workers from the third stratum were said not to need education (Ergün, 1997). Through feudality and feudal classes elitism continued in the middle ages.

What French bourgeois demanded during 18th century social struggles by shouting "we want the elites" was the desire that talented ones coming from the society should govern France, in lieu of aristocracy, clergy and noble land owners (traditional elites). It was ending governing rights passing from father to son and enabling talented, hardworking individuals rising from the society to come to power (Arslan, 2010).

One of the trailblazers of this period, J.H Pestalozzi's thoughts, who gave preference to social dimension of education in 1700's were contradictory with his time. He aimed to enable the poor social strata to improve their power and skills with education and reach moral perfection through economic well-being. Another outstanding personality was J.J. Rousseau. In his pedagogical thoughts he revealed in his book "Emile", he opposed the education to be in service of any formation including church and state.

In modern social sciences "elite" and "elitism" are also considered as the basis of a criticism of society, as well as they are approached in an unprejudiced way. The concepts previously used to define the selection and training of "elite troops", were discarded from military terminology in the beginning of 1900's and they were

based on the notion of “political class” with G. Mosca. In the modern state and social order grown with enlightenment, choosing “bests” of the society for sovereignty and community duties became a current issue in a new way (Cevizci, 2007), and the concept started to be mentioned with liberty and equality parameters. Then, with V.F. Pareto the expression, ‘distinguished’ was used in two ways: Distinguished as the emphasis on unequal individual skills in every corner of life, is the first use. Second use was the section consisting of lower stratum -the ordinary/undistinguished ones- dividing the society basically into two and the section consisting of distinguished administrators and other distinguished ones (Bottomore, 1997). Revising forms of elitism, R. Arslan (2010), states the following for the development of this theory basically depicting the relationship between the administrator and the administered, and enriched with the class theories and class conflicts which were put forward by K. Marks, and came into fashion again with G. Mosca and V.F. Pareto: Traditional elites who lost their power in economic circle to trade and industry bourgeois⁴ in 18th century, did not have any arguments left to convince the society, as they backed fascist and authoritarian administrations before Second World War and this backing brought their end after the War. These sections can continue to survive by taking part in neo-conservative parties. Political and social milieu formed aftermath the Second World War caused democracy to replace fascist administrations, and in a parallel way in USA (Power Elites became determinant) debates on elitism started again. As debates on modern elitism went on, the concept of pluralist elites (Funktionen und Leistungseliten) was also developed. Since 1970’s the term ‘elite’ has been a name given to people rising from the society, exceeding the masses only with their skill and talents (functional elites) and the capable people who have been able to climb to the highest ranks in NGO’s, enterprises and public institutions. These are economists capable of driving the economies, well known doctors, distinguished scientists or charismatic political leaders. For example private companies transfer modern elites and bring them into company administrations whatever their races, nationalities, religions are. Thus, the concept started to mean small and selected groups of people who wanted to be superior for future, who wanted to have a consciousness related to merits. After World War II, an elite conceptualization –that is still approved- has been reached, in Germany on the other hand where the concept was defined with “superior race” and “superior men” careful effort has been made to purify the term from this context (O. Stammer and R. Dahrendorf’s studies are given as examples for this effort). For example, O. Stammer has described elites as functional elites whose “existence, ways of formation, and the ways they are selected, one by one depend on their functions they perform in political influence mechanism in administrators’ section”. It became possible to take the issue functionally after the idea that functional elites could reach their positions through selection mechanism and equality of opportunities had to be valid for every human being became clear (Cevizci, 2007). As it is emphasized under the IQism sub-heading, and as A. Cevizci (2007) cited from O. Stammer (1962), since 1960’s with the rise of educated people, a waste majority of population has become professionally more qualified and solubility of the elite problem in democracy has started to be discussed intensively.

As seen, *elite* concept is used to define and to understand large groups of people like “sovereign class”, “the richest”, “the most educated” (Cevizci, 2007). *Class* is an economic definition. Being sovereign is political. That is why; the term sovereign includes the theory ‘an economic class governs politically’. T.B. Bottomore, calls C.W. Mills’ power elites concept inefficient claiming that it doesn’t include military elite adequately (Arslan, 2010).

M. Reuchlin (1964) summarizes the period as of enlightenment as follows: With enlightenment period starting in 1790’s and industrialization that comes aftermath class based society was dissolved. Modern educational systems started to be built in Europe. While school-designing systems previously replicated the social strata system⁷, new class/stratum society is school. Together with enlightenment, democratic community model based on achievement converts into school systems. While social division of labor causes the professions to separate from each other, technical division of labor enables different employees to take part to produce a good. Sciences separated from philosophy in parallel. For the existence of people with different skills, and to produce these individual differences, differential pedagogy (= *paedagogie différentielle*) develops. This development proposes adaptation of studies on teaching to children. The idea; even individual characteristics

of children in the same classroom are different, becomes an important educational motto. Today, this case is treated under the sub-heading of economic function of education in literature. From this point, it is taken as the subject matter of guiding students to different positions in economy/ society (Hesapçioğlu, 2009).

In the ideological dimension, which is effective during democratization of schools, until recently the three line vertical system of schools, the idea that abilities should be based on “trinity psychology” (Trinitätspsychologie der Begabungen) was also effective. According to this idea supporting old skills approach, skills definitely exist in three forms: (1) Theoretical skills, (2) practical skills, (3) mixture of theoretical and practical skills. These three forms of skill form the natural, hereditary, innate data. This traditional idea on skills is based on social Darwinism. According to social Darwinism, the three main forms of skill represent these three main classes: (1) theoretical skills; higher classes, (2) practical skills; lower classes, (3) mixture of theoretical and practical skills; middle classes. Just like the idea that *splitting the atom was impossible* in physics in 19th century, in the science of psychology, this trinity idea of skills also had absolute validity. Social Darwinists take social hierarchy as a result of skill accumulations that have come true after hundreds of years. Thanks to these accumulations, only specific forms and types of skills have survived (Aytaç, 1975). So, with capitalism, aristocracy based on land ownership has weakened by time, and the opportunity to promote to middle classes, with the help of a more mobile arrangement has allowed *aristocracy of intelligence*. This order of democratic mobility has come into existence in a very long process lasting hundreds of years (Kurtkan-Bilgiseven, 1987). School reforms have had to respond to the rapidly growing industrial formation and new structures of profession (Aytaç, 1975). For example education for the privileged had been constructed for the children from the higher social classes until Education Act was passed in 1944. Some sociologists called this method of education as education with two ways. This was because two completely different education environments were designed, one for the children from the higher social classes and one for the ordinary people’s children. In USA, an equal opportunities model for the white was in question. It is said that opportunities similar to the one in England were also provided in France, and after 1., especially 2. World War idea of equality of opportunities was adapted rapidly. Trend towards individual liberties were inflamed in Germany with 1830 and 1848 revolutions, and it was suppressed by Nazi dictatorship and until thoughts for equality of opportunities based on large industries grew, practice of education with two ways had kept on. Education for the privileged was in question in some socialist countries such as Soviet Russia too. Like A.H. Moehlam, there are people who claim; on condition that primary education is compulsory, for the secondary education the privileged people of the communist party are said to have replaced dignitaries of the tsar era. In Ottoman Empire, apart from western world, a class of the privileged, Enderun Schools came into existence. But similar to western world children from higher classes and children of ordinary people were not educated in the same schools. The most explicit example of this case is the existence of Şehzdegan Mektebi (School for Princes), affiliated with the palace, where boys and girls from the imperial family were educated (Kurtkan-Bilgiseven, 1987).

Even under ideal democracy conditions, such biological, hereditary differences (vital inheritance) have not removed this case of “the administrator” and “the administrated”. This is the core of the argument. Although there were developments from elitism towards democracy in modern era, elitism left its place to elitist IQism by legalizing and converting itself with the mission of measuring academic skills. But, as A. Kurtkan-Bilgiseven (2004) put it, when genius is considered as timeless, not limited with a location, an individual power which is capable of grasping and articulating feelings, philosophical and social realities valid in all times and all locations; wisdom and intelligence (biology and environment) can play a role in this articulation process. Although, we see test-tube babies thanks to biology, this doesn’t guarantee the giftedness, and spiritual power (intuition) principle cannot be overcome.

IQISM: A DIFFERENT PERSPECTIVE ON MODERN ELITISM

Firstly, as L.M. Cohen et al. (2000) said, the principle is that: context of the gifted education involves large school systems and socio-economic, political and cultural aspects of the society. The study to be considered with this perspective will begin with defining openings:

Since 19th century when giftedness was regarded as a scientific concept, that strong indicator of giftedness has been intelligence concept, and IQ tests regarded credible for measuring IQ. In resources (for instance Flynn, 2009; Sternberg, 2004) making definitions through intelligence tests, gifted is defined as an individual who gains repeatedly 130 points or over for his intelligence group. R. Plomin and T.S Price (2002) puts that meaning of intelligence is cognitive skill (g), and this is measured for example, verbal, spatial memory skills on tests. General cognitive skill was defined as 'g' by Spearman in 1904 to avoid negative connotations of the giftedness concept. Giftedness is also a component of general skills, personal thoughts, and motivations in definitions made independently, without linking it to intelligence tests. From the point view of perceiving and transferring emotional, cognitive experiences, it is displaying awareness, sensitivity, and skill compared to his/her peers (Feldhusen, 1986; Flynn, 2009)). School system has become a scanning tool in modern period to differentiate more intelligent one from less intelligent. Use of the school as a scanning tool this way is defined as IQ'ism by new Marxists, and as *credentialism* by a group of sociologists like J.J Macionis (2003). R. Collins, who gives the most comprehensive explanation for *credentialism* in his book, *The Credential Society*, sets out with M. Weber's idea that educational documents are used to restrict the number of candidates for positions of socio-economic superiority and to keep these positions in the hands of patent (diploma) owners' hands (cited by Tan, 1990). H. Gardner, a defender of Multiple Intelligences (MI) theory, on the other hand, defines this over-dependence on IQism as *g-centrism* (Tannenbaum, 2002), and believes "everybody is intelligent" in his Multiple Intelligences Theory (MI) (Tannenbaum, 2002). Today, as D. Goleman (from 1995, cited by Plomin and Price, 2002) expresses, *g* doesn't guarantee neither achievement at home and work nor individual motivation and social skills that refer to emotional intelligence. D.Y. Ford (2002) compares these beliefs, which are defined as positivist and post-positivist in some records, with a historical perspective as follows:

Table 1: A comparison of traditional versus contemporary beliefs and practices.

<i>Traditional beliefs and practices</i>	<i>Contemporary beliefs and practices</i>
Identification – Focus is on a convergent answer. Is the child gifted? (yes/no response required)	Assessment – Focus is on a divergent answer. How is the child gifted and what are his / her needs? This is diagnostic and prescriptive.
Identification – Focus is on students earning a certain number on an intelligence or achievement test.	Assessment – Focus is on developing a profile of students' strengths and shortcomings.
Giftedness – Represented by a high IQ score or achievement percentile	Giftedness – viewed as multidimensional.
Measurement – The best (most valid and reliable) measure of giftedness is a test(s).	Measurement – Giftedness must be assessed in multiple ways due to its multimodal nature.
Measurement – one measure / test is sufficient.	Measurement – Multiple sources are essential to develop a profile.
Ability is rewarded	Effort and achievement are rewarded.
Ability must be demonstrated	Talent development and potential are recognized.
Etiology – Genetics primarily determine giftedness	Etiology – The environment and genetics determine giftedness. We must look at characteristics.
Students are in a gifted program. Gifted education is a place.	Students receive gifted education services. Gifted education is not a place.
Excellence versus equity debate.	Excellence and equity are not mutually exclusive.

Gifted education is a privilege.

Gifted education is a need.

Sources: Donna Y. Ford. (2002). Equity and excellence: culturally diverse students in gifted education. *Handbook of Gifted Education*. USA: Allyn & Bacon. p. 513.

L.M.Cohen et al. (2000) who treats the subject with its philosophical dimensions, reports the similar table as follows:

Table 2: Root-metaphorical worldviews: their tenets, limitations, and influences on conceptions of giftedness.

<i>World View</i>	<i>Organicism</i>	<i>Contextualism</i>	<i>Formism</i>	<i>Mechanism</i>
<i>Root metaphor</i>	Organism developing through stages towards a particular end	Ongoing event within its context	Similarity	Machine
<i>Connections with philosophical traditions</i>	Absolute or objective idealism, existentialism (Hegel, Husserl)	Pragmatism (Pierce, James, Dewey)	Platonic idealism and some realism (Plato, Aristo)	Materialism, Realism, naturalism (Descartes, Locke, Hobbes, Hume)
<i>What the world view highlights</i>	Coherence and totality of systems (the whole transcending its parts) Integrative connections Long-term development	Contextual influences Unpredictable emergence of novelty	Patterns of similarity in diverse phenomena	Reduction of the whole to its component parts Precision, detail Linear causality objectivity
<i>Weaknesses of the perspective</i>	Limited applicability beyond the system under study Misses detail of the moment	Imprecision	Imprecision	Obscures context and systemic interconnections
<i>Preferred mode of inquiry</i>	Postpositivist	Postpositivist	Postpositivist	Positivist
<i>Examples of research projects primarily influenced by the world view</i>	In case study of a creative individual, a researcher seeks ways in which intrasystemic, mutually shaping interactions among cognitive subsystems promote long-range purpose	Qualitative researcher seeking effects of socioeconomic influences on talented minority children who show resilience in dealing with unpredictable environments	Complexity theorists discovering patterns of similarity in the Dynamics of human brains .. Philosophical analysis of metaphors that underpin research in gifted education	Experimental, quantitative analysis of effects of instructional strategy on students' achievement scores
<i>Perspectives on intelligence and</i>	Social construction paradigm	Social construction paradigm	Social construction paradigm	Natural inequality

Sources: Cohen, L.M., Ambrose, D. & Powell, N. (2000). Conceptual foundations and theoretical lenses for the diversity of giftedness and talent (Eds. Kurt. A. Heller, Franz J. Mönks, Robert J. Sternberg, Rena F. Subotnik). *International Handbook of Giftedness and Talent*. New York: Pergamon p. 333.

As seen, there have been changes of paradigm in the education for the gifted. As Cohen et al. (2000) said: the *traditional paradigm* in gifted education was based on assumptions of clearly defined, measurable, culture-transcendent intelligence and the selection and labeling of the gifted (usually through IQ tests) for their inherent abilities. The *second paradigm* was derived from special education emphases on individual educational plans and least restrictive environments based on assessments of students' individual needs. Aspects of the as yet ill-defined *third paradigm* shift seem to include emphases on multidimensional talents, multidimensional and context-sensitive conceptions of intelligence, awareness of diversity and societal context.

Now, time to analyze factors forming basis for the development of these approaches with a historical perspective:

In various eras, it has been expressed -by thinkers including Aristotle and Platon- that human beings are not equal about their intelligence skills. In the literature where *whys* and *hows* of social stratification this subject has been treated voluminously. But, about the conceptualization of the subject matter as a kind of biological differentiation, there has been a progress towards the theorists of pure race, starting with G.V de Lapouge and O. Amon's theories. From this point on, we should note F. Galton's concept which also resources of the formation of elite concepts. First opinion backing heredity, in his work *Hereditary Genius* (1869) -though luck seems effective for the emergence of intelligence, was first proposed by F. Galton who is trying to prove that it is more probable for highly intelligent children to be born when father is gifted (Kurtkan-Bilgiseven, 1987). F. Galton (Plomin & Price, 2002) asserts that giftedness (or high intelligence) is a *matter of heredity* rather than environmental factors. F. Galton, being directly influenced by C. Darwin's views, calculated natural intelligence (giftedness) levels in the society, and claimed that individual differences and privileges were created by environmental and hereditary factors. In his theory, he asserted that people from higher or lower strata in the society were not equal for capacity, higher strata in the society produced more gifted people in number than lower strata, and these privileges could be attributed first to hereditary then environmental factors (Sorokin, 1994). In this road from natural selection to race based superiority, F. Galton defending genetically amelioration of human race in stead of leaving evolution to develop on its own, supports the systematic breeding of human beings to reach the results sooner and effortlessly (Coşkun, n.d.). His reanimating eugenism (eugenics) brings out F. Nietzsche's "superior human" (über mensch) goal, and A. Hitler and his team's transhumanism (post-human) (Dündar, 2010). M. Hesapçioğlu reports how these viewpoints - in fact not proposed by C. Darwin himself- act in social psychology (Vexliard, 1969) as that: Generally racism accepts the Darwinian theory of survival of the fittest. During this progress, the least fit ones disappear (natural selection). Contribution of these thoughts to human groups brought out racism. This viewpoint, which had been, was dominant until II. World War, as cited by M. Tan (1987), was opened to reforms basically defending talents of children from lower strata were wasted over time. In 1960's while debates taking environmental factors into consideration for educational achievement strengthened, "innate intelligence" concept was attacked. In this period, human capital approach rose, and when it was 1970's, these hopes for education caused critical pedagogues like I. Illich to define education as "secular religion".

IQism and naming of it, in the process called g-centrism, was strongly linked to the idea that intelligence could be measured with IQ tests with high validity and reliability, and IQ was believed to be the only factor in educational, professional, economic, and social efforts (Dündar, 2010; Dorling, 2010). As it is treated comprehensively in the chapter for *Elitism*, H. Radnor et al. (2007 cited by Dündar, 2010) proving that meritocracy has brought out an elitist practice, puts that intelligence and skill are modern invention covering

elitism in education as a social structure. Meanwhile, C. Jenkins' points emphasizing luck, as a factor should be noted here. According to the author, who emphasizes luck in inequalities, and harshly criticizes liberal models and all concepts linking fortunes of life to family roots, intelligence level, or cognitive skills links, fortune of life is related to fortune, personality and professional efficiency (Husén, 1974; Tan, 1987). J.H. Austin (1978 cited by Tannenbaum, 2002) points that factor of luck is never ignored or neglected in skill studies. W. Müller and K.V. Mayer (cited by Ergün, 1997), in their study aiming to prove that if it is possible to provide equality of fortunes through education, grouped the correlations among education, profession, and social background. That is why it is important what you mean by saying "achievement". If success, with its largest definition; is the distance individuals cover to reach their goals/results, this distance covered, /phases passed become true in a context effected by the factors in and out of individual's control. Though educational achievement is quite a complicated issue in regards to factors, as it will be treated here, achievement has an economic dimension. In this dimension meritocracy model in which selection and opportunity concepts are interwoven comes first, thus school/ academic years and after school years emerge as a matter of either quality or quantity. In this scope, two opinions in conformity with IQism are *meritocracy thesis* and *explanations submitted by traditional elitist model*: *Meritocracy thesis*, defends that social inequalities are an inevitable result of individual differences (intelligence and skill). R.J Herrnstein, who theorized the thesis exposes this hypothesis as follows: "If all of the people are intelligent enough to dig trenches but half of the people are intelligent enough to be engineers, society makes use of this intellectual resource sparingly by valuing and rewarding engineers" (Ulusoy, 1996). *Traditional Elitist (Conservative) Model*: It supports children of privileged classes to be more intelligent and successful and go to elite schools. So, an education system limiting opportunities is inevitable, and reform trials having potential to spoil the unity of elitist, privileged, special schools should also be avoided. As in fundamentalist model, it asserts that intelligence is a social characteristic not a natural characteristic. Among the researchers who contribute to the consideration of IQ or achievement problem from an economic point of view, works of R.J. Herrnstein, A.Jensen, C. Murray, C. Jencks, S. Bowles and H. Gintis stand out. We also see that the term "desire to achieve" social mobility through education is used in some sources. For example D.C. McClelland, in his book *The Achievement Society* in which he treats the relationship between human beings' desire to achieve and economic growth, he has reached different findings for developed and developing countries. From the point of cultural factors at first, R. Jacobs criticizes this research several points of view. One of the factors igniting the debates of considering matter of IQ or achievement economically most is: R.J. Herrnstein and C. Murray who collected their researches aiming to find out whether the rich are more intelligent or not, in the book '*The bell Curve Intelligence and Class Structure in American Life*' in 1994.

N. Chomsky, treating R.J. Herrnstein's Bell Curve idea in 1972, criticized the economic proposals submitted by the idea and defined it as racist. He asserted that R.J. Herrnstein's ideas were full of mistakes, and they protected only the benefits of the elite. Chomsky proposed these contradicting views in his '*Chomsky on IQ and Inequality*': (1) People do not choose professions based only on personal gains, (or social prestige) free from individual tendencies. (2) Society always rewards the people who become a part of a useful social service. And N. Chomsky adds: "according to R.J. Herrnstein's logic, if bakers and woodsmen obtain the highest gains in the society, over time, the ones with the highest IQ occupy these positions. And I have no doubt that R.J. Herrnstein will become a woodsman or a baker to make more money that way. In this discussion, C. Murray (1997), supports meritocracy approach, which backs R. J Herrnstein's bell Curve showing range of intelligence scores. Referring to siblings sample, he also defends that class differentiations have formed free from the individuals' socio-economic accumulations. In his research, C. Murray (1997) illustrating the importance of education asserts that: average length of education for people with normal intelligence scores equals to 13.4 years. Length of education or people with brighter intelligence scores equals to 16.4 years. Average length of education for people with lower than normal intelligence score equals to 11.6 years (normal length of regular education is 12 years). School years make sense when we see that; while 19% of normal group have a university/college diploma, 82 % of students with brighter intelligence scores (16.4) have a diploma (quadruple of the normal group). Besides, 50% of students with brighter intelligence scores compared to normal ones (1.5 times as high as the normal ones) have good graduation degrees. While 3% of students with normal

intelligence scores have low graduation degrees, none of them have very low graduation degrees. As for job choice, in 1992, rate of students with normal intelligence scores choosing law, medicine, academics, engineering, accountancy and science for career is 2%. Rate of bachelors is 23%, rate of postgraduates is 8%. Rate of graduation with low degree is zero. But this result implies that IQ solely doesn't affect job choice through education. Furthermore, we can see that children with same financial and emotional support in the same family have different career choices. By providing a longer/better education for their fortunate children, families can't guarantee the relation between job choice and income (Murray, 1997). On geneticists' view that "growth of children is a combination of environmental and genetic characteristics", C. Murray (1997), in his study, notes that before all, Bell Curve doesn't underrate environmental factors. It is stated that a person's intelligence can be developed 15 points through environmental factors. Leading factor in this development is explained with family factors (e.g. socio-economic status, divorce, literacy). Theme of this study is that: IQ is passed genetically, so family is the most determining factor in a person's economic income. But, because of the researches about the siblings, it is emphasized here that IQ is an independent factor in a person's economic income, free from the economic status of the family.

In this group, A. Jensen, together with meaningful significance of relation between IQ and economic income (0.4), adds that the other effective factor is age. That is because, people especially in their middle age, their potential reaches its highest level in their career. In general, in the emergence of the approach called as IQism by S. Bowles and H. Gintis, studies of above mentioned researchers R.J. Herrnstein, C. Murray, A. Jensen, R.J. Rushton and E.W. Rushton correlate IQ positively with professional prestige, access to education, creativity, physical health, mental health, brain size, lifespan, and transmission speed in neurons.

This correlation is negatively related to crime rate, weakness, chronic need for care, unemployment, divorce and single parenthood (Jones & Schneider, 2006). On the other hand, in order to depict correlation between class roots and academic achievement, Robbins Report, published in England in 1963, revealed that chances of higher education were equal for the most intelligent children from the lower strata and the least intelligent children from the higher strata (Ergün, 1997)¹.

As seen, mechanistic thinking, which was explained in detail above, is still based on dominant culture concepts. As Passow and Fraiser (cited by Cohen et al., 2000) cites; skills and intelligence of the gifted children were neglected because of excessive demand for standardized tests, restricting definitions of intelligence, failure to understand apparent behaviour in cultural context, lack of orientation, and lack of dynamic assessment in learning opportunities. It is this way, in addition to studies in 60's and 70's, although researchers like Frasier, Garcia, Passow, Ford, Harris, Maker, Schiever, Peterson attempted to define intelligence in different groups, and respond to different children, this dominance is as it is. Also taking these shortcomings into consideration, new Marxist thinking, as noted by S. Bowles and H. Gintis (1976) found the factors related to a person's income apart from IQ as the person's family, location, genetic health, ethnic roots, and education. Furthermore, they also found that these factors were more influential than IQ in determining the income. To sum up; *in the process of competition in schools, with defeats and victories, students are made to be compatible with their social status*. Thus, objective educational system deepens meritocratic perspective towards popular culture and social sciences method. Obtained high-test scores mean -as an instrument- high-income expectation. Only a minor part of noteworthy statistical correlation between academic achievement and economic success is responsible for school role for developing or curtaining cognitive skills. However, the economic function of schools is not limited to develop or determine skills this way. Primary economic function of education is to develop or select intellectual skills. For this reason, differences in pure cognitive test scores can't explain the correlation between educational process and economic success. T. Hertz et al. (2007), parallel to S. Bowles and H. Gintis's study, found a direct relation between socio-economic status of the family and children's education

¹ There are several research in Turkey related to topic. For example: Ö. Sayın (1989) Tatlıcan (1990), B. Özgen (1996) T. Çavdar (1976), V. Gülmez (1988).

and income level. In the analyses they did, they found that the effect of educational level of the families on children increased in the last fifty years. Similarly, M.L. Patrick (2008) point out that class status of the parents is determining factor in mobility between generations.

DISCUSSION

As some of the researchers carrying out researches in giftedness or gifted education areas indicate, the idea that treating unequal ones as equal ones causes another inequality submits a viewpoint exactly parallel with the liberally characterized equal opportunities idea in education. Likewise, the goal is to provide each individual with possibilities to access opportunities in accordance with his/her abilities. But, elitist way of thinking here ironically contradicts with the liberally characterized equal opportunities idea. Demanding privileged opportunities for the gifted or privileged individuals, whose giftedness or superior skills were determined after some measurements, means that equality of opportunities ideal approaches to elitism again and although it is not stated directly, this is intelligence based aristocracy. Egalitarian point of view in the model, which had already proposed as PC (Pedagogical Cooperation) by Hesapçioğlu and Dündar (2011), has emphasized equal treatment to human beings because of their human beings. In this model, increasing available opportunities for development is emphasized, due to variations in individual interest and abilities. With pedagogical cooperation approach it is emphasized to increase experience environments available for the students whose abilities and interests differ. The probable results of the proposed model (original model shown in italic) can be discussed as follows:

Philosophical origin: Turning back to the Ancient Age, as it is seen in Socrates' Schola, school without walls.

Pedagogical perspective: Life long learning approach, alternative education, UNESCO-Project Schools

Interaction/Cooperation: Universities, research centers, laboratories, research-development institutions, school types, non governmental organizations, foundations, associations, application centers, councils, media corporations, factories, conservatories, art centers, sports organizations and institutions, etc. Requirement: There should be at least one educational consultant in the institution and organization cooperated to organize the educational program suitable to the project submitted by the student.

Environment: Active participation of students' in the natural process; transformation of distant and near environment into a learning center/area.

Program: Program is based on the project submitted by the student. Student manages the process in accordance with project methodology in the direction of his interest and needs. Student receives consultancy required both during the preparation phase of his project (from school) and cooperation (from institution/organization). The goal here is, as it is frequently mentioned in the literature, not developing program models applied in gifted education (like: multiple intelligences, holistic education, high scope Purdue middle education program, autonomous learning program, C3, Reggio Emilia, The Grid Matrix, Integrated Program, or collecting all models under three basic headings as grouping, accelerating, and enriching). PC, pedagogical cooperation makes these approaches possible to apply in direction of suitable place, time and building on the basis of system. Difference is that; program is open to all children whose projects are accepted. Here discrimination between superior student or normal student is not in question.

Education: PC, doesn't submit special teaching methods (like: education in special classrooms, starting school at earlier age, accelerating, program enriching, educating in single ability groups, individual education). It provides environments where student learning is possible happen. For example:

- In university, research center, laboratory (in an institution or organization), an educational coordinator/specialist employed for this purpose determines the suitable lesson and activity types for the project he is submitted by the student.
- Working with the student, choosing subjects among these lesson/activity types, a suitable program is developed for the student.
- In direction of the project, student is responsible to carry out these activities/lessons for the predetermined period of time, and organize the outcomes of the project in specified time.
- In this frame, an individual GANT (timetable for activities) table is determined.
- For easy monitoring/ evaluating purposes, institutional timetable is prepared by the education coordinator/specialist.
- Student is responsible to inform the school/institution with which he is affiliated about his individual GANT.
- Together with the student, school is responsible to form the program at school (presentation, evaluation, observation, sharing with other students in meetings) in accordance with this individual timetable.

Evaluation: Multiple evaluation methods: Assessment by the student, assessment by the educational coordinator/ specialist, school/institutional observations and evaluations, approaches of monitoring results are considered.

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REFERENCES

- Arslan, R. (2010). *Elitizm teorisi ve teorisyenleri*. Bursa: Dora Yayınları.
- Aytaç, K. (1975). *İngiltere, İsveç, Fransa ile Federal Almanya'da okul reformları ve okul kuruluş sistemlerinde demokratlaşma temayülleri (mukayeseli bir eğitim araştırması)*. İstanbul: Talim ve Terbiye Dairesi.
- Bottomore, T.B. (1997). *Seçkinler ve toplum*. Ankara: Gündoğan Yayınları.
- Bowles, S. & Gintis, H. (1976). *Schooling in capitalist America aducational reform and the contradictions of economic life*. USA: BasicBooks.

Cevizci, A. (2007). *Felsefe ansiklopedisi 5*. Ankara: Ebabil Yayıncılık.

Cohen, L.M., Ambrose, D. & Powell, N. (2000). Conceptual foundations and theoretical lenses fort he diversity of giftedness and talent. In A.H. Kurt, F.J. Mönks, R.J. Sternberg, R.F. Subitnik (Eds.), *International handbook of giftedness and talent* (pp. 331-344). New York: Pergamon.

Coşkun, G. (n.d.). Evrimcilerin “üstün insan” hayalleri. Retrived November 30, 2011, from http://www.yaklasansaat.com/dunyamiz/canlilar/evrimcilerin_ustun_insan_hayalleri.asp.

Dorling, D. (2010). The return to elitism in education. *Soundings*, 44, 35-46.

Durkheim, E. (2006). *Toplumsal işbölümü*. İstanbul: Cem Yayınevi.

Dündar, S. (2010). *Eğitimde fırsatların eşitliği ve postmoderndeki dönüşümü: Türkiye örneği*. Unpublished dissertation, Marmara University.

Ergün, M. (1997). *Eğitim sosyolojisine giriş*. Ankara: Ocak Yayınları.

Flynn, J.R. (2009). *What is intelligence: Beyond the Flynn effect*. Cambridge: Cambridge University Press.

Ford, D.Y. (2002). Equity and excellence: culturally diverse students in gifted education. In N. Colangelo, G.A. Davis (Eds.), *Handbook of gifted education* (pp. 506-520). USA: Allyn & Bacon.

Herrnstein, R.J., & Murray, C. (1994). *The bell curve: intelligence and class structure in american life*. New York: Free Pres.

Hertz, T., Jayasundera, T., Piraino, P., Selcuk, S., Smith, N., & Verashchagina, A. (2007). Intergenerational economic mobility around the world. *The B.E. Journal of Economic Analysis & Policy*, 7 (2), 1-46.

Hesapçioğlu, M. (2009). Eğitim sistemlerinde yönlendirme çalışmalarının felsefi/yönetimsel temelleri. *Eğitime Bakış*, 2009, 5-10.

Hesapçioğlu, M., & Dündar, S. (2011). *Türkiye’de eğitimde fırsat eşitliği ve postmodernizm*. Konya: Eğitim Kitabevi.

Hesapçioğlu, M., & Dündar, S. (2011). Giftedness in Turkish educational system In a context of globalization and elite education: An egalitarian model proposal (=Pedagogical Cooperation). *Excellence in Education 2011: Giftedness, Creativity, Development*. İstanbul, Turkey, 6-9 July.

Husén, T. (1974). *Talent, equality and meritocracy: availability and utilization of talent*. Netherlands: Plân Europe 2000 Project1.

Jones, G., & Schneider, W.J. (2006). Intelligence, human capital, and economic growth: A bayesian averaging if classical estimates (base) approach. *Journal of Economic Growth*, 11, 71-93.

Kurtkan-Bilgiseven, A. (1987). *Eğitim sosyolojisi (kavramlar-teoriler-eğitim yoluyla kalkınmanın esasları)*. İstanbul: Türk Dünyası Araştırmaları Vakfı.

- Kurtkan-Bilgiseven, A. (2004). Anı yazıları: Demokrasi, fırsat eşitliği ve seçkinler. *Sosyoloji Konferansları* (ss. 95-109). İstanbul: İstanbul Üniversitesi İktisat Fakültesi Metodoloji ve Sosyoloji Araştırmaları Merkezi.
- Macionis, J.J. (2003). *Sociology*. New Jersey: Pearson Education International.
- Murray, C. (1997). IQ and economic success-intelligence quotient. *The Public Interest*, 22, 21-35.
- Patrick, M.L. (2008). Intergenerational mobility and interracial inequality: The return to family values. *Munich Personal RePEc Archive*, 51-80.
- Plomin, R., & Price, T.S. (2002). The relationship between genetics and intelligence. In N. Colangelo, G.A. Davis (Eds.), *Handbook of gifted education* (pp. 113-123). USA: Allyn & Bacon.
- Radnor, H., Koshy, V., & Taylor, A. (2007). Gifts, talents and meritocracy. *Journal of Education Policy*, 22 (3), 283-299.
- Reuchlin, M. (1964). *Psikoloji tarihi*. İstanbul: Anıl Yayınevi.
- Rousseau, J.J. (2009). *İnsanlar arasındaki eşitsizliğin kaynağı*. İstanbul: Say Yayınları.
- Sorokin, P.A. (1994). *Çağdaş sosyoloji kuramları I*. Ankara: Kültür Bakanlığı Yayınları.
- Sternberg, R.J. (2004). *International handbook of intelligence*. Cambridge: Cambridge University Press.
- Tan, M. (1987). Eğitsel fırsat eşitliği (sosyolojik bir kavram olarak gelişim). *Eğitim Bilimleri Fakültesi Dergisi*, 20 (1-2), 245-259.
- Tan, M. (1990). Eğitim sosyolojisinde değişik yaklaşımlar: İşlevselci paradigma ve çatışmacı paradigma. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 23 (2), 557-571.
- Tannenbaum, A.J. (2002). Nature and nurture of giftedness. In N. Colangelo, G.A. Davis (Eds.), *Handbook of gifted education* (pp. 45-59). USA: Allyn & Bacon.
- Tumin, M.M. (1967). *Social stratification: the forms and the functions of inequality*. New Jersey: Prentice-Hall.
- Ulusoy, M.D. (1996). Eğitim ve sosyal eşitlik. *Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi*, 13 (1-2), 59-86.
- Vexliard, A. (1969). *Sosyal psikoloji* (Compiler: Muhsin Hesapçioğlu). Ankara Üniversitesi Eğitim Bilimleri Fakültesi 1968-1969 eğitim öğretim yılı ders notları (çoğaltma).

THE IMPACT OF ASYNCHRONOUS COMPUTER-MEDIATED CORRECTIVE FEEDBACK ON INCREASING IRANIAN EFL LEARNERS' CORRECT USE OF PRESENT TENSES

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ABSTRACT

An area that has recently attracted increasing attention is providing feedback on learners' writing accuracy through the Internet. However, research in this area has largely focused on synchronous communication, i.e., chat, with fewer studies assessing asynchronous technologies, i.e., e-mail. Therefore, this study investigates the effectiveness of asynchronous computer-mediated corrective feedback-explicit/implicit, through e-mail on increasing the correct use of present tenses. Forty-five Iranian elementary EFL learners were randomly assigned to two experimental groups, receiving explicit and implicit corrective feedback respectively, and one control group receiving no corrective feedback. Each group included 15 participants. After the treatment, a post-test was administered to assess the probable increase in the correct use of simple present and present progressive tenses. Analysis of the results through two separate ANOVAs revealed that the experimental group 1 who received explicit corrective feedback significantly outperformed the experimental group 2 and the control group in terms of the correct use of simple present and present progressive tenses. The experimental group 2, however, showed no statistically significant improvement over the control group. While the findings support the current view on the effectiveness of corrective feedback through technology, due to the scarcity of research, more investigation is merited as there is much to gain regarding this burgeoning field.

Key Words: Computer-mediated communication, Asynchronous CMC, Synchronous CMC, Corrective feedback, E-mail, Noticing Hypothesis.

INTRODUCTION

Since the introduction of the Internet as a means of communication and prevalence of computers, more and more people have been using electronic media to cover hosts of purposes such as interpersonal communication, sending/receiving information, educational and language learning and teaching perspectives, etc. The application of computer and the Internet can be expected to have a myriad of positive effects on language learning. It has been proved that communication through the Internet will have a significant motivational effect on the students (e.g., Meunier, 1996; Warschauer, 1996) which further helps them improve their communicative skills both orally and in the written form. According to Quan-Hasse, Cothrel, and Wellman (2005), the introduction of computer technologies such as the Internet, e-mail, chat, etc, into educational environments has made it possible for learners to communicate ideas, information, and their feelings without any limit on time and space. Similarly, Zhao (2006, ¶ 14) refers to the application of the Internet and says that "The Internet is the first major medium of communication that allows people to establish new social contacts outside the face-to-face context as well as to maintain existing ties formed in corporeal copresence". Carter (1997) also states that the emergence of faxes, e-mail communications, and word-processed texts has changed the ways in which written language can be utilized to maintain interpersonal interaction among different interlocutors within their social, cultural, and learning context.

Computer-Mediated Communication

Language educators and specialists have recently begun to discover the potentiality of computer technologies and in particular computer-mediated communication (CMC) for language learning and teaching. The term CMC was first coined and introduced by Hiltz and Turoff (1978) while experimenting on computer conferencing on the Internet. Barnes (2002) defines CMC as a wide range of technologies that paves the way for human interaction and sharing of information through interconnected networks of computers including e-mail, discussion groups, newsgroups, and real-time chat. December (1997, ¶ 3) also states that "Computer-Mediated Communication is a process of human communication via computers, involving people, situated in particular contexts, engaging in processes to shape media for a variety of purposes". Having long been adopted in language learning and teaching, CMC has been proved to be more effective than class-restricted environment in that students no longer feel bored and frustrated with monotonous materials and methods of teaching and can learn new things in much more interesting and effective ways. Fey (1998) maintains that, "computer networks are allowing students to transcend boundaries of classroom walls and to learn in new ways" (p. 86). According to Warschauer (2001), CMC or "on-line communication refers to reading, writing and communication via networked computers" and comprises of:

- (a) Synchronous computer-mediated communication, whereby people communicate in real time via chat or discussion software, with all participants at their computers at the same time;
- b) Asynchronous computer-mediated communication, whereby people communicate in a delayed fashion by computer, e.g. by e-mail; and
- (c) The reading and writing of on-line documents via the internet. (p. 207)

Recently, pedagogical contributions of computer technologies have been extensively researched and beneficial outcomes have been reported. CMC can be greatly utilized in order to work on the writing improvement of English learners because according to Goodman and Graddol (1996), computer-mediated technologies are mostly concerned with written texts through English language. Additionally, by making a comparison between CMC and face-to-face communication, Bordia (1996) aptly concludes that CMC is "a combination of written and oral styles of communication" (p. 150). Maynor (1994) also indicates that e-mailing as one of the primary means of communication regarding asynchronous CMC (ACMC), represents itself as a converging point for both oral and written modalities in a two-way communication. This means that computer-mediated writing also exhibits characteristics of face-to-face communication. ACMC, as the name speaks for itself, provides mediated media of communication which provides interlocutors with an opportunity to deliberate, review, revise or even cancel the flow of communication before sending the information to the recipient (Heisler & Crabill, 2006). This valuable property of ACMC helps learners learn how to reflect on the content of what they are going to convey and be critical of what they have in mind before communicating it to others.

Therefore, asynchronous communication can deeply involve learners in the processes of critical thinking (Lee, 2004) and problem solving (Jonassen & Kwon, 2001) by demanding more focused and purposeful communication. Warschauer (1995) also emphasizes the role of e-mail in CMC and says that e-mail is the most important application regarding the Internet. It has also been suggested that using computer technologies can help learners increase their opportunities to use target language (e.g., Barson, Frommer, & Schwartz, 1993). Thus, these opportunities result in the improvement of the quality of written and spoken language (Sotillo, 2000) and negotiation of meaning (Blake, 2000). Finally, Sotillo (2000) maintains that because of delayed nature of e-mail, learners have more opportunities to produce syntactically complex language resulting in a significant improvement in their writing accuracy.

Corrective Feedback and Learning

In the course of learning target languages, it is quite possible that learners deviate from target-like forms by making syntactic errors and mistakes which, according to Schmidt's (1990) Noticing Hypothesis, are indicative of the differences between the target form and learners' interlanguage. In cases like this, teachers usually

resort to giving students appropriate feedback as to guide them towards target structures. The mismatch between what the learners receive as input and what they produce as output can be effectively dealt with by means of appropriate corrective feedback provided by the teacher (Campillo, 2003) which helps learners integrate correct language. According to Lightbown and Spada (1990), corrective feedback is any indication to learners by teachers that their use of the target language is erroneous and needs to be modified. Brown (1988) also states that feedback should be provided for learners as it helps them experience the effect of what they have produced as a guide to their future output.

Having identified an error in the process of interaction, teachers can resort to two types of negative corrective feedback as a response to the mismatch: *explicit* and *implicit* corrective feedback. According to Campillo (2003), "explicit corrective feedback involves the explanation of a formal aspect after an error has been made. In turn, implicit corrective feedback refers to ways which indicate that the learner's output is somehow erroneous, and needs to be reformulated" (p. 210). Appendix A summarizes definitions and examples of corrective feedback strategies proposed by Lyster and Ranta (1997) as cited in Sauro (2009, p. 99). Campillo (2003) also states that corrective feedback is crucial to the development of second language as it provides learners with opportunities to contemplate on and take into account other possibilities. Campillo (2003) cites Carroll and Swain (1993) and indicates that corrective feedback is "also applicable to the foreign language (FL) context, in the sense that it may trigger the cognitive processes required for acquisition" (p. 212).

In conclusion, with respect to the aforementioned benefits of computer technologies concerning grammar accuracy and the importance of corrective feedback, it can be argued that, research on learning outcomes following computer-mediated corrective feedback is still limited (e.g., Loewen & Erlam, 2006; Sachs & Suh, 2007) and to the best of our knowledge, no attempt has ever been made, especially in Iran, to assess the effectiveness of asynchronous computer-mediated corrective feedback-explicit/implicit, via e-mail on the correct use of English tenses. Therefore, the present study was undertaken with the hope that its findings might help to enhance the practices of TEFL.

Background of the Study

Corrective Feedback

Different studies have been carried out which have investigated the effectiveness of both explicit and implicit corrective feedback on the grammatical and linguistic accuracy of learners' production. Campillo (2003) refers to some previous research on explicit and implicit feedback and mentions that Lightbown and Spada (1990) analyzed the effect of explicit corrective feedback in an intensive communication classroom having English as the second language and found out that teaching of formal aspects of language contributed positively to the learners' linguistic and grammatical accuracy. Campillo (2003) also states that implicit corrective feedback has been thoroughly investigated and integrated into teaching environments and positive results have been reported. Campillo (2003) refers to Lyster and Ranta (1997) and says that they carried out their study through different types of corrective feedback ranging from explicit to implicit at primary levels. Accordingly, as stated by Campillo (2003), "The findings of the study revealed that recasts were the most used technique by the teachers (55% of the cases), followed by elicitation (14%), clarification requests (11%), metalinguistic feedback (8%), explicit correction (7%), and repetition (5%)" (p. 212). In the same way, Zhuo (2010) conducted a study examining "the relative effects of explicit and implicit recasts on the acquisition of English noun plural by Chinese EFL learners" (p. 55). In this study, students were randomly assigned to three groups: the first group received corrective feedback through explicit recast. The second group received implicit recast. And the last group acted as the control group receiving no feedback. In line with Campillo's reports, the results of Zhuo's study showed that recasts were more effective than other types of corrective feedback in bringing students' attention to their erroneous structures. Sheen (2004) also examined the role of corrective feedback in increasing learners' uptake in communication classes in four contexts: "French Immersion, Canada ESL, New Zealand ESL and Korean EFL" (p. 263). Findings of this study indicated "that recasts were the most frequent feedback type in all four contexts but were much more frequent in the Korean EFL and New Zealand ESL

classrooms (83% and 68%, respectively) than in the Canadian Immersion and ESL classrooms (55% for both)" (p. 263).

Brief review of corrective feedback literature revealed that most studies have so far been done with respect to recasts and a little, if any, investigation has been carried out regarding other types of corrective feedback such as explicit, repetition implicit, etc.

Synchronous and Asynchronous CMC and Corrective Feedback

According to Sauro (2009), as technology is making its way into language learning and teaching environments, written CMC holds particular promises for the learning of complex and low salience features and forms. Thus, synchronous and asynchronous CMC environments are ideal contexts for the investigation of corrective feedback during written communication as they provide student-teacher interaction in a way that increases students' awareness towards target language and eliminates time and distance limitations.

Corrective feedback in this sense can draw learners' attention to the discrepancies between learners' output and target-like norm and facilitate the occurrence of noticing of the gap which according to Schmidt (2001) is the "first step in language building" (p. 31). Sauro (2009) also states that according to Schmidt's (1990) Noticing Hypothesis "for learning to occur, second language learners must attend to and notice details and differences between the target language and their interlanguage and its representation in their production of output" (pp. 96–97).

It should be mentioned that some studies have also investigated synchronous and asynchronous computer-mediated corrective feedback in language learning and teaching environments in order to substantiate its efficacy on the improvement of learners' linguistic and grammatical abilities. For example, Hanson-Smith (2001) cites Holliday (1999) for his experiment with a large corpus of students' e-mails and mentions that Holliday "has established that electronic communication provides a range and distributive frequency of linguistic features comparable to other genre of writing and speaking. He suggests that the repetitive nature of e-mail ... assists learners in understanding linguistic cues" (p. 109). This study clearly shows that CMC can help learners improve grammatical accuracy of their writing due to the fact that they can use linguistic cues more frequently and therefore pay more attention to the accuracy of their writings.

Romm and Pliskin (1999) also support that ALCMC through e-mail provides learners with a friendly environment in which they no longer have the feeling of being isolated and excluded. Accordingly, they contribute more willingly to maintain the flow of communication, pay more attention to the teacher-provided instructions, and participate in interpersonal interactions more than before. Few studies (e.g., Lea, 2001) on ALCMC and students' academic writing assignments show that students make use of online collaborative learning context, reflect on their own learning, draw upon their peers' feedback in the construction of their own knowledge, and thus benefit in their own academic writing. In one study on ALCMC, St. John and Cash (1995) found out that an adult language learner dramatically improved his German via e-mail exchanges with a native speaker, because the learner systematically studied and reflected on the new vocabulary and grammatical structures in his incoming e-mails and used this information to improve the content of his future letters with impressive results. This is indicative of the usefulness of learner's interaction with a more capable peer (Vygotsky, 1978) such as teachers, native speakers, etc, resulting in receiving and benefiting from appropriate feedback. Therefore, this can be viewed as an undeniable fact that ALCMC via e-mail exchanges can be expected to improve learners' grammar and linguistic awareness through corrective feedback provided by a more capable peer. More recently, Faghih and Hosseini (2012) and Hosseini (2012) conducted some studies examining the impact of asynchronous computer-mediated corrective feedback via e-mail on the correct use of articles and prepositions. The results of their studies reported significant increase in the correct use of articles and prepositions.

Similarly, most studies on the efficacy of corrective feedback through SCMC have so far been conducted with respect to recasts and meta-linguistic types of feedback and promising results have been produced. In one study, Razagifard and Rahimpour (2010) investigated the effectiveness of corrective feedback through chat on learners' grammar improvement and found out that meta-linguistic corrective feedback is more effective than recasts in getting learners to both notice the gap and enhance their ability to correctly apply grammatical structures.

As opposed to e-mail which is the most applicable tool regarding asynchronous studies, application of chat as a means of language learning has been gaining increasing popularity among scholars and researchers likewise due to the fact that it resembles face-to-face communication in its immediacy of interaction.

The Present Study

The present brief survey of the related literature reveals that few researchers have so far embarked on investigating the effects of explicit and implicit computer-mediated corrective feedback through e-mail in Iran and even internationally. Moreover, with respect to CMC, most studies in this field have so far primarily dealt with the impact of recasts and meta-linguistic types of corrective feedback via SCMC and chat. Consequently, the aim of the present study was to investigate the extent to which asynchronous computer-mediated corrective feedback might be effective in promoting learners' correct application of simple present and present progressive tenses and the following research questions were proposed:

Q1. Does asynchronous computer-mediated corrective feedback have any significant effect on the correct use of *simple present* tense?

Q2. Does asynchronous computer-mediated corrective feedback have any significant effect on the correct use of *present progressive* tense?

METHOD

Participants

The participants of this study consisted of adult elementary EFL learners from Iran Language Institute (the ILI) in Tehran aged 16 or more whose mean age was 21. The reason for selecting elementary learners was that it was assumed that since they were beginners, they would not know much about the details of EFL syntax. In order to make sure of the learners' proficiency level and homogeneity, Key English Test (KET, 2009) developed by Cambridge was administered prior to the treatment. The participants were selected voluntarily and according to their access to the Internet out of the class sessions. Out of the subject pool, 45 participants were randomly identified as two experimental groups and one control group. Each group consisted of 15 participants. The experimental group1 (N=15) received explicit corrective feedback, the experimental group 2 (N=15) received implicit repetition corrective feedback, and the control group (N=15) received placebo feedback. The assignment of the participants to the experimental and control groups was random as well.

Target Structure

Simple present and present progressive tenses were chosen in this study as target forms for two reasons. First, elementary EFL learners are already familiar with the basics of these structures. Thus, in this study, the emphasis was put on increasing the awareness over the correct use of present tenses rather than on instructing the learners how to use them. Second, these structures are known to be problematic as learners frequently fail to use them properly. Therefore, this study attempted to enhance the learners' ability to correctly apply simple present and present progressive tenses through asynchronous computer-mediated corrective feedback.

Instruments

The participants of this study were presented with their regular coursebooks developed by the ILI. Elementary coursebooks at the ILI comprise of ten units and each unit is further divided into two sections, and every section is covered in one session lasting for an hour and 45 minutes. Session one is devoted to conversation, grammar, and vocabulary. Session two covers reading, grammar, and listening. Classes are held twice a week. The total of twenty-one sessions covers the whole term for each of the three elementary levels at the ILI.

The participants were required to submit an e-mail and the modified version of the same e-mail after receiving corrective feedback from the second session on as home assignment every week after covering every unit, using computer or laptop out of the classroom. At the end of the treatment, learners' grammar improvement on present tenses was assessed using following instruments as their post-test:

1. Simple present and present progressive tenses

1.1. A Cloze passage consisting of 12 simple present and 10 present progressive gaps (Morgan & Lieu, n.d.).

1.2. Twenty multiple-choice sentences, each sentence followed by three choices consisting of ten simple present and eleven present progressive answers (Pitzer & Lieu, 1999; Mugglestone, n.d.).

Procedure

Prior to the treatment, the participants were told that they were obliged to write at least one paragraph or maximum two consisting of 100 to 150 words every week. From the second session on, they were required to submit an e-mail on a topic in line with their regular coursebook contents provided by the researcher as home assignment. All the participants in three groups received the same topic every week. The total of eight writing topics was provided for the participants during the experiment. The experimental group 1 received explicit corrective feedback, i.e., the instructor indicated that an error had been made, identified the error and provided the correction, to which repetition was required by the participants as modified output.

Example (1), asynchronous corrective feedback–explicit:

The participant: Now, I learning English, if we have a good teacher it become easier. I think that is something that provide our future and we can get the best end.....

Instructor's corrective feedback: Now, I am learning English (you should say I am learning English not *I learning English) if we have a good teacher it becomes (you should say it becomes not *it become) easier. I think that is something that provides (you should say something that provides not *something that provide) our future and we can get the best end.....

Modified output by the participant: Now, I am learning English, if we have a good teacher it becomes easier. I think this is something that provides our future and we can get the best end

The experimental group 2 received implicit repetition corrective feedback, i.e., the instructor repeated the learner's utterance highlighting the error by means of emphatic stress, underlined bolded uppercase words, to which reformulation by the participants was required as modified output. It is worth mentioning that the role of the emphatic stress was thoroughly explained to the participants because it required the participants to grammatically correct the underlined bolded uppercase words' usage by adding, deleting, changing, and modifying the surrounding or within words. It was also emphasized that the underlined bolded uppercase words had nothing to do with spelling mistakes.

Example (2), asynchronous corrective feedback–repetition implicit:

The participant: Therefore every one that start to learn a subject he need a helper but for some less than other people

Instructors' corrective feedback: Therefore EVERYONE THAT START to learn a subject HE NEED a helper but for some less than other people

Modified output by the participant: Therefore everyone that starts to learn a subject he needs a helper but for some less than other people

In order to make sure of noticing the teacher-provided corrective feedback, the participants of the experimental groups were obliged to send their modified output as an independent e-mail prior to receiving the next new topic.

The control group received placebo feedback, i.e., "topic relevant response that does not contain the target form in the same context", for example: "student: In Sweden the global warming is a problem. Native speaker: Many people believe it's a problem everywhere" (Sauro, 2009, p. 104) to which no modified output was required.

Teacher-provided corrective feedback for the experimental groups mainly focused on the correct use of simple present and present progressive tenses. Other grammatical deviations were corrected without bringing the participants' attention to them. At the end of the treatment, the participants of the three groups were presented with the post-test assessing the extent to which the treatment was successful in enhancing the experimental groups' ability over the control group's to correctly apply simple present and present progressive tenses.

This study was conducted within a period of 8 weeks in the summer of 1390 at the ILI, Fadak branch in Tehran. During the experiment, the current researcher held all of the classes, taught the learners, distributed e-mail writing topics every week, provided appropriate corrective feedback to all the groups, and administered the post-test.

RESULTS AND DISCUSSION

Two separate one-way ANOVAs were calculated regarding the correct use of simple present and present progressive tenses and their means separately. Differences among the experimental and control groups were considered significant at the .05 alpha level.

Analysis of the Results on Simple Present Tense

In order to answer the first research question, descriptive statistics regarding the experimental and the control groups was calculated first. The summary is given in Table 1.

Table 1: Descriptive statistics on simple present tense

Corrective Feedback	N	Mean	Std. Deviation	Minimum	Maximum
Experimental Group1 (Explicit)	15	20.47	1.642	16	22
Experimental Group2 (Implicit)	15	18.07	3.674	7	21
Control Group	15	17.27	3.173	11	22

The minimum score was 7 which belonged to the experimental group 2 and the maximum score was 22 which belonged to the experimental group 1 and the control group. As Table 1 shows, the experimental group 1 who received explicit computer-mediated corrective feedback with the mean scores of 20.47 performed better than the experimental group 2 and the control group with the mean scores of 18.07 and 17.27 respectively. The experimental group 2 slightly outperformed the control group. The differences between the groups' mean scores are presented in the following figure.

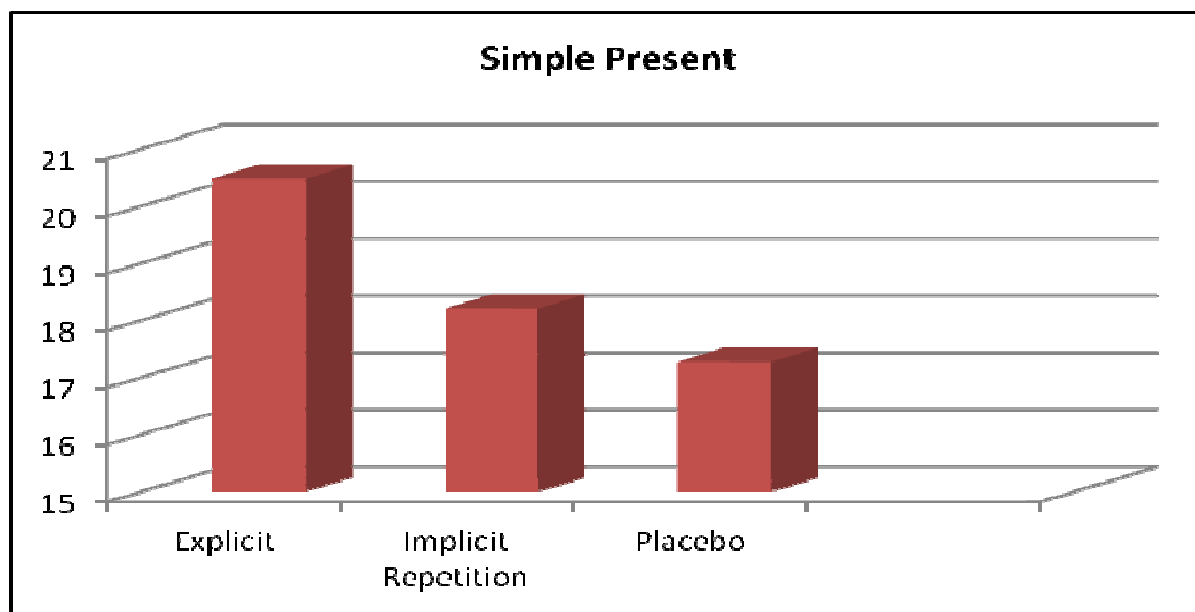


Fig 1: Group means on simple present tense

In order to investigate the effect of asynchronous computer-mediated corrective feedback on increasing the correct use of simple present tense, a one-way ANOVA was calculated. The results of ANOVA showed statistically significant difference at the $p=.05$ level of significance for the three groups in this study: $F(2, 42) = 4.753, p = .014$. Additionally, to find out where the difference(s) lie regarding the mean scores of the three groups, post-hoc comparisons through the Turkey HSD test were carried out. Following table summarizes the results of post-hoc tests.

Table 2: Results of Post-hoc tests on simple present tense

Corrective Feedback	Corrective Feedback	Mean Difference	Std. Error	Sig.
Experimental 1 (Explicit)	Experimental 2 (Implicit)	2.400	1.080	.079
Experimental 1 (Explicit)	Control Group	3.200*	1.080	.014
Experimental 2 (Implicit)	Experimental 1 (Explicit)	-2.400	1.080	.079
Experimental 2 (Implicit)	Control Group	.800	1.080	.741
Control Group	Experimental 1 (Explicit)	-3.200*	1.080	.014
Control Group	Experimental 2 (Implicit)	-.800	1.080	.741

*. The mean difference is significant at the 0.05 level.

Table 2 shows that the mean difference between the experimental group 1 ($M=20.47$, $SD=1.642$) and the control group ($M=17.27$, $SD=3.173$) was statistically significant with the alpha level of $.014 < .05$. The mean difference between the experimental group 1 ($M=20.47$, $SD=1.642$) and the experimental group 2 ($M=18.07$, $SD=3.674$) was not statistically significant: $.079 > .05$. The mean difference between the experimental group 2 and the control group was not statistically significant as well: $.741 > .05$.

Analysis of the Results on Present Progressive Tense

In order to answer the second research question, descriptive statistics had to be calculated first. The summary is shown in Table 3.

Table 3: Descriptive statistics on present progressive tense

Corrective Feedback	N	Mean	Std. Deviation	Minimum	Maximum
Experimental Group 1 (Explicit)	15	14.73	2.251	10	19
Experimental Group 2 (Implicit)	15	12.20	3.144	7	17
Control Group	15	10.67	4.152	2	17

The minimum and maximum scores were 2 and 19 and belonged to the control group and the experimental group 1 respectively. As Table 3 shows, the experimental group 1 who received explicit computer-mediated corrective feedback with the mean scores of 14.73 outperformed the control group with the mean score of 10.57. The experimental group 1 also performed slightly better than the experimental group 2. The experimental group 2 also slightly outperformed the control group. The differences between the groups' mean scores are presented in the following figure.

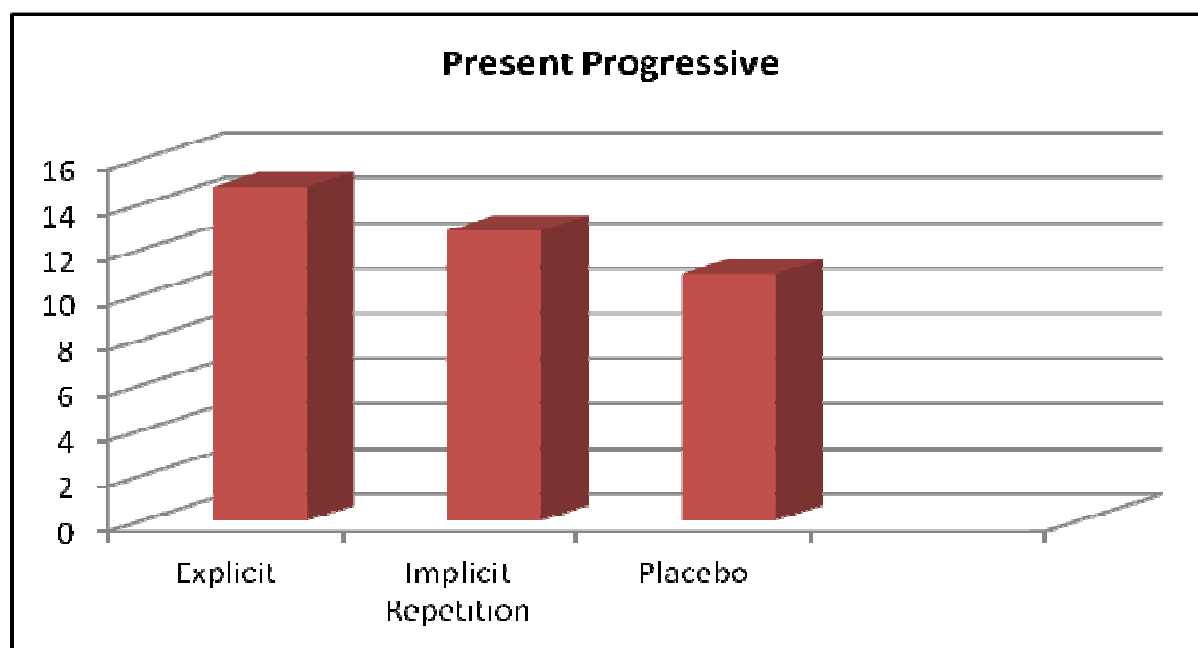


Fig 2. Group means on present progressive tense

In order to investigate the effect of asynchronous computer-mediated corrective feedback on increasing the correct use of present progressive tense, a one-way ANOVA was calculated. The results of ANOVA showed statistically significant difference at the $p=.05$ level of significance for the three groups in this study: $F(2, 42) = 5.896$, $p = .006$. Additionally, to find out where the difference(s) lie regarding the mean scores of the three groups, post-hoc comparisons through the Turkey HSD test were carried out. Following table summarizes the results of post-hoc tests.

Table 4: Results of Post-hoc tests on present progressive tense

Corrective Feedback	Corrective Feedback	Mean Difference	Std. Error	Sig.
Experimental 1 (Explicit)	Experimental 2 (Implicit)	2.533	1.196	.098
Experimental 1 (Explicit)	Control Group	4.067*	1.196	.004
Experimental 2 (Implicit)	Experimental 1 (Explicit)	-2.533	1.196	.098
Experimental 2 (Implicit)	Control Group	1.533	1.196	.413
Control Group	Experimental 1 (Explicit)	-4.067*	1.196	.004
Control Group	Experimental 2 (Implicit)	-1.533	1.196	.413

*. The mean difference is significant at the 0.05 level.

Table 4 shows that the mean difference between the experimental group 1 ($M=14.73$, $SD=2.251$) and the control group ($M=10.67$, $SD=4.152$) was statistically significant with the alpha level of $.004 < .05$. The mean difference between the experimental group 1 ($M=14.73$, $SD=2.251$) and the experimental group 2 ($M=12.20$, $SD=3.144$) was not statistically significant: $.098 > .05$. The mean difference between the experimental group 2 and the control group was not statistically significant as well: $.413 > .05$.

One of the main goals of this study was to investigate the probable effectiveness of asynchronous computer-mediated corrective feedback-explicit/implicit, via e-mail on increasing the correct use of simple present and present progressive tenses. Although previous research mostly supports the efficacy of corrective feedback on improving grammar accuracy (e.g., Lyster & Ranta, 1997; Campillo, 2003), the results of the present study both negate and support this tenet.

Research question 1 dealt with the investigation of whether asynchronous computer-mediated corrective feedback could increase the correct use of simple present tense. Results of ANOVA on the post-test revealed that the experimental group 1 who received explicit corrective feedback significantly outperformed the experimental group 2 and the control group. But the experimental group 2 who received implicit repetition corrective feedback did not show statistically significant improvement over the control group.

Research question 2 dealt with the investigation of whether asynchronous computer-mediated corrective feedback could increase the correct use of present progressive tense. Results of ANOVA on the post-test revealed that the experimental group 1 who received explicit corrective feedback significantly outperformed the experimental group 2 and the control group. But the experimental group 2 who received implicit repetition corrective feedback did not show statistically significant improvement over the control group.

With respect to the statistical results of ANOVAs, explicit corrective feedback proved effective in drawing learners' attention to the differences between their output and target norm. Therefore, findings of the present study, as far as explicit corrective feedback is concerned, support Schmidt's (1990) Noticing Hypothesis in

enabling learners to notice the gap resulting in the improvement of learners' grammatical accuracy in terms of simple present and present progressive tenses. Similarly, Lu (2010) in one study found out that the experimental group who received explicit corrective feedback significantly outperformed the control group regarding the correct use of simple present tense. In addition, superiority of explicit corrective feedback in increasing the correct use of English present tenses by Iranian EFL learners further supports St. John and Cash's (1995), Faghih and Hosseini's (2012), and Hosseini's (2012) findings on the efficacy of corrective feedback via e-mailing on increasing structural accuracy of written output. This superiority can be due to a variety of factors. First, Iranian EFL learners generally tend to rely on their teachers to provide them with correct structures when they make a mistake. In this sense, they are most responsive when teachers explicitly locate the error, correct it, and require them to modify their language. Second, they tend to overlook teacher-provided corrective feedback, especially on their writings, when incorrect structures are indirectly brought to their attention. Third, they tend to use erroneous structures less frequently for which teachers provide some clues and they fail to apply them correctly.

Accordingly, with respect to the analysis of the results concerning implicit corrective feedback, the experimental group 2 who received implicit repetition corrective feedback showed no significant improvement over the control group in terms of the correct use of simple present and present progressive tenses. However, the present study contradicts with Büyükbay and Dabaghi's (2010) study in that their findings showed that "the students in the experimental class, who were exposed to repetition as corrective feedback in response to their errors, did better on their grammar test than the students in the control class" (p. 187). In the same sense, Lu (2010) also concluded that implicit corrective feedback contributed to a significant increase in the correct use of present tenses. Apparently, the results of the present study, as far as implicit corrective feedback is concerned, are in line with an earlier view held by Truscott (1996) claiming that "grammar correction has no place in writing courses and should be abandoned" (p. 328). But by looking at recent studies (e.g., Sheen, 2007; Lee, 1997) and also the findings of explicit corrective feedback mentioned earlier, it would be wrong to generalize these findings to all aspects of language learning and corrective feedback as there is ample evidence confirming the applicability and efficacy of different types of implicit corrective feedback on grammar improvement.

This contradiction can be accounted for in the light of a variety of reasons. First, the experimental group 2 simply failed to notice the teacher-provided corrective feedback because the participants didn't receive any information on the formal aspects. Second, the bolded uppercase words might have misled them into wrongly correcting and changing the word itself or adding unnecessary words without realizing incorrect parts. Third, due to the fact that the participants were of low proficiency, implicitly requiring them to correct their errors might have demanded deeper levels of processing than correcting explicitly which they might lack at this stage. Fourth, the control group might have already been familiar with these structures and answered the testing instruments by simply putting appropriate items, thus, neutralizing the efficacy of implicit corrective feedback. Fifth, the participants of this study might have had previous experiences in EFL affecting the testing results. Sixth, psychological factors might have affected their performance on the test. Finally, it can be claimed that, reminding learners of their mistakes might have acted as psychological barriers to their uptaking of teacher-provided corrective feedback resulting in inefficacy of the treatment. On the other hand, the control group might have interpreted their writing to be perfect as they didn't receive any feedback.

CONCLUSION

In this study, the impact of asynchronous computer-mediated corrective feedback on increasing the correct use of simple present and present progressive tenses was explored. On the basis of the results, it became evident that explicit corrective feedback had significant effect on increasing the correct use of English present tenses. However, implicit corrective feedback didn't have any significant effect on increasing the correct use of present tenses regarding the experimental group 2 over the control group. The findings of the present study also

provide further implications as to the efficacy of computer-mediated corrective feedback as a pristine searching medium on different aspects of language grammar. Nonetheless, some limitations are attributed to this study. First, the level of proficiency was elementary, and it is possible that more proficient learners would have performed differently. Second, the overall teaching method at the ILI, i.e., a modified version of ALM, may have affected the results. Finally, it should be admitted that most previous research on corrective feedback and positive contributions to grammar accuracy and different English tenses has been conducted in forms of written, oral, and chatting. Therefore, generalizations to asynchronous computer-mediated via e-mail especially in EFL environments should be done with great discretion.

However, despite these limitations, it is believed that the findings of this study are encouraging as technology has been finding its way into pedagogical environments. Additionally and with respect to the results of the present study, it stands to reason that there is still plenty of room for further research in this field.

Acknowledgement: My heartfelt gratitude goes to Professor Faghih, senior lecturer at IAU South Tehran Branch, for his scholarly advice and comments.

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REFERENCES

- Barnes, S. (2002). *Computer-Mediated Communication*. Boston, USA: Pearson Publication.
- Barson, J., Frommer, J., & Schwartz, M. (1993). Foreign language learning using email in a task-oriented perspective: Interuniversity experiments in communication and collaboration. *Journal of Science Education and Technology*, 2(4), 565–584.
- Blake, R. (2000). Computer mediated communication: A window on L2 Spanish interlanguage. *Language Learning & Technology*, 4(1), 120–136. Retrieved May 6, 2008, from <http://ilt.msu.edu/vol4num1/blake/>
- Bordia, P. (1996). Studying verbal interaction on the Internet: The case of rumor transmission research. *Behavior research methods, instruments & computers*, 28(2), 149–151.

- Brown, R. (1988). Classroom pedagogics – a syllabus for the interactive stage? *The Teacher Trainer*, 2(3), 13–17.
- Büyükbay, S., & Dabaghi, A. (2010, May). The Effectiveness of Repetition as Corrective Feedback. *Journal of Language Teaching and Research*, 3(1), 181–193.
- Campillo, P. S. (2003). An analysis of the impact and explicit feedback on grammatical accuracy. *Journal of English and American Studies*, 27, 209–228 .
- Carroll, S., & Swain, M. (1993). Explicit and implicit negative feedback: An empirical study of the learning of linguistic generalizations. *Studies in Second Language Acquisition*, 15(3), 357–386.
- Carter, R. (1997). *Investigating English Discourse*. London: Routledge.
- December, J. (1997). Notes on defining of Computer-Mediated Communication. *Computer- Mediated Communication Magazine*, 4(1). Retrieved June 18, 2010, from <http://www.december.com/cmc/mag/1997/jan/december.html>
- Faghih, E., & Hosseini, S. B. (2012, January). Asynchronous Computer-Mediated Corrective Feedback and the Correct Use of Definite/Indefinite Articles. *International Journal of Instructional Technology and Distance Learning*, 9(1), 21–36.
- Fey, M. (1998). Critical literacy in school-college collaboration through computer networking: A feminist research project. *Journal of Literacy Research*, 30(1), 85–117.
- Goodman, S., & Graddol, D. (1996.). *Redesigning English - new texts, new identities*. New York, USA: Routledge in association with The Open University.
- Hanson-Smith, E. (2001). Computer-assisted language learning. In R. Carter, & D. Nunan (Eds.), *The Cambridge Guide to Teaching English to Speakers of Other Languages* (pp. 107-113). Cambridge: Cambridge University Press.
- Heisler, J., & Crabill, S. (2006). Who are “Stinkybug” and “packerfan4”? email pseudonyms and participants’ perceptions of demography, productivity, and personality. *Journal of Computer-Mediated Communication*, 12(1), 114–135.
- Hiltz, S. R., & Turoff, M. (1978). *The Network Nation: Human Communication via Computer*. Norwood, NJ: Ablex.
- Holliday, L. (1999). Theory and research: Input, interaction and CALL. In J. Egbert, & E. Hanson-Smith (Eds.), *CALL Environments: Research, Practice and Critical Issues* (pp. 181-188). Alexandria, VA: TESOL.
- Hosseini, S. B. (2012, October). Asynchronous Computer-Mediated Corrective Feedback and the Correct Use of Prepositions: Is It Really Effective? *Turkish Online Journal of Distance Education*, 13(4), 95–111.
- Jonassen, D., & Kwon, H. (2001). Communication patterns in computer-mediated versus face-to-face group problem solving. *Educational Technology Research and Development*, 49(10), 35–52.
- Lea, M. (2001). Computer conferencing and assessment: new ways of writing in higher education. *Studies in Higher Education*, 26(2), 163–181.

- Lee, L. (1997). ESL learners' performance in error correction in writing: Some implications for college-level teaching. *System*, 25(4), 465–477.
- Lee, L. (2004). Learners' perspectives on networked collaborative interaction with native speakers of Spanish in the US. *Language Learning and Technology*, 8(1), 83–100.
- Lightbown, P. M., & Spada, N. (1990). Focus on form and corrective feedback in communicative language teaching: Effects on second language learning. *Studies in Second Language Acquisition*, 12(4), 429 – 448.
- Loewen, S., & Erlam, R. (2006). Corrective feedback in the chatroom: An experimental study. *Computer Assisted Language Learning*, 19(1), 1–14.
- Lu, Y. (2010). *The value of direct and indirect written corrective feedback for intermediate ESL students*. Unpublished Dissertation, Auckland University of Technology.
- Lyster, R., & Ranta, L. (1997). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. *Studies in Second Language Acquisition*, 19(1), 37 – 66.
- Maynor, N. (1994). The language of electronic mail: Written speech? In G. Little, & M. Montgomery (Eds.), *Centennial usage studies: American Dialect Society* (pp. 48–54). Publications of the American Dialect Society Series University of Alabama Press.
- Meunier, L. E. (1996). Personality differences and motivational factors in distance learning. In F. Borchardt, C. Bradin, & E. Jonhson (Eds.), *Distance learning, Proceedings of the Computer Assisted Language Instruction Consortium 1996 Annual Symposium* (pp. 181-188). Albuquerque, NM: The University of New Mexico.
- Morgan, M. L., & Lieu, W. M. (n.d.). *The Azar Grammar Series: Test Bank for Fundamentals of English Grammar* (2nd ed.). NJ: Prentice Hall.
- Muggleston, P. (n.d.). *Snapshot: Elementary Test Book*. London: Longman.
- Pitzer, R. H., & Lieu, W. M. (1999). *The Azar Grammar Series: Test Bank for Basic English Grammar* (2nd ed.). NJ: Prentice Hall.
- Quan-Hasse, A., Cothrel, J., & Wellman, B. (2005, July). Instant Messaging for Collaboration: A Case Study of a High-Tech Firm. *Journal of Computer Mediated Communications*, 10(4). Retrieved May 9, 2010, from <http://jcmc.indiana.edu/vol10/issue4/quan-haase.htm>
- Razagifard, P., & Rahimpour, M. (2010, May). The Effect of Computer-Mediated Corrective Feedback on the Development of Second Language Learners' Grammar, *Instructional Technology & Distance Learning*, 7(5), 1–19.
- Romm, C., & Pliskin, N. (1999). The role of charismatic leadership in diffusion and implementation of e-mail. *The Journal of Management Development*, 18(3), 273–290.
- Sachs, R., & Suh, B. (2007). Textually enhanced recasts, learner awareness, and L2 outcomes in synchronous computer-mediated interaction. In A. Mackey (Ed.), *Conversational interaction in second language acquisition: A collection of empirical studies* (pp. 197-227). Oxford: Oxford University Press.
- Sauro, S. (2009, February). Computer-mediated corrective feedback and the development of L2 grammar. *Language Learning & Technology*, 13(1), 96–120.

- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11(2), 129–158.
- Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). Cambridge: Cambridge University Press.
- Sheen, Y. (2004). Corrective feedback and learner uptake in communicative classrooms across instructional settings, *Language Teaching Research*, 8(3), 263–300.
- Sheen, Y. (2007, June). The effect of focused written corrective feedback and language aptitude on ESL learners' acquisition of articles, *TESOL Quarterly*, 41(2), 255–283.
- Sotillo, S. M. (2000). Discourse functions and syntactic complexity in synchronous and asynchronous communication. *Language Learning & Technology*, 4(1), 82–119.
- St. John, E., & Cash, D. (1995). Language learning via e-mail: Demonstrable success with German. In M. Warschauer (Ed.), *Virtual connections: Online activities and projects for networking language learners*, (pp. 191-197). Honolulu, HI: University of Hawaii, Second Language Teaching and Curriculum Center.
- Truscott, J. (1996). The case against correction in L2 classes. *Language Learning*, 46(2), 327–369.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Warschauer, M. (1995). *E-mail for English Teaching*. Washington, D.C.
- Warschauer, M. (1996). Motivational aspects of using computers for writing and communication. In M. Warschauer (Ed.), *Telecollaboration in foreign language learning: Proceedings of the Hawai'i Symposium* (pp. 29-46). Honolulu, HI: University of Hawai'i, Second Language Teaching & Curriculum Center.
- Warschauer, M. (2001). On-line communication. In R. Carter, & D. Nunan (Eds.), *The Cambridge Guide to Teaching English to Speakers of Other Languages* (pp. 207-212). Cambridge: Cambridge University Press.
- Zhao, S. (2006, April). Do Internet Users Have More Social Ties? A Call for Differentiated Analyses of Internet Use. *Journal of Computer Mediated Communications*, 11(3), 844–862. Retrieved May 9, 2007, from <http://jcmc.indiana.edu/vol11/issue3/zhao.html>
- Zhuo, C. (2010, December). Explicit Recast, Implicit Recast and the Acquisition of English Noun Plural: A Comparative Study. *Chinese Journal of Applied Linguistics*, 33(6), 55–70.

Appendix A

Characteristics of Lyster & Ranta's (1997) categories of corrective feedback

Corrective Feedback Type	Definition	Example(s)	Nature of Error Indicated	Target-like Reformulation Provided	Elicited Output
Explicit Error Correction	Explicit provision of the target-like reformulation	You should say visited.	Yes	Provided directly	None or repetition

Metalinguistic Feedback	Comments, information or questions (that may or may not contain metalanguage but do not include the reformulation) related to the ill-formedness of the utterance	There's a mistake. It's past tense. Did you use the past tense?	No Yes Yes	No Provided indirectly through metalinguistic hint at correct reformulation Provided indirectly through metalinguistic question concerning rule governing reformulation	Identification of error and/or reformulation Reformulation Metalinguistic response, yes/no response, or reformulation
Elicitations	A prompt for the learner to reformulate	Try that again. How do we say that in the past tense? Yesterday we ...	No Yes Sometime s	No No No	Reformulation Reformulation Reformulation
Repetitions	Repetition of all or part of the utterance containing the error, often accompanied by a change in intonation	Yesterday we visit my aunt.	Sometime s	No	None or repetition
Recasts	Implicit reformulation of all or part of the learner's utterance	Yesterday we visited my aunt. I visited my aunt last week.	Yes Yes	Reformulation provided Reformulation provided	Repetition Repetition
Translations	Target language translation of unsolicited use of the L1.	***	Yes	Reformulation provided	Repetition
Clarification Requests	An utterance indicating a problem in comprehension, accuracy or both.	Pardon?	No	No	Repetition, reformulation, or meaning elaboration

A COMPARISON OF ACHIEVEMENT IN PROBLEM-BASED, STRATEGIC AND TRADITIONAL LEARNING CLASSES IN PHYSICS

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ABSTRACT

The purpose of this study was to compare the effects of problem-based learning, strategic learning and traditional learning on pre-service teachers' physics achievement. Pretest-posttest quasi experimental research design was employed in the study. The classes were randomly assigned as control and experimental groups. Students in the first experimental group (n= 18) received problem-based physics instruction, students in the second experimental group (n= 20) received strategy-based traditional physics instruction, and students in the control group (n= 20) received only traditional physics instruction. Data were collected via the Revised Physics Achievement Test (R-PAT) and the Physics Self-Efficacy Scale (PSES). Pre-test scores of the instruments were used as covariates. Analysis of covariance (ANCOVA) showed a statistically significant difference between the experimental and control groups in the favor of experimental groups after treatment. However, no statistically significant difference between two experimental groups (problem-based versus strategy-based instruction) was found.

Key Words: Problem-based learning, strategic learning, traditional learning, physics achievement.

INTRODUCTION

Science studies and particularly physics are among the school subjects with which students in Turkey have the most difficulty. Research has shown that physics classes in Turkey are largely implemented with traditional methods of instruction. As is recognized, traditional teaching methods render the teacher the dominant figure in the classroom while making the student a passive participant. This kind of model from the very beginning leads students into the path of traditional learning strategies such as memorization and replication. Lack of

student achievement in classes where these strategies are used may be explained by the failure of students to use learning strategies effectively or by the fact that they do not know how to learn. According to the results of many studies conducted abroad, it has been found that effective learning strategies have a positive impact on the cognitive and affective products of education. Problem-based learning is a teaching method that emerged more than 30 years ago as a reaction to the deficiencies brought about by traditional teaching approaches (Barrows, 2002). It has been established that this method has a positive effect on many student endeavors such as problem-solving and determining learning deficiencies and difficulties (that is, on gaining the skills to use effective learning strategies), the capability of thinking creatively and critically, as well as the capacity to use cooperative and communicative skills. In this context, the present study sought to compare the effects of problem-based learning, strategic learning and traditional learning on pre-service teachers' physics achievement. These learning strategies and problem-based learning methods are presented in detail below.

Learning Strategies

Learning strategies (LS) were defined as "behaviors and thoughts that a learner uses for processing information during learning" (Weinstein and Mayer, 1986; Mayer, 1988). In the education literature, there are various different classifications of LS. Cognitive psychologists divide LS into two main categories: cognitive and metacognitive. Vaidya (1999) describes these strategies as follows: Cognitive strategies (CS) are used in cognitive processes by helping a person to manipulate information such as note taking or asking questions, through various rehearsal, elaboration and organizational strategies. Vaidya (1999) argues that cognitive strategies tend to be task specific, that is, certain cognitive strategies are helpful only when learning or processing certain tasks. Metacognitive strategies (MS) are described as executive in nature (Vaidya, 1999), used for planning, monitoring, and evaluating learning and for regulating progress (Najar, 1999).

Cognitive strategies are further classified as (a) surface and (b) deep (or higher level) CS. Surface CS refer to processes such as repetition, reciting, and highlighting (rehearsal) which help store new information in the short-term memory only (memorization). Deep or higher level CS involves processes such as elaboration and organization which promote long-term retention of information (Somuncuoğlu and Yıldırım, 1999).

Students use basic strategies (e.g., rehearsal and memorization) to remember facts and formulas, whereas higher level strategies are used to understand main ideas and concepts. Therefore, not all types of LS necessarily improve the acquisition of conceptual understanding. Research also suggests that higher level strategies are expected to promote conceptual understanding (Brown et al., 1983; Entwistle and Ramsden, 1983). Various studies exist in the physics education literature investigating the effectiveness of LS on student learning. Not large in number, these studies employed in general the concept map instruction. There are however, few studies involving strategy instruction such as summarizing and question asking (Sezgin Selçuk et al., 2011). Pankratius (1990) investigated the effect of the degree of concept mapping on achievement. It was concluded that for upper- and middle-class high school physics students involved in the study, mapping concepts prior to, during, and subsequent to instruction led to greater achievement as measured by posttest scores. Similarly, Zieneddine and Abd-El-Khalick (2001) assessed the effectiveness of concept maps as learning tools (or strategies) in developing students' conceptual understanding in a physics laboratory course, and explored students' perceptions regarding the usefulness of concept maps in the laboratory. Koch (2001) developed a metacognitive technique for improving students' reading comprehension of physics texts. The development and application of the metacognitive technique as an effective self-monitoring device was recommended in teaching reading comprehension of physics texts. Harper, Etkina and Lin (2003) used structured weekly journals (reports) for fostering student questions about the learning material. The resulting questions were collected for one quarter and coded based on difficulty and topic. Students also took several conceptual tests during the implementation. The reports contained more questions than typically observed in a college classroom, but the number of questions asked was not correlated to conceptual performance. An investigation of the relationships among different types of questions and performance on these tests revealed

that deeper-level questions that focus on concepts, coherence of knowledge, and limitations were related to the variance in student conceptual performance.

Problem-Based Learning

Problem-based learning (PBL) was first implemented in medical education by McMaster University, Canada in the 1960s (Barrows and Tamblyn, 1980). Soon, this method was adopted at Maastricht University in Holland and other places in Europe as well (Sezgin Selçuk and Sahin, 2008). PBL is described as a constructivist teaching model based on the assumption that learning is a product of cognitive and social interactions originating in a problem focused environment (Greeno et al., 1996). The theoretical philosophy of this approach is derived from John Dewey and discovery learning (Rhem, 1998). Fundamentally, PBL is an educational method in which students develop critical thinking and problem-solving skills in addition to developing an understanding of grasping essential concepts through the analysis of real-life problems (Duch, 1995). Learning takes place throughout a process where learners try to solve real-life problems in groups of seven to eight people. Barrows (1996) labels the main characteristics of PBL as follows: (a) Learning is student-centered, (b) Learning takes shape in small groups of students, (c) Teachers should act as moderator and facilitator, (d) The problems provide motivation for learning and organizational focus, (e) Problems provide the basis for the advance in clinical problem-solving skills, (f) Self-directed learning aids the acquisition of new information.

Today, the problem-based learning approach is used in various fields of education, mainly in medical education (Barrows, 1996), engineering (Nopiah et al., 2009), law (Moust, 1998), in-service teacher training (Sezgin Selçuk and Sahin, 2008) and science education (Ram, 1999; Sungur et al., 2006) besides at senior high school level (Barrows and Kelson, 1993). Moreover, it is becoming more and more popular. Although the literature on PBL supports the benefits and effectiveness of this approach in various fields, it has been noted that there are few studies concerning physics education through PBL (Duch, 1996; Fasce et al., 2001, Raine and Collett, 2003; van Kampen et al., 2004; Sezgin Selçuk and Tarakçı, 2007; Sahin, 2010; Sahin and Yorek, 2009; Williams, 2001). The scope of this study is the discipline of physics; and the study is based on related studies on PBL.

Purpose and Significance of the Study

The purpose of this study was to compare the effects of problem-based learning, strategic learning and traditional learning on pre-service teachers' physics achievement. An answer was sought to the research question, "Are there any significant differences between the post-test mean achievement scores in the three groups (after a review of the pre-test mean achievement scores and the physics mean self-efficacy scores).

A review of the literature failed to reveal any study conducted on this subject, either in Turkey or abroad. It is therefore believed that this study will provide a new perspective for research on physics education and act as a guide in prospective studies.

METHOD

Study group

The study group consisted of 58 freshmen (female=45, male=13) student teachers who were enrolled in the Department of Secondary Mathematics Education and Department of Secondary Chemistry Education of a state university in Turkey. The students ranged in age from 18 to 20 years. Physics is compulsory in these departments, and it is offered in two successive semesters (fall and spring) as Physics I (4 credits) and Physics II (4 credits) at the introductory level as calculus-based. Physics I focuses on mechanics concepts and Physics II focuses on electricity and magnetism concepts.

Research Design

Pretest-posttest quasi experimental research design was employed in the study. The classes were randomly assigned as control and experimental groups. Students in the first experimental group (n= 18) received

problem-based physics instruction, students in the second experimental group ($n=20$) received strategy-based traditional physics instruction, and students in the control group ($n=20$) received only traditional physics instruction.

Instruments

Revised Physics Achievement Test (R-PAT)

The research made use of a revised form of the Physics Achievement Test developed by Çalışkan (2007). The original form of the test comprised 37 multiple-choice questions; its reliability was calculated with the KR-20 (Kuder-Richardson 20) formula to be 0.77. In the context of the topics taught during the experimental process of the research, the KR-20 reliability coefficient of the 25-item multiple-choice portion of the test was found to be 0.70. The maximum possible score on the test is 25; the minimum score is 0.

Physics Self-Efficacy Scale (PSES)

A 24-item Likert-type of rating scale developed by Çalışkan (2007) was used in the research to measure the self-efficacy of the students. The reliability test applied to the scale yielded a Cronbach Alpha reliability coefficient of 0.94, and it was seen that the items in the scale could be grouped in 4 dimensions that explained 56.68% of total variance. The descriptors for these dimensions were the following: Belief in Self-efficacy in Solving Physics Problems, Belief in Self-efficacy in terms of Achievement in Physics, Belief in Self-efficacy in terms of being able to Use Knowledge in Physics, and Belief in Self-efficacy in terms of Remembering Knowledge in Physics. Sample items are presented below for each of the sub-dimensions.

Belief in Self-efficacy in Solving Physics Problems: *"I fully believe that I can solve a physics problem, no matter how hard it is."* *"I am sure that I can set up the necessary formulas to solve a problem in physics."*

Belief in Self-efficacy in terms of Achievement in Physics: *"I believe that I can get a 70 or better grade in physics exams."* *"I believe that I will not do well in my physics class."*

Belief in Self-efficacy in terms of being able to Use Knowledge in Physics: *"I am sure that I can write up a simple problem on a topic in physics that I've learned."* *"I believe that I can clearly explain a topic I've learned in physics class to my friend."*

Belief in Self-efficacy in terms of Remembering Knowledge in Physics: *"I believe that I can remember the important formulas I've learned in physics class when the need arises."* *"I believe that I can remember the basic knowledge I've learned in physics class when the need arises."*

Intervention Instruments

The Turkish translation of the textbook *Physics for Scientists and Engineers with Modern Physics I* by Serway and Beichner, 5th edition (2000) was used as the textbook in the PBL, strategy and traditional groups. During instruction process, scripts which contain information about summarizing and work sheets (i.e. used to write on summaries) developed by the first researcher were used in the summarizing group.

In the PBL group, problem-based learning scenario teaching materials called "kinematics and dynamics scenarios" were used. The PBL scenarios have been organized in two ways as "teacher's" and "student's copy". The tutor copy is a written copy of all of the steps a student needs to take during the scenario (that is, defining the problem, summarizing, producing hypothesis related to the problem, determining the learning goals, reaching new information by researching, doing numerical analysis of the problem if necessary). In the student copy, the previously mentioned parts were left empty for the students to complete. In the beginning of the PBL sessions, the copies of the scenarios were distributed to each student and tutor. During the sessions, small whiteboards and board markers were used by the students.

Procedure

The study was conducted during the fall semester in the General Physics I course (which focuses on mechanics concepts). The duration of the study was seven weeks (24 hours of lecture time) from October to November. In all of the groups, the students' physics achievement was measured before (the first week of the fall semester) and after the study. The independent variable was the intervention (the problem-based, the strategy-based and the traditional instruction). The dependent variable were post-test student achievement scores.

During the intervention, the strategic learning group received explicit learning strategies (questioning and summarizing) plus traditional physics instruction in whole-class format. Strategy instruction composed of two training phases called strategy acquisition and strategy application as used in Montague and Bos (1986). The first phase of the intervention involved the strategy acquisition training. This training was implemented during the second week of the semester in four classes (a total of 180 minutes) in a period of one week in the strategy group. On the other hand, strategy application training was started on the third week of the fall semester and was embedded into the content of traditional instruction.

During the second week in the PBL group, a sample scenario whose topic was different from the ones targeted in the research (scenario of heat expansion) was gone through by the teacher and the students. Then, the students were informed about how problem-based learning methods are used (that is, phases of problem-solving process). In the control group, the same topics were covered at the same time using the traditional instruction method.

During the research, the PBL group (subdivided into three small-groups of 6 students) received physics instruction with problem-based learning format (that is, using PBL scenarios concerning kinematics and dynamics concepts), whereas, the control group received physics instruction using a lecture-based format. Instruction in the PBL group was module-based (being comprised of two different modules). The scenarios in the modules which consisted of PBL sessions were selected from the course book the strategic learning and control groups used.

Data Analyses

Data were analyzed using frequency (f), percent (%), mean (M), standard deviation (SD), **and analysis of covariance (ANCOVA) statistics in SPSS 15.0**. Pre-test scores of the instruments (that is, pre-test achievement and self-efficacy scores) were used as covariates.

RESULTS

The one-way ANCOVA statistical method was selected for the split-plot design measurements before and after the experiment in the three different process groups (problem-based learning, strategic learning, and traditional learning). ANCOVA is used to test the main and interaction effects of the factors, while controlling for the effects of the covariate(s). ANCOVA has four assumptions: Normality, equality of variances, homogeneity of slopes, and independency of scores on the dependent variable. Firstly, a test was carried out to determine whether ANCOVA's assumptions had been met.

The pre-test achievement and self-efficacy scores of the groups were then tested to determine whether there were any significant differences. The students' post-test mean achievement scores adjusted according to the pre-test achievement and self-efficacy scores are presented in Table 1.

Table 1: Descriptive Statistics of Pre-test and Post-test Achievement Scores by Groups

Group	n	M _{pre}	SD _{pre}	M _{post}	SD _{post}	M _{adj}
TIG	20	10.85	2.68	12.55	2.03	13.74
SLG	20	14.95	2.83	18.25	2.77	17.42
PBLG	18	16.77	2.31	19.28	2.05	17.55

Note: TIG: Traditional Instruction Group, SBG: Strategic Learning Group, PBLG: Problem- Based Learning Group
M: Mean, M_{adj} : Adjusted Mean

When the groups are ranked in terms of their adjusted post-test achievement scores in the order of highest to lowest, it can be said that the highest achievement was seen in the problem-based learning group, which was followed, in order, by the strategic learning group and the traditional learning group. The ANCOVA test results carried out to determine whether there were any significant differences between the groups in terms of their adjusted post-test mean achievement scores are given in Table 2.

Table 2: ANCOVA Results for Post-test Achievement Scores adjusted according to Pre-test achievement and self-efficacy scores, by Groups

Source of Variance	Sum of Squares	df	Mean Square	F	p	η_p^2
Pre-test achievement	79.134	1	79.134	19.529	.000	.269
Self-efficacy	.303	1	.303	.075	.786	.001
Group	58.320	2	29.160	7.196	.002	.214
Error	214.767	53	4.052			
Corrected Total	1020.914	57				

According to the ANCOVA results, it was found that there was a significant difference between the post-test mean achievement scores adjusted according to the pre-test achievement and self-efficacy scores of the students in the three separate groups [$F_{(2, 53)}=7.196, p<.001$]. Related to this, the Bonferroni test results comparing the adjusted post-test mean achievement scores (Table 3) showed that achievement in the traditional learning group of students ($M=13.74$) was significantly lower than in the strategic learning ($M=17.42$) and problem-based learning ($M=17.55$) groups. No significant difference was observed between the post-test mean achievement scores of the students in the strategic learning and problem-based learning groups. The partial eta-squared value obtained was interpreted as recommended by Stevens (1992), where effect sizes were grouped as "small" for $\eta_p^2 \leq .01$, "medium for" $\eta_p^2 = .06$, and "large" for $\eta_p^2 = .14$. Accordingly, when the partial eta-squared value ($\eta^2 = .214$) obtained in terms of the group variable is considered, it can be seen that this variable has a large impact on the students' post-test mean achievement scores.

Table 3: Bonferroni Test Results

(I) Group	(J) Group	Mean difference (I-J)	p
TG	SLG	-3.679*	.001
	PBLG	-3.811*	.004
SLG	TG	3.679	.001
	PBLG	-.132	1.000
PBLG	TG	3.811*	.004
	SLG	.132	1.000

*The mean difference is significant at the .05 level.

DISCUSSION

The effects of three different instructional approaches on physics achievement were compared in this study. The results of the study indicated that there were a statistically significant difference between the experimental and control groups in the favor of experimental groups after treatment. However, no statistically significant difference between two experimental groups (problem-based versus strategy-based instruction) was found.

The finding that both approaches had positive influences in improving students' physics achievement supports the strategy-based teaching and problem-based learning studies conducted in the domain of achievement in physics (Sezgin Selçuk, Karabey, & Çalışkan, 2011; Sezgin Selçuk, 2010; Van Kempen, Banahan, Kelly, McLoughlin, & O'Leary, 2004; Sezgin Selçuk, Sahin, & Açıköz, 2011; Çalışkan, 2011).

Also, the finding of this study is consistent with the findings of PBL instruction research in different subject matters and grade levels. For instance, the research conducted on PBL revealed that PBL-based science instruction resulted in higher student achievements (Chin and Chia, 2004). Perhaps the success of the PBL model on course achievement can be attributed to the cognitive and motivational effects. Cognitive effects positively contributing to the ability of students to apply knowledge are stimulated by PBL. In addition to this, PBL enhances inherent interest (that is, motivational effects) in the subject matter (Dolmans et al., 2001). It is thought that students' active engagement in the PBL process might have a positive impact on their learning and this in turn can enhance their success in physics.

The finding of this study is also consistent with the findings of strategy instruction research in different subject matters and grade levels, from secondary school to university. For instance, the research conducted on questioning (Cuccio-Schirripa and Steiner 2000; Sezgin Selçuk et al. 2011) and summarizing (Friend 2001; Sezgin Selçuk et al. 2011) revealed that strategy instruction resulted in higher student achievements.

Perhaps the success of questioning and summarizing on course achievement can be attributed to the cognitive and metacognitive nature of these strategies. In the process of questioning and summarizing, students focus on the content of the course, investigate the learning material, organize new knowledge, establish relationships between new knowledge and prior knowledge, and check if the learning material has been learned, that is, if it is used actively (Rosenshine et al. 1996).

CONCLUSION

This study provides some evidence for positive effects of using strategy instruction (questioning and summarizing) and problem-based learning on student teachers' physics achievement. Explicit learning strategy instruction was more effective than traditional instruction in improving physics achievement of the participating students. Also, in the light of the research findings, teaching physics with the PBL method rather than traditional methods has been proved to be far more effective with boosting success in physics. These results suggest that the use of the learning strategies and the PBL approach in physics instruction may foster pre-service teachers' success. On the other hand, the fact that there was no significant difference between the effects on achievement in physics of two different methods of instruction that stimulate contemporary and active learning processes and also, because the two methods similarly render the student active and able in class to conduct his/her own learning process, it can be concluded that both of the methods have a similar effect on student learning. At the same time, outside of physics achievement, it appears that it would be worthwhile to probe into other variables in the realm of conceptual learning or into variables in the affective realm, such as attitude and motivation, to determine whether there are indeed any differences in the effectiveness of these methods.

IJONTE's Note: This article was presented at World Conference on Educational and Instructional Studies - WCEIS, 07- 09 November, 2012, Antalya-Turkey and was selected for publication for Volume 4 Number 1 of IJONTE 2013 by IJONTE Scientific Committee.

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REFERENCES

- Barrows, H.S. & Tamblyn, R.M. (1980). Problem-based learning: An approach to medical education. New York: Springer.
- Barrows, H.S. & Kelson, A. (1993). Problem-based learning in secondary education and the Problem-based Learning Institute (Monograph). Springfield: Southern Illinois University School of Medicine.
- Barrows, H.S. (1996). Problem-based learning in medicine and beyond: A brief overview. *New Directions for Teaching and Learning*, 68: 3-11.
- Brown, A.L., Bransford, J., Ferrara, R., & Campione, J. (1983). *Learning, remembering, and understanding*. In P.H. Musen (Ed.), *Handbook of child psychology: Vol. III* (pp. 77-166). New York: Wiley.
- Chin, C., & Chia, L.G. (2004). Problem-based learning: using students' questions to drive knowledge construction. *Sci. Educ.*, 88(5): 707-727.
- Cuccio-Schirripa, S., & Steiner, H. E. (2000). Enhancement and analysis of science question level for middle school students. *Journal of Research in Science Teaching*, 37(2), 210–224.
- Çalışkan, S. (2007). *Problem çözme stratejileri öğretiminin fizik başarısı, tutumu, özyeterliliği üzerindeki etkileri ve strateji kullanımı*, Yüksek lisans tezi, Dokuz Eylül Üniversitesi: İzmir.
- Çalışkan, S. (2011). Instruction of learning strategies: Effects on conceptual learning, and learning satisfactions. *Asia Pacific Forum on Science Learning and Teaching*, 12 (1), Article 8.
- Dolmans, D.H.J.M., Wolfhagen, I.H.A.P., Van der Vleuten, C.P.M., Wijnen, W.H.F.M. (2001). Solving problems with group work in problem based learning: Hold on to the philosophy. *Med. Educ.*, 35: 884-889.
- Duch, B. (1995). Problem based learning in physics: The power of students teaching students. *About Teaching*, 47, 6-7. Retrieved on March 2 2010 from <http://www.udel.edu/pbl/cte/jan95-what.html>
- Duch, B. (1996). Problem-based learning in physics: The power of students teaching students. *J. College Sci. Teach.*, 25(5): 326-329.
- Entwistle, N. & Ramsden, R. (1983). *Understanding student learning*. London: Croom Helm.
- Fasce, E., Calderón, M., Braga, L., De Orúe, M., Mayer, H., Wagemann, H. & Cid, S. (2001). Problem based learning in the teaching of physics to medical students. Comparison with traditional teaching. *Rev. Med. Chil.*, 129(9): 1031-1037.
- Friend, R. (2001). Effects of strategy instruction on summary writing of college students. *Contemporary Educational Psychology*, 26(1), 3–24.
- Greeno, J.G., Collins, A.M. & Resnick, L. (1996). Cognition and Learning. In: Calfee RC, Berliner DC (eds) *Handbook of Educational Psychology*, New York: Macmillan. pp. 15-46.

- Harper, K., Etkina, E., & Lin, Y. (2003). Encouraging and analyzing student questions in a large physics course: Meaningful patterns for instructors. *Journal of Research in Science Teaching*, 40(8), 776–791.
- Koch, A. (2001). Training in metacognition and comprehension of physics texts. *Science Education*, 85(6), 758–768.
- Mayer, R. (1988). *Learning strategies: An overview*. In Weinstein, C., E. Goetz, & P. Alexander (Eds.), *Learning and Study Strategies: Issues in Assessment, Instruction, and Evaluation* (pp. 11-22). New York: Academic Press.
- Moust, J. (1998). The problem-based education approach at the Maastricht Law School. *The Law Teacher*, 32(1): 5-36.
- Najar, R.L. (1999). *Pathways to success: Learning strategy instruction in content curriculum*. HERDSA Annual International Conference, (12-15 July 1999), Melbourne.
- Nopiah, Z.M., Zainuri, N.A., Asshaari, I., Othman, H. & Abdullah, S. (2009). Improving generic skills among engineering students through problem based learning in statistics engineering course. *Eur. J. Sci. Res.*, 33(2): 270-278.
- Pankratius, W. J. (1990). Building an organized knowledge base: concept mapping and achievement in secondary school physics. *Journal of Research in Science Teaching*, 27(4), 315–333.
- Raine, D.J. & Collett, J. (2003). Problem-based learning in astrophysics. *Eur. J. Phys.*, 24(2): 41–46.
- Ram, P. (1999). Problem based learning in undergraduate education. *J. Chem. Educ.*, 76(11): 22-26.
- Rhem, J. (1998). Problem based learning: An introduction. *The National Teaching & Learning Forum*, 8(1). Retrieved on 2 March 2010, from http://www.ntlf.com/html/pi/9812/pbl_1.htm
- Rosenshine, B., Meister, C., & Chapman, S. (1996). Teaching students to generate questions: a review of the intervention studies. *Review of Educational Research*, 66(2), 181–221.
- Sahin, M. & Yorek, N. (2009). A comparison of problem-based learning and traditional lecture students' expectations and course grades in an introductory physics classroom. *Sci. Res. Essay*, 4(8): 753-762.
- Sahin, M. (2010). Effects of problem-based learning on university students' epistemological beliefs about physics and physics learning and conceptual understanding of Newtonian mechanics. (DOI: 10.1007/s10956-009-9198-7). *J. Sci. Educ. Technol.*, 19(3): 266-275.
- Serway, R. A., & Beichner, R. J. (2000). *Physics for scientists and engineers with modern physics 2* (5th ed.). USA: Saunders College.
- Sezgin Selçuk, G. & Tarakçı, M. (2007). Physics teaching in problem-based learning. *Sixth International Conference of the Balkan Physical Union. AIP Conference Proceedings*, 899(1): 844-844.
- Sezgin Selçuk, G. & Sahin, M. (2008). Probleme dayalı öğrenme ve öğretmen eğitimi (Problem-based learning and teacher education). *Buca Eğitim Fakültesi Dergisi*, 24: 12-19.

Sezgin Selçuk, G. (2010). The effects of problem-based learning on pre-service teachers' achievement, approaches and attitudes towards learning physics. *International Journal of the Physical Sciences*, 5(6), 711-723.

Sezgin Selçuk, G., Sahin, M. & Açıkgöz, K. (2011). The Effects of Learning Strategy Instruction on Achievement, Attitude, and Achievement Motivation in a Physics Course. *Research in Science Education*, 41(1), 39-62 (DOI: 10.1007/s11165-009-9145-x).

Sezgin Selçuk, G., Karabey, B. ve Çalışkan, S. (2011). Probleme-dayalı öğrenmenin matematik öğretmen adaylarının ölçme ve vektörler konularındaki başarıları üzerindeki etkisi. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15 (8), 313-322.

Stevens, J. (1992). *Applied multivariate statistics for the social sciences*, Lawrence Erlbaum Associates (Hillsdale, NJ).

Somuncuoğlu, Y., & Yıldırım, A. (1999). Relationships between achievement goal orientations and use of learning strategies. *Journal of Educational Research*, 92(5), 267–278.

Sungur, S., Tekkaya, C., & Geban, O. (2006). Improving achievement through problem based learning. *J. Biol. Educ.*, 40(4): 155-160.

Vaidya, S. R. (1999). Metacognitive learning strategies for students with learning disabilities. *Education*, 120 (1), 186–190.

Van Kampen, P., Banahan, C., Kelly, M., McLoughlin, E., & O'Leary, E. (2004). Teaching a single physics module through problem based learning in a lecture-based curriculum. *Am. J. Phys.*, 72(6): 829-834.

Weinstein, C. E., & Mayer, R. E. (1986). The teaching of learning strategies. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (pp. 315–327). New York: Macmillan.

Williams, B.A. (2001). Introductory physics: A problem-based model. In Duch B et al. (eds) *The Power of Problem-Based Learning: A Practical 'How To' for Teaching Courses in Any Discipline*, Sterling, VA: Stylus.

Zieneddine, A., & Abd-El-Khalick, F. (2001). Doing the right thing versus doing the right thing right: concept mapping in a freshmen physics laboratory. *European Journal of Physics*, 22(5), 501–511.

METACOGNITIVE INSTRUCTION AND COOPERATIVE LEARNING- STRATEGIES FOR PROMOTING INSIGHTFUL LEARNING IN SCIENCE

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ABSTRACT

Teachers constantly face the challenges of finding and applying the most effective methods of instruction that could enhance academic achievement and match the diversity among students. This study aimed at examining the effects of metacognitive and cooperative learning strategies on achievement in science classrooms. A quasi-experimental design involving 3 groups namely, two treatment groups-- cooperative learning(CL) group a metacognitive instructions(MI) group and a control group, was adopted. The study lasted for 11 weeks. A researcher-made achievement test in the topic 'Human Anatomy' was used to measure achievement in the 3 groups. Results revealed that the metacognitive instructions were most effective in enhancing academic achievement. Multiple regression analysis shows that there is significant relationship between metacognitive awareness and achievement. The researcher recommends that metacognitive instruction be adopted regularly in the classroom so as to help students learn material more efficiently and enhance academic achievement.

Key Words: Metacognition, Metacognitive strategies.

INTRODUCTION

In an ideal science classroom, students would be required to reflect on concrete examples and relate these with abstract theories. It has been observed by the researcher that many students, after learning about science concepts through activities that address the various intelligences and learning styles, still choose not to participate in classroom discussions. Instead, a select few students answer teacher-generated questions while the rest of the students remain mute. Thus there is no peer level interactions on the content of the lessons learnt. As a rule the teacher assumes that students who do not speak up have mastered the material but the results of an assessment subsequently indicate something different. Teachers encouraging students' reflective and autonomous thinking and opportunity for discussion may offer a solution.

Metacognition and Cooperative learning

Metacognition refers to one's knowledge concerning one's own cognitive processes or anything related to them (Flavell, 1976). Quite simply, metacognition is thinking about thinking. Brown(1987) divides metacognition into two broad categories: Knowledge of cognition and regulation of cognition. Knowledge of cognition refers to activities that involve conscious reflection on one cognitive abilities and activities. Regulation of cognition refers to activities regarding self-regulatory mechanisms during an ongoing attempt to learn. Any process in which students examine the method that they are using to retrieve, develop or expand information is deemed to be metacognitive in nature.(Everson et.al.(1998)). Metacognitively aware learners "know what to do when they don't know what to do" (Countinbo(2007)). In other words, they have strategies for discovering or working out what needs to be done. Metacognitive strategies are designed to monitor cognitive process. Metacognitive strategies are ordered processes used to control one's own cognitive

activities and to ensure that a cognitive goal has been met. A student with good metacognitive awareness oversee his own learning process, plan and monitor ongoing cognitive activities. The use of metacognitive strategies ignites one's thinking and can lead to better learning and higher performance, especially among learners who strive. Developing metacognitive instructions or questions about the topic at hand would be more challenging for the teacher. The teacher would have to change his/her mind-set and pose questions that truly require the teacher to analyze the existing links to other common experiences and material, determine which processes the student may possibly use, and formulate questions accordingly. Some of the questions that are posed during the discussion can be meaningful and multifaceted. Hartman(2001) states that teaching with metacognitive strategies means that teacher will think about how their instruction will activate and develop students' metacognition.

Bilgin, I.et.al.(2006), and Chang, C-Y., & Mao, S-L. (1999) in their contributions noted that cooperative learning activity engages the student in the learning process and seeks to improve the critical thinking, reasoning, and problem-solving skills of the learner. Stevens, R., & Slavin, R. (1995) stated that peer interaction is central to the success of cooperative learning as it relates to cognitive understanding. They further noted that comprehension is facilitated. They emphasized that as learners, some of who might normally "turn out" or refuse to speak out in a traditional setting, become actively involved in the learning process through group interaction. Chang.et.al(1999) noted that every cooperative-learning strategy, when used appropriately, can enable students to move beyond the text, memorization of basic facts, and learning lower level skills. This method which results in cognitive restructuring leads to an increase in understanding of all students in a cooperative group. Apart from academic benefits, cooperative learning has been found to promote self-esteem, interpersonal relationship and improved attitudes toward school and peers (Bilgin,I.et.al.(2006).

In the cooperative learning strategy students have the opportunity to discuss their answers with a fellow students. The students could jot –down their answers to a question, turn to their neighbour and talk about their answers and sharing the same with the entire class. It forces student to discuss their thinking, analyze their position, and explain their point of view to their classmates. By their sharing information with the entire class, students would be able to evaluate themselves while gathering information from other classmates. The teacher would also have the opportunity to evaluate the students' understanding based on the content of the discussions.

The use of either the cooperative learning or metacognitive instructions would be easy to put into practice in the science classroom even with the pressure of syllabi and deadlines and the demand for marks from the parents. In this article an attempt is made to compare the influence of the cooperative learning and metacognitive instructions on achievement of science students.

Design

The research was carried out using a quasi-experimental design with pre- and post tests with two experimental groups and one control group. Higher secondary students from Municipal Girls Higher Secondary School, Tirunelveli town, Tamilnadu, India were taken as the sample of the study. The sample was divided into three groups consisting of 35 students. The three groups were first administered a science achievement test (SAT) and a metacognitive awareness test (MAT) and the results have been compared in order to study the equivalence of the groups.

Table 1: Comparison between control and experimental groups in SAT pre-test

Test	Group	N	M	S.D	't' value	Remarks at 0.01 level
SAT	Control group	35	32.5	7.8	0.83	Not significant
	Cooperative learning group	35	30.9	8.2		
	Control group	35	32.5	7.8	0.68	Not significant
	Metacognitive instruction group	35	31.2	8.1		

As seen in table1 there is no significant difference between achievement pre-test mean scores achieved by experimental groups with control group.

Table 2: Comparison between control and experimental groups in MAT pre-test

Test	Group	N	M	S.D	't' value	Remarks at 0.01 level
MAT	Control group	35	22.9	7.1	0.77	Not significant
	Cooperative learning group	35	24.2	6.9		
	Control group	35	22.9	7.1	0.46	Not significant
	Metacognitive instruction group	35	23.7	7.3		

From table2 there is no significant difference between metacognitive awareness pre-test mean scores achieved by experimental groups with control group.

Instruments

The science achievement test(SAT) has been developed by the researcher. The researcher had gone through the 12th standard text book of National Council for Educational Research and Training of Indian Government. The chapter human anatomy was selected for the study. The topics were: Integumentary system , Skeletal system , Muscular system, Digestive system, Circulatory system , Lymphatic system and Nervous system. The test consists of 75 questions and all the questions are multiple choice questions. The quality of each questions was ascertained by difficulty index and discriminating power. Questions were selected based on blue-print followed in schools covering knowledge, understanding, application and skill type questions. The test was administered to the sample. A score of '1' was assigned for each correct answer. 'Zero' score was assigned for each wrong answer. The split-half reliability of the test was 0.82. This shows that the test has reliability. The ensure content validity the different subunits of the content were carefully examined and questions were included with a help of teachers handling this topic in schools.

The standardized tool for metacognitive awareness developed by Schraw and Dennison(1994) was used in the present study. It consists of 52 items. It is used as a metacognitive awareness tool by many researchers in metacognition research.(Lippmann(2005),Yunus et.al.(2008)) The items helps to identify the presence of metacognitive behaviour among students. Items were reviewed for face validity. Wording and grammatical structures were changed according to the local Indian context and the target groups' level.

Procedure

The three 45 minute classes were taught by the same teacher. The study consisted of three different treatments: a control group, cooperative learning group(CL), and a metacognitive instructions group(MI).

The control group was taught in the existing normal process of teaching followed and answering cognitive questions that were related to the material being taught. Students were asked to share the information with the entire class if they so desired.

The CL group followed the procedure used by the control group with one modification. After the lesson taught, individual students in the CL group read the textbook. Each CL student was paired off with a classmate to discuss the topic one-on-one before sharing the information about the topic with the entire class and answering the text book questions.

The MI group followed the procedure used by the control group with one modification. After the lesson taught the MI group read the text book using the following metacognitive strategy instructions.

Using strengths: While reading, I exploit my personal strengths in order to better understand the text. If I am a good reader, I focus on the text; if I am good at figures and diagrams, I focus on that information.

Inferring meaning (through word analysis): While I am reading, I try to determine the meaning of unknown words that seem critical to the meaning of the text.

Using background information: While I am reading, I reconsider and revise my background knowledge about the topic, based on the text's content.

Evaluating: As I am reading, I evaluate the text to determine whether it contributes to my knowledge/understanding of the subject.

Searching according to the goals: I search out information relevant to my reading goals.

Reading goals: I evaluate whether what I am reading is relevant to my reading goals.

Distinguishing: As I am reading, I distinguish between information that I already know and new information.

Deciding on the difficulty: I note how hard or easy a text is to read.

Revising: While I am reading, I reconsider and revise my prior questions about the topic, based on the text's content.

Guessing the later topics: I anticipate information that will be presented later in the text.

Here teacher provides metacognitive instructional practice such as *what information is important to remember? What do you need to do if you don't understand? Are you on the right way? How should you proceed?* When they are monitoring lesson they are guided to ask themselves the metacognitive questions. How am I doing? What information is important to remember? What do I need to do if I don't understand? How well did I do? Did my particular course of thinking produce more or less than I had expected? What could I have done differently? Do I need to go back through the topic to fill in any "blanks" in my understanding?

The strategy forces student to use metacognition to examine their thinking, analyse their position and explain their point of view. The metacognitive questions ask students to examine how they arrive at an answer versus the cognitive questions, which are based on content.

The three treatment groups were taught the same science lessons on a daily basis. Only class discussions, which were generated by students of the individual classes, varied from class to class. The procedure continued like this for 11 weeks. Post-test was given to all groups.

RESULTS

Statistical calculations such as paired 't' test and multiple regression analysis were used to analyse the data.

Table 3: Comparison of experimental groups and control groups in SAT using paired 't' test.

	Group	N	Mean		SD		Paired test 't' value	Remarks at 0.01 level.
			Pre test	Post test	Pre test	Post test		
SAT	Control group	35	32.5	34.2	7.8	4.6	1.6	NS
	Cooperative learning group	35	30.9	41.7	8.1	4.3	13.7	S
	Metacognitive instruction group	35	31.2	55.4	8.2	4.4	24.8	S

NS- Not significant S- Significant.

It is inferred from the table3 that in the control group the observed 't' value was $t(34)=1.6(p>0.01)$. Hence there is no significant improvement in achievement mean score from pre-test to post-test. In the cooperative learning group the calculated 't' value was $t(34)=13.7(p<0.01)$. In accordance with the results, it has been seen that there is significant improvement in achievement mean score from pretest to post test. In the metacognitive instruction group the pre-test and post-test mean scores are 31.2 and 55.4 respectively. It indicates that metacognitive approach had more positive effect on the achievement than the cooperative learning. The t value $t(34)= 24.8(p<0.01)$ shows that there is significant improvement in achievement mean score from pretest to post test.

Table 4: Comparison of experimental groups and control groups in MAT using paired 't' test

	Group	N	Mean		SD		Paired test 't' value	Remarks at 0.01 level.
			Pre test	Post test	Pre test	Post test		
MAT	Control group	35	22.9	24.3	7.1	5.4	2.2	NS
	Cooperative learning group	35	24.2	27.1	6.9	4.2	2.4	NS
	Metacognitive instruction group	35	23.7	36.7	7.3	3.8	7.2	S

NS- Not significant S- Significant.

The observed 't' value for the control group was $t(34)=2.2(p>0.01)$. Hence there is no significant improvement in metacognitive awareness. In the cooperative learning group the t value was $t(34)=2.4(p>0.01)$. It shows that there is no significant improvement in metacognitive awareness. In the metacognitive instruction group the t value was $t(34)=7.2(p<0.01)$. It indicates there is significant improvement in metacognitive awareness.

The results revealed that the experimental group received metacognitive instructions reported higher metacognitive knowledge and achievement and they could also answer higher level of cognitive questions compared to cooperative learning group and control group. These findings corroborate with those of Coutinbo (2007) and Lippmann (2005), where they found positive results for student achievement and increased participation in learning.

Multiple regression analysis was done to find out the relationship between the achievement in science of the metacognitive instructions group with intervening variable metacognitive awareness.

Table 5: Results of multiple regression analysis

	β	T	R	R square	Adjusted R square
Metacognitive awareness	0.4	6.79	0.80	0.64	0.631

In the table5, the correlation between metacognitive awareness and achievement(R value) is 0.80. The adjusted R square value is 0.631. It indicates metacognitive awareness shows 63.1% variability in achievement. The beta value is 0.4 when metacognitive awareness adds up by one unit, the level of achievement increases by 0.4 units. The obtained t value is 6.79, which is significant at 0.01 level. Hence there is significant relationship between achievement and metacognitive awareness.

Delimitation of the study

This investigation is restricted to Municipal girls higher secondary school, Tirunelveli, India. The investigation is confined to higher secondary students. The topic Human Anatomy alone is covered for the experimental purpose. The study conducted for 11 weeks.

Educational implications of the study

The findings of the present study have an implications for the improvement of present system of school education on both theoretical and practical context.

- The classroom teacher has a critical role in the turning of actual classroom situations into a metacognitive way. Teachers should have an awareness of the know-how of metacognitive skills, how it can be instilled and developed among pupils and how the stage can be prepared for teaching-learning process. Therefore in-service training should be given for providing effective training in developing metacognitive skills for teacher-students during pre-service training.
- Teachers' handbook with emphasis on the metacognitive skills should be prepared and made available sufficiently earlier to the teachers, at the beginning of the academic year in order to frame a metacognitive strategy. Model metacognitive strategy packages may be designed and developed by expert teams and made available to the teachers for their classroom.
- Teachers should give many opportunities to practice metacognitive activities. As students practice the activities, provide guidance and support to the students. Give them feedback until they can use the activities independently. As part of your feedback, inform them about where and when the metacognitive activities are most useful.
- Teachers should remember that it takes students a considerable amount of time to learn how to use an effective strategy. Be patient and give students continued support during this learning experience. Keep encouraging students to use the metacognitive activities over and over again until can use it automatically.
- Teachers should encourage students to monitor the effectiveness of their new strategies in comparison to the effectiveness of old strategies. These help students to see the utility of using the new strategy.

Recommendation for policy makers

The results of the present study can significantly influence the field of higher secondary education.

- From the findings of the study, the higher secondary students learn better by the use of metacognitive strategies. Hence there is a need to change the teaching methods and strategies adopted in higher secondary level.
- Conventional methods of teaching science are not compatible with attaining conceptual learning and higher-order cognitive skills. A major purpose of science education should be to develop instructional practices for developing scientific reasoning skills, critical thinking and decision-making capacity. Since metacognition is an inherent component in developing cognitive skills, students and teachers must be taught how to develop metacognition. State level academic bodies should develop metacognitive skill enrichment activities.
- Textbooks are dominated by declarative knowledge (facts, definitions and descriptions) whereas procedural (knowing how, knowing why) and situational knowledge should be provided for deep study processes. Text book should be designed by raising meaningful and interesting questions and emphasizing applications and problem solving. Metacognitive strategies should be incorporated in text-book.

- Encouraging an understanding of problems, rather than giving numerical procedures which may be memorized and used without understanding. Qualitative discussions could be carried out while problems are solved on the chalkboard and also by getting students to work together while solving problems with students being asked to derive general procedures rather than mathematical solutions.
- The existing curricula will not be able to cope with the proposed metacognitive strategies. So the curricula must be modified accordingly. To attain achievement objectives more number of research on metacognitive strategies should be conducted and the strategies should be incorporated in the curriculum.

CONCLUSION

Metacognition is a strong predictor of academic success and problem solving ability (Theide et al., 2003). Students who are able to effectively discriminate between information they have learned and information they have not learned are more likely to review and learn new information (Everson & Tobias, 1998). If students believe they know everything for the test, they will probably end their studying. The will for changing and the desire for innovation in teachers come from the necessity of 'motivating' students, who seem to have lost their interest in science. The metacognitive strategies, which can motivate students and give them the opportunity to learn, understand and recognize the information received in class and in their everyday life (Kramarski et al. (2004)). This will make the students to be more and more independent in facing new situations. Teachers should allow the students to seek understanding by exploring and investigating on their own with teachers as facilitators.

From this study we can infer that metacognitive instructions can increase their metacognitive awareness and develop in them a positive attitude towards learning. Besides, this students' academic achievement can be increased if teaching strategies are planned in a metacognitive way. Students must be taught how to develop and be aware of the strategies. Teachers must improve their students' metacognitive awareness in order to improve their learning abilities. "The more students know about effective learning strategies, the greater their metacognitive awareness and the higher their classroom achievement is likely to be" (Mango 2010).

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REFERENCES

- Bilgin, I., & Geban, O. (2006). The effect of cooperative learning approach based on conceptual change condition on students' understanding of chemical equilibrium concepts. *Journal of Science Education and Technology*, 15(1), 31-46.
- Brown, A.L.(1987). Knowing when, where, and how to remember. A problem of metacognition. *Advances in instructional psychology*, 1,77-165. Hillsdale, NJ: Erlbaum.
- Coutinbo, S.A.(2007). The relationship between goals, metacognition and academic success. *Educate*, 7(1), 39-47.
- Chang, C-Y., & Mao, S-L. (1999). The effects on students cognitive achievement when using the cooperative learning method in earth science classrooms. *School Science and Mathematics*, 99(7), 374-379.
- Everson, H. T. & Tobias, S. (1998). The ability to estimate knowledge and performance in college: A metacognitive analysis. *Instructional Science*, 26:65-79.
- Flavell, J.H. (1976). Metacognitive aspects of problem-solving. In L.B.Resick(Ed), *The Nature of intelligence* (pp.231-236).Hillsdale, NJ:Erlbaum.
- Hartman, H.J. (2001). Metacognition in learning and instruction, theory, research and practice, Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Kramarski, B., Mavrech, Z. R & Arami, M. (2004). The Effects of metacognitive instruction on solving mathematical authentic tasks. *Educational Studies in Mathematics*, 49, 225-250.
- Lippmann, R. (2005). Analyzing students' use of metacognition during laboratory activities. *Learning Individual differences*, 14, 131-137.
- Magno, C. (2010). The role of metacognitive skills in developing critical thinking. *Learning, Memory, and Cognition*, 36(1), 255–262.
- Md.Yunus, A.S & Wan Ali,Z.W. (2008). Metacognition and motivation in mathematics problem solving. *The International journal of learning*, 15(3) , 121-132.
- Schraw, G., & Dennison, R.S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, 19, 460-475.
- Stevens, R., & Slavin, R. (1995). The cooperative elementary school: Effects on students' achievement, attitudes and social relations. *American Education Research Journal*, 32(2), 321-351.
- Theide, K. W. Anderson, M. C. M. & Therriault, D. (2003). Accuracy of metacognitive monitoring affects learning of texts. *J. Edu. Psychol.* 95, 66-73.

TOWARDS INCLUSIVE NATURE OF SCIENCE (INOS) ACTIVITIES

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ABSTRACT

Activities in this study which can be used by both blind and sighted students are called as inclusive Nature of Science (iNOS) activities. This study aims to transform some traditional activities about nature of science into iNOS activities and involves the procedure of redesigning and testing. For this purpose three basic iNOS activities were redesigned and views were gathered from three types of groups; blind students, preservice physics teachers and approximately one and a half thousand people during a science fair. To determine and understand the weak and straight ways of these activities by the help of participants' changed perceptions about science after doing iNOS activities, unstructured interviews and a questionnaire were used. At the end of the study, it was seen that these iNOS activities are not only useful for both blind and sighted students but also appropriate activities for both children and adults.

Key Words: Nature of Science, Inclusive Education.

INTRODUCTION

It is natural that human needs to understand the events surrounding himself. The way to understanding the universe is defined as "science" from hundred years. All philosophers and scientists tried to understand the universe and tried to build a new structure, model of all understood parts of universe. After years, definition of science changed as "remained from understood parts of universe". This magnificent building - science- was considered that is stable as universe (Hoyningen-Huene, 2007). Lots of formulas, explanations, graphs, laws, theories, etc., were the parts of the model of universe, in other words science. Human gave up understanding the universe and turn to understand science. This short story of understanding our world is continuing with nature of science studies; science is way of knowing about universe (Alters, 1997), not the copy of universe, therefore, nature of science studies are most related with how, where and when scientists work, who scientist and what science is (McComas, 1998; Moss, Abrams & Robb, 2001).

In this perspective, educators invent a term reflecting this procedure with saying "science for all" (McComas, Clough & Almazroa, 1998). However, activities designed to explain the nature of science are not adequate for all. For instance, a blind student may have some difficulties to understand current Nature of Science (NOS) activities in science education literature. The aims of this study was depended on this gap; we live in the same universe and science should be for all, therefore, NOS activities should be for all or in other words; inclusive. It is effective and creative activity from Lederman and Abd-El-Khalick (1998) which includes some figure of pugs that generally viewers reach a conclusion that there was a struggle for life. This picture may be useful material to discuss what data is and what is inference; however, it is only a paper for blind students. Tactual or smelt materials may be more helpful for blind students to understand this kind of NOS activities. Furthermore, different gender or age or other different type of categorized science learners should take advantage of iNOS when it was called as inclusive. The transformed type of NOS like the example will be named as iNOS during this study and the main problem of this research is to investigate whether adapted activities should be called as iNOS or not.

METHOD

Apart from suggesting iNOS activities, this study gives an example about what kind of procedure may be followed by a science teacher or researcher before calling the activity as iNOS. Generally the selected way of examining student conceptions about nature of science is going on through tenets (Moss, 2001). Nonetheless, this approach presents a misconception based view not a holistic view about science in students mind. To reveal the holistic view of students about science a questionnaire were prepared and applied before and after doing iNOS activities.

Research design

Data collecting instrument were both used before and after iNOS activities. Participants were all volunteers and completed all three iNOS activities from beginning to end. Different type and large number of participants with their changed views about science were used as an argument that suggested NOS activities are inclusive.

Data collecting instrument

There is a good formula which generally is used by journalists and explains what to ask to learn general information about something; 5W1H (where, why, who, what, when and how). Data collecting instrument was designed according to this formula and added another dimension that explains the paradigm shift in science. There are seven dimension and 18 items in the questionnaire with "true or false" choices in appendix 1 with original (Turkish) version. This questionnaire reflects the comments of two experts who have a published more than one article about nature of science and was used to identify in which dimensions participants change their view about science.

Participants

There were two totally blind inborn students, one boy and one girl, who were attended at 9th grade high school. For 9th grades physics course with nature of physics unit is compulsory in Turkey. Additionally, their schools were also different.

Other participant group was selected to inject expert views. Twenty pre-service physics teachers who passed a course including nature of science issues answered questionnaire and did iNOS activities.

The last group was contained participant from seven to seventy. They were volunteers living in Izmir, one of the biggest cities in Turkey, and came for a science fair (Figure 1). From the morning to the late night more than one thousand and a half participants were listened, answered and discussed during iNOS activities.



Figure 1. Some students who participate iNOS activities

Activities

There were three main activities which totally take approximately 10 minutes. Activities were about analyzing tracks on dough, predicting the structure of enwrapped flexible pipes and number of objects in iron or transparent boxes (Figure 1, 2).



Figure 2. One of blind students is doing iNOS activities.

For the first activity the main idea was conserved, participants analyzed tracts. Additionally making the tracts on dough let blind students to understand the event by touching. This tactual material has three parts. First part there is two different tracts which are similar to scooter and car tracts. These tracts are not parallel, so with the second part, there is only car's tract; tracts give the impression of an accident. The last part includes car tracts again and a collapsed area. Generally participants think that that tract belongs to scooter. After telling the story they have reached by following tracts, science teacher should ask a question; why don't you think that that collapsed area occurred because of a meteor and after the accident scooter is going on the car? This question explains that inference about any event may be differing although data is same. In the science fair, a huge model was presented. In that model a toy of goat was used instead of scooter and with some leaf model was become more realist.

Second activity was about paradigm shift. Generally participants easily conclude that there are five flexible pipes enwrapped with a paper. Some pipets can easily pass through the inner of these flexible pipes. The structure tested with small glass ball whether they may pass through the inner of these flexible pipes was simple, according to participants. After many times they generally gave up testing and insist that there are just five flexible pipes. By chance, small glass ball sticks earlier, then they start to think that there is something different. For this activity, four long and two short pipes were enwrapped as there were five. It is similar as science that sometimes only one data change all over the literature (paradigm shift).

The last activity was simple as others; there was a box and participants tried to understand what else is in it. Some sticks, magnets, rope and other small tools were given to the participants to use during the activity. There was a hair dryer and participants used it to put ping pong ball on air in the box. They had to use three different method together to find the correct answer. This activity is designed to help participants to understand the importance of mixed methods, there is no only one effective method for all cases. For instance, in Cern, the CMS experiment -well known experiment- includes different colorimeters to identify the particle.

At the beginning of the third activity, we generally asked which of the nine boxes participants may surely predict the material in the boxes (figure 3). Sighted participants had chosen all transparent ones but they saw that scented box is not an empty box and they need a reference point to aware the difference. Blind students also had mistaken about last two transparent boxes but they said that all the boxes are similar for them without shaking.

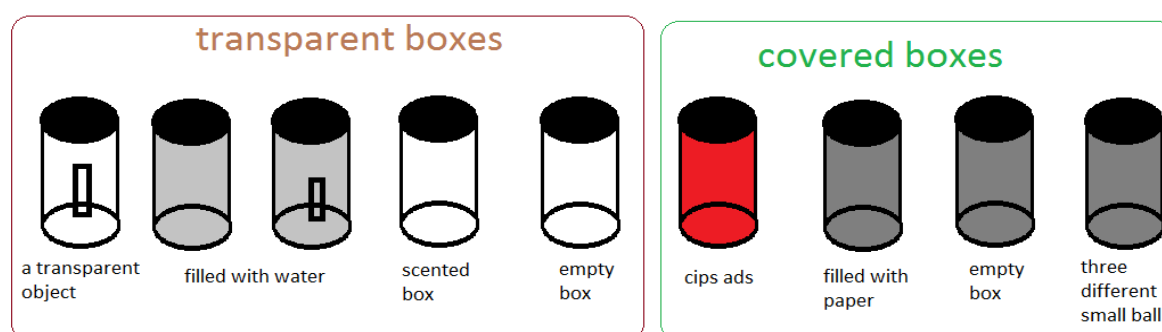


Figure 3. Different type of boxes designed for iNOS activities.

Participants cautiously approached the box which has a cips ads by saying there should be something different from cips. At that point we emphasize the importance of probabilities and why scientists use frequently. Additionally, participants wanted to touch another covered boxes before deciding on the box filled with paper. They grasped the importance of the comparison in short time.

Data analysis

Only number of people who changed their view and some dialogues with those are used to investigate the change before and after the iNOS activities according to the answers of questionnaire. Descriptive statistics in terms of changed ideas were used and verbal expressions are used to verify the inclusiveness of activities.

RESULTS

All collected data are placed to the table 1. It is easy to see the item and in which group there had been a changed in terms of science perceptions. According to table 1, all items changed in some groups with different number of participants. This number should be evaluated according to the total group number. For instance, whether two participants changed their view in first group (blind students) is meaningless number for the third group (participants from science fair). Shown numbers in Table 1 are correct marked alternatives.

Table 1. Questionnaire items and number of participants marked that item.

5W1H About Science	Item ID	Blind students (N=2)		Pre-service Physics Teachers (N=20)		Science Fair Participants (N=1572)	
		Before activities	After activities	Before activities	After activities	Before activities	After activities
when	A1	2	2	10	16	577	767
	A2	2	2	12	14	523	1025
	A3	0	2	13	16	456	555
who	B1	2	2	9	18	416	1012
	B2	2	2	11	13	689	880
	B3	1	2	11	12	346	1004
	B4	2	2	10	14	233	455
How	C1	0	1	8	20	289	1045
	C2	1	2	11	11	343	432
	C3	0	0	9	19	299	998
Where	D1	1	1	12	15	654	765
	D2	0	2	9	13	410	1022
Why	E1	2	2	7	19	456	563
	E2	0	2	12	16	187	940
	E3	1	1	13	16	280	1034
Be influenced by	F1	1	2	11	20	299	1100
	F2	2	2	13	16	589	721
	F3						

There are also some expressions of all participants given below. The common point of all selected expressions is about appropriateness of activities for all. These selected expressions are noted during the activity process, so missed or more similar sayings were not written. Because of the fact that there is no negative expression about inclusive way of activities, it wasn't mentioned continuation of the study.

P1: "...discussing science is easier than doing science" (a student participant)

P2: "In order to do these activities you do not have to be sighted..." (one of blind participant)

P3: "In any activity we do not use our smelling sense but with this activity (third one and for scented box) I used my nose" (a teacher participant)

P4: "what happened there, what is in the box, and how many pipe is here...these are very basic questions and develop your thinking skills" (a director of children research center)

P5: "I believed that I can do science,..." (elderly female participant)

P6: "Before these (iNOS activities) science was rules for me, now science is to demonstrate the possibilities..."
(an elementary student)

DISCUSSION

As a result of examination of the answers to the questionnaire and expressions gathered from participants, all three activities are seemed to be deciding their inclusive way. Different kind of participants with their expressions of praise and number of correct responses of all participants' questionnaire are some of evidence that three suggested activity may be given as an example of inclusive nature of science activity.

Although these activities are not the only way of transforming known NOS activities into iNOS, followed procedure makes these activities more applicable and meaningful for all. This article also supports without being noticed that being blind is small barrier of learning; the main barriers are in our brains appearance as "impossible" (Bülbül, 2010).

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REFERENCES

- Alters, B. J. (1997). Whose nature of science? (F. Finley, D. Allchin, D. Rhees, & S. Fifield, Eds.) *Journal of Research in Science Teaching*, 34(1), 39–55. doi:10.1002/(SICI)1098-2736(199701)34:1<39::AID-TEA4>3.0.CO;2-P.
- Bülbül, M. Ş. (2010). Unseen Barriers for Disabled Science Learners: Misconceptions about Nature of Science. In H. Sarı (Ed.), *International Conference on Inclusion*. Konya: International Conference on Inclusion.
- Hoyningen-Huene, P. (2007). Systematicity: The Nature of Science. *Philosophia*, 36(2), 167–180. doi:10.1007/s11406-007-9100-x
- Lederman, N. & Abd-El-Khalick, F. (1998). Avoiding de-natured science: Activities that promote understanding of the nature of science. In W. F. McComas (ed.), *The nature of science in science education: Rationales and strategies*. Boston: Kluwer Academic Publishers, 83-126.

McComas, W. F. (1998). The principal elements of the nature of science: Dispelling the myths. In W. F. McComas (Ed.), *The nature of science in science education: Rationales and strategies* (pp. 41 – 52). Dordrecht, the Netherlands: Kluwer.

McComas, W. F., Clough, M. P., & Almazroa, H. (1998). The role and character of the nature of science in science education. In W. F. McComas (Ed.), *The Nature of Science in Science Education* (Vol. 5, pp. 3–39). Kluwer Academic Publishers. doi:10.1007/0-306-47215-5.

Moss, D. M., Abrams, E. D., & Robb, J. (2001). Examining student conceptions of the nature of science. *International Journal of Science Education*, 23(8), 771 – 790.

APPENDIX 1

Yaş :

Bilimin Doğası: 5N1K

Cinsiyet:

A. NE ZAMAN BİLİM YAPILIR?

- | | | |
|---|-------|--------|
| 1. Her zaman bilim yapılabilir. | Doğru | Yanlış |
| 2. Bilim merkezlerinin belirli zamanlarda bilim yapılabilir. | Doğru | Yanlış |
| 3. Çalışılan konu ile ilgili herşeyi öğreninceye kadar o konuda bilim yapılmaz. | Doğru | Yanlış |

B. KİM BİLİM YAPAR ?

- | | | |
|---|-------|--------|
| 1. Herkes bilim yapabilir. | Doğru | Yanlış |
| 2. Bilim insanı ünvanı olanlar bilim yapar. | Doğru | Yanlış |
| 3. Tek başına bilim yapamayan, bilim insanı sayılmaz. | Doğru | Yanlış |
| 4. Bilim insanları başarısız olabilir. | Doğru | Yanlış |

C. NASIL BİLİM YAPILIR ?

- | | | |
|--|-------|--------|
| 1. Bilim yapmanın basamakları bellidir ve bu basamaklar dışında bilim yapılamaz. | Doğru | Yanlış |
| 2. Bakılmamış bir veri, tüm bilimsel bilgi birikimini değiştirebilir. | Doğru | Yanlış |
| 3. Aynı bulgulardan her bilimsel çalışma aynı sonuçları çıkarır. | Doğru | Yanlış |

D. NEREDE BİLİM YAPILIR ?

- | | | |
|---|-------|--------|
| 1. Her yerde bilim yapılabilir. | Doğru | Yanlış |
| 2. Bilim yapmak için özel aletlerin bulunduğu özel mekânların olması gerekir. | Doğru | Yanlış |

E. NEDEN BİLİM YAPILIR ?

- | | | |
|--|-------|--------|
| 1. Bilim, insanlık için yapılır. | Doğru | Yanlış |
| 2. Bilim, bilim insanının merak duygusunun giderilmesi için yapılır. | Doğru | Yanlış |
| 3. Bilim mutlak/değişmeyen doğruyu bulmak için yapılır. | Doğru | Yanlış |

F. BİLİM NELERDEN ETKİLENİR ?

- | | | |
|--|-------|--------|
| 1. Bilim insanlarının ön yargıları çalışmalarını etkiler. | Doğru | Yanlış |
| 2. Bilim insanlarının hayal güçleri ve yaratıcılıkları, yaptıkları bilimsel araştırmaları etkiler. | Doğru | Yanlış |
| 3. Bilimsel bir çalışmanın sonucunu, aynı anda uygulanan yöntem sayısı etkileyebilir. | Doğru | Yanlış |

APPROACHES TO CLASSROOM DISCIPLINE IN TURKEY AND THEIR IMPLICATIONS FOR TEACHER EDUCATION

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ABSTRACT

Despite Turkey's current economic growth, modernization and increased academic performance, 50% to 75% of children in the country are reported to be subjected to different forms of physical punishment in schools. Moreover, the vast majority of teachers in Turkey believe in the need for corporal punishment as an integral part in the development of the child. And despite the fact that corporal punishment is unlawful in Turkey, it is regularly carried out in every grade level in virtually all regions of the country. By reviewing the related literature, the present study attempts to explore what approaches teachers generally adopt in dealing with student misconduct in Turkey. Implications are included for pre-service and in-service teacher development.

Key Words: Classroom discipline, corporal punishment, teacher education.

INTRODUCTION

Alongside Turkey's recent economic growth and modernization, in recent years, academic achievement in the country has also undergone significant progress with no apparent major problems to be tackled in the near future. OECD's Program for International Student Assessment (PISA)'s 2009 results highlight the fact that Turkey has made noteworthy progress in reading, science and mathematics scores in relation to the same scores in 2003. Turkey's mean score in mathematics rose from 423 in 2003 to 445 in 2009. Likewise, the science mean score increased from 434 to 454 and the reading mean score from 441 to 464 between 2003 and 2009. Among the 65 countries assessed in 2009, Turkey ranks 43rd in science and mathematics and 41st in reading proficiency.

With regards to issues of misbehavior in schools, Turkey does not seem to have a significant problem to be dealt with either. PISA's 2009 results indicate that 74% of 15 year-old students reported calm classrooms where teachers "never or hardly ever" or "in some lessons" have to wait a long time for students to quiet down.

Notwithstanding the positive scores pertaining to academics and discipline, in Turkey, 50% to 75% of children are reported to be subjected to different forms of physical punishment in school. Moreover, the vast majority of teachers in Turkey believe in the need for corporal punishment as an integral part in the development of the child (Gozutok, Er & Karacaoglu, 2006). And despite the fact that corporal punishment is unlawful in Turkey, it is regularly carried out in every grade level in virtually all regions of the country.

Sadly, the existence of this culture of violence in schools has recently escalated to the point of at least one teacher reported to being murdered by a student. This violence in schools is the result of an increasingly competitive environment, student boredom, powerlessness and dissatisfaction, unclear boundaries, a lack of acceptable outlets to express feelings and attacks on the dignity of the individual (Curwin, Mendler & Mendler, 2008).

A deeper understanding of the roots of these violent acts in schools is necessary in order to generate a positive change in this area. Teacher education related to legal foundations of education, classroom management, and modern approaches to discipline is virtually nonexistent in Turkey. Consequently, the country would greatly profit from the integration of educational best practices with regards to the legal aspects of school discipline and classroom management to pre-service and in-service teacher education programs.

A BRIEF SUMMARY OF REGULATIONS REGARDING EDUCATION IN TURKEY

The right to education in Turkey has been secured for all by article 42 of the Constitution, establishing that “no one shall be deprived of the right of learning and education”. Turkish education is organized on the basis of the Law of the Organization and Duties of the Ministry of National Education, the Basic Law of National Education, and the laws regulating the education system, as well as development plans, government programs, decision of national education councils, and regulations regarding the principles related to the types, levels, and functions of education (OECD, 2005).

The Basic Law of National Education No. 1739 establishes the aims of the Turkish National Education System: To raise all individuals as citizens who are committed to the principles and reforms of Atatürk and to the nationalism of Atatürk as expressed in the Constitution, who adopt, protect and promote the national, moral, human, spiritual and cultural values of the Turkish Nation, who love and always seek to exalt their family, country and nation, who know their duties and responsibilities towards the Republic of Turkey which is a democratic, secular and social state governed by the rule of law, founded on human rights and on the tenets laid down in the preamble to the Constitution, and who have internalized these in their behavior;

To raise them as constructive, creative and productive persons who are physically, mentally, morally, spiritually and emotionally balanced, have a sound personality and character, with the ability to think freely and scientifically and have a broad worldview, that are respectful for human rights, value personality and enterprise, and feel responsibility towards society;

To prepare them for life by developing their interests, talents and capabilities and providing them with the necessary knowledge, skills and attitudes and the habit of working with others and to ensure that they acquire a profession which shall make them happy and contribute to the happiness of society.

A brief summary of regulations regarding discipline in education

Laws on promotion, appreciation and punishment of primary (No. 4357) and secondary (No. 26408) teachers have been decreed in Turkey with the purpose of protecting students against physical and emotional abuse in schools. Corporal punishment has been legally banned from Turkish schools since 1923 (law 1702 and state personnel law 657). Correction guidelines to be exercised in the case of student misbehavior in Turkish schools are also in existence.¹ The disciplinary actions to be taken towards sixth, seventh and eighth grade students as the result of their involvement in specific reprehensible actions are stated in Regulation 27090 for Primary Education Institutions published in the Official Gazette on 24 December, 2008:

¹ Grades 1st through 5th lack legal guidelines, mandates or laws concerning discipline.

Verbal Warning: Late coming, continual absenteeism without an excuse, extending period of permission given by school without an excuse, displaying bad manners.

Written Censure: Arrogant or disrespectful behavior directed toward administrators, teachers, other school staff or students; ignoring school rules and disrupting the learning environment; interrupting school sponsored activities; continual lying, cheating; falsifying official records; disobeying the dress code; smoking; fighting.

Expulsion: Actions against the fundamental principles of the Constitution, sexual assault, insulting, slandering, threatening, carrying weapons within the school premises, misusing school materials, acts of discrimination, damaging the belongings of others, attacking administrators or teachers, promoting the use of alcohol or other habit-forming substances.

The Award and Discipline Regulation for Secondary Education Institutions (No. 26408), published on 19 January, 2007 in the Official Gazette, establishes the following disciplinary actions to be taken towards secondary school students engaging in the following corresponding reprehensible actions:

Written Censure: Not keeping the school and school materials clean and tidy; failing to fulfill duties required by teachers or administrators; violating the established dress code; smoking; handling the belongings of others without their consent; failing to attend school with all the required supplies; arrogant or disrespectful behavior towards administrators, teachers, or other school staff; disrupting class; cheating.

Short-Term Suspension: Sexual and verbal harassment, insulting, slandering; discriminating against others; insulting teachers, administrators or other staff; fighting; bullying.

Expulsion: Disrespect toward the Turkish flag or any other national or state symbols; denigrating national and spiritual values; insulting these values; theft; damaging of school property; disrupting classes, exams or other activities; use or possession of habit-forming substances; coercing others to engage in illicit activities.

Expulsion from Formal Education: Insulting the Turkish flag or any other national or state symbols; taking individual or collective action against the fundamental principles of the Constitution; organization or involvement in divisive actions with the purpose of discriminating against individuals on the basis of language, ethnicity, sex or political, philosophical and religious beliefs; disrupting the actions of school committees; trading of habit-forming substances; disrupting the learning environment; forming gangs; kidnapping; theft for ransom.

THE STATE OF STUDENT MISCONDUCT IN SCHOOLS

The most frequent forms of student misconduct

Student misconduct in Turkey may be classified in five categories: 1) Misconduct with regards to academic tasks, 2) inappropriate behaviors and attitudes towards teachers, 3) inappropriate behaviors and attitudes towards other students, 4) disregarding school policy, and 5) improper personal behaviors (Siyez, 2009).

The most frequently reported misconduct with regards to academic tasks in the Turkish classroom is speaking out of turn. Additionally, interrupting other students, moving in the classroom, and avoiding responsibilities ("not doing homework" and "not bringing supplies to class") are also commonly observed discipline problems related to academic tasks in Turkey. Defiance, rudeness and shouting are inappropriate behaviors and attitudes towards teachers reported in Turkey. However, these behaviors and attitudes are infrequent in Turkish schools. In relation to misbehavior towards other students, the most recurrently reported actions are verbal aggression, physical aggression, swearing and fighting. Disregarding school policy has not been observed to be a major

issue concerning students in Turkey. Nevertheless, issues of misbehavior regarding this matter are: Arriving late to class, dress code violations, and cheating. Finally, other improper personal behaviors reported by teachers in Turkey are laughing, arriving late to class, not being able to answer teacher's questions, chewing gum, and, most recently, using electronic devices during the time of instruction (Atıcı & Merry, 2001; Aydın, 2010; Boyacı, 2009; Boyraz, 2007; Danaoğlu, 2009; Erol, Ozaydın & Koç, 2010; Ozben, 2010; Ozkılinc-Nezihoğlu & Sabancı, 2010; Siyez, 2009; Turnuklu & Galton, 2001).

Issues of misbehavior in Turkish classrooms vary according to the age and socioeconomic status of students. Behaviors such as defiance, rudeness, swearing and fighting are mostly attributed to older students (8-12 graders), whereas talking and interrupting teachers and students are behaviors typically associated with younger (primary) students. Moreover, student misbehavior is more frequently observed in public (as opposed to more affluent, private) schools located in regions of the country reported to be of lower socioeconomic status (Akkok, Askar & Sucuoglu, 1995; Kilimci 2009; Sirkeci, 2010).

The most frequently applied methods to misconduct problems in schools

The most commonly identified approaches to misconduct issues in Turkey can be classified in three categories: 1) Physical, 2) verbal, and 3) time away from instruction.

With regards to physical approaches to discipline issues, Turkish culture favors the notion that adults possess the right to punish a misbehaving child and that teachers hold the right to beat the child if he 'deserves' it (Turkum, 2010). Thus, corporal punishment is prevalent within both family and school ambits. In Turkey, 50% to 75% of children are subjected to different forms and degrees of corporal punishment in schools. Additionally, most teachers believe in the necessity of physical punishment for the development of the child (Gozutok, Er & Karacaoglu, 2006). Furthermore, pupils subjected to physical punishment in schools, especially in impoverished areas of the country, consider it "natural" to be subjected to this treatment (Gomleksiz et.al.; 2008; Kilimci, 2009). The most frequently observed discipline methods involving corporal punishment in classrooms in Turkey are: Slapping, ear pinching, hair pulling, hitting with a ruler, have students stand in one foot for long periods of time, kicking, and punching in the head (Aydın, 2010; Boyacı, 2009; Gomleksiz et.al., 2008).

Verbal approaches of discipline are also prevalent in Turkish classrooms. Among the most common forms of this approach to discipline are: Scolding harshly and referring to students as "retarded", "dog", "stupid", and "imbecile". Also reported, though less frequently as verbal approaches to discipline, are: Talking to the student, verbal warning, and offering advice regarding ways to overcome the particular misbehavior (Aydın, 2010; Boyacı, 2009; Çalışkan Maya, 2004; Erol, Ozaydın & Koç, 2010; Gomleksiz, et.al., 2008; Siyez, 2009).

Time away from instruction is also a common approach to discipline in Turkish schools. The most regularly observed forms of this discipline approach are: Sending students away from the classroom, referring students to the school administration, and restricting students to looking at waste paper bins and blackboards during the time of instruction (Boyacı, 2009, Çalışkan Maya, 2004).

The application of due process to disciplinary methods

The Ministry of National Education issued circulars in 1995, 2003, 2005 and 2006 with the purpose of preventing violence in schools. In accordance with the 2006 circular, a commission should be established in every school with the purpose of developing action plans for the prevention of violence (Turkum, 2010). However, in reality, physical and verbal abuses are prevalent in Turkish schools. In practice, corporal punishment is tolerated, unpunished, and mostly overlooked not only by school teachers and administrators, but also by society as a whole.

The roots of the corporal punishment pervasive in modern Turkish schools can be traced back to the Ottoman period when *falaka* (foot whipping) was a customary practice within the formal education system (Hatipoglu Sumer & Aydın, 1999). Furthermore, some Turkish proverbs such as “beating is from heaven”, “roses grow wherever a teacher hits” or “one who does not slap his daughter will slap his knees” indicate that corporal punishment is a fundamental component of the authoritarian, long-established culture reflected in today’s education system. Traditionally, when children are taken to school for the first time, parents say: “The flesh belongs to you, the bones to me”, thus giving the teacher absolute authority over the physical integrity of the child. Due process, understood as the legal requirement that the state must respect all of the legal rights that are owed to a person, is virtually nonexistent in Turkish schools.

FINDINGS

Most issues of misbehavior in Turkish classrooms are mild in nature. Insulting, defiance and disrespect are infrequently observed in Turkish schools. The strong approach to discipline in the classroom and the fact that students in Turkey are expected to exert absolute obedience to their teachers (Turkum, 2010) are possible contributors to the prevention of major discipline problems in the country.

Talking is among the most frequently encountered misbehavior problems in Turkish classrooms. However, it is important to point out the fact that Turkish teachers are predisposed to be extremely sensitive to talking and even whispering among students. Teacher-centered instruction is the prevailing approach to education in Turkey, where the role of the teacher is to dispense facts and the role of the student is to listen and memorize them. Classroom noise, even when resulting from work or study, is, generally speaking, not tolerated in Turkish schools (Akkok, Askar & Sucuoglu, 1995; Atıcı & Merry, 2001). Therefore, it is possible to suggest that the particularly minor misbehavior problems common in Turkey are the reflection of a lack of stimulating, thought-provoking, learning environments in schools. Consequently, these problems could possibly be minimized through the introduction of practical, legally sound, approaches to teaching and discipline.

DISCUSSION

Modern approaches to education address issues of diversity in ways that recognize every individual’s right to be educated, despite their particular learning style. Yet, most teaching education programs in Turkey address neither practical concerns related to individual learning styles and classroom management, nor practical approaches to issues of misbehavior. It is imperative for educational institutions at all levels to address this matter by providing pre-service and in-service teacher education programs addressing best practices with regards to discipline and instruction. Also, clear, practical instruction related to the legal foundations of Turkish education is an essential subject to be addressed in teacher education programs in the country.

Generations of educators in Turkey have approached discipline in abusive and violent manners. Most of these educators are unaware of the potential negative legal implications emerging from inappropriate discipline management in schools. The current modernization experienced by Turkey must be complemented by the modernization of its educational system and institutions, particularly with regards to reasonable, legal, approaches to discipline in schools.

CONCLUSION

Despite the significant progress made by the Turkish economy and society in recent years, remains of the traditional, authoritarian culture prevalent in the Ottoman period are visible in today’s education system. An example of the existence of these remains is that, currently, 50% to 75% of school age children in Turkey experience corporal punishment as a regular measure of discipline. And while laws and regulations providing for the protection of the emotional and physical integrity of students in schools are in existence in Turkey, the

application of corporal punishment in schools is prevalent, thus exposing the fact that these laws and mandates are, essentially, unheeded.

Teacher training programs in Turkey integrated classroom management as an academic discipline in 1998. However, courses in classroom management are mainly theoretical in nature, and inconsequential with regards to practical issues of misbehavior in schools. Furthermore, instruction on legal foundations of education is virtually nonexistent in teacher education programs in the country. Most teachers in Turkey ignore students' rights with regards to discipline measures in the classroom. This has the potential for causing serious legal disputes between educators and families concerning the maltreatment of students in schools.

The Turkish education system would greatly benefit from the development and implementation of pre-service and in-service teacher education programs in classroom management and legal foundations of education. A knowledgeable teaching force in these subjects would contribute to the modernization of the Turkish classroom which would, in turn, further the social and economic growth and development currently experienced by the country.

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REFERENCES

- Akkok, F., Askar, P., & Sucuoglu, B. (1995). Safe schools require the contributions of everybody: The Picture in Turkey. *Thresholds in Education*, May 1995, 29-32.
- Atıcı, M., & Merry, R. (2001). Misbehaviour in British and Turkish primary classrooms. *Pastoral Care*, June 2001, 32-39.
- Aydın, B. (2010). Turkish primary school pupils' views on punishment. *Educational Research and Review*, 5(11), 662-667.
- Bacı, Z., & Dilekmen, M. (2009). An analysis of classroom teachers' attitudes towards corporal punishment from the aspects of several variables. *World Applied Sciences Journal*, 6(7), 933-938.
- Boyacı, A. (2009). Comparative investigation of elementary school students' opinions about discipline, class rules and punishment (Turkey-Norway case). *Educational Administration: Theory and Practice*, 15(60), 523-553.
- Boyraz, A. (2007). *The discipline problems which the teacher trainees serving at primary schools encounter*. (Unpublished Master's thesis). Gazi University, Ankara.
- Caliskan Maya, I. (2004). The teacher reactions against undesired student behaviours in the occupational and technical schools. *Paper presented at XIII National Conference of Educational Sciences*, 6-9 July 2004, Inonu University, Malatya, Turkey.
- Curwin R.L., Mendler, A.N., & Mendler, B.D.. (2008). *Discipline with dignity: New challenges, new solutions*. ASCD:USA.
- Danaoglu, G. (2009). *Student misbehaviours and investigating tackling strategies of primary teachers and branch teachers in fifth classes of primary education*. (Unpublished Master's thesis). Cukurova University, Turkey.
- Erol, O., Ozaydin, B., & Koc, M. (2010). Classroom management incidents, teacher reactions and effects on students: A narrative analysis of unforgotten classroom memoirs. *Educational Administration: Theory and Practice*, 16(1), 25-47.
- Gomleksiz, M., Kilimci, S., Vural R. A., Demir, O., Kocoglu-Meek, C., & Erdal, E. (2008). Schoolyards under the magnifying glass: A qualitative study on violence and children's rights. *Elementary Education Online*, 7(2), 273-287.
- Gozutok, D., Er, O., & Karacaoglu, C. (2006). Corporal punishment at school. *Paper presented at the International Symposium of Violence and School*, 28-31 March 2006, Istanbul, Turkey.
- Hatipoglu Sumer, Z., & Aydın, G. (1999). Incidence of violence in Turkish schools: A review. *International Journal for the Advancement of Counselling*, 21, 335-347.
- Kilimci, S. (2009). Teachers' perceptions on corporal punishment as a method of discipline in elementary schools. *The Journal of International Social Research*, 2(8), 242-251.
- Libal, K. (2001). Children's rights in Turkey. *Human Rights Review*, Paper 1, 35-44.

OECD. (2005). Reviews of national policies for education: Basic education in Turkey background report. Available at: <<http://www.oecd.org/dataoecd/8/51/39642601.pdf>> [Accessed December 15, 2011].

OECD. (2011). Has discipline in school deteriorated? *PISA in Focus*, 4(2011). Available at <<http://www.oecd.org/dataoecd/18/63/47944912.pdf>> [Accessed January 24, 2012].

Ozben, S. (2010). Teachers' strategies to cope with student misbehaviour. *Procedia Social and Behavioral Sciences*, 2(2010), 587-594.

Ozkılinc Nezihoğlu, G. & Sabancı, A. (2010). Views of school managers about primary school students' misbehaviours and their strategies to cope with. *Pamukkale University, Journal of Education Faculty*, 2010(II), 41-53.

PISA (2009). Pisa 2009 results. Available at <www.oecd.org/edu/pisa/2009> [Accessed January 24, 2012].

Sirkeci, B. (2010). *Discipline problems encountered during class management by teachers working in the first level of the private and public schools and their approaches in handling discipline problems*. (Unpublished Master's thesis). Firat University, Turkey.

Siyez, D. M. (2009). High school teachers' perceptions of and reactions towards the unwanted student behaviours. *Pamukkale University, Journal of Education Faculty*, 2009(1), 67-80.

Sumer, Z., & Cetinkaya, E. (2004). Student, teacher and parent perceptions regarding violence in school: A qualitative investigation. *Paper presented at the European Conference on Educational Research*, 22-25 September 2004, University of Crete.

Turkum, A. S. (2010). Stance against violence at schools: School staff's ethical roles in the well-being of students in Turkey. *Cultura, International Journal of Philosophy of Culture and Axiology*. VII(2), 164-170.

Turnuklu, A., & Galton, M. (2001). Students' misbehaviours in Turkish and English primary classrooms. *Educational Studies*, 27(3), 291-305.

ARE WE PREPARING GLOBAL COMPETENT TEACHERS? EVALUATION OF THE INCORPORATION OF GLOBAL EDUCATION PERSPECTIVES IN TEACHER EDUCATION CURRICULUM IN PAKISTAN

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ABSTRACT

The paper investigates the integration of global component in the teacher education curriculum of B.Ed (1 yr) and looks into its role in preparing globally competent teachers. The overall strategy for the study was based on survey. The present study adopts mix- method (phenomenology and content analysis) as the major modes of investigation. The population consisted of all the B.Ed (1 yr) trained teachers and B.Ed curriculum in Pakistan. The total sample of 200 B.Ed (1 yr) qualified and experienced teachers were selected through purposive sampling while the curriculum of B.Ed (1 yr) developed by Higher Education Commission was chosen for the study. The data was collected through interview and documentary/record analysis. To find the global competency, themes are derived from the responses of experienced teachers using phenomenological research, while major global issues (Global Human Rights, Global Population, Global Language, Global Economy and Global Citizenship) were analyzed in B.Ed curriculum (1 yr) through qualitative as well as quantitative content analysis. The study identifies the missing gaps in B.Ed (1 yr) curriculum in preparing global minded teacher. The results concluded that the changing context of teaching is hampered due to theoretical integration of global education in the B.Ed (1 yr) curriculum. The curriculum partially fulfilled the needs of the teachers. They applied practical knowledge learnt from additional courses and through experience. The curriculum addresses more theoretical aspects and lacks in addressing needs of teachers due to which students are not globally prepared. The study recommends a strong intervention mechanism to revise the teachers' curriculum to help teachers integrate the practical global phenomena in their everyday classroom teaching.

Key Words: Global Competent Teachers, Global Competencies, Global Education, Teacher Education, Curriculum.

INTRODUCTION

The concept of globalization results in functionally shrinking of the world (de Blij, 2005) into a global village (Held, 1995). The things are changing and the new ideas are emerging. People are now incorporated into a single society and working together with mutual consent (Albrow, 1990, p.9). Due to the direct and powerful impact of globalization, the social as well as moral values are rapidly transforming. From the religion to the language, it has affected every individual in different capacity, depending on the diverse number of factors such as income, education, etc.

Where globalization brought many challenges, the demand for acquiring global competency (both for teachers and students) is increasing. Preparing students in advance to understand the global interconnections (Tye, 2009), will certainly enable them to participate fully in society at local, national and global levels.

The youth of 21st century are living a complex and challenging life than ever. They are worried about the global challenges and showing distress in the form of brain drain, hatred, protest, etc. At the same time, they are

more inclined towards western culture. To develop positive attitude to confront the future challenges with confidence, and to survive in this increasingly competent world besides inculcating global awareness, there is a dire need to integrate global components in the curriculum.

Teachers are considered as the heart and soul of every education system. They are the key players who transmit knowledge and enhance true learning in global education (Smith, 2000). Most of the educationists are in view that the educational reforms are associated with the professional development of teachers (Borko et al, 2002; Cochran-Smith, 2001; Fullan, 2002).

The global knowledge of teachers is related to type of training, acquired by the teachers. Literature suggests that quality of teachers depends on educational qualifications of teachers and quality of pre-service and in-service teacher education (Aga Khan Foundation, 1998; Jangira & Ahuja, 1992; Sharma, 1993). Unless teachers are trained and capable enough to meet the challenges, we cannot expect good reaping.

The global mindedness of teachers is often linked to the knowledge, attitude and skills development of students. These factors contribute in enhancing students capabilities to face the world challenges with confidence. Fargusan (as cited in Paliakoff & Schwartzbeck, 2001) observed that quality of teachers has a direct impact on student learning. Therefore, their professional development is crucial to maintain the standard of education and it is very essential for the teachers to be well-equipped with modern skills beside up-to-date knowledge about the world issues to impart globally competent knowledge to the students.

The current state of teacher education in Pakistan is in a dismal state that obstructs its overall effectiveness. The National Education Policy (Government of Pakistan, 1998) laid greatly emphasis on the role of teacher's in implementing education reformation in Pakistan. In Pakistan, teacher training is offered by Government Colleges for Elementary Teachers (GCETs), Colleges of Education (GCEs), public and private sectors universities and affiliated institutions through various academic programmes such as ADE (Associate Degree of Education), B.Ed (Bachelors of Education), M.Ed (Masters of Education), etc. One of the problematic areas, identified by Dilshad (2010) related to teacher training in Pakistan is the narrow scope of curriculum. According to the National Education Policy 1998-2010, although we are successful in mass production of teachers, but their content and methodology of education is shallow (Government of Pakistan, 1998).

Keeping the curriculum responsive to changing demands leads to prepare global competent individuals. Educational institutions providing teachers training are required to plan and design such curriculum, which can equip global competent teachers with attitudes, knowledge, and skills. According to Fullan (1999), not all change is improvement, but all improvement leads to change. Successful curriculum improvement should be based on the evaluation of the existing curriculum of teachers' training programmes and on the expert views of all the trained teachers.

RESEARCH DESIGN AND METHODOLOGY

Research Question

How the component of global education is integrated in the teacher education curriculum of B.Ed (1 yr) in Pakistan?

Are teachers globally competent?

Subsidiary Questions

How the important global areas are portrayed in the B.Ed (1 yr) curriculum?

What is the approach of teacher education (B.Ed, 1 yr) curriculum?

Is the B.Ed (1 yr) curriculum addressing the needs of teachers?

Are they applying learnt knowledge to their practical teaching?
Are teachers and students prepared to face the global challenges?
What are the views of teachers on the importance of teacher education?

Methodology

The overall study is based on survey methodology

Research method

The present study adopts mix method approach, i.e., phenomenology and content analysis (both qualitative and quantitative) as the major modes of investigation. The population consisted of all the B.Ed (1 yr) trained teachers and B.Ed curriculum in Pakistan. The total sample of 200 B.Ed (1 yr) qualified teachers disposed at five private and five public institutions are selected through purposive sampling, while for content analysis, the curriculum of B.Ed (1 yr) designed by Higher Education Commission is selected.

Research Instruments

The data is collected through structured interview and content analysis.

Data Analysis

To find the global competency of teachers, themes are derived from the interview responses of experienced teachers using phenomenological research, while major global issues are identified from the B.Ed curriculum (1 yr) through content analysis. The data is made reliable and valid by comparing the themes and by identifying the missing gaps derived from content analysis and structured interview.

Ethical Consideration

The participants were well informed about the research study. The informed consent letter was signed by the participants, which described the nature of the research and confirmed that the data will be kept confidential, while pseudonym is employed to avoid the disclosure of name as well as institution identity.

Research Findings and Discussion

The research findings are divided into two sections. The first section is based on the responses derived from the interviews, while the second section discusses the major global issues, derived from the B.Ed (1 yr) curriculum

Section 1

Phenomenology

Table 1: Showing the trained participants on the basis of gender

S. No	Gender	No. of Participants
1.	Male	84
2.	Female	116
	Total	200

The major themes derived from the interviews are as follows:

1. Lack of Integration of Global Education in B.Ed (1 yr) curriculum
2. Theoretical Curriculum (Lack of Practicality)
3. Lack of addressing the needs of Respondents
4. Lack of Globally Competent Students
5. Partial Application of Learned Knowledge to Practical Teaching
6. Innovative Teaching Strategies

Several structured questions were asked to the participants (see Appendix 1, 2 and 3). For the first question, mix responses were gathered. Majority of the respondents agreed that they did not observe the integration of global education in teacher education curriculum of B.Ed (1 yr) during their studies, however eight of the respondents completely observed and seven respondents partially observed the component of global education in the teacher education curriculum of B.Ed (1 yr); but only few identified the specific global areas, covered in the B.Ed (1 yr) curriculum. By integration of global component we mean whether there was an infusion of the knowledge about global challenges in the curriculum or not. For example environmental issues, global warming, diversity, pluralism, etc.

One of the respondents was in view that the current state of teacher education curriculum is not competitive and does not meet the current demand of teachers. The respondent said

“Although there was an integration of global education in teacher education curriculum of B.Ed (1 yr) but it did not fully match the current situation of global education. The objectives set for most of the courses were hazy while the strategies taught to us were out-dated.”

Another respondent was in view that she learnt few innovative topics related to global challenges during B.Ed studies. She responded

“To some an extent, there was an integration of global education in teacher education curriculum. Subject related to global education like environmental studies was taught to us as a part of course, which raised global awareness.”

One of the respondents was totally dissatisfied with the B.Ed (1 yr) curriculum. In his words

“I didn’t observe any integration of global education in the curriculum of B.Ed (1 yr)...I had a very bad experience during B.Ed course as it was completely based on parrot learning. We were encouraged to prepare plagiarized assignments rather enhancing teaching skills. In fact, we were not even told what this global education was all about. All what I learnt and still learning about global education is from internet sources. The teachers completely addressed the theoretical aspects of courses which did not help us to explore our capabilities and skills so how could you expect a person to have global educated mind.”

The concept of integrated curriculum empowers students, parents and teachers (Vars, 1991) by focusing on higher level thinking and provides deeper understanding of course contents. The integration of global component in teacher education curriculum helps to provide deeper understanding to teachers about society, culture, and enhance their skills to appreciate diversified ideas. This eventually helps teachers to foster positive attitude among the students. The curriculum of B.Ed (1 yr) seems to provide few of the global education components; however, it does not completely address the need of current time. It focuses more on knowledge content then on providing practical insights.

When asked, whether the curriculum of B.Ed (1 yr) is practical or theoretical, majority agreed that it was completely theoretical, however, only 9 respondents agreed that it was based on practicality.

One of the respondents said

“As far as B.Ed curriculum is concerned, it was based on theory with limited practical applications. Most of the methods taught to prepare effective lesson plans were also out fashioned. We were just asked to prepare lesson plans and to implement it practically without polishing our teaching skills.”

Another respondent shared her experience in the following words

“The B.Ed curriculum taught to us was completely theoretical. The curriculum did not address majority of the components of global education, which I was looking forward for. We were asked to complete teaching practicum at the end of the course, but the course instructors did not attend any of the practicum and marked the assignments on the basis of favoritism. One can never expect practical changes unless intellectual teachers come forward to bring changes in B.Ed curriculum.”

Emphasis on the practical approach with updated content was also made by one respondent

“There is a blend of both in the curriculum, however the practical approach needs to be implemented more along with theories. There is also immense need to unlearn some old theories and learn the new and updated ideas.”

Another respondent was in a very positive view and believed that it depends on teacher’s style, how to use the knowledge, gained from teacher education degree. He said

“...it depends how a teacher takes it or implement it. I found the curriculum theoretical, but I did my practice with different type of teaching methods. In a nutshell, it depends of teachers, how to transform theory into practice.”

Siddiqui (1990) discussed the problems of teacher education in Pakistan and observed that it is due to lack of knowledge about the current state of teacher education by the policy makers; non professional heads of institutions of teacher education; lack of goal oriented curriculum and theoretical teacher education that our teacher education system is in a dismal state. The global concept of curricula is increasingly transforming from static to a dynamic document, which is partially observed in the teacher education curriculum in Pakistan.

The respondents were asked, if the B.Ed (1 yr) curriculum addresses their needs or not, majority of the respondents disagreed. One of the respondents shared

“My needs are based on my desire to teach my students effectively. However, in some aspects, B.Ed curriculum did not give me capacity to grow professionally. Active learning environment was missing. Beside that the courses did not provide me with knowledge and evaluative skills for the curricular decisions.”

However, one of the respondents laid great emphasis on the role of teachers and had a positive views

“Needs are never fulfilled but as for a human being, we always try to achieve it. Time is changing very rapidly. The curriculum of B.Ed (1 yr) is comprehensive in nature and addressed my pedagogical knowledge as it helped me to provide proper training to my students... The curriculum also helped me to improve content knowledge.”

The needs of human are unlimited but the needs of teachers are related to the need of students. Iqbal (1999) & Muhammad (2002) stressed that the trained graduate teachers in Pakistan should appreciate their profession, have intellectual competence and effective decision making and research skills. These needs can be fulfilled through globally competent as well as practical teacher education curriculum. Besides that, the teachers can gain these skills through experience.

Although limited number of teachers are in view that they acquired global knowledge and that B.Ed (1 yr) curriculum helped them to gain practical knowledge, majority of the respondents said that their students are not fully prepared to face the global challenges. This may be due to the heavy weightage of out-dated and theoretical curriculum or due to the lack of practical training.

The respondents were asked if their students are prepared for the global challenges, one of the respondents was in view that today's youth are striving to cope up with the future challenges, but also emphasized that the teachers should adopt innovative methodologies rather relying completely on their degree. One of the respondents said

"The greatest obstacle to help students from developing countries to meet global challenges is due to lack of availability of resources. Yet I appreciate the youth who, with all these obstacles, are striving hard to take pace with the rapidly progressing world. However, the teachers and parents need to understand the importance of adopting new and innovative ways of learning. If the curriculum did not address the needs, we must try to learn it through the rich experiences of others."

Another respondent felt that the youth of under developed countries are facing more challenges due to access to low quality education and non availability of trained teachers

"Being a citizen of under developed country, our students are not fully prepared to face challenge at global level. We are unable to maintain standards or meet the global criteria. Since many of the teachers are untrained, we cannot expect students to have global mindedness."

It is globally observed that the youth, particularly of the third world countries, have lost their identity. Beck discusses the issue of young people living and growing up in a world of risk and uncertainty (Beck, 1992; 2000). Many factors contribute depending upon cultural and social contexts (Harvey, 2003). Ray (2007) opine that it is a difficult for the young people to construct social identities, particularly with regard to the nature of education, cultural influences and the needs of the current labour market (Furlong & Cartmel, 2007).

When asked the respondents if they applied the learnt knowledge to their practical teaching, majority of the respondents were in view that it was because of their practical experience and on-going teacher training workshops that they were able to gain more insight of practical knowledge. Majority of the respondents suggested that lectures, conversations and group studies and discussions are the best mode of imparting practical knowledge to the students. Few of the respondents, who believed that the B.Ed curriculum addressed their global needs use teaching aids such as internet. Beside that, teaching strategies, methodologies and lesson planning helped to deliver lectures more effectively. One of the respondents shared

"I applied the learnt knowledge to my practical teaching to fulfill psychological needs of students and to boost up the confidence level of my students."

Contrary to that, another respondent said

"I feel that I didn't learn any fruitful things from B.Ed, but I am applying my knowledge and skills through the additional trainings and trying to provide them active learning environment."

Another respondent highlighted the role of technology in transmitting knowledge to the students in the following words

"Before obtaining B.Ed degree, I never incorporated technology to my teaching, but after learning computer skills, I embedded it in practical teaching."

The quality of teaching depends upon the professional knowledge and pedagogical skills (Exley, Walker & Brownlee, 2008) of teachers. Chandra (2004) emphasized that the teachers should acquire continuous trainings to have sound knowledge and up-to-date skills to apply practical knowledge to their classrooms.

The respondents were asked for the teaching strategies they prefer to prepare global minded students. The list of the mostly used teaching strategies are given below;

Table 2: Showing the list of all the teaching strategies, use by B.Ed (1 yr) trained teachers

Project based Learning
Cooperative Learning
Activity based Teaching
Use of ICT
Interactive Teaching
Self- Study
Debates/Discussion Method
Case Studies
Role Play
Rote Learning
Experimental Study
Independent Learning
Inquiry Projects
Questioning Skills
Problem Solving Approach
Creative Writing Skills
Teaching through Art and Music

Most of the strategies shared by the respondents are creative, innovative, competent and up to the demand of current need of preparing competent students. The list clearly define that teachers use modern and latest methodologies, however, it is may be due to lack of skills or proper training that not all can use innovative strategies effectively. One of the respondents said

“I am keen to learn and improve my teaching practices and prefer to use different teaching methods, which I learnt from B.Ed books; however, due to theoretical training, I am not prepared to execute it effectively.”

Another respondent believed

“Education these days is more focused on the needs of students. While each teaching method engages students in different ways, each has its advantages, depending on the type of topic... so I prefer to adopt flexible teaching methods than adopting permanent pattern of method. I design teaching strategies according to the needs of global minded students.”

The positive learning outcomes can be reaped through successful teaching practices (Hargreaves & Ho, 2000; Thomas 1975; Connell, 1974). Mastering contents of the subjects is not the sole ladder to success rather teachers need to plan effective teaching strategies. Effective and challenging classroom practices could also ensure quality education for children (Chandra, 2004).

All the respondents highlighted the role of teacher education in preparing global competency in teachers in different context but many shared their view that although teacher education is a crucial step in professional development but unless practical components are included, one cannot term it as global competent curriculum. Misra (1993) stated that proper designed teacher curriculum is linked with the effectiveness of teachers which eventually enhance the educational standards and quality.

One respondent highlighted the role of teacher education in 21st century

“Global competency is a very important where one has to think out of the box. The major role played by teacher education is to prepare individuals to face 21st century academic challenges.”

Further comments were added by another respondent

“The first step is to prepare teachers for different global competency before imparting knowledge to the students. Teachers should have enough knowledge and skills to reflect their competencies. Teachers need to learn how to face different challenges for which teacher education should help to improve their teaching and research skills. ”

The role of Teacher Education in preparing global competency face a set of complex challenges because teachers are educational innovators, able to project a strong and coherent vision of teaching; at the same time struggle to meet the conflicting needs and expectation. One respondent stressed on the need of competent teacher education

“Teacher education is the need of time. It should encompass teaching skills, sound pedagogical theory as well as professional skills. Since teaching is considered as an art and a science, they should acquire not only knowledge but also practical skills.”

Teachers play an important role in meeting global challenges. They have responsibilities on their shoulders to transform the world through their way of teaching and to enhance the skills of the students in a positive way. UNESCO (2008) pointed out that there is a dire need to improve the quality of education in Pakistan. Teacher education institutes need to develop research skills. Teachers should be technology friendly and feel no hesitant in the use of technology for interacting with the world. They should have enough knowledge and skills to reflect, critique existing norms and methods and contribute for the improvement of teacher education.

Section 2

Content Analysis of Global Issues in the BEd Curriculum

After reading and understanding the B.Ed (1 year) curriculum by Higher Education Commission, following global issues were content analyzed in this study:

- Global Human Rights
- Global Population
- Global Language
- Global Economy
- Global Citizenship

Table 3: Content Analysis of Global Issues in the B.Ed (1 yr) Curriculum

S. No	Courses	Number of Times the Component were used in Curriculum				
		Human Rights	Global Economy	Global Language	World Population	Global Citizenship
1.	Foundations of Education	09	07	03	02	01
2.	Educational Psychology	04	01	02	02	00
3.	School and Society	02	01	02	01	03
4.	Measurement and Evaluation	00	00	01	00	00
5.	Counseling and Guidance	02	02	01	01	00
6.	School Organization and Management	01	03	03	02	01
7.	Secondary School Teaching	05	02	03	02	01
8.	Elective I (Language)	05	01	09	02	01
9.	Elective II(Social Studies/ Science)	05	04	05	04	03
10.	Functional English	00	00	05	00	01
	Total	33	21	34	16	11

Category 1

Human rights are the fundamental rights entitled to every human being. Though the term “human rights” is a relatively new one, yet human rights issues have been around for many centuries as a means to accord human beings respect and dignity. Some of the important human rights include: life, liberty and security of person; freedom from slavery and servitude; equality before the law; freedom of movement and residence; nationality; the right to marriage; freedom of thought, conscience and religion; peaceful assembly and association; right to work; right to health care and right to education.

Teacher education curriculum must equip the teachers to learn means and ways to inculcate human rights values in children. As this study is analyzing the integration of the global issues in teacher education curriculum, human rights was taken up as the core issue. The study highlights that the concept is not practically taught in any of the courses of B.Ed curriculum. However, indirectly it is taught in many courses. For instance, it was noted that in Foundations of Education, Educational Psychology, Secondary School Teaching, Elective II(Social Studies/ Science), and Elective I (Languages) the concept was discussed at length. The concepts of life, liberty and security of person, freedom of thought, conscience and religion were taught in Foundations of Education course. The concept of equality before the law, freedom of movement and residence, nationality were seen included in the Social Studies course but the practical teaching of how to integrate these into practical teaching was the missing gap. The number of times these concepts used were counted and categorized. Table shown above explains in detail. During the interview, majority of the teachers discussed that their students are not prepared for the global competent world. Few also revealed that the global human right issues were rarely incorporated because teachers were either unfamiliar with the effective strategies to discuss controversial issues or the curriculum taught to the students did not highlight its importance.

Category 2

The term **“Global Economy”** is based on economies of all of the world's countries. It is common to limit questions of the world economy exclusively to human economic activity. As global economy impacts local economy and since the world is facing economic crisis, it is vital for teachers to know how to teach students to be able to make predictions and decisions, or in other words how to make economic analysis. The study in hand highlights that the concept is discussed liberally in the Foundations of Education course, and marginally in the School Organization and Management and Social Studies course.

Category 3

The term **global language** refers to the language that is commonly spoken all over the world. English is now widely spoken language and taught as a foreign language--in over 100 countries, such as China, Russia, Germany, Spain, Egypt, and Brazil (Crystal, 2003). The analyzed content shows that English language receives its due share and weightage as it is directly and indirectly taught in every course. Students who want to take it as elective get the chance to make an in depth study, while others study English language through functional English. As the entire curriculum is taught in English, the use of global language is emphasized. Contradictory to that, it was observed during the interview that most of the respondents were bilingual or used native language (Urdu¹) in their responses. Only limited numbers of respondents were fluent in English. This shows lack of practical efficacy of coursework to polish global language skills of the respondents.

Category 4

The **world population** comprises of all the living humans living on Earth. Question like balancing the resources in terms of supply and demand have been raised and it is often wondered how the survival of human kind will be made possible in the absence of resources. Teachers educate children about the future threats and their impact on the society. Population explosion continues to be a hot global issue. In the analyzed curriculum, the topic is indirectly discussed in Social Studies, Foundations of Education, and languages. However, it does not receive its due weightage and share.

Category 4

Global citizenship is an emerging concept that we are the part of global citizens and that we all are equally responsible for what happens on, and to our world. Thus, every global citizen has a duty to understand what the issue entails. A very common observation is that our educational experiences do not provide us with the knowledge and tools to know what is happening around the world, and how it is affecting our lives and the lives of others. Teachers as agents of social change must teach students how ordinary people might change their lives and how they can participate in creating a safer, prosperous and sustainable world. The analyzed content shows that the term continues to be an ignored topic. It does not get the weightage it deserves. It is taught in Social Studies and School and Society courses. Teacher can teach the concept of citizenship by providing students with a set of guides by which to examine a global issue, and teaching them to apply it to a specific case study. Students should be able to work through the process, distinguish between and among various perspectives, and be able to show specifically how the issue is related to their lives: personally, locally, nationally and globally.

SUGGESTIONS

For the modification of teacher education curriculum of B.Ed, the respondents suggested that it must be changed to fulfill the requirement of teacher's of 21st century. It can be improved by adding component of research. The curriculum needs to be more practical and should be based on practical life experiences. Theoretical part should be decreased. It must develop connection between school and family. Action Research

¹ National Language of Pakistan

should be incorporated in all the instructional strategies. New writers should be involved in developing curriculum. Confidence, good communication and leadership skills are few of the elements, which should be taught to the teachers beside the curriculum so that they can polish their skills before entering into the world of teaching. This will certainly give independent thoughts to the teachers to experiment new techniques in teaching without any fear. All the stake holders should be involved in the process of curriculum. Considering that the mode of acquiring education is rapidly progressing where multimedia based teaching is replacing the conventional teaching globally, the curriculum need to be updated accordingly.

Since teachers organize learning process rather than transmitting the knowledge alone, a great responsibility lies on the curriculum developer to infuse globally competent areas in teacher education curriculum, based on practical approach. The practical integration of global component in the curriculum is possible by revisiting and revising the current teacher education curriculum.

RESULTS

The study identifies the missing gaps in B.Ed (1 yr) curriculum in preparing global competent teacher. The changing context of teaching is hampered due to theoretical integration of global education in the B.Ed (1 yr) curriculum. The curriculum addresses more theoretical aspects and lacks to address needs of teachers due to which all the students are not globally prepared. The B.Ed (1 yr) curriculum partially fulfilled the needs of the teachers. They applied practical knowledge learnt from additional courses and through experience.

We as a teacher should promote the awareness about the upcoming challenges to the students and should make them ready to solve any conflict or problem.

The study recommends a strong intervention mechanism to revise the teachers' curriculum to help teachers integrate the phenomena in their everyday classroom teaching.

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REFERENCES

- Aga Khan Foundation. (1998). *Putting the child first: Teacher education for quality learning and school improvement*. Pakistan-Canada Social Institutions Development Programme.
- Albrow, M. (1990). 'Introduction', In M. Albrow & E. King (eds.), *Globalization, Knowledge and Society*. London: Sage.
- Beck, U (1992). *Risk society: Towards a new modernity*. London: Sage.
- Beck, U. (2000). *What is globalization?* Cambridge: Polity Press.
- Borko, H., Elliott, R., & Uchiyama, K. (2002). Professional development: a key to Kentucky's educational reform effort. *Teaching and Teacher Education*, 18(8), 969-987.
- Chandra, R. (2004, Jan 5). *Education for the 21st Century: Reflections on what is needed in Fiji*. Address at the Fiji Institute for Educational Research Conference, University of the South Pacific.
- Cochran, M.S. (2001). The outcomes question in teacher education. *Teaching and Teacher Education*, 17(5), 527-546.
- Connell, W.F. (1974). *The Foundations of Education*. Sydney: Ian Novak.
- Crystal, D. (2003). *English as a Global Language* (2nd ed.). UK: Cambridge University Press.
- de Blij, H. (2005). *Why geography matters: Three challenges facing America*. New York, Oxford University Press.
- Dilshad, R.M. (2010). Assessing quality of teacher education: A student perspective. *Pakistan Journal of Social Sciences*, 30(1), 85-97.
- Exely, B., Walker, S., & Bronlee, J. (2008). Characteristics of preservice teachers in multi campus settings: Using demographics and epistemological beliefs to unpack stereotypes. *Australian Journal of Teacher Education*, 33(6).
- Fullan, M. (1999). *Changing Force: The Sequel*. London, Falmer Press.
- Fullan, M. (2002). Principals as leaders in a culture of change. *Educational leadership*.
- Furlong, A., & Cartmel, F. (2007). *Young People and Social Change* (2nd ed.). Buckingham: Open University Press/McGraw Hill.
- Government of Pakistan. (1998). *The National Education Policy- 1998-2010*. Islamabad: Government of Pakistan.
- Hargreaves, H., & Ho, L. (2000). The Paradoxical Profession: Teaching at the turn of the century. *Prospects*, 30(2), 167-180.
- Harvey, D. (2003). *Young People in a Globalizing World- World Youth Report*. New York. Retrieved from <http://www.un.org/esa/socdev/unyin/documents/ch11.pdf>

Held, D. (1995). *Democracy and the global order: From the modern state to cosmopolitan governance*. Stanford: Stanford University Press.

Iqbal, M. Z. (1999). *Teacher training in Islamic perspective*. Islamabad: Institute of Policy Studies.

Jangira, N.K., & Ahuja, A. (1992). *Effective teacher training*. New Delhi: National Publishing House.

Misra, K. S. (1993). *Teachers and their education*. Ambala: The Associated Publishers.

Muhammad, S. (2002). *Comparative effectiveness of teacher training in enhancing the professional attitudes of B.Ed. students admitted in Institute of Education and Research, NWFP, College of Education Islamabad and Allama Iqbal Open University*. (Unpublished Ph.D Dissertation, Allama Iqbal Open University). Retrieved from <http://eprints.hec.gov.pk/185/1/77.htm>

Paliakoff, A., & Schwartzbeck, T.D (Eds). (2001). *Eye of the storm: Promising practices for improving instruction*. Washington D.C.: CBE.

Ray, L (2007). *Globalisation and Everyday Life*. Abingdon, Routledge.

Sharma, M. (1993). *Teacher education: The quest for quality*. In E. Thomas et al., *Professional development of teachers: Policy and practice in initial teacher training*. London: Commonwealth Secretariat.

Siddiqui, S. A. (1990). *Teacher Education in Pakistan, in Report of the National Training Workshop on Educational Planning & Management for Principles of Teacher Training Institutions*. AEPAM, Islamabad: Ministry of Education.

Smith, D. (2000). A few modest prophecies: The WTO, globalization, and the future of public education. *Canadian Social Studies*, 35(1). Retrieved from http://www.quasar.ualberta.ca/css/CSS_35_1/modest_prophecies.htm

Thomas, R.B. (1975). The Supply of Graduates to School Teaching. *British Journal of Industrial Relations*. 13,107-114.

Tye, K. A. (2009). A history of the global education movement in the United States. In T. F. Kirkwood-Tucker (Ed.), *Visions in global education: The globalization of curriculum and pedagogy in teacher education and schools* (pp. 3-24). New York: Peter Lang.

UNESCO (2008). *Status of teachers in Pakistan 2008*. Lahore: UNESCO/USAID/ITA.

Vars. (1991). Integrated Curriculum. Retrieved from www.users.muohio.edu/shermalw/edp603_group3-f00.html

APPENDIX 1

Consent Form for Participants

I, _____, agree to participate in the study titled "Are we Preparing Global Competent Teachers? - Evaluation of the Integration of Global Education Perspectives in Teacher Education Curriculum in Pakistan" I realize that this information is for educational purposes and understand that I may withdraw from the study any time.

Signed _____

Date: _____

APPENDIX 2

Interview Protocol for Teachers

Name (optional): _____

Gender ☐ Male ☐ Female

Institution Name: _____

Professional Qualification: _____

1. Did you observe the integration of global education in teacher education curriculum of B.Ed (1 yr) during your studies?
2. Is B.Ed curriculum practical or just theoretical?
3. Did the B.Ed (1 yr) curriculum address your need? If yes, in what capacity? If no, what were the missing elements?
4. Are your students fully prepared to face the global challenges?
5. How have you applied the learnt knowledge to your practical teaching? If yes, how?
6. Which teaching strategies you prefer to prepare global minded students?
7. What are the roles of Teacher Education in preparing global competency in teachers?
8. Do you think B.Ed curriculum should be changed? Suggest any two ways to improve B.Ed curriculum?

APPENDIX 3

Explanatory Letter to Interviewees

Dear _____,

I, Munir Moosa Sadruddin am evaluating the integration of global education perspectives in teacher education curriculum in Pakistan.

The present study will adopt phenomenology and content analysis as the major modes of investigation. The population consist of B.Ed (1 yr) trained teachers in Karachi and the Curriculum of B.Ed in Pakistan. For structured interview, total sample size will be 200 B.Ed (1 yr) qualified and experienced teachers, while for content analysis, B.Ed (1 yr) curriculum, designed by Higher Education Commission is selected.

Participation in the study will require approximately one-hour in depth interviews. The interviews will, with your permission, be taped and transcribed. To maintain confidentiality, pseudonyms will be employed.



Interviews will be arranged as per your feasibility and location. Your name and any other information gathered in this study will remain confidential and will only be used for educational purposes.

I appreciate your thoughtful consideration of my request. I look forward to your participation in the study.

Sincerely,
Munir Moosa Sadruddin

A STUDY OF SELF–CONCEPT IN RELATION TO EGO-STRENGTH OF SIGHTED AND VISUALLY IMPAIRED STUDENTS

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ABSTRACT

The visually impaired children are an integral part of our society. They are very much neglected in our society. Their need and problems should be understood well and measures should be taken in order to make their lives more easy and motivational. In this paper the Self- Concept and Self-Confidence of the Sighted Children and the Visually Impaired Children is assessed. Self- Concept and Self- Confidence are the two very important things which help in overall development of Personality. So, an effort has been carried out to know more about the Visually Impaired Children.

Key Words: Ego-strength, self-concept, visually impaired, sightedness.

INTRODUCTION

The eye is a very important sensory organ, which accounts for a very large fraction of the total information's available to a person through his senses. Thus, lack of sight makes the individual aloof from the physical world. This sensory, social and physical isolation creates anxiety and adjustment problems in the personality of blind subjects in the society.

Though the government and many NGOs run institutes for the visually impaired children but in the age of science, this world is a place of competition and complexities. Individual with all the sense organs intact also have to face lot of problems of adjustment, which become hurdle in the achievement of their goals. This further creates shades of anxiety in them. The condition of the individual becomes more deplorable and serious when she/he suffers from visual impairment. Since, visually impaired children also have to live in society, it may affect their psychological processes.

The researcher is interested in studying the adjustment and anxiety levels of visually impaired children, so that something would be done for their upliftment.

The blind person wants to be treated like any other individual. Most blind people do not seek pity or even unnecessary help though they may need assistance in some situations. Though, they appreciate the sensitivity of others but they want to be reminded of their similarities rather than their differences. Visual impairment seems to evoke some awkwardness because blindness is visible. The visually impaired person has a variety of symbols- white cane, darkened glass, a sighted guide.

Objectives Of The Study

1. To study the relation of self-concept with the ego-strength of visually impaired and sighted students.
2. To study the difference between self concept of sighted and visually impaired students.
3. To study the difference between ego-strength of sighted and visually impaired students.
4. To study the self-concept with ego-strength of students with visual impairment.
5. To study the self concept with ego-strength of sighted students.

Hypothesis Of The Study

1. There is a positive relationship between self concept with ego-strength of students with visual impairment and sighted students.
2. Visually impaired have lower self-concept then sighted students.
3. Visually impaired students have lower ego-strength then sighted students.
4. There is significant difference between self-concept of sighted and visual impaired students.
5. There is significant difference between ego-strength of sighted and visual impaired students.

METHODOLOGY

The descriptive survey method of research was followed in the present study.

Sample

In the present study purposive sample of 40 visually impaired and 40 sighted students are selected from Chandigarh and Haryana.

Tools Used

1. Children's self-concept scale
Ahluwalia
2. Ego-strength
Hasan

RESULTS AND DISCUSSIONS

Relationship Between Ego-Strength And Self-Concept

Table 1: Relationship Between Ego-Strength and Self-Concept

Sr. No.	Variables	r	Significance at 0.05 level
1.	Ego -Strength/Behavior	0.45	Significant
2.	Ego-Strength/Intellectual and School Status	0.50	Significant
3.	Ego-Strength/Physical Appearance and attributes	0.26	Significant
4.	Ego-Strength/Anxiety	0.64	Significant
5.	Ego-Strength/Popularity	0.14	Not significant
6.	Ego-Strength/Happiness and satisfaction	0.76	Significant
7.	Ego-Strength/Self Concept	0.64	Significant

In this section Pearson's co-efficient of correlation method is used to see the relationship between ego-strength and self-concept perceived by 80 visually impaired and sighted students of two special school and one regular school were calculated.

1. It can be observed from the table that the obtained value of r for ego-strength and behavior is 0.45 which exceed the critical value are (.204) at 0.05 level of significance. The relationship between behavior and ego strength is significant. The result established the effect of behavior on ego-strength and vice versa.
2. The obtain value of r for ego-strength and intellectual and school status is 0.50 which exceed the critical value of r at 0.05 level of significance. Therefore, the relationship between the ego-strength and intellectual and social status is significant. So the result establish the effect of ego strength on school status and intellectual or vice versa established.

3. The obtained value of r for ego-strength and anxiety is 0.26 which is significant. The relationship between anxiety and ego-strength is established.
4. The obtained value of r for ego-strength and popularity is 0.14 which is not significant so there is no relationship between popularity and ego strength.
5. The obtained value of r for ego-strength and happiness and satisfaction is 0.76 which is significant. The relationship between ego-strength and happiness is significant.
6. The obtained value of r for ego-strength and physical appearance and attributes is 0.26 which is significant. So, relationship between ego-strength and physical appearance and attributes is significant.
7. The obtained value of r for ego-strength and total self-concept is 0.64 which is significant. So, the result established relationship between ego strength and vice versa.

Difference Between Visually Impaired And Sighted Students

In this section, in order to find out the difference between visually impaired and sighted students with regard to their ego-strength and self-concept t -value are calculated.

Difference Between Visually Impaired And Sighted Students

Table 2: Difference Between Visually Impaired and Sighted Students

Sr. No.	Variables	Mean		S.D.		t'-value	level of significance at 0.05 level
		Visually Impaired student	Sighted Student	Visually Impaired student (SD ₁)	Sighted Student (SD ₂)		
1.	Self-concept	45.5	47.47	3.34	5.15	2.083	Significant
2.	Ego-strength	19.3	20.9	3.62	2.54	2.2857	Significant
3.	Behavior	11	12.13	1.92	2.38	2.29	Significant
4.	Intellectual and school status	10.3	12.3	2.72	2.46	3.50	Significant
5.	Physical appearance and attributes	8.1	8.7	2.06	1.7	1.42	Not Significant
6.	Anxiety	6.43	7.52	1.29	1.83	3.1142	Significant
7.	Popularity	5.3	6.05	1.09	1.57	3.5	Significant
8.	Happiness and satisfaction	3.2	4.5	1	1.63	4.083	Significant

1. The above table reveals that the observed t value for ego-strength is 2.28 which is significant and there is significant difference between ego-strength of visually impaired and sighted students. It is further seen from the table that mean ego strength of sighted student i.e. 20.93 is more than that of visually impaired i.e. 16.3. Therefore, the research hypothesis i.e. ego strength of sighted student is better than that of visually impaired student is accepted.

2. The observed t-value for total self-concept is 2.2088 which is significant. Hence, there is significant difference between total self-concept of visual impaired and sighted students. Self-concept of sighted students is better than visually impaired students.
3. The observed t value for behavior is 2.29 which is significant. Hence, there is significant difference between behavior visual impaired and sighted students. Behavior of sighted students is better than behavior of visually impaired students.
4. The observed t value for intellectual and school status is 3.50 which is significant. Hence, there is significant difference between intellectual a school status visual impaired and sighted students. Intellectual and schools status of sighted students is better than visually impaired students.
5. The observed t value for physical appearance and attributes is 1.42 which is not significant. Hence, there is no significant difference between physical appearance and attributes of visual impaired and sighted students.
6. The observed t value for anxiety is 3.11 which is significant. Hence, there is a significant difference between anxiety in visual impaired and sighted students. Anxiety among visually impaired students found more than sighted students.
7. The observed t value for popularity is 3.5 which is significant. Hence, there is a significant difference between popularity and school status visual impaired and sighted students. Popularity of sighted students is more than visually impaired students.
8. The observed t value for happiness and satisfaction is 4.08 which is significant. Hence, there is a significant difference between happiness and satisfaction of visual impaired and sighted students. Happiness and satisfaction among sighted students found more than visually impaired students.

MAIN FINDINGS

1. There is positive relationship between ego-strength and adjustment.
2. There is significant difference between self-concept among visually impaired and sighted students.
3. Sighted students have higher self-concept than visually impaired.
4. Ego-strength of sighted students is better than that of visually impaired. It means blindness affect ego-strength.

EDUCATIONAL IMPLICATIONS

1. The means of developing self-concept and improving the ego i.e. ability to face reality should be included in school programme for visually impaired and sighted children.
2. The study suggests that the interaction of visually impaired with family members, peers, sighted students should be strengthened and to improve their ego-strength level and self-concept.
3. Teacher should create conducive environment, better interaction opportunities, self confidence in visually impaired students in order to improve and self-concept and ego- strength.
4. School administrators and policy makers should include co-curricular and extra curricular activities to create self confidence which leads to better adjustment.

SUGGESTIONS

1. The study may be extended to a large sample to get the better results.
2. The present study is confined to only age group of 14-18 years. A similar study can be conducted on other children or adult also.

3. The study can be conducted by taking into account the girls and boys of rural and urban separately.
4. The study can be conducted simultaneously on students studying in special school and in integrated school or specifically integrated school.
5. Effect of family background and environment on ego-strength and self-concept can be studied.
6. Replication of the study can be done by using other tools and techniques of self concept and ego-strength.

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REFERENCES

- Allport, G.W. (1961). Traits Revisited. *American psychologist*, 21, 1-10.
- Best, J.W. and James, K.K. (1992). *Research in Education* (6th ed.). N. Delhi: Prentice Hall of India Pvt. Ltd.
- Byrne, D., Nelson, D. and Reeves, K. (1966). Effects of Consensual Validation and invalidatin on attraction as a function of verifiability. *Journal of Experimental Social psychology*, 2, 98-107.
- Cecil, R.R. and Lasler, M. (1987). *Encyclopedia of Special Education*, New York, A Willey Inter science Publication.
- Dermer, M. and Theiel, D.C. (1975). When Beauty may fail. *Journal Personality and Social Psychology*, 31, 1168-1176.
- Geetha, T.M. (2000). Study of Adjustment Problems of Handicapped Children of Secondary School in relation to the academic achievement in Karnatka State with reference to Chitradurga, Dharwad and Bellary District. Dissertation Abstract. *Indian Educational Abstracts*, National Council of Education Research and Training. Vol. 2, No. 1.
- Keener. N.D. (1985). An investigation of the effect of tutoring pre-school handicapped children upon the self-concept and academic achievement of 5th and 6th grade elementary school students. Dissertation Abstract International(A). Volk. 47. No. 4.
- Mourly, G.J. (1960). *The Science of Educational Research*. New Delhi, Ramnagar: Eureasica Publishing House Pvt. Ltd.

THE RELATIONSHIP BETWEEN LANGUAGE LEARNING PREFERENCES AND IRANIAN EFL LEARNER'S ETHNICITY

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ABSTRACT

This study examined the role of Ethnicity as a crucial factor in determining language learning preferences. Recent researches provide important support to claim that when students have the opportunity to clarify and assess their preferences in regard to definition of objectives in general and awareness of leaning preferences, their motivation, performances, and achievements will be increased and better. Since students are increasingly diverse, ethnicity has been considered as a crucial factor in determining language learning preferences. In our country, Iran, there are various ethnicities; nonetheless, English language is taught almost in the same manner for learners with different ethnical background.

This study examined the impact of ethnicity (Kurd, Turk, Fars) on language learning preferences of Iranian EFL learners in order to understand whether there was any meaningful relationship between learning preferences and EFL learner's ethnicity. To accomplish the research, a language learning preferences questionnaire with 10 items was administered to Iranian EFL learners. Subjects have been chosen according to the cluster sampling from EFL Institutes in Tehran, (Iran Mehr language institute), Tabriz and Kermanshah (Kish **institute**).

Key Words: Ethnicity, Learning preferences, Auditory / Verbal Learning Style, Tactile / Kinesthetic Learning Style.

INTRODUCTION

During the last decade, educators and researcher have noticed that some students prefer certain methods of learning. These traits that are known as "learning preferences", from the student's unique preferences for learning and aid teachers in the planning of individual and group instruction. Oxford (1990:8) defines learning strategies as the specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more transferrable and more effective to new situation.

Mackinnon (1978) has noted the implications of differing student learning preferences. He states, the wide range of individual differences surely must mean that there is no single method for nurturing creativity; ideally the experiences we provide should be tailor – made, if not for individual students, at least for different types of students.

Many ESL teachers experience students' resistance when they introduce an instructional activity in the classroom. Some of them want more opportunities to practice in free conversation, on the other hand there are those who would prefer more emphasize on grammar teaching.

Bada and Okan (2000), state that many EFL teachers experience student resistance when they introduce an instructional activity in the classroom. Some students want more opportunities to participate in free conversation, expressing their wish towards a more communicatively oriented approach. On the other hand, there are those who would prefer more emphasis on teaching. Teacher in making decision regarding the type of activities to conduct in a language classroom should take into account such learners diversities. So, learners are more conscious of their learning preferences and when they are matched with appropriate method in teaching, learner's motivation, performance, and achievements will be enhanced.

The more important failure of contemporary education has been precisely its inefficiency to help teachers understand the ethnic complexity of learners, in such a way as to enable them to make well decision about the activities and materials in the classroom and provide students more chance to learn. This study focuses on the need for the answer of teachers regard to the diversity of students in EFL classes. Ethnicity also plays a part in shaping student's language learning preferences. Students from different ethnicities may bring along a variety anxieties to prove themselves in a mainstream environment. Knowledge about the influence of ethnicity on student's language learning preferences is seriously useful in today's multicultural EFL classrooms, because most of the classes include different learners with different cultural background. This study suggests programmatic and institutional practices that will design learning activities in order to meet the student's learning preferences in EFL classes.

Negeow (1999), claims that learners who are more conscious of their learning preferences make better use of learning opportunities. He mentions that a key to keep students actively involved in learning lies in understanding learning preferences, which can positively or negatively affect the students' performance. If we truly believe that considering individual learning preferences are crucial for effective language learning, the some kind of negotiation is needed between teachers and students. Information has to be exchanged about roles and expectations of the two parties. Regarding the vastly different teaching responsibilities with diverse learners, teachers must be able to recognize and be sensitive to individual students with the various learning preferences in different ethnic group.

The aim of this study was to find the language learning preferences of Iranian EFL learners from different ethnical background and to identify similarities as well as differences among these ethnic groups in order to help educational practitioners and teacher educators with their instructional and curricular delivery and teacher training.

REVIEW OF RELATED LITERATURE

The Tactile / Kinesthetic Learning Style

The tactile / kinesthetic learner learns the best when physically engaged in a "hands on" activity. In the classroom, learner benefits from a lab setting where he can manipulate materials to learn new data. He benefits from trainer who promote in-class demonstrations, "hands on" student learning occurrence, and field work outside the classroom.

The Auditory / Verbal Learning Style

The auditory / verbal learner learns best when information is accessible auditory in an oral language format. In a classroom setting, he profit from listening to lecture and participating in group negotiations. He also profit from gain information of audio tapes. When trying to remember something, he can offer "hear" the way he earlier repeated it out loud. He learns more when cooperating with others in a listening / speaking exchange.

Ethnicity

Language has regularly been considered the marker average excellence of ethnic identity since the beginning of evidenced history.

The link language and ethnicity was especially promoted by the development of patriotism in 18th century, during which there appeared notions such as “linguistic nationalism”. “Linguistic patriotism and linguistic purity”. The study of ethnicity is complicated by the relationship of genetic and cultural diffusion. In some countries, ethnic labels are attributable by a person’s features, but ethnicity is more than a set of physical facial appearance. Ethnicity also shows a collection of shared values, history, language and experiences that interact with genetic characteristics to influence each person’s sense of identity.

Language use and ethnicity

According to Leung et al. (1997) there is a neat one to one correspondence between ethnicity and language. This perspective has tended to conceptualize L2 learners as a linguistically diverse group (from non-English speaking backgrounds) but with similar language learning needs. Language use and notions of ethnicity and social identity are linked inextricably. Because of this, specific attention must be paid to the way that many bilingual learners actively construct their own samples of language use, ethnicity, and social identity. Instructors need to address the actual rather than the supposed language use, ethnicity, and culture of the bilingual learner.

METHOD

This chapter provides some clarifications on the characteristic features of this study. As mentioned before, this study attempts to examine and determine whether there was a relationship between language learning preferences and the ethnicity of EFL learners. In other words, the purpose is to set up whether learner’s ethnicity had any influence on their preferences in the process of language learning or not. In the following section, the steps taken to the end are established. The subject’s section details of the population from which the researcher selected the samples are presented. The instrumentation part deals with the instruments or data gathering plans used to describe subject’s learning preferences. The procedure part outlines the research plan. It describes what has been done, how it has been done, what information was needed, etc.

Subjects

The subjects who contribute in this research were 75 EFL female learners studying English at the intermediate level in English language institutes. This level of language proficiency was chosen by researcher, because the number of students was more than other levels; and items of the questionnaire were understandable for them. All the subjects were between the ages of 16 to 21 years old. Out of the 75 subjects 31 were Fars and were selected from Iran Mehr English Institutes in Sadeghiyeh branch, 24 were Kurd and were selected from Kish Institutes in Mostafa emami Branch and finally, 20 were Turk and were selected from Kish institutes in bolvare Shahriyar branch. All the subjects were selected randomly through cluster sampling.

Instrumentation

Questionnaire is an important instrument for determining different learning characteristics and of gathering other relevant data about students. Such an instrument can expose information valuable both to the teachers and students. For a teacher, information gathered from these instruments is mostly useful in designing assignments that meet different student learning preferences. If optimal student learning is dependent on learner preferences, then teachers should be aware of these differences and modify their preparation and instructional methods accordingly.

Students can also profit from these instruments by determining their preferred learning mode, and by determining the types of learning situations in which they would be most successful, given their particular learning preferences. The information for this research was composed through a self-reporting questionnaire of language learning preferences, assumed from Brindley (1984). Since the research was concerned with perceptual learning preferences, Brindley's instrument was appropriate for the study. This questionnaire was taken from Esmat Kooshki thesis (student of Islamic Azad University Research and science campus).

Research that identifies and measures perceptual learning preference relies primarily on self-reporting styles (Kolb, 1984; Reid, 1987). The questionnaire used in this study of 10 items, that each item in the questionnaire explored a particular L2 topic. This questionnaire had response items (Yes/NO choices) and subjects were asked to mark the choices based on their preferences. The time allowance for filling out the questionnaire was 20 minutes, but if the students needed more time. This opportunity had given to them.

Procedures

The data was gathered by the researcher during five weeks. For this goal, one institute in Tehran, one institute in Kermanshah and one in Tabriz were selected. Also, subjects were informed that the questionnaire contained questions about their language learning preferences. They were guaranteed that nobody, except the researcher, would have access to their answers and their names would not be used in reporting the results. Then the questionnaire and directions were given to them and subjects were told that they should ask for any explanation they might need and any other extra time as they filled out the questionnaire.

Most of them had no problem in understanding the questionnaire. After collecting the questionnaires, the researcher classified and prearranged the data. In this step the aim was to find out whether the language learning preferences marked by the subjects is extensively related to their ethnical background. This was done through manipulating and comparing the number of yes/no answers.

Design

Due to the nature of the research question and formerly stated null hypothesis: "There is no major relationship between ethnicity and language learning preferences of Iranian EFL learners", descriptive design was considered appropriate for the study.

The discussion of design of the study requires a reference to the quantitative approaches to research, as the researcher supposed that the design of this research valuable for both approaches.

Concerning the role of quantification in qualitative research, Lazaraton (1995) maintains that some scholars believe that quantification of qualitative data is not only possible but also necessary in order to make generalizable claims to and about other contexts.

However, she states that the data presented in these studies are usually in the form of descriptive statistics (frequency, counts, percentage).

The qualitative aspect of this research, as supposed by the researcher, was the self-reporting questionnaire. The quantification carried out on this qualitative field of the study was in the form of descriptive statics.

The type of this research is survey study, which focuses on a group's attitudes, opinions, and characteristics.

In this research, the ethnicity was measured as the independent variable and learning preferences was considered as the dependent variable.

The research was performed with the participation of 75 EFL learners at intermediate level, with different ethnical backgrounds (Fars, Kurd and Turk) selected from English Language Institutes in Tehran (Iran mehr), Kermanshah and Tabriz (Kish). The subjects were given a language learning preference questionnaire with 10 items.

They were asked to mark their learning preferences and if they needed any explanation, the researcher was there to answer them.

The statistical procedures to answer the research question were as follows: Descriptive statistics such as means, frequency and Chi-square that were obtained for data analyzing.

All data are processes using Microsoft SPSS Version 11.01. The chi-square frequency analysis was carried out in order to define significance of dispersion of the yes/no choices ($p < 0.05$).

RESULT AND DISCUSSION

As mentioned earlier, the main focus of this study was to find out whether ethnicity had any effect on the language learning preferences of the EFL learners or not.

Data Analysis

Result concerning each item in the questionnaire will be obtainable in a tabular form. The resultant statistics for each question are presented here, beginning with item 1.

In the questionnaire, learners were asked to convey whether they preferred working **A)** individually, **B)** in pairs or **C)** in groups. Results for this item are presented in the table below:

Table 1: Working Styles

1. How do you like learning?			Individually			In Pairs			In Groups		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	22	9	31	19	12	31	11	20	31
		%	70.9	29.1	100.0	61.3	38.7	100.0	35.4	64.6	100.0
	Kurd	Count	10	14	24	16	8	24	15	9	24
		%	41.7	58.3	100.0	66.7	33.3	100.0	62.5	37.5	100.0
	Turk	Count	14	6	20	13	7	20	6	14	20
		%	70.0	30.0	100.0	65.0	35.0	100.0	30.0	70.0	100.0
Chi-square			Individually			In Pairs			In Groups		
Pearson Chi-square			29.237			1.242			44.633		

Df	2	2	2
Asymp.sig. (2-sided)	.000*	.534	.000*
N of Valid Cases	232	232	232

The results for this item advocate that Fars learners prefer to work in groups (**64.6%**), more than working individually or in pairs. equally, Turk learners have preferred working in groups (**70%**).While Kurd learners preferred working individually most of the all (**58.3%**).

This is an obvious message to the teachers that Kurd students feel more comfortable, creative and relaxed by working individually, where their voices would be heard, and views listened to and valued.

Also the Chi-Square table shows the importance of individually and in groups (**$p < 0.05$**), but in pairs option is not important (**$p < 0.05$**). So, there was a relationship between ethnicity and the tendency to work individually and in groups. With item 2, students were asked whether they like learning by **A)** reading, **B)** listening, **C)** problem solving, **D)** copying from the board, **E)** listening and taking notes, **F)** reading and making notes, and **G)** repeating what you hear.

The results for this question are presented in the table 2:

Table 2: Ways of Learning

2. Do you like learning by?			Reading			Listening			Problem-solving		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	12	19	31	20	11	31	12	19	31
		%	38.7	61.3	100.0	64.5	35.5	100.0	38.7	61.3	100.0
	Kurd	Count	10	14	24	9	15	24	10	14	24
		%	41.7	58.3	100.0	37.5	62.5	100.0	41.7	58.3	100.0
	Turk	Count	9	11	20	6	14	20	8	12	20
		%	45.0	55.0	100.0	30.0	70.0	100.0	40.0	60.0	100.0

Copying from the board			Listening and taking notes			Reading and making notes			Repeating what you hear		
No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
21	10	31	9	22	31	10	21	31	23	8	31
67.7	32.3	100.0	29.0	71.0	100.0	32.2	67.8	100.0	74.2	25.8	100.0
15	9	24	8	16	24	9	15	24	7	17	24
62.5	37.5	100.0	33.3	66.7	100.0	37.5	62.5	100.0	29.2	70.8	100.0
15	5	20	7	13	20	8	12	20	14	6	20
75.0	25.0	100.0	35.0	65.0	100.0	40.0	60.0	100.0	70.0	30.0	100.0

Chi-square	Reading	Listening	Problem solving	Copy from the board	Listening & taking notes	Reading & making notes	Repeat what you hear
Pearson Chi-square	8.104	45.332	.174	7.603	20.524	11.230	3.348
Df	2	2	2	2	2	2	2
Asymp.sig. (2-sided)	.017*	.000*	.916	.022*	.000*	.004*	.189
N of Valid Cases	232	232	232	232	232	232	232

As table 2 shows, Fars and Kurd learners have chosen reading more than other ways of learning, (**61.3%** for Fars and **58.3%** for Kurds); while, Turk learners preferred. Most of the listening, (**70%**). For problem-solving all the groups are almost equal, (Fars **55.6%**, Kurd **37.8%**, Turk **18.6%**). For listening and taking notes and reading and making notes all groups are again equal, but for repeating what you hear Kurd learners have chosen more than other groups with **63.5%**. In general, the result indicates that learners do not want to assume a totally passive role in the learning process. Also, the Chi-square table indicates that there was no relationship between subject's ethnicity and their tendency towards problem solving and repeating what they hear ($p > 0.05$).

As in any other field, errors in language teaching, learning, perception and production are unavoidable. What is important thought is coping with them in such a way that they do not aggravate, discourage language learners. With item 3, learners were asked how they would prefer to be corrected by their instructors. Options were: **A)** immediately, in front of everyone **B)** later, at the end of activity, in front of everyone and **C)** later in private. Results concerning this item are cited in the table below:

Table 3: Error Correction

3. When you speak, do you want to be corrected?			Immediately, in front of everyone			Later, at the end, in front of everyone			Later in private		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	10	21	31	22	9	31	8	23	31
		%	32.2	67.8	100.0	70.9	29.1	100.0	25.8	74.2	100.0
	Kurd	Count	9	15	24	16	8	24	7	17	24
		%	37.5	62.5	100.0	66.7	33.3	100.0	29.1	70.9	100.0
		Count	6	14	20	13	7	20	14	6	20
	Turk	%	30.0	70,0	100.0	65.0	35.0	100.0	70.0	30.0	100.0
Chi-square		Immediately in front of everyone			Later, at the end, in front of everyone			Later in private			
Pearson Chi-square		5.906			2.174			32.000			
df		2			2			2			
Asymp.sig. (2-sided)		.052*			.337			.000*			
N of Valid Cases		232			232			232			

As it is shown, **(74.2%)** of Fars learners would like to be corrected by their instructors in private. For Kurd learners this percentage is **(70.9%)**, but it seems Turk learners don't care having their instructors correct them in public, because only **(30%)** of Turks have chosen to be correct in private.

The chi-square table shows that there was a relationship between ethnicity and the preference for being corrected directly in front of everyone and later in private (**p<0.05**).

With item 4, learners were asked whether they like learning from **A)** television/video/films, **B)** radio/tapes/cassettes, **C)** written materials, **D)** the blackboard, or **E)** pictures/posters.

The results established for this item is given in the table below:

Table 4: Media Preference

4. Do you like learning from?			TV/Video/Movie			Radio/Tape/Cassette			Written materials		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	8	23	31	10	21	31	15	16	31
		%	25.8	74.2	100.0	32.2	67.8	100.0	48.4	51.6	100.0
	Kurd	Count	6	18	24	10	14	24	17	7	24
		%	25.0	75.0	100.0	41.6	58.4	100.0	70.8	29.2	100.0
		Count	8	12	20	8	12	20	12	8	20
	Turk	%	40.0	60.0	100.0	40.0	60.0	100.0	60.0	40.0	100.0
The blackboard						Pictures/Posters					
No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
23	8	31	10	21	31	10	21	31	10	21	31
74.2	25.8	100.0	32.2	67.8	100.0	32.2	67.8	100.0	32.2	67.8	100.0
16	8	24	10	14	24	10	14	24	10	14	24
66.6	33.4	100.0	41.6	58.4	100.0	41.6	58.4	100.0	41.6	58.4	100.0
12	8	20	8	12	20	8	12	20	8	12	20
60.0	40.0	100.0	40.0	60.0	100.0	40.0	60.0	100.0	40.0	60.0	100.0
Chi-Square	TV/Video/Movie		Radio/Tape/Cassette		Written materials	Blackboard		Pictures/Posters			
Person chi-square	11.351		7.467		.794	10.451		6.922			
Df	2		2		2	2		2			
Asymp.sig. (2-sided)	.045*		0.24*		672	.040		.031*			
N of Valid Cases	232		232		232	232		232			

Television, Video and Films, being powerful media, receive a high proportion of preference among all the groups (Fars **74.2%**, Kurd **75.0%**, and Turk learners **60.0%**). Also, the last option, pictures/posters received relatively similar percentages of preference (Fars **67.8%**, Kurd **58.4%**, and Turk learners **60.0%**). The blackboard option, received the lowest percentages among other options (Fars **25.8%**, Kurd **33.4%**, and Turk learners **40.0%**). All the groups have selected option radio/tape/cassette with almost similar percentages (Fars **67.8%**, Kurd **58.4%**, Turk **60.0%**). In chi-square table statistics disclose that there was a relationship between ethnicity and subject's tendency towards media preference ($p < 0.05$). The next item was about "Topic preference", the table below shows the results:

Table 5: Topic Preference

5. In your English class, what topics do you like to study?			About you: your feelings, attitudes, beliefs			From popular culture: music, film, art		
			No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	22	9	31	8	23	31
		%	70.9	29.1	100.0	25.8	74.2	100.0
	Kurd	Count	16	8	24	7	17	24
		%	66.7	33.3	100.0	29.2	70.8	100.0
		Count	13	7	20	14	6	20
	Turk	%	65.0	35.0	100.0	70.0	30.0	100.0
Chi-square		About you: your feelings, attitudes, beliefs				From popular culture: music, film, art		
Pearson Chi-square		11.230				9.118		
Df		2				2		
Asymp.sig. (2-sided)		.004*				.038*		
N of Valid Cases		232				232		

As shown here, a major number of learners in all groups liked to study the topics from popular culture like: music, film and art (Fars **74.2%**, Kurd **70.8 %**, Turk **30.0%**). The topic about learners: feelings, attitudes, and beliefs received these percentages (Fars **29.1%**, Kurd **33.1%** and Turk **35.0%**). The chi-square table shows ($p < 0.05$), so, there was a relationship between ethnicity and subject's topic preference.

Learning may usually be disposed to finish a task in the classroom, and spend their outside classroom time working on new topics. Homework concerning future topics, with new insights and views added to ask more to EFL learners.

For item 6, learners were asked to state how they like to spend their time out of the classroom. The results are shown in table below:

Table 6: Learning out of the class

6. Out of the class, do you like to....?			Practice English with my friends			Have conversations with English native speakers			Collect examples of English that I find interesting		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	8	23	31	10	21	31	16	15	31
		%	25.8	74.2	100.0	32.2	67.8	100.0	51.6	48.4	100.0
	Kurd	Count	8	16	24	8	16	24	7	17	24
		%	33.4	66.6	100.0	33.3	66.7	100.0	29.1	70.9	100.0
		Count	7	13	20	5	15	20	9	11	20
	Turk	%	35.0	65.0	100.0	25.0	75.0	100.0	45.0	55.0	100.0
Chi-square			Practice English with my friends			Have conversations with English native speakers			Collect examples of English that I find interesting		
Pearson Chi-square			10.765			12.113			7.464		
Df			2			2			2		
Asymp.sig. (2-sided)			.041*			.048*			.024*		
N of Valid Cases			232			232			232		

As it was estimate, almost a high proportion of learners in the 3 groups chosen to have conversations with English native speakers out of the class (Fars **67.8%**, Kurd **66.7%**, Turk **75.0%**). Although, the option English with my friends have received high percentages (Fats **74.2%**, Kurd **66.6** and Turk **865.0**).

But for the last option gather examples of English that we find interesting Kurd learners have the highest proportions (**48.4%**), and then Turk learners with (**70.9%**), while only (**5.50%**) of Fars learners have chosen it. In chi-square table all the options are significant and (**$p < 0.05$**), as a result, there was a relationship between ethnicity and subject's tendency towards learning out of the class.

Item 7 investigate into what learners find every useful in the classroom: **A)** songs, **B)** role play, **C)** language games, **D)** talking with and listening to other students, and **E)** memorizing conversations/dialogues.

Pertaining results are shown in the table below:

Table 7: Learning Activities

7. Do you find these activities useful?			Song			Role play			Language games		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	23	8	31	17	14	31	8	23	31
		%	74.2	25.8	100.0	54.8	45.2	100.0	25.8	74.2	100.0
	Kurd	Count	17	7	24	15	9	24	7	17	24
		%	70.9	29.1	100.0	62.5	37.5	100.0	29.1	70.9	100.0
		Count	6	14	20	8	12	20	6	14	20
	Turk	%	30.0	70.0	100.0	40.0	60.0	100.0	30.0	70.0	100.0
Talking with & listening to other students						Memorizing conversations/dialogues					
No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
8	23	31	21	10	31	25.8	74.2	100.0	67.8	32.2	100.0
8	16	24	9	15	24	33.3	66.7	100.0	37.5	62.5	100.0
8	12	20	12	8	20	40.0	60.0	100.0	60.0	40.0	100.0
40.0	60.0	100.0	60.0	40.0	100.0						

Chi-Square	Song	Role play	Language Games	Talking with & listening to other students	Memorizing conversations/dialogues
Person chi-square	17.378	34.152	22.866	8.343	33.831
Df	2	2	2	2	2
Asymp.sig. (2-sided)	.000*	.020*	.000*	.011*	.000*
N of Valid Cases	232	232	232	232	232

The outstanding point about results is that learners believe that student-to-student interaction is most useful among the options cited here. Fars learners state this by **(74.2%)**, Kurd learners **(66.7%)** and Turk learners **(60.0%)**.

Also it has shown that Turk learners established songs and role play more useful than the other groups with **(70.0%)** for songs and **(60.0%)** for role play.

Additionally, language games have received high proportions among the groups too, with **(74.2%)** for Fars learners, **(70.9%)** for Kurd learners and **(70.0%)** for Turks.

Memorizing conversations/dialogues, although, has the smallest amount proportions among other options, Kurd learners have chosen it more than other groups with **(62.5%)**.

As in chi-square table all the options are important ($p < 0.05$) so, a relationship exists between ethnicity and subject's preference for learning activities.

With item **8**, learners were asked about measurements: how would learners like their achievements to be assessed.

Their choices were: **A)** written tasks set by the teacher, **B)** oral language samples taken and assessed by the teacher, **C)** checking your own progress by making tapes, **D)** by using the language you have learnt in real-life situations, and **E)** being told that you have made progress.

Results are illustrated in the table below:

Table 8: Assessment of Language Performance

8. How do you like to find out how much your English is Improved?			Written tasks set by the teacher			Oral language samples taken and assessed by the teacher			Checking your own progress by making tapes		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	14	17	31	21	10	31	23	8	31
		%	45.16	54.84	100.0	67.7	32.3	100.0	74.2	25.8	100.0
	Kurd	Count	6	18	24	10	14	24	8	16	24
		%	25.0	75.0	100.0	41.6	58.4	100.0	33.3	66.7	100.0
	Turk	Count	12	8	20	8	12	20	12	8	20
		%	60.0	40.0	100.0	40.0	60.0	100.0	60.0	40.0	100.0
By using the language you have learnt in real-life situations					Being told that you have made progress						
No	Yes	Total			No	Yes		Total			
10	21	31			23	8		31			
32.2	67.8	100.0			74.2	25.8		100.0			
10	14	24			8	16		24			
41.7	58.3	100.0			33.3	66.7		100.0			
8	12	20			12	8		20			
40.0	60.0	100.0			100.0	40.0		100.0			
Chi-Square		Written tasks set by the teacher		Oral language samples taken and assessed by the teacher	Checking your own progress by making tapes		Using the language you have learnt in real situation		Being told that you have made progress		
Person chi-square		8.628		5.019	6.924		8.103		20.52		

Df	2	2	2	2	2
Asymp.sig. (2-sided)	.013*	.081*	.031*	.017*	.000*
N of Valid Cases	232	232	232	232	232

An overpowering majority of Fars and Turk learners state that they preferred to use the language in real life situations in order to understand how much they made development (**67.8%** of Fars and **60.0%** of Turk learners), but Kurds would like to be told they have made good improvement with (**69%**).

The option checking your own development by making tapes has received the lowest proportions among other options (Fars **25.8%**, Kurd **66.7%**, and Turk learners **40.0%**).

For option written tasks set by the teacher the maximum percentage belongs to Kurds with (**75.0%**), and oral language samples taken and evaluated by the teacher has received the maximum percentage among Turk learners with (**60.0%**); although, this option in chi-square table is not important ($p > 0.05$).

The other options are important ($p < 0.05$), therefore, there was a relationship between ethnicity and subject's tendency towards assessment of language performance.

In item 9, learners were asked if they like these activities in the class or not. The options were: **A)** practicing paragraph writing, **B)** practicing drills for pronunciation, **C)** memorizing vocabulary lists, **D)** giving oral presentation, and **E)** doing translation exercises.

The results are illustrated in the table below:

Table 9: Exercises Preference

9. Do you like these activities in the class?			Practicing paragraph writing			Practicing drills for pronunciation			Memorizing vocabulary lists		
			No	Yes	Total	No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	9	22	31	10	21	31	8	23	31
		%	29.1	70.9	100.0	32.3	67.7	100.0	25.8	74.2	100.0
	Kurd	Count	8	16	24	9	15	24	7	17	24
		%	33.3	66.7	100.0	37.5	62.5	100.0	29.1	70.9	100.0
	Turk	Count	7	13	20	8	12	20	6	14	20
		%	35.0	65.0	100.0	40.0	60.0	100.0	30.0	70.0	100.0

Giving oral presentation			Doing translation exercises		
No	Yes	Total	No	Yes	Total
8	23	31	10	21	31
25.8	74.2	100.0	32.2	67.8	100.0
6	18	24	10	14	24
25.0	75.0	100.0	41.7	58.3	100.0
8	12	20	8	12	20
40.0	60.0	100.0	40.0	60.0	100.0
Chi-Square	Practicing paragraph writing	Practicing drills for pronunciation	Memorizing vocabulary lists	Giving oral presentation	Doing translation Exercises
Person chi-square	2.434	9.514	1.342	4.241	9.06
Df	2	2	2	2	2
Asymp.sig. (2-sided)					
N of Valid Cases	232	232	232	232	232

The table shows interesting results. Fars learners have chosen translation exercises as the most chosen with **(67.8%)**, and memorizing vocabulary lists as the least preferred with **(74.2%)**; whereas, Kurd learners have preferred translation exercises as the most preferred with **(58.3%)** and oral presentation as the least preferred with **(75.0%)**.

Item **10**, tried to find out how much time learners prefer to spend I English classes.

Their options were: **A)** one or two hours per week, **B)** more than two hours per week.

The results received for this item are shown in the table below:

Table 10: Time Allocated for Learning

10. How much time do you like to spend in English class?			One or two hours per week			More than two hours per week		
			No	Yes	Total	No	Yes	Total
Ethnicity	Fars	Count	22	9	31	8	23	31
		%	70.9	29.1	100.0	25.8	74.2	100.0
	Kurd	Count	16	8	24	7	17	24
		%	66.7	33.3	100.0	29.2	70.8	100.0
		Count	13	7	20	14	6	20
	Turk	%	65.0	35.0	100.0	70.0	30.0	100.0

Chi-square	One or two hours per week	More than two hours per week
Pearson Chi-square	35.803	49.465
Df	2	2
Asymp.sig. (2-sided)	.000*	.000*
N of Valid Cases	232	232

Amongst Fars learners (**74.2%**), preferred more than 2 hours per week, in the same way, Kurds have preferred it with (**66.7%**), but Turks did not prefer to spend their time more than 2 hours per week, instead they preferred 1 or 2 hours per week with (**35.0%**).

The chi-square table shown there was relation between ethnicity and hours of instruction per week (**p<0.05**).

CONCLUSION

The consequential statistics pointed out that there were considerable differences in learning preferences among Fars, Kurd and Turk English learners due to their various ethnical backgrounds. Consequently, the results showed very strong associations between ethnicity and shared learning preferences, and ignored the null hypothesis proposed in this research. For effective language learning and teaching both learner skills and the learner suppositions should be given due attention. In prompting these idea students should be make available with chance to clarify and asses their preferences particularly in references to description of objectives in general and awareness of strategies in learning.

Here, several essential findings were made that the conclusions based on the major ones are as follows:

- Kurd learners preferred to learn language individually, whereas Fars and Turk learner's tendency was towards working in groups.
- A significant number of students in all three ethnic groups articulated their views in favor of more outside-classroom activities that would help them gain proficiency in English.
- Being corrected by the teacher in front of other students does not seem to inconvenience Turk learners, but Fars learners have preferred to be corrected in private.
- In classroom sessions, learners in three ethnic groups prefer to see more instructive television programs shown to them, rather than wide-ranging use of blackboard or tape recorders or written materials.
- The results obtained here call for a step just before teacher-student cooperation in designing syllabuses, doing weekly course planning, and classroom management.

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REFERENCES

- Bada, E., & Okan, Z. (2000). Student's language learning preferences. *TESOL Quarterly*, 23(4), 55-62.
- Barkhuizen, G. P. (1998). Discovering learner's perception of ESL classroom teaching/learning activities in South African context. *TESOL Quarterly*, 23(3), 85-88.
- Brindley, G. (1989). Needs analysis and objective setting in the Adult Migrant Education Service. Sydney: NSW Adult Migrant Education Service.
- Cornett, C.E. (1994). *Teaching by principles: Interactive language teaching methodology*. New York: Prentice Hall Regents.
- Kolb, D. (1984). *Experiential learning: Experiences as the source of learning and development*. Englewood Cliffs, N. J.: Prentice-hall., 29 (3), 455-456.
- Kooshki, E. (1384). The relationship between language learning preferences and Iranian EFL learner's ethnicity. Unpublished MA dissertation, Islamic Azad University, Science and Research Branch, Tehran, Iran.
- Lazaraton, A. (1995). Qualitative research in applied linguistics: A Progress report. *TESOL Quarterly*.
- Leung, C., Harris, R., & Rampton, B. (1997). The idealized native speaker, reified ethnicities, and h. classroom realities. *TESOL Quarterly*, 31(3), 29-32.
- Mackinnon, D. W. (1978). In search for human effectiveness: Identifying and developing creativity. Creative Education Foundation.
- Negeow, K. Y. H. (1999). Online resources for parent/family involvement. *ERIC Journal*, 12(5), 53-54.
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Boston: Newbury House.
- Oxford, R., Ehrman, M. & Lavine, R. (1991). Style wars: Teacher-student style conflicts in the language classroom. In S. Magnan, (Ed), *Challenges in the 1990's for college foreign language programs*. Boston: Heinle & Heinle.
- Reid, J. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, 21(5), 87-103.
- Rex, J. (2000). *The place of language in the theory of ethnicity and nationalism And migration*, Maryland University.
- Richards, J. C. (2005). Materials development and research making the connection. Retrieved May 27, 2005, from <http://www.professorjacrichards.com/pdfs/materials-development-making-connection.pdf>.
- Vasquez, J (1990). Teaching to the distinctive traits of minority students. *The Clearing House*. 63(7), 299-300.
- Willing, K. (1987). *Learning styles in adult migrant education*. Sydney: NSW Adult Migrant Education Service.