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From the Editors

Greetings Dear IJONTE readers,

IJONTE is appeared on your screen now as Volume 2, Number: 1. In this issue it is published 8 articles from 4 different countries written by 15 authors. Articles are from India, Iran, Pakistan and Turkey.

The first article is from Turkey, on “A STUDY ON COMPUTER USAGE AND ATTITUDES TOWARD COMPUTERS OF PROSPECTIVE PRESCHOOL TEACHER” written by Tamer KUTLUCA, from Ziya Gokalp Faculty of Education, Diyarbakir, Turkey. The purpose of this study is to determine the status of computer usage and the attitudes toward computers of prospective preschool teacher and to investigate of several variables on their attitudes. For this purpose, “Computer Usage Information Form” and “Computer Attitude Scale” was applied to 126 prospective preschool teachers. This study is conducted with survey methods. The data is analyzed through standard deviation, mean value as well as t-test and one way ANOVA for group comparison, besides to find which group causes the difference in the group comparison, a PostHoc Tukey HSD test is employed. At the end of the study it is determined that the prospective preschool teacher use computers more at home and internet cafes and their levels of using computer programme are intermediate or upper. It is also determined that there is a significant difference according to the variables of taking computer course, computer ownership, level of using computer program, frequency of computer usage, computer experience and class of the scores of attitudes toward computers. On the other hand, there is no significant difference according to the variables of gender. It is recommended that future studies should focus on investigating academicians’s level of usage of computer program and attitudes toward computer technologies.

The Second article is on “ATUTOR SOFTWARE AND MEDICAL EDUCATION: Experience of Using an Open source Learning Software”, written by Reza ASSADI, Director of e-Learning center, Mashhad University of Medical Sciences, Mashhad and Mirkhani ATIEH Master Student of Medical Information Technology Management, Amir Kabir University, Tehran. and IT Manager of Bina Ophthalmology Hospital, Tehran, IRAN. Ts article focus is on supplementary resources for students and continuous medical education. Despite the initial resistance and challenges of using open source software without technical supports, the process was progressive and lead to development of education. Many conflicts and challenges were resolved in the first year of the study while some features of the software proved to be incapable for medical education learning material and usability rate in some tools was very low. Despite boundaries and difficulties in moving toward electronic learning for medical education, using open source softwares such as Atutor is possible and beneficial. Customizing the software, preparation of IT infrastructure and access to a technical team to develop and manage the virtual environment of e-Learning is essential. Otherwise the system would not widely be accepted by users; this raises problems that lead to strongly negative feedback from tutors and learners.

The third articles are from again Turkey. The third one is on “TURKISH PRIMARY SCHOOL CHILDREN’S OPINIONS RELATED TO THE INTERNET AWARENESS”, conducted by Ali ERSOY, from Faculty of Education, Anadolu University, Eskisehir, Turkey. The purpose of the study is to examine the opinions of the primary school students on the Internet awareness with reference to some variables. Total 2911 participants from fourth to eighth grades in three public primary schools, which have middle socio-economic status participated to the study. The data was gathered through questionnaire and analysed through descriptive statistics such as frequency, percentages and chi-square. The findings revealed that the Internet awareness of the participants show significant difference in terms of their gender, grade levels, having Internet access at home, the location of Internet access, the purpose of the Internet use, the occupations, and educational backgrounds of the parents. It was observed that while male students focused more on the positive aspects of the Internet, the female students focused more on the unfavourable aspects of the Internet.

The 4th article arrived again from Iran, which is prepared on “A COMPARISON OF COMPUTER ANXIETY AMONG INDIAN AND IRANIAN UNIVERSITY STUDENTS” Vandana MEHRA, from Panjab University, Chandigarh, INDIA and Faranak OMIDIAN Islamic Azad University, Dezfool, IRAN”. The authors are deal with to compare computer anxiety among Indian and Iranian university students in relation to country type, faculty type and gender. A total of 800 post-graduate students of different faculties and departments of Panjab University (India) and University of Tehran (Iran) were the sample of the present study. The data was collected through computer anxiety rating scale (CARS) validated by Embi (2007). 2x2x2 ANOVA design was employed to study computer anxiety of Indian & Iranian male & female university students belonging to different faculties. The results indicated that country type, faculty type and interaction between country type and faculty type had significant effect on university students’ computer anxiety scores.

The fifth article which is entitled as “DETERMINING INTERPERSONAL ATTRACTION IN EDUCATIONAL ENVIRONMENT AND THE RELATION WITH MOTIVATION”, written by Figen Ünal ÇOLAK, Anadolu University, Faculty of Communication Sciences and Kadriye KOBAK, Anadolu University, Eskişehir, TURKEY. The main aim of this research is behaviors and motivations of the students on the instructor’s social, physical and instructional attractiveness. This research is a descriptive work. Anadolu University Communication Sciences Faculties Journalism, Cinema and Television, Public Relations, Advertising and Communication departments 258 students who have studied in 2008-2009 term participated in the research. The instructor’s social, physical and instructional attractions and motivations determined by using 5-point Likert scale.

The findings of this research will be additions for determining and arguing the instructor’s responsibilities, besides educational ones as a communication director, for taking the students participation and success levels to a higher degree. This research is a descriptive work. Existing perceptions of the students on interpersonal attraction will be introduced in this research. Anadolu University Communication Sciences Faculties Journalism, Cinema and Television, Public Relations, Advertising and Communication departments 258 students, 133 female and 125 male, participated in the research as volunteers. The participants are students enrolled in the courses of two professors, two associate professors, two assistant professors and two lecturers who are Communication Sciences Faculties staff and in both sexualities. The instructor’s social, physical and instructional attractions and motivations determined by using 5-point Likert scale. The main aim of this research is behaviors and motivations of the students on the instructor’s social, physical and instructional attractiveness. This research is a descriptive work. Anadolu University Communication Sciences Faculties Journalism, Cinema and Television, Public Relations, Advertising and Communication departments 258 students who have studied in 2008-2009 term participated in the research. The instructor’s social, physical and instructional attractions and motivations determined by using 5-point Likert scale. The findings of this research will be additions for determining and arguing the instructor’s responsibilities, besides educational ones as a communication director, for taking the students participation and success levels to a higher degree. This research is a descriptive work. Existing perceptions of the students on interpersonal attraction will be introduced in this research. Anadolu University Communication Sciences Faculties Journalism, Cinema and Television, Public Relations, Advertising and Communication departments 258 students, 133 female and 125 male, participated in the research as volunteers. The participants are students enrolled in the courses of two professors, two associate professors, two assistant professors and two lecturers who are Communication Sciences Faculties staff and in both sexualities. The instructor’s social, physical and instructional attractions and motivations determined by using 5-point Likert scale.

The sixth and te seventh articles are came from Iran. The sixth is titled as “A STUDY OF THE RELATIONSHIP BETWEEN HIGH SCHOOL PRINCIPALS’ HAPPINESS AND EFFECTIVE INSTRUCTIONAL MANAGEMENT”, written by Vali Mehdinezhad, from Department of Education Faculty of Education and Psychology, University of Sistan and Baluchestan, Zahedan, IRAN, This study was focused on high school principals’ happiness and effective instructional management and also the relation between them. The methodology of this research was descriptive and correlation. The two questionnaires employed here were “*The Oxford Happiness*

Questionnaire” and *“Principal Effectiveness Measures”* with five component measures of effective principal. SPSS 15 was used to produce Mean; Standard Deviations; Pearson Product Moment Correlation (r); t-test; and ANOVA. The results of the study showed that the high school principals described their happiness in high level and also in overall marked high scores on effective instructional management and components of effective management: Organizational Commitment (OC); Sense of Community (SoC); Productivity and Effort (PaE); Job Satisfaction (JS); and Employee Morale (EM). There was relatively high positive correlation between principals’ happiness and effective instructional management and components of effective management. The analysis of date showed that there were no significance differences on principals’ happiness and effective instructional management in terms of their background, such as age, sex, marital status, teaching and management experiences.

The sixth article is dealt with “THE EFFECT OF COMPUTER-MEDIATED FEEDBACK ON SECOND LANGUAGE READING COMPREHENSION”, Parisa Razagifard, Abdolkarim Ghabelnezam, Islamic Azad University of Meshkinshahr and Vida Razzaghi Fard Payamnour University of Meshkinshahr, Meshkinshahr, IRAN” , The purpose of this study is to assess the potential of computer-mediated feedback for improving second language (L2) reading comprehension. To fulfill the purpose of the study, 60 upper-intermediate learners of English were randomly divided into two groups of experimental and control groups. The subjects of the experimental group were asked to read 8 prose passages, which ranged between 280 and 310 words in length, and answer multiple-choice questions after they have read each passage. Participants received immediate feedback in the form of Answer-Until-Correct (AUC) feedback for multiple-choice items. Results indicated the students who received the computer-mediated feedback improved their reading comprehension significantly compared to their peers in the control group who did not receive feedback.

The article is which numbered as 8 is a joint study. Article is entitled as “ROLE OF ASSIGNMENT WORK IN DISTANCE AND NON-FORMAL MODE OF EDUCATION”, written by Makhdoom Ali SYED from International Islamic University, Islamabad, PAKISTAN and Tariq MEHMOOD from International Islamic University, Islamabad, PAKISTAN, and Ziarab MAHMOOD and Hazara University, Mansehra, PAKISTAN. The research article deals with the evaluation of the role of assignments in learning through distance and non-formal mode of education. The study was delimited to the students enrolled in M. Ed and M. A. Education programs (with the specialization of Teacher education, Distance and non-formal education, Science education, and Special Education) during semesters, spring 2006 to spring 2008 in Rawalpindi region of Allama Iqbal Open University Islamabad, Pakistan. For the purpose it looks imperative to introduce a separate new course entitled “Study skills” containing different units on study, reading, writing, evaluation skills etc. by the University which may be compulsory but non-credit for all levels of distance learning. It should be offered in the first semester of the program and all tutors should be bound to study and qualify the same course with all respects by writing the assignments and passing the exams etc. before getting the appointment as part time tutors.

You can reach us online <http://www.ijonte.org> and please send your thoughts to ijonte2010@gmail.com To receive further information and to send your recommendations and remarks, or for your submission for consideration, please contact with the IJONTE Secretariat by email at ijonte2010@gmail.com

We trust you find this Issue exciting and enjoy reading the Articles.
A prosperous New Year 2011 to you.

Hope to stay in touch and meeting in our next Issue, 1st of April 2011
Cordially,

Editors

Prof. Dr. Zeki KAYA, Gazi University, Turkey.

Prof. Dr. Ugur DEMIRAY, Anadolu University, Turkey.

Greetings Dear IJONTE Readers,

Looking to the recent history of IJONTE it is clear that there is a growing concern of balancing new media in regular education; at one side there is a quickly-growing repertoire of media channels like now the mobile-, and the virtual 3D spaces. At the other side teacher become more and more critical on what media and its endemic communication styles are useful in education. It is not only a matter of style that decides upon the degree of media integration in schools; it is the outcome of a continuous awareness on what types of learning processes we consider as foreground and which as background.

In order to illustrate that this distinction is not a trivial one, let's question why a teacher, be it in secondary- or in higher education, would allow social media applications like Facebook, Twitter or LinkedIn in the arena of learning and teaching? And in order to even increase the magnitude of this question, we land at the more fundamental question whether learners should be allowed to use perceptual-, memory- or mental artefacts? Or: Should we encourage learners to learn primarily in social contexts, or: should we only allow them to use the social media in the stage of practicing as we claim in collaborative learning, while claiming that the assessment stage will be individual and without intelligent artifacts like the smart phone? Etc.

In summary we may be proud that IJONTE has taken up the challenge of provoking these tickling questions. Its main message is that media and new trends are entangled aspects of education. Teachers are the crucial players; it is never too late to allow new trends to enter in your classroom. Any argument can be used to decide upon media integration. The newest understanding is that learners needs to regain ownership; in that sense the mobile devices like smart phones and online PDAs are likely to penetrate the schools if we like it or not.

We trust you find this Issue exciting and enjoy reading the articles.
A prosperous New Year 2011 to all you.

Associate Prof. Dr. Piet KOMMERS, University of Twente, The Netherlands



Piet KOMMERS is associate professor in the University of Twente, The Netherlands. His actual interest is media, learning and visual communication. His Master study in 1980 formulated algorithms for adaptive learning. In his PhD study he questioned how conceptual representations may support the cognitive integration in learning. He was Scientific Director of NATO Advanced Research Workshop: "Cognitive Technologies" in 1989. From 1990 until now he was increasingly involved as partner and coordinator in European research projects in media based and continuous learning. His role in initiating higher education in Eastern Europe led to his UNESCO chair, followed by the award of honorary doctor by Capital Normal University in Beijing in 2000.

From 2005 to 2007 he was part time lector at the aspect of "mobile learning" by Fontys University of Applied Sciences. He is adjunct professor in the faculty of computer science in Joensuu University (Finland) and advisor in the ministry of Education in Singapore. His publications stretch the fields of media, communication, education and lifelong learning, among six books and more than fifty proceedings and journal articles. 24 PhD studies and more than 80 Master student projects were supervised.

A STUDY ON COMPUTER USAGE AND ATTITUDES TOWARD COMPUTERS OF PROSPECTIVE PRESCHOOL TEACHERS

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ABSTRACT

The purpose of this study is to determine the status of computer usage and the attitudes toward computers of prospective preschool teachers and to investigate several variables on their attitudes. For this purpose, "Computer Usage Information Form" and "Computer Attitude Scale" were applied to 126 prospective preschool teachers. This study is conducted with survey methods. The data are analyzed through standard deviation, mean value as well as t-test and one way ANOVA for group comparison, besides to find which group causes the difference in the group comparison, a PostHoc Tukey HSD test is employed. At the end of the study it is determined that the prospective preschool teachers use computers more at home and internet cafes and their levels of using computer programme are intermediate or upper. It is also determined that there is a significant difference according to the variables of taking computer course, computer ownership, level of using computer program, frequency of computer usage, computer experience and class of the scores of attitudes toward computers. On the other hand, there is no significant difference according to the gender. It is recommended that future studies focus on investigating academicians' level of usage of computer program and attitudes toward computer technologies.

Key Words: Prospective preschool teachers, computer attitudes, computer usage, computer program.

INTRODUCTION

The development of technology has changed the environments that children grow up in. Today children experience a wide range of technology from an early age. Research indicates that computers are widespread and becoming an increasingly important part of children's life (Li and Atkins, 2004). With the increased number of computer at home, children are exposed to computers from early childhood. As educators incorporate computers into the curriculum and instruction in school, early childhood educators are emphasizing the importance of appropriate use of computers in early childhood classrooms. Although the effects computers on children's education and development are still discussed, computers are increasingly used in preschool educational institutions. The National Association for Education of Young Children, the leading association and accreditation organization in the early childhood field, strongly suggests that technology should be integrated into early childhood practice physically, functionally and philosophically (NAEYC, 1996: as cited in Işıkoğlu, 2003).

Clements stated that children should start using the computer before age seven. Clements said that there is plenty of research that has indicated the benefits of computer use before the age seven (Clements, 1999: as cited in Derscheid, 2003). Ertmer, Evenbeck, Cenramo and Lehman (1994) suggest that the students who have previous successful experiences with computers can easily adapt to the societies in which computers are frequently used (Ertmer et. al., 1994). Therefore, the kids who are successful in using computers may be expected to be more successful in the societies in which computers are intensively used. Specifically, for the appropriate use of computers in preschool education, teachers should be able to select and use developmentally appropriate programs and make use of the computers in promoting the development fields of

the students. Teachers must play an important role in using computers to enhance the learning of children. In this way, preschool prospective teachers and teachers become an important element in the education of children in the use of computers. For this reason, the faculties of education in which teachers are trained turn out to be important in that teachers should develop positive attitudes towards computer use and should be able to make the most of computers in education.

Attitude is one of the determining factors in predicting people's behavior. That is to say by understanding an individual's attitude towards something, one can predict with high precision the individual's overall pattern of behavior to the object (Ajzen and Fishbein, 1977: as cited in Yushau, 2006). Attitude has been defined as "a learned predisposition to respond positively or negatively to a specific object, situation, institution, or person" (Aiken, 2000: as cited in Yushau, 2006). Therefore, attitude affects people in everything they do and in fact reflects what they are, and hence a determining factor of people's behavior (Yushau, 2006). Computer attitude has been defined as a person's general evaluation or feeling of favour or antipathy toward computer technologies and specific computer related activities (Smith, Caputi and Rawstorne, 2000). Computer attitude evaluation usually encompasses statements that examine users' interaction with computer hardware, computer software, other persons related to computers, and activities that involve computer use. Computer-related activities examined are either single instances of behaviour (e.g. specific software use) or classes of behaviour (e.g. attaining computer related courses) (Smith et al. 2000). Various computer attitudes scales have been developed (e.g. Smith et al. 2000) but the Computer Attitudes Scale developed by Loyd and Gressard (1984) is one of the most often applied scales with undergraduate students. Computer attitudes are influenced by different variables. Examples from recent research include computer training (Tsitouridou and Vryzas 2003), gender (Bebetsos and Antoniou, 2009), knowledge about computers (Derscheid, 2003), computer anxiety (Savenye, 1993; McInerney, McInerney and Sinclair, 1994), like (Yildirim, 2000; Deniz, 2007) and computer experience (Sadik, 2006; Deniz, 2007). In most cases, many of these factors interact with one another to impact on attitude towards computers. Several studies reveal that one of the significant problems about the use of computers in educational settings is the teachers' ineptness at computer use (Sadik, 2006). Therefore it is essential to make the users aware of their attitudes toward computer for successful education and teaching. So as to obtain effective results from the computer education that is or will be implemented in educational institutes, the computer attitudes of teachers assume great importance.

Review of the Literature

Lambert, Gong and Cuper (2008) focused on the relationships among preservice teachers' background characteristics as demographic characteristics and previous computer experiences, their perceived computer ability, and attitude toward computers. The study was conducted in four sections of an introductory educational technology course with 62 preservice teachers. Preservice teachers in the present study did not differ in their general computer attitudes based on year of college, or intended level of teaching. However, gender, their self-rated levels of computer experience significantly related to their computer attitude.

Derscheid (2003) examined early childhood educator's attitudes toward computers and knowledge about computers in the classroom. Results indicated that early childhood educators had from neutral to positive attitudes toward computers in an early childhood classroom. Early childhood educators aged 18-30 had more positive attitudes toward computer use than did those aged 41-50 years. Also, educators who used computers in their classroom had a more positive attitude toward computers than did those who did not use a computer in the classroom.

Taghavi (2006) examined undergraduate college students' attitudes toward computers. Attention was given to the relationship between computer attitudes and age, access to a home computer and collegiate classification. Age was not found to be significantly related to computer attitudes on any of the four subscales. The findings showed that subjects with access to a home computer had higher positive attitudes toward learning and working with computers. The findings revealed that there was a small difference between students' attitudes

and their collegiate classification. Senior students significantly expressed more positive attitudes toward computers than sophomore, and junior students.

Tsitouridou and Vryzas (2003) investigate the attitudes of early childhood teachers towards computers and Information Technology. The study examined whether or not attitudes are differentiated by a series of factors, such as: years of previous service, the use of a computer at home, inservice training, and experience of teachers with computers, as well as their views about the introduction of computers into early childhood education. The subjects of the survey were 107 inservice female early childhood teachers. The results show that early childhood educators have limited access and positive attitudes to computers. Teachers' attitudes appear to be influenced significantly by computer use at home, experience with computers and inservice training.

Aral, Ayhan, Ünlü, Erdoğan and Ünal (2006) determined the attitudes of preschool and kindergarden teachers towards computers and identified the effects of several variables on their attitudes. Their results of the study showed that attitude scores of teachers were high and that of the variables tested, prior computer training has positive effects on the attitudes of the teachers. Alabay and Keskinkılıç (2006) identified the views on computer supported teaching of 186 students who are attending pre school teaching in their research. According to results of their research, they have the idea that the candidate teachers consider computers negatively in terms of the social development of the students, and they think that the computers increase the self confidence of the students. Besides, while preschool candidate teachers' opinions about computer-assisted teaching seem to be different according to their class levels, their opinions were actually different.

In the past 10 years, attitudes toward computers have been studied with different samples and instruments. A number of studies have been performed which have aimed at specifying of attitudes of both teachers (Derscheid, 2003; Tsitouridou and Vryzas, 2003; Deniz, 2005; Sadık, 2006) and prospective teachers (Sexton et al., 1999; Deniz, 2007; Akbulut, 2008; Lambert et. al., 2008). Some studies have shown that the use of computers in education has the potential of changing teachers' and prospective teachers' attitudes positively towards computers. However, studies determining and comparing how prospective preschool teachers' attitudes towards computers are limited (Sexton et al. 1999; Alabay and Keskinkılıç, 2006). For this reason, it is important to identify the factors that affect prospective preschool teachers towards computers as a means for effective development of teacher training curriculum that will prepare teachers to face the challenges in the information age.

The purpose of the study

The purpose of this study is to determine the status of computer usage of prospective preschool teachers and the attitudes of prospective preschool teacher toward computers and to investigate several variables on their attitudes.

Research problem

With this framework, the research problem of this study is; "What is the status of the prospective preschool teachers' attitudes towards computers?" To illuminate this issue following sub-problems were set:

1. What is the profile of the prospective preschool teachers' attitudes towards computers?
2. Is there a significant difference between the prospective preschool teachers' attitude scores towards computers and computer experience?
3. Is there a significant difference between computer attitudes and frequency of computer usage, computer ownership and taking a computer course, genders, grade and level of using computer program of prospective preschool teachers?
4. What is the level of using computer program of prospective preschool teachers in specific tasks (such as word processing, spreadsheets etc.)?

METHOD

Research Design

The research is a study of survey model. This study is concerned with the determination of attitudes and demographics. The survey included a section assessing the independent variables; gender, grade, frequency of computer usage, computer experience, computer competency, computer ownership and taking computer course.

Participants

The sample consisted of total 126 prospective preschool teachers selected from a faculty of education in Turkey.

Table 1
The Profiles of the Participants

Gender	f	%
Female	115	91.2
Male	11	8.8
Grade	f	%
1 st grade	44	34.9
3 rd grade	40	31.8
4 th grade	42	33.3
Total	126	100

As seen in Table 1, 91.2 % of the participants are female while the rest, 8.8 % are male. In terms of grade, the distribution is that 34.9 % of the participants are at the 1st grade, 31.8 % are at 3rd grade and 33.3 % are at 4th grade. The scarce number of male pre-service teachers here stems from the fact that male students rarely prefer pre-school education departments. The 3rd and 4th year students in this study previously attended the "Basic Computer Science" course, whereas 1st year students are new in the faculty and have not taken the course yet. The 2nd year students are still taking that course. Since this paper compares the cases before and after taking the computer course, the 2nd year student teachers were not included in the study.

Data Collection

"Computer Usage Information Form" and "Computer Attitude Scale" developed by Berberoğlu and Çalikoğlu (1992) were used as data collection instruments. In order to collect data about demographic variables of the participants and status of computer usage, it was used a computer usage information form. This form consisted of nine items. In these items prospective teachers were asked to indicate their genders, grade, computer usage, computer experience, frequency of computer usage, place of computer usage, computer ownership, taking a computer course, level of using computer program

For more than 20 years, attitudes toward computers have been studied with different samples and instruments. The mostly used scale was developed by Loyd and Gressard (1984) for university students' computer attitudes scale were used in this study. In order to measure attitudes toward computers, Likert type attitude scales were developed, validated, and used in much of the published research. The Loyd's and Gressard's Computer Attitude Scale is the most extensively used scale with four effective dimensions: computer anxiety, computer confidence, computer liking and computer usefulness.

Computer Attitudes Scale, developed by Loyd and Gressard (1984) and translated and validated by Berberoğlu and Çalikoğlu (1992), was employed to determine their attitudes toward computers. The Computer Attitudes Scale consists of 40-items divided into four-10 item subscales: computer anxiety, computer confidence, computer liking, and computer usefulness. The items presented are positively and negatively worded statements such as "computers do not scare me at all" and "working on a computer would make me nervous".

The coefficient alpha reliability for the computer anxiety, computer confidence, computer liking, computer usefulness, and total scores were .90, .89, .89, .82, and .95 respectively. Cronbach alpha coefficient for computer attitudes scale was calculated as .89.

Data Analysis

Positive items in the computer attitudes scale survey were assigned with numerical values ranging from 1 = "Strongly disagree", to 5 = "Strongly agree". For negative statements the scoring was reversed. As appropriate for 5 point Likert scale at data collection instruments, while scoring and interpreting the findings, the score intervals are respectively 40- 71.9 for "very low", 72-103.9 for "low", 104-135.9 for "mid level", 136-167.9 for "high" and 168-200 for "very high".

While analyzing data, descriptive statistics such as frequency, mean and percentage, were obtained and then t-test and variance analysis were employed as statistical procedures. For paired group comparisons, independent t-test was conducted. On the other hand, for comparisons of groups for more than two, one-way ANOVA was carried out. In order to investigate which group caused the difference in the group comparison, a PostHoc Tukey HSD test was employed.

FINDINGS

The profiles of the participants in this study are illustrated in Table 2.

Table 2
The Profiles of the Participants

Computer Ownership	f	%
Yes	66	52.4
No	60	47.6
Computer Usage	f	%
Yes	125	99.2
No	1	0.8
Place of Computer Usage*	f	%
Home	74	58.7
Student dormitory	13	10.3
Faculty	11	8.7
Internet café	85	67.5
Other	6	4.8
Computer Experience	f	%
2 years and less	30	23.8
3-5 years	55	43.7
6 years and above	41	32.5
Frequency of computer usage	f	%
3 hours and less	37	29.4
3-6 hours	38	30.1
7 hours and above	51	40.5

* This question was marked more than one

As seen in Table 2, 52.4 % of the participants have a computer while the rest, 47.6 % do not have a computer. All of the most them (99.2%) use computer and 67.5% of the participants use in internet cafe and 58.7% at home while the rest in faculty, his/her friends' house, student dormitory.

It was found that out of the pre-service teachers, 23.8 % were cognizant of computers for two years, 43.7 % used computers for 3–5 years and 32.5 % for more than six years. When the weekly hours of computer usage were examined, it was found that among the pre-service teachers, 40.5 % use computers for over seven hours a week, 30.1 % for 3–6 hours a week and 29.4 % for less than three hours a week.

Table 3
Distribution of Prospective Preschool Teachers' Attitudes Towards Computers

	N	Minimum	Maximum	Mean	Std. Deviation
Attitudes Toward Computer Score	126	117	198	159.54	18.32

The mean value score for student prospective preschool teachers' views about computer attitudes was found as 159.54, standard deviation as 18.32, the maximum score as 198 and the minimum score as 117. The lowest and highest attained score were 117 and 198, respectively. Based on these findings, it could be claimed that the prospective preschool teachers who participate in this study have "high level" attitudes toward computers and views about computer attitudes were regarded as positive.

A one-way ANOVA was performed for the perception scores of prospective preschool teachers' computer attitudes for the frequency of computer usage and computer experience variables. PostHoc analyses were conducted by Tukey's HSD test. Results of ANOVA are presented in Table 4 and Table 5.

Table 4
ANOVA Results According to the Computer Experience

Group	Computer Experience	N	Mean	SD	df	F	p	Difference
(A)	2 years and less	30	139.70	14.74	(2-123)	16.93	.000	A-B
(B)	3-5 years	55	150.52	16.59				A-C
(C)	6 years and above	41	162.31	17.00				B-C

As shown in Table 4, a significant difference was found in terms of computer experience [$F_{(2-123)} = 16.93$, $p < .001$]. Using the Tukey's HSD test, it was found that significant differences in terms of computer experience were between groups A–B, A–C and B–C.

Table 5
ANOVA Results According to the Frequency of Computer Usage

Group	Frequency of computer usage	N	Mean	SD	df	F	p	Difference
(A)	2 hours and less	37	135.54	13.98	(2-123)	42.27	.000	A-B
(B)	3-6 hours	38	151.60	14.65				A-C
(C)	7 hours and above	51	163.70	13.97				B-C

As shown in Table 5, a significant difference was found in terms of the frequency of computer usage [$F_{(2-123)} = 42.27$, $p < .001$]. Using the Tukey's HSD test, it was found that significant differences in terms of frequency of computer usage were between groups A–B, A–C and B–C.

Independent t-test results that determine whether "computer ownership" and "taking a computer course" variables have effect on attitude toward computer scores tabulated in Table 6 below.

Table 6

Independent t-test Analysis for Computer Attitudes by Computer Ownership and Taking a Computer Course

Variable		N	Mean	SD	df	t	p
Computer Ownership	Yes	66	155.60	18.82	124	2.51	.013
	No	60	147.58	16.82			
Take a Computer Course	Yes	82	158.04	16.35	124	5.90	.000
	No	44	140.13	15.94			

As it is presented in Table 6 there were significant differences between attitudes toward computer scores of the ones who own computers ($\bar{x} = 155.60$) and the ones with no computers ($\bar{x} = 147.58$) [$t_{(124)} = 2.51$, $p < .05$] and between attitudes toward computer scores of taking a computer course ($\bar{x} = 158.04$) and those who do not take a computer course ($\bar{x} = 140.13$) [$t_{(124)} = 5.90$, $p < .001$].

An independent t-test was applied to determine whether there is a gender based difference on attitude toward computer scores. The results of the test are demonstrated in Table 7.

Table 7

Independent t-test Analysis for Computer Attitudes by Gender

Gender	N	Mean	SD	df	t	p
Female	112	159.00	18.29	124	-.948	.345
Male	14	163.92	18.66			

As it is seen in Table 7, the average attitudes toward computer scores of male and female candidates were 159.00 and 163.92 respectively. This means that there is no significant difference between attitude toward computer scores of male candidate teachers and female ones [$t_{(124)} = -.948$, $p > .05$].

In order to see whether the students' attitudes towards computer varied in accordance with the grade levels, a one-way between-groups ANOVA followed by Tukey's HSD PostHoc test was used. Results of ANOVA are presented in Table 8.

Table 8

ANOVA Results According to Grade

Grade	N	Mean	SD	df	F	P	Difference
1 st Grade	44	140.13	15.94	(2-123)	16.81	.000	1 st Grade - 4 th Grade
3 rd Grade	40	154.25	18.47				1 st Grade - 3 rd Grade
4 th Grade	42	160.88	15.07				

When Table 8 is examined, it could be seen that the scores of prospective preschool teachers' attitudes toward computer differ in terms of grade levels. Among the groups, the fourth grade participants have the highest mean value (160.88), whereas first grade participants have the lowest mean value (140.13). Furthermore, it is observed that the mean values increase as the grades rise. Tukey's HSD test showed that there was a significant grade level difference between 1st and 3rd grade in favor of 3rd grade prospective teachers in terms of year. There was also a significant difference between 1st and 4th grade one in favor of 4th grade prospective teachers in terms of year.

The frequency results that determine the levels of using computer programs of prospective preschool teachers in this study are illustrated in Table 9 below.

Table 9
Percentages of Levels of Using Computer Programs

Using Computer Programs	Percentages (%)				
	Never	Low	Medium	Medium-High	Very High
Word processing (MS Word, Wordperfect)	0	5.6	23.8	48.4	22.2
Spreadsheets (as MS Excel)	4.0	28.6	34.8	27.0	5.6
Presentation programs (as MS PowerPoint)	0	7.9	38.9	33.4	19.8
E-mail (as Hotmail, Yahoo)	4.8	2.4	21.4	34.2	36.2
Database programs (as MS Access)	82.5	13.5	3.2	0.8	0
Multimedia programs (as Mediaplayer)	4.6	11.2	25.4	30.2	28.6
Web design programs (as Frontpage, Dreamwaver)	85.7	11.1	3.2	0	0

As indicated in Table 9, regarding the level of prospective preschool teachers' use of computer programs, email (36.2%), multimedia (28.6%), word processing (22.2%) and presentation (19.8%) were scored as "very high" level of use. Other computer programs like presentation (72.3%), word processing (72.2%), spread sheets (61.8%), e-mail and multimedia (55.6%) were scored as "medium and medium high" level of use. However, web design (85.7%) and database (82.5%) programs were indicated as "never been used".

Figure 1: Percentages of Values on Levels of Using Computer Programs

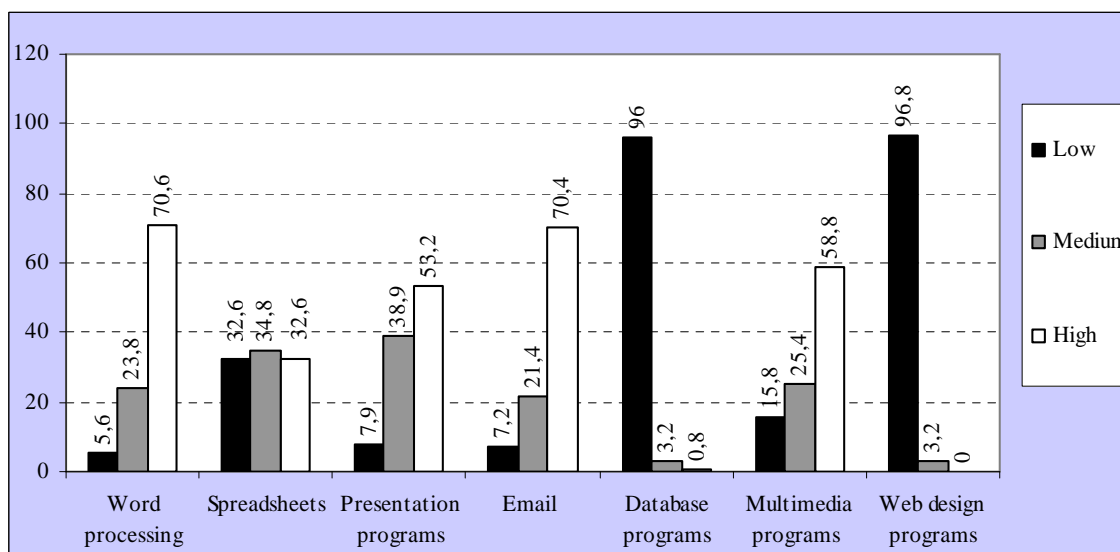


Figure 1 showed that prospective preschool teachers' use of computer programs, word processing (70.6%), e-mail (70.4%), multimedia (58.8%) and presentation (53.2%) were scored as "medium high and above" level of use. On the other hand prospective preschool teachers' use of computer programs, web design programs (96.8%) and data base (96%) were scored as "low and less" level of use.

A one-way ANOVA was performed for the attitude scores of prospective preschool teachers towards computer for the level of using computer program variables. PostHoc analyses were conducted by Tukey's HSD test. Results of ANOVA are presented in Table 10.

Table 10
ANOVA Results According to the Level of Using Computer Program

Level	N	Mean	SD	df	F	p	Difference
Low	36	135.00	14.25	(2-123)	56.46	.000	Low- Medium
Medium	49	151.16	11.56				Low-High
High	41	167.26	14.34				Medium-High

As shown in Table 10, a significant difference was found in terms of the frequency level of using computer program [$F_{(2-123)} = 56.46$, $p < .001$]. Using the Tukey's HSD test, it was found that significant differences in terms of frequency level of using computer programs were between groups Low-Medium, Low-High and Medium-High.

DISCUSSION, RESULTS AND RECOMMENDATIONS

It was found in the study that 52.4 % of preschool pre-service teachers owned a computer and 99.2 % were regular computer users. This finding can be interpreted that computer ownership is not very effective on the computer use of pre-service teachers. When the places where pre-service teachers used computers were examined, it was found that more than half of the preschool pre-service teachers used computers at internet cafes (67.5%) and home (58.7%), and 8.7 % used computers at faculty. Similarly İşman and Çelikli (2009) showed that 64.3% of the participants have their own computer at home and Deniz (2000) reported that 8.7% of prospective class teachers use computer at school. Deniz (2007) said that 62% of prospective class teachers have computer at home; 50% of the computer owners have computers for less than three years.

The low level of computer use found in this study may be attributed to insufficiency of computer usage settings that can be used by pre-service teachers in their faculties. Thus, İmer (2003) stresses the effect of sufficient level of computer equipment in faculties of education on giving pre-service teachers the necessary computer skills. Therefore pre-service teachers should be presented with appropriate settings in their faculties where they can access computers easily.

When the computer usage experiences of the preschool pre-service teachers are examined, it was determined that 23.8 % used computers for 2 years or less, 43.7 % used computers between 3–5 years, 32.5 % used computers for more than 5 years; and when their frequency of computer usage are examined, it was found that 29.4 % used computers less than 2 hours weekly, 30.1 % used computers between 3–5 hours and 40.5 % used computers for more than 5 hours a week. Similarly some studies (Derscheid, 2003; Deniz, 2005) concluded that younger educators have more positive attitudes toward computer than older educators. The results of this study show that most of the preschool pre-service teachers knew computers and used them efficiently. From this point of view, the majority of pre-school pre-service teachers are using computers effectively, which is a promising situation.

In this study prospective preschool teachers have "high level" attitudes toward computers and their computer attitudes are quite positive. Similarly some studies (Sexton et al., 1999; Derscheid, 2003; Ocak and Akdemir, 2008) concluded that participants have more positive attitudes toward computer.

In this study there are significant differences between frequency of computer usage, computer experience and attitudes toward computer by prospective class teachers. According to the results, prospective teachers who frequently used computers and computer experience had a more positive attitude toward computers than did those who did not frequently use computers and had computer experience. The results of this study are consistent with the results of prior studies (Mitra, 1998; Tsitouridou and Vryzas, 2003) implicating that there is meaningful difference between frequency of computer usage and attitudes toward computers. On the other

hand, Gerçek et al. (2006) did not find a meaningful difference between frequency of computer usage and attitudes toward computers.

Specifically, the research literature now abounds with reports demonstrating a positive relation between computer attitude and computer experience, where computer experience is defined, at least implicitly, as the amount of computer experience a person acquires over time (Ertmer et. al., 1994). Research indicates that computer experience positively correlates with computer attitude (Loyd and Gressard, 1984; McInerney et. al., 1994). The results show a remarkable consistency with the results of prior studies in related literature. Furthermore, a meaningful difference between computer experience and attitudes toward computer is found (Savenye, 1993; Khine, 2001; Tsitouridou and Vryzas, 2003; Aral et. al., 2006; Lambert et. al., 2008).

Results indicated that prospective preschool teachers had positive attitudes toward computers about taking computer course and computer ownership. Similar results were obtained in other studies that the prospective teachers who have taken computer course develop more positive attitudes towards computers when compared with the prospective teachers who have not taken a computer course (Sexton et. al., 1999; Aral et. al., 2006). While some studies (Sexton et. al., 1999; Yıldırım, 2000) have put forward statistically significant differences between taking computer course or not, some other studies (Deniz, 2000; Gerçek et al., 2006) have not revealed any statistically significant differences in favor of taking computer course and attitudes toward computers.

The results of this study is consistent with results of some prior studies (Deniz, 2000; Khine, 2001; Taghavi, 2006; Akbulut, 2008) implicating that there is meaningful difference between computer ownership and attitudes toward computer. Similarly Sexton et al. (1999) found that prospective early childhood students who had access to computers at home were more positive toward computers. On the other hand, a meaningful difference between computer ownership and attitudes toward computer is found (Deniz, 2005; Aral et al., 2006).

Research has reported significant differences in male and female attitudes toward computers. According to the computer attitudes score averages, the positive attitude scores of male pre-service teachers outperform the positive attitude scores of females, though this attitude score difference among genders was found statistically insignificant. It is determined in similar studies that attitudes toward computers do not depend on sexes (De Blassio ve Bell, 1981; Oosterwegel, Littleton and Light, 2004; Deniz, 2007; Akbulut, 2008; Bebetos and Antoniou, 2008). These results have the qualities which support the results obtained from this study. On the other hand, a meaningful difference between the gender and attitudes toward computer is found (Ray, Sormunen and Haris, 1999; Sadık, 2006). For example, Yıldırım (2000) reported that early childhood teachers significantly differed in their attitudes toward computers on the basis of gender and years of teaching experience.

Previous research in relation to gender differences in computer related attitudes in general has shown that males have more positive attitudes towards computers than females (Dupagne and Krendi, 1992; Colley, Gale and Harris, 1994; Bebetos and Antoniou, 2009). Other studies found that females had more positive attitudes than males (Ray, Sormunen and Haris, 1999; Rugayah, Hashim and Mustapha, 2004). In recent studies, however, results begin to show that the gender gap is becoming insignificant (Hunt and Bohlin, 1993; Deniz, 2007). A possible reason for this is the widespread use of computers among a wider cross section of the population to perform ordinary things such as shopping or making reservations for a theater show. These results have led some to conclude that there is a gender gap in attitudes toward computers.

It was found that the prospective preschool teachers' computer attitudes differed significantly in terms of grade level. The results indicate the increase of mean scores from the first grade to fourth grade and the significant difference in favor of 3rd grade ($\bar{x} = 154.25$) and 4th grade ($\bar{x} = 160.88$) rather than 1st grade ($\bar{x} =$

140.13) lead a conclusion that the grade level is an important variable for the level of prospective preschool teachers' computer attitudes. This result may explained with the fact that the 3rd and 4th year students in this study previously attended the "Basic Computer Science" course and completed several tasks such as homework and projects using computers. Similarly, in a number of studies computer attitudes were found to differentiate with respect to year of study variable (Alabay and Keskinkılıç, 2006; Taghavi, 2006). Opposite results were obtained in Gerçek et al. (2006). They did not find a meaningful difference between taking computer course and attitudes toward computer.

This study found that the level of prospective preschool teachers' use of computer programs, word processing, e-mail, multimedia and presentation scores as "medium high and above" level of use. However, prospective preschool teachers' web design and data base programs were indicated as never been used. On the other hand, regarding the frequency of using computer applications, Ocak and Akdemir (2008) found the Internet (%49.2), emails (%47.6), and educational software CDs (%14.3) as applications used most frequently by the teachers. Other software programs like word processing (34.7%), spread sheets (36.5%), desktop publishing (36.5%), and presentation (30.2%) were scored as medium level of use. Similar results were obtained in another study (Ocak and Akdemir, 2008) as well. It would be facilitating to see how using the computer enables prospective teachers to use the computer programs in advanced level computer and computer assisted instruction lessons except "Basic Computer Science" course.

In this study, the computer attitude score averages of the preschool pre-service teachers with high ($\bar{x}=167.26$) or medium ($\bar{x}=151.16$) level of computer knowledge were determined to be higher than their counterparts with a low level ($\bar{x}=135.00$) of computer knowledge. Some studies reported that exposure to a variety of computer applications, word processing in particular, seemed to also have an effect on attitude change (Hunt and Bohlin, 1993; McInerney et al., 1994; Mitra, 1998). In terms of computer literacy and the use of specific applications, prospective class teachers reported that they are least competent in using web design and database while they are most competent in word processing. Differences have been found, however, in computer attitudes and their self-reported using computers. The results show that prospective preschool teachers who are more competent in using computers have also more favorable attitudes towards computers. This result shows a consistency with results of some prior studies (Deniz, 2007). Why should educators be concerned with how children are using their computers at home? Lauman (2000) said that students who have a computer at home may have the advantage of bringing skills to the learning situation that will set them apart from others who are fortunate, particularly if students with home computers have developed using the power and capabilities of the word processing, database, spreadsheet and multimedia programs as well as effective searching, analyzing and synthesizing information available on the internet.

The data used in this study were collected from prospective preschool teachers in a Faculty of Education in Turkey. It is recommended that similar studies be conducted to test undergraduate students from different teacher education programs so that results of similarity and disparity could be sought. Like other empirical studies, this study is not without its limitations: the study can be strengthened by increasing the sample size and including participants in other universities and with different variables.

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ATUTOR SOFTWARE AND MEDICAL EDUCATION: Experience of Using an Open source Learning Software

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ABSTRACT

ATutor is an open source web-based learning management software which has been designed for institutional e-learning management including content creation, learner's activity management and tracking learning objectives in a social networking environment, using various online communicative tools. This paper describes how this software is used in a medical university, explaining boundaries and challenges. This is a case-study focusing on preparation of content for students of higher education institutions in Medical Sciences. The focus is on supplementary resources for students and continuous medical education. Despite the initial resistance and challenges of using open source software without technical supports, the process was progressive and lead to development of education. Many conflicts and challenges were resolved in the first year of the study while some features of the software proved to be incapable for medical education learning material and usability rate in some tools was very low. Despite boundaries and difficulties in moving toward electronic learning for medical education, using open source softwares such as Atutor is possible and beneficial. Customizing the software, preparation of IT infrastructure and access to a technical team to develop and manage the virtual environment of e-Learning is essential. Otherwise the system would not widely be accepted by users; this raises problems that lead to strongly negative feedback from tutors and learners.

Keywords: Medical education, electronic learning, open source software.

INTRODUCTION

In 2006 a software contract for automation of continuous medical education was made in Mashhad University of Medical Sciences. It led to the subsequent research which is described in this paper: explaining different aspects of using an open source web-based learning management system for medical education. This experience may help other medical education developers know the challenges they may face during using such systems in addition to appreciating their every component for more appropriate online education design. E-learning can be used in various target groups of medical education, including undergraduate studies, postgraduate and residency courses and continuous medical education. Some of these seem more acceptable.

Currently, more evidence is available for effectiveness of using electronic learning technologies. Therefore, continuous medical education is one of the approved target groups. It covers private clinicians who work in regional health centers or education of staff practice in hospitals or health administration centers, away from academic institutions. There are many studies, confirming this method of education for continuous medical education, as effective as "face to face" learning, if designed and administered properly (Smit 2007, Wong 2010, Critchley, 2009). Moreover, some other educational groups benefit from this method of education as

well: "The experience so far with this resource has been positive, and it seems to be effective in improving resident competency" (Kang et al, 2009), the advantage of this method of education is proven in delivery of learning material and students' learning assessment (Maisonneuve, 2009).

Aims of This Manuscript

There are some publications describing how to use open source softwares for e-learning. However, few studies focus on particular web-based softwares to discuss different problems that arise during the integration of this new model of education with the routine traditional system of education. This issue is beyond challenges of designing web-based educational contents and managing learners via any standard learning management system (LMS).

ATutor software is described by its developers as follows: "ATutor is an Open Source Web-based Learning Content Management System and social networking environment that is designed with accessibility and adaptability features", (ATutor official website, 2010). Instructors can install or update it in a few minutes, design themes (graphic interface) to give their interface a unique face, and easily select among its functions, including various capabilities in a modular platform. Tutors can prepare web-based instructional content, in a structured and categorized manner, and offer it online to the learners. Therefore, students learn in a user friendly environment using many communicative tools of the software.

First of all, it seems very exciting that students can stay home and learn what they are supposed to learn in classrooms, using their own personal computers. Furthermore, it seems cost-effective for education management to reduce costs of preparing and maintaining educational spaces for learners inside the institute. It would also reduce cost of tutor's salaries, by preparing excellent learning content packages and administering them for many times in various course modules for large groups of learners. Electronic learning content has the main characteristic of being reusable and shareable once it is prepared on the basis of a standard such as "Sharable Content Object Reference Model" (SCORM), (MUMS website, 2010).

But in practice, it is not very easy to do so, as many problems occur when stepping into this field one after another. According to our experience, these problems can be categorized into two main groups. The first is technical and the other is cultural. In this paper the main aim is to discuss some major technical challenges in using particular open source learning management systems such as ATutor software. But initially a common disbelief is discussed briefly in the next paragraph.

"If I prepare all my classroom lectures in multimedia format, what would be my duty then, and no student will attend my classes, afterwards". This is a complaint many tutors in our university make. In addition, reports were received from students who are dissatisfied with the new methods of education with less access to tutors. ATutor software has various capabilities in addition to content delivery like all learning content management software (LCMS). However, the key feature of any LCMS software is presenting content in html-based or Flash-based formats. This content can be inserted in WebPages or be stored in storage sections to be downloaded. These features enable students to have access to learning materials whenever they need via any computer connected to the web. In fact, some students had some problems in accessing the content due to low access to broadband internet at home. Moreover, some other difficulties emerged including: lack of flash plug-in for movies according to restricted access computers, unavailability of headphones in shared computers inside libraries and finally unavailability of computers per student. These issues led us to arrange work on the university ICT infrastructures to promote better technologic readiness for this purpose.

In case of comparing the following two types: flash-based and html-based content; overall capabilities of html-based content in theory are better. This type of content can easily be edited word by word at any time and it can be linked to many internal and external resources including multimedia and research papers (hypertext feature). It can be full of images, large contents can be prepared in small files, plus they are easily downloaded

and opened without any plug-in. In Atutor software like many other LCMSs, any word can be linked to a particular dictionary to show definitions. Flash-based content has few of the above-mentioned features in comparison with the other type of content. But it is more willingly accepted by students in spite of difficulty in downloading larger file sizes.

Owing to these facts, we initially focused on the html type of content, but two problems occurred. First: few tutors had their content ready in text and most of them had PowerPoint slides, as the only ready learning material used in classroom. Therefore, most instructors, following availability of slides, tended to add narration to their slides to produce flash-based audio-slide contents. We tried to resist it, but then we found out that even text-based contents are added to WebPages as simple text pages without any of the above-mentioned features, making eBook-like contents boring. Moreover, reading simple text via computer screen is not suitable for learners. It was the result of several problems including poor computer skills, lack of time and lack of insight about advantages of such features.

Moreover, content delivery is a major part of e-learning instruction via LCSMs, but Atutor software is likely to develop a good communicative environment among students and their tutor. It is obvious that providing content for students without further support and mutual communication will decrease student motivation and involvement in course and reduce learning outcomes, (Moodle office website, 2010). Therefore, we tried to use ATutor communicative features, including forums, chat rooms, surveys and quizzes, blogs, internal messages, announcements and projects. However, the proportion of acceptance and utilization of these features by tutors and students was not the same. While tutors in basic science disciplines actively participated in such activities, clinical tutors had little time for these collaborations and considered electronic learning a way to make more time to spend in clinics.

The most frequently used features were Chat rooms, Messaging and final Announcements, while the least effort was put into activating and using forums and blogs. The Project feature then Survey and Quizzes were accepted and used, respectively. Apart from all these difficulties and problems, this method of education was increasingly used by tutors and students; average users of the system reached to over one hundred users a day (2.5 percent of students) and the database of the content rose to 300 GB.

A major complaint stated by many instructors about e-learning activities was due to overall acceptance of it for medical education. They argued that medical education is practice-based and students have to participate in real environments such as clinics, laboratories or operating rooms. While, this is confirmed that e-learning can help medical education if it is administrated appropriately with good content design and administration (Sajeva, 2006).

However, initially, tutors' resistance to this issue was very strong, therefore, many workshops and seminars were held and booklets were handed out to change disbeliefs about the significance of this method of learning.

Besides, ATutor is not a LCMS to be designed specifically for medical education; subsequently many customizations were needed according to the available modules or additional programming. One of the most accepted and popular added module was photo gallery that was innovatively used to create online atlases of medical images in various disciplines after customization and adjustments. Another required feature was design and preparation of patient management problems protocols (PMP), that user-response sensitive pages would be delivered to make an interactive learning content. Nonetheless, Atutor is weak in integration of surveys and quizzes between contents. So manual coding and programming was needed for this purpose, unlike Moodle LCMS software, that is very appropriate for integration of assessments and activates among learning content, (Moodle official website, 2010).

DISCUSSION

Due to lack of funds, access to technical support and uncertainty about the success of the new methods of education, we moved toward using an open source learning management software, ATutor, for web-based e-learning. Problems were more than expected, but the overall evaluation reveals that if a technical and trained team is available, medical universities can start to manage web-based education. However, it should be remembered and understood that electronic learning in medical education needs to be defined properly and administered for the wisely selected learning objectives. Electronic learning content includes planning of objectives, subsequent assessments and appropriately justified activities. In addition, it should keep students involved during learning process, by administering forums, blogs, projects and chat rooms controlled by tutors. Most importantly, tutors should be responsive and available to learners to prevent unpleasant feeling of confusion inside huge contents and duties without teacher's support.

CONCLUSION

Authors believe that adding E-learning to medical education is a time consuming process. Proper setup and selection of strategies, softwares and infrastructures are the preliminary needs. However, each higher education institution in field of biomedical sciences with any culture, infrastructure, type of information and literacy level can benefit from it by using appropriate methodology for the targeted groups.

Although, Atutor is not known as much as Moodle is (Sajeva, 2006), it seems flexible enough and it can be customized by expert technical developers to suit and meet minimal needs and expectations of the institution. Using a SCORM based LCMS is a critical point that should NOT be ignored. Since, it is the only possible way to transfer contents from one LCMS to the others. During e-learning administration, due to varied needs and expanded area of practice and objectives, transfer from one LMS to another may become necessary. Although, ATutor can only export core learning content to other SCORM based LCMS; and other features of the course, such as forums, threads, quizzes, user tracking and announcements and records will be missed. All of these systems are under development and still many challenges are faced that we hope the next version of LMS software to be improved (Mazzoleni 2009). For example, both Moodle and ATutor had few features for integrating assessments within content in earlier versions until the current ones. So, more studies should be done to understand appropriate approaches for learning objectives in detail to make LCSMs more compatible for online medical education.

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TURKISH PRIMARY SCHOOL CHILDREN'S OPINIONS RELATED TO THE INTERNET AWARENESS

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ABSTRACT

The purpose of the study is to examine the opinions of the primary school students on the Internet awareness with reference to some variables. Total 2911 participants from fourth to eighth grades in three public primary schools, which have middle socio-economic status participated in the study. The data were gathered through questionnaire and analyzed through descriptive statistics such as frequency, percentages and chi-square. The findings revealed that the Internet awareness of the participants show significant difference in terms of their gender, grade levels, having Internet access at home, the location of Internet access, the purpose of the Internet use, the occupations, and educational backgrounds of the parents. It was observed that while male students focused more on the positive aspects of the Internet, female students focused more on the unfavorable aspects of the Internet. Likewise, it was found that the Internet awareness of the participants increased when their grade levels get higher. It was also found that the Internet use purposes of the male students were mostly playing games whereas female students mostly use the Internet for the purpose of watching film. The Internet awareness of the participants who have Internet access at their home and who use it at home is higher than that of other participants, who do not have Internet access at their home. The findings of the present study revealed that the participants, whose mothers were housewife and the participants whose fathers were tradesmen, civil servant and labors, as well as the participants whose parents have a higher educational background have higher Internet awareness than that of other participants. With reference to the findings, it can be suggested that some training activities on the Internet awareness for the mothers, who are housewives, can be handled within the school-parent relationship activities.

Keywords: Internet awareness, primary education, children.

INTRODUCTION

The Internet is an important source that eases to reach ample of information for children (Kiili, Laurinen, & Marttunen, 2008) in terms of their education, learning, fun and communication (Hick & Halpin, 2001). It is an infinite virtual environment, which helps the development of children and provides plenty of opportunities to make self-discoveries (Varnhagen, 2007). Besides using Internet for the purpose of fun and education, children also become socialized through sharing e-mails or chatting with their friends on the Internet. Furthermore, children might enrich their life quality and gain various advantages related to their future life. Therefore, Internet is assumed as a noteworthy technology for children (Madell & Muncer, 2004). Moreover, children might surf on the Internet, discover different cultures, experience numerous technologies and communicate with a variety of people. Such experiences might also facilitate the cognitive and social development of the children (Varnhagen, 2007). Thus, several studies in the literature revealed that children make use of Internet for the purposes of fun, education and communication.

The studies from the different parts of the world that were related to the children and Internet revealed that children generally use Internet for fun activities, especially for playing games (Cranmer, Selwyn & Potter, 2009; Day, Janus, & Davis, 2005; Ersoy & Yaşar, 2003; Ersoy & Türkkan, 2009; Livingstone, 2003) or watching films (Cranmer, Selwyn & Potter, 2009). In the same way, several studies also proved that children use Internet for

the purpose of doing their homework or searching for their schoolwork (Day, Janus, & Davis, 2005; Ersoy & Türkkkan, 2009; Livingstone, 2003), for communication purposes (Day, Janus, & Davis, 2005; Livingstone, 2003), or for surfing information about their hobbies or the celebrities (Valkenburg & Soeters, 2001). For instance, a study, which was conducted in England with 9 to 19 year old participants, revealed that 90% of the participants used Internet for their school works and 60% of them considered Internet as a useful tool for finding information about their homework (Livingstone & Bober, 2004). In terms of cognitive and social developments of the children, these can be regarded positive and favorable aspects of Internet.

Naturally, the children might easily access to harmful contents on the Internet. This is one of the unfavorable aspects of the Internet that might have a negative effect on social and cognitive developments of children. The children might face with harmful contents on the Internet such as pornography, hatred, harassment or even kidnapping (Varnhagen, 2007). The children might accidentally access to a pornographic Web site (Shukor, 2006), or even become a pornography object (Hick & Halpin, 2001) while searching information for their homework and they might accidentally share their personal information with people whom they do not know well (Turow, 2001).

The schoolchildren's accidentally access to harmful content on the Internet is assumed as the most important Internet safety issue (Wishart, 2004). In a study conducted by Cranmer, Selwyn and Potter (2009), three quarter of the participants stated that they know the ways of protecting themselves when they faced a threat or a jeopardous situation on the Internet. Similarly, Valcke et.al.'s (2007) study revealed that Belgian primary school students encountered various internet safety issues while chatting such as, sharing photographs or personal information with people whom they do not know well or meeting with people whom they met on the Internet.

Establishing a children-safe Internet content and Internet access for whitelists (Varnhagen, 2007), pros and cons of Internet technologies for children and teenagers (Cranmer, Selwyn & Potter, 2009) were the hot issues that have recently been debated by the society, educators and parents. Especially following the widespread use of Internet, the issues such as online safety, pornography, privacy, hatred, harassment, online games containing violence, finding contents in mother tongue, inappropriate information, lack of research skills and Internet awareness which in turns covers all of these issues become a hot debate in the agenda. All of these circumstances necessitate raising and strengthening the Internet awareness of children, enabling safe Internet access and effective and efficient Internet use for children either from their home, school or from any other location. The Internet awareness can be defined as having knowledge on the favorable and unfavorable aspects of the Internet in terms of using it in a safe, effective and efficient manner as well as practicing this knowledge while surfing on the Internet. Children should be aware of favorable and unfavorable aspects that they might face on the Internet. In this respect, the critical evaluation skills and internet-wise of the children should be enriched and strengthened in order to share their opinions safely on the Internet (Varnhagen, 2007). Since, the number of online children and online opportunities for them are increasing day by day.

Recently, home Internet access ratios in Turkey gradually increased from 19.7% (2007) to 24.5% (2008), 30% (2009) and 41.6% (2010). In 2005, this ratio was only 8.6% in Turkey (Turkish Statistical Institute [TSI], 2010). Additionally, between the years 2003 and 2008, 100% of the secondary schools and 94% of the primary schools in Turkey were provided Internet access by the governments (The Ministry of National Education [MoNE], 2010). There were almost eleven thousand students in the primary schools in Turkey in 2008 (MoNE, 2008) and almost all of them had Internet access at their schools. When the numbers of the child Internet users (7 to 14 years old students) who have Internet access out-of their schools were added to the total number of students who have Internet access at their home, it can be fairly claimed that all of the students in primary schools in Turkey have Internet access in some way. However, there is very limited information on what these Turkish primary school students do while they were using Internet, as well as on their perceptions related to Internet

and on their Internet awareness. Similarly, there were very limited study findings related to what parents and teachers think about the children's Internet use habits in Turkey.

According to Turkish Informatics Report of 2002, almost 90% of the teenagers, who are between 7 to 15 years old, use Internet for surfing on either entertainment or useless Web sites (The Council of Internet, 2002). One of the pioneering studies related to Internet and parents that conducted in Turkey, Odabası (2005) found that the parents of primary school children mostly concern the economic and academic aspects of Internet rather than its safety issues. However, Hudley and Shyles (2010) highlighted that both the safety issues and online threats for children should be the focus of the forthcoming studies. One of the ways of examining the pros and cons of Internet for children is to inquire students' opinions on this issue. Thus, a clear picture of the online threats that primary school students might face on the Internet and opinions of the students related to those threats might be figured out through examining their opinions. The purpose of the present study is to examine the opinions of the primary school students on the Internet awareness in Turkish context. To that end, the Internet awareness of the Turkish primary school students will be examined with reference to some variables such as the students' grade levels, gender, having Internet access at home, the location of Internet access, the purpose of Internet use, the occupations of the parents, and the educational background of the parents.

METHODOLOGY

Participants

The participants of this descriptive study were the public primary school students, who have middle socio economic status. The present study was conducted in 2009, in the 4th, 5th, 6th, 7th and 8th grades of three different public primary schools in the city center of Eskişehir. The schools were selected with reference to the socio-economic classification of the schools by the Eskişehir provincial directorate of National Education Ministry. The demographic information of the participants on the subject of their grade levels, gender, having Internet access at home, the location of internet access, the purpose of the internet use, the occupations of the parents, and the educational backgrounds of the parents were provided in Table 1.

Table 1
Demographic Information of Participants

Variable	Subgroups	Frequency	Percent
Grade	4	481	16,52
	5	522	17,93
	6	617	21,20
	7	674	23,15
	8	617	21,20
Gender	Female	1359	46,68
	Male	1552	53,32
Internet at home	Yes	2217	76,2
	No	694	23,8
Internet use location	Home	2208	75,9
	School	87	3,0
	Internet cafe	394	13,5
	My parents' workplace	69	2,3
	Friends' house	70	2,4
	Other	83	2,9
	Homework	2792	95,9
Purpose of the	Gaming	2229	76,6
	Music	1788	61,4
	Chat	1575	54,1

Internet use	Films	1246	42,8
	E-mail	737	25,3
	News	528	18,1
	Other purposes	205	7,0
	Housewife	2081	71,5
Mother occupation	Labor	153	5,3
	Civil servant	499	17,1
	Tradesmen	79	2,7
	Retired	84	2,9
Father occupation	Deceased	15	,5
	Tradesmen	934	32,1
	Laborer	822	28,2
	Civil servant	834	28,6
	Retired	266	9,1
Mother education	Deceased	41	1,4
	Unemployed	14	,5
	No school	49	1,7
	Compulsory education	1378	47,3
	High school	812	27,9
Father education	University	672	23,1
	No school	9	,3
	Compulsory education	807	27,8
	High school	1020	35,0
Total		2911	100,0

Total 2911 (1552 male, 1359 female) students from 4th, 5th, 6th, 7th and 8th grades participated in the study. 53.32% of the participants were male whereas 46.68% of them were female students. Furthermore, 76.2% (N=2216) of all of the participants have Internet access at their home. This ratio is higher than the average (41.6%) of home internet access at home in Turkey. Almost three quarter of all of the participants have Internet access at their home and most of them use it at their home. The main Internet use purposes of the participants were doing homework (95.9%), playing game (76.6%), listening to music (61.4%), and chatting (54.1%). Most of the fathers (88.9%; N=2590) of the participants have an occupation whereas 9.1% (N=266) of them were retired. Specifically, 98% of the fathers of the participants have a regular income. 72% (N=2096) of the mothers of the participants do not have any occupation, and 71.5% of them were housewives. In terms of the occupation of the fathers of the participants, 32.1% of them were tradesmen, 28.6% of them were civil servant and 28.2% of them were laborers. Likewise, in terms of the occupation of the mothers of the participants, 17.1% (N=499) of them were civil servants. Regarding the educational backgrounds of the parents, roughly 1.7% (N=50) of them were non-school graduates whereas almost half (47.3%, N=1377) of the parents were graduates of compulsory education. In terms of the educational backgrounds of the fathers, 36.9% (N=1075) of the fathers were university graduates and 35% (N=1020) of them were the graduates of secondary schools.

Data collection and analysis

The data were gathered by means of a questionnaire that was developed by the researcher. The questionnaire consisted of two sections, which inquire the demographic information about the participants and the opinions of the participants related to their Internet awareness. The demographic information section of the questionnaire included nine items, which specifically inquire the participants' grade levels, gender, having Internet access at home, the location of Internet access, the purpose of Internet use, the occupations of the parents, and the educational backgrounds of the parents. The data obtained by means of the demographic

information section of the questionnaire were used as independent variable to compare the opinions of the participants related to their Internet awareness. The second section of the questionnaire, which inquires the opinions of the participants related to their Internet awareness, included nine three-point Likert type questions. The data were analyzed through descriptive statistics such as frequency, percentages and chi-square. The significance level for all of the statistical calculations was regarded as .05.

All of the participants filled in the questionnaires during their regular class hours in their classes. The questionnaire was photocopied as much as the number of the students in each grade levels in the schools. The counseling services of the schools were asked to help researcher while the participants were filling in the questionnaires. The researcher got prior appointments with the administration of the schools for conducting the questionnaire; informed the counseling services of the schools about the content of the study and questionnaire and the questionnaires were administered by the researcher and four experts under auspices of the regular teachers of each grade level. The total questionnaire fill-in process took roughly 20-25 minutes.

FINDINGS

Table 2 below illustrated the frequencies and percentages of participants' responses for each item on the questionnaire.

Table 2
Summary of Descriptive Statistics for Awareness of the Internet

Item	Disagree		Neutral		Agree	
	N	%	N	%	N	%
I think I have right to have access to the Internet.	142	4.9	443	15.2	232	79.9
I would like to have more information I can utilize on the Internet.	104	3.6	322	11.1	248	85.4
I believe that content on the internet may be harmful to me.	380	13.1	453	15.6	207	71.4
I believe the Internet allows me to think outside the school.	269	9.2	740	25.4	190	65.3
I know who I can get help from when I face a threat online.	254	8.7	590	20.3	206	71.0
I can reach more information about my courses online.	280	9.6	685	23.5	194	66.8
I believe that Internet can develop my computer literacy.	253	8.7	619	21.3	203	70.0
I know that there might be people who may harm me online.	255	8.8	361	12.4	229	78.8
I'm happy that my homework can be seen online.	355	12.2	497	17.1	205	70.7

Gender

The participants' opinions related to harmful content and people on the Internet showed significant difference in terms of their genders [$\chi^2(2)=29.20$; $p=000$, $p<.05$; $\chi^2(2)=35.97$ $p=000$, $p<.05$]. That is, much greater than boys do, girls believed that there are harmful content and people on the Internet. For instance, 75.9% and 83.1% of the girls believed that there are harmful content and harmful people on the Internet respectively, whereas, the ratio was found as 67.5% and 75.1% among the boys. In terms of the contribution of the Internet to the learning process out-of-school, 66.2% of the boys and 64.2% of the girls believed that Internet makes a contribution to their learning in the out-of-school. The difference was significant in terms of the gender

$[\chi^2(2)=3.50; p=000, p<.05]$. Similarly, 69.7% of the boys believed that they can access plenty of course related information via Internet, whereas, 63.6% of the girls hold the same opinion with the boys. Likewise, 73.1% of the boys believed that Internet helps them to develop their computer literacy, whereas, 66.5% of the girls agreed with boys on this issue. The differences in the opinions of the participants on these issues were also significant in terms of their genders $[\chi^2(2)=11.81; p=003, p<.05; \chi^2(2)=15.65; p=000, p<.05]$. Thus, it can be claimed that the awareness of the female students on the harmful sides of the Internet is higher than that of male students, whereas, the awareness of the male students on the educational contribution of the Internet was higher than that of the female students. These differences might stem from the illiteracy of the girls and higher experiences of the boys in the Internet use.

Grade

In terms of the grade levels of the participants, there was a significant difference among the grade levels in considering the Internet use as a right $[\chi^2(8)=101.94 p=000, p<.05]$; besides, considering the Internet use as a right showed an increase from the fourth grade to eighth grade respectively (68.8%; 75.9%; 77.3%; 84.1%; 90%). That is, when the grade levels of the participants get higher, they extensively start to think that the Internet use is a right for them. It was found that, the opinions of the participants related to the idea that there is harmful content on Internet show significant difference in terms of their grade levels $[\chi^2(8)=47.20 p=000, p<.05]$; that is, the participants, who less agreed that there is harmful content on the Internet were the eighth graders (64.5%) and the fourth graders (69.2%), whereas, the participants who mostly believed that there is harmful content on the Internet were the fifth graders (74.9%) and seventh graders (74.2%). Similarly, it can be claimed that the opinions of the participants related to the idea that there are harmful people on the Internet showed significant difference in terms of the grade levels of the participants $[\chi^2(8)=9.80 p=.279, p<.05]$ and the ratios of the agreement of the participants concerning their grade levels were as follows; 78.0%; 81.2%; 81.0%; 78.0% and 76.2% (from fourth grade to eighth grade respectively). As the ratios above revealed, the eighth graders were the ones who less agreed that there are harmful people on the Internet. It was observed that when the ages of the participants get higher, the ratio of agreement with the idea that there are harmful people on the Internet becomes lower, which can be explained with the fact that Internet experience increase along with growing old of the participants. It was found that there was a significant difference in the opinions of the participants in terms of knowing the source of help when they faced a threat on the Internet $[\chi^2(8)=57.16 p=000, p<.05]$. The ratios of the agreement of the participants in terms of knowing the source of help when they faced a threat on the Internet were as follows; 82.7%; 73.6%; 71.0%; 64.8% and 66.5% (from fourth grade to eighth grade respectively). Thus, it can be claimed that the lower grades are better in knowing the source of help when they faced a threat on the Internet. This can be explained with the fact that the young children usually ask for help whenever they faced a threat.

As for the grade levels, there was a significant difference among the opinions of the participants related to the concept that "I can reach more information about my courses online" $[\chi^2(8)=22.51 p=.004, p<.05]$. It was observed that while the participation rates for this opinion were decreasing in the fourth and fifth grades, they increased in the sixth and eighth grades. The participants, who mostly believed that they can reach wealthy information associated with their course subjects on the Internet were the eighth graders (72%); whereas, the fifth graders were the ones who less believed that they can reach wealthy information associated with their course subjects on the Internet (62.6%). It was observed that the satisfaction of publishing their homework on the Internet and their grade levels were significant $[\chi^2(8)=33.32 p=.027, p<.05]$. The participants who mostly satisfied with the publication of their homework on the Internet were the fourth graders (78.2%), whereas, the participants who least satisfied with the publication of their homework on the Internet were the seventh graders (66.5%). That is, it can be claimed that the younger students are the ones who most satisfied with (impressed with) the publication of their homework on the Internet.

Internet at home

In terms of the availability of Internet access at home, there was a significant difference among the opinions of the participants concerning the Internet access as a right for themselves [$\chi^2(2)=47.56$ $p=000$, $p<.05$], that is, the participants, who have internet access at home, mostly believed that the internet access is a right for themselves (82.2), whereas, the participants, who do not have internet access at home, did not regard the internet access as a right for themselves (70.7%). Similarly, with reference to the availability of Internet access at home, there was a significant difference among the opinions of the participants on the idea that there is harmful content on the Internet [$\chi^2(2)=19.03$ $p=000$, $p<.05$]. That is, the participants, who have internet access at home, mostly believed that there is affluent information on the Internet (87%), whereas, the participants, who do not have internet access at home did not share the same opinion as much as others did (80.3%). Thus, it can be claimed that the students, who have internet access at home considered the Internet use as a right for themselves and expected to find more information on the Internet when it is compared to the students who do not have Internet access at their home. Likewise, with reference to the availability of Internet access at home, there was a significant difference among the opinions of the participants on the idea that there are harmful people on the Internet [$\chi^2(2)=10.57$ $p=005$, $p<.05$]. That is, the participants, who have internet access at home mostly believed that there are harmful people on the Internet (80.2%), whereas, the participants, who do not have internet access at home, less often believed that there are harmful people on the Internet (74.3%).

It was also observed that 73.5% of the participants, who know the source of help when they faced a threat on the Internet, were the ones who have internet access at home, whereas, 63.1% of the participants, who know the source of help when they faced a threat on the Internet were the ones who do not have internet access at their home. This difference was significant in terms of the availability of the internet access at home [$\chi^2(2)=28.06$ $p=000$, $p<.05$]. This finding yielded that the students, who have internet access at home, know what to do when they faced a threat on the Internet and they felt more confident when it is compared to the ones who do not have internet access at home. The idea that "Internet improves computer literacy" was significant on behalf of having Internet access at home [$\chi^2(2)=28.74$ $p=000$, $p<.05$]. It was observed that most of the participants (72.6%), who declared that their computer literacy was improved, have Internet access at their home. All of these findings revealed that the Internet awareness of the participants, who have internet access at home, was higher than that of those who do not, and their awareness was particularly high in terms of "knowing what to do when they faced a threat on the Internet" and "improving their computer literacy".

Internet use location

With reference to the location of Internet use, it was found that there was a significant relationship between the location of Internet use and the participants' opinion that there are harmful content on the Internet [$\chi^2(10)=19.14$ $p=038$, $p<.05$]. The analysis of the data revealed that most of the participants used the Internet either at home (71.7%) or at an Internet cafe (67.3%). The opinions of the participants, who believed that there are harmful people on the Internet was significant in terms of having Internet at their home [$\chi^2(10)=24.86$ $p=006$, $p<.05$], that is, 80.3% of those who share this opinion have Internet access at their home. Similarly, it was found that there was a significant relationship between the location of Internet use and knowing the source of help when they faced a threat on the Internet [$\chi^2(10)=58.87$ $p=000$, $p<.05$], that is, 73.6% of the participants, who have Internet access at home, believed that they know the source of help when they faced a threat on the Internet. Thus, the awareness of the participants who have Internet access at home were higher than the participants who do not have Internet access at home, in terms of discerning that there might be harmful content and people on the Internet as well as knowing the source of help when they faced a threat on the Internet.

With reference to the location of Internet access, it was found that there was a significant difference in the opinion of the participants concerning the idea that Internet helps learning out-of-school [$\chi^2(10)=44.20$ $p=000$, $p<.05$]. That is 68.3% of the participants, who believe that Internet helps learning out-of-school, have Internet access at their home. Similarly, it was found that there was a significant difference in the opinion of the

participants regarding the idea that Internet helps to develop computer literacy [$\chi^2(10)=33.10$ $p=000$, $p<.05$], since, 72.5% of the participants, who believe that Internet helps to develop computer literacy, have Internet access at their home. Likewise, 71.7% of the participants, who have internet access at their home, stated that they were satisfied with the publication of their homework on the Internet. This finding was also significant [$\chi^2(10) =12.62$ $p=245$, $p<.05$]. That is, there was a significant relationship between the location of the Internet access and Internet awareness, which in turn might be interpreted as the Internet awareness of the participants, who have Internet access at home, was higher than that of other participants who do not have.

Purpose of the Internet use

With reference to the purpose of the Internet use, there were significant difference among the opinions of the participants in terms of using internet for playing game [$\chi^2(2)=19.07$ $p=000$, $p<.05$]; for listening to Music [$\chi^2(2)=41.96$ $p=000$, $p<.05$]; for checking/reading e-mails [$\chi^2(2)=54.27$ $p=000$, $p<.05$]; for chatting [$\chi^2(2)=113.12$ $p=000$, $p<.05$]; for reading News [$\chi^2(2)=19.84$ $p=000$, $p<.05$] and for watching films [$\chi^2(2)=21.40$ $p=000$, $p<.05$]. It was found that most of the participants, who regarded Internet as a right for themselves, used the Internet for the purpose of playing game (81.7%); listening to music (83.6%); checking/reading e-mails (89.3%); chatting (87.2%); reading News (86.6%) and watching films (83.8%). Thus, it can be claimed that the majority of the participants, who regarded Internet as a right for themselves, used the Internet for fun. It can be claimed that these participants might associate the right of Internet access with the right of access for fun instead of accessing the information on the Internet. In terms of the gender of the participants, who regarded Internet as a right, most of the male participants generally used the Internet for the purpose of playing game (86.6%); checking/reading e-mails (30.8%); chatting (58.7%); reading News (22.6%) and watching films (48.0%); whereas, the majority of the female participants used the Internet only for the purpose of listening to music (67.8%).

It was found that there were significant differences in the purposes of the participants who inquire more information on the Internet related to their subjects; thus, most of the participants who inquire more information on the Internet related to their subjects, used Internet for the purpose of playing game [$\chi^2(2)=32.36$ $p=000$, $p<.05$]; doing homework [$\chi^2(2)=22.08$ $p=000$, $p<.05$]; checking/reading e-mails [$\chi^2(2)=10.23$ $p=006$, $p<.05$]; chat [$\chi^2(2)=6.01$ $p=049$, $p<.05$] and reading News [$\chi^2(2)=18.37$ $p=000$, $p<.05$]. Thus, a good number of the participants, who inquire more information on the Internet related to their subjects, used Internet for the purpose of playing game (87.3%); doing homework (85.9%); checking/reading e-mails (88.3%); chatting (86.4%) and reading News (91.3). Similarly, concerning the purposes of using Internet, it was found that there were significant differences in terms of the purposes of the participants, who believed that Internet improves the computer literacy; playing game [$\chi^2(2)=30.09$ $p=000$, $p<.05$], listening to music [$\chi^2(2)=58.02$ $p=000$, $p<.05$], checking/reading e-mails [$\chi^2(2)=52.13$ $p=000$, $p<.05$], chat [$\chi^2(2)=74.87$ $p=000$, $p<.05$], reading News [$\chi^2(2)=17.00$ $p=000$, $p<.05$] and watching film [$\chi^2(2)=42.25$ $p=000$, $p<.05$]. That is, a majority of the participants, who believed that Internet improves the computer literacy, used internet for playing game (72.5%); listening to music (75%); checking/reading e-mails (80.3%); chatting (76.7%); reading News (77.5%) and watching films (76.3%).

The findings indicated that there were significant differences in terms of the purposes of the Internet use among the participants who believed that Internet eases learning out-of-school, and the significance of these variables were as follows; listening to music [$\chi^2(2)=21.91$ $p=000$, $p<.05$], checking/reading e-mails [$\chi^2(2)=63.58$ $p=000$, $p<.05$], chatting [$\chi^2(2)=26.86$ $p=000$, $p<.05$], reading News [$\chi^2(2)=19.79$ $p=000$, $p<.05$] and watching film [$\chi^2(2)=26.29$ $p=000$, $p<.05$]. Thus, a great deal of participants, who believed that Internet eases learning out-of-school, used the Internet for listening to music (68%); checking/reading e-mails (77.3%), chatting (69.5%), reading News (73.7%) and watching film (70.5%). These findings might indicate that these students make use of Internet out-of-school as well.

Concerning the variable that knowing the source of help when they faced a threat on the Internet, the participants' purposes of using internet showed significant differences in terms of using internet for listening to music [$\chi^2(2)=8.00$ $p=0.18$, $p<.05$], doing homework [$\chi^2(2)=8.17$ $p=0.17$, $p<.05$] and checking/reading e-mails [$\chi^2(2)=14.86$ $p=0.01$, $p<.05$]. In other words, most of the participants, who stated that they know the source of help when they faced a threat on the Internet, used it for the purposes of listening to music (72.4%), checking/reading e-mails (71.2%), and doing homework (71.2%). Similarly, there were significant differences among the Internet use purposes of the participants, who inquire more information on the Internet, especially in the purposes of using Internet for reading News [$\chi^2(2)=6.75$ $p=0.34$, $p<.05$] and for watching films [$\chi^2(2)=10.12$ $p=0.00$, $p<.05$]. The findings also revealed that 96.9 % of the participants who believed that there might be harmful content on the Internet and 97% of the participants, who believed that there might be harmful people on the Internet, used the Internet for the purposes of doing homework. In this respect, the difference among the opinions of the participants were significant [$\chi^2(2)=19.86$ $p=0.00$, $p<.05$; $\chi^2(2)=41.44$ $p=0.00$, $p<.05$]. Likewise, 44.7% of the participants who used the Internet for the purpose of watching films were happy to see their homework on the Internet. In this respect, the difference in the opinions of the participants was significant [$\chi^2(2)=14.10$ $p=0.01$, $p<.05$]. Concerning these findings, especially in terms of Internet use purposes, it can be claimed that the Internet awareness of the participants who used it for the purpose of fun was higher than that of other participants.

Mother occupation

The analysis of the data revealed that the opinion of the participants who believed that there are harmful content on the Internet showed significant difference in terms of the occupation of their mother [$\chi^2(10)=21.29$ $p=0.19$, $p<.05$]; that is, the mothers of a great deal of the participants (72.5%) who believed that there are harmful content on the Internet were housewives. Similarly, concerning the occupations of the mothers, there was a significant difference among the opinions of the participants who believed that Internet provides learning out-of-school [$\chi^2(10)=34.53$ $p=0.00$, $p<.05$]. That is, an important proportion of the mothers (63.1%) of the participants, who believed that Internet provides learning out-of-school, were housewives.

Likewise, concerning the occupations of the mothers, it was found that there was a significant difference among the opinions of the participants who believed that Internet improves the computer literacy [$\chi^2(10)=28.07$ $p=0.02$, $p<.05$]. That is, 67.9% of the mothers of the participants who believed that Internet improves the computer literacy were housewives. Again, concerning the occupations of the mothers, it was found that there was a significant difference among the opinions of the participants who believed that they know the source of help when they faced a threat on the Internet [$\chi^2(10)=35.66$ $p=0.00$, $p<.05$]. That is, a majority (68.8%) of the mothers of those participants were housewives. It was also found that 67.5% of the participants, whose mother were housewife (71.5%), used the Internet at their home. In this respect, it can be claimed that there was a significant relationship between the occupation of the mothers of the participants and their Internet awareness. Especially, the awareness of the participants whose mothers were housewives was higher than that of other participants whose mothers have different occupations. Thus, it can be claimed that the mothers who are housewives concern more about their children's Internet use than that of other mothers who have different occupations.

Father occupation

It was found that a majority (73.3%) of the occupations of the fathers of the participants, who believed that there is harmful content on the Internet, were labors. In this respect, the differences among the opinions of the participants were significant [$\chi^2(10)=41.95$ $p=0.00$, $p<.05$]. Similarly, concerning the occupation of the fathers, the opinions of the participants who believed that Internet provides learning out-of-school was significant [$\chi^2(10)=27.56$ $p=0.02$, $p<.05$]. That is, a great deal of the fathers of the participants who believed that Internet provides learning out-of-school was civil servants (71.1%). It was also observed that concerning the occupations of the fathers, there was a significant difference among the opinions of the participants who believed that Internet improves the computer literacy [$\chi^2(10)=27.47$ $p=0.02$, $p<.05$]. The occupations of the greater part of

the fathers of the participants who believed that Internet improves the computer literacy were tradesmen (70%).

Likewise, concerning the occupations of the fathers, the findings revealed that there was a significant difference among the opinions of the participants who believed that there are harmful people on the Internet [$\chi^2(10)=27.56$ $p=0.002$, $p<.05$]. A large amount of the fathers of these students were tradesmen (74.9%). It was observed that, the occupations of the fathers of the participants who stated that they have Internet access at their home were civil servant (86.7%), laborers (71.5%) and tradesmen (70.2%). Thus, with reference to these findings, it can be claimed that the Internet awareness of the participants whose fathers were civil servants, laborers and tradesmen were higher than that of other participants whose fathers have different occupations.

Mother education

It was found that the mothers of the most of the participants, who believed that there are harmful people on the Internet, were the graduates of a university. This difference was significant in terms of the education of the mothers of the participants [$\chi^2(6)=34.72$ $p=0.000$, $p<.05$]. Likewise, the education background of the mothers of the participants who believed that Internet provides learning out-of-school was significant [$\chi^2(6)=58.13$ $p=0.000$, $p<.05$]. The majority of the mothers (75.3%) of the participants who believed that Internet provides learning out-of-school were university graduates. Similarly, concerning the education of the mothers of the participants, it was also found that the difference among the opinions of the participants who believe that Internet improves computer literacy was significant [$\chi^2(6)=65.94$ $p=0.000$, $p<.05$]. Thus, the majority (80.2%) of the mothers of the participants, who believed that Internet improves computer literacy, were also university graduates.

Concerning the education of the mothers of the participants, it was found that there was significant relationship between the opinions of the participants regarding the Internet as a right and inquiring more information related to their subjects on the Internet [$\chi^2(6)=90.31$ $p=0.000$, $p<.05$; $\chi^2(6)=10.38$ $p=0.110$, $p<.05$]. A great deal (86.6%) of the mothers of the participants, who regarded Internet as a right for themselves and the majority (87.7%) of the mothers of the participants, who inquired more information related to their subjects on the Internet, were university graduates. In this respect, it can be claimed that the Internet awareness of the participants whose mothers were university graduates were higher than that of other participants whose mothers have different education backgrounds. Thus, it can be also claimed that the Internet awareness of the participants are getting higher concerning the education backgrounds of their mothers.

Father education

The findings revealed a significant difference with reference to the educational background of the fathers of the participants, who regarded Internet access as a right for themselves [$\chi^2(6)=100.00$ $p=0.000$, $p<.05$]. It was found that 83.6% of the fathers of the participants, who regarded Internet access as a right for themselves, were university graduates. Similarly, 76.6% of the fathers of the participants, who stated that they know the source of help when they faced a threat on the Internet, were university graduates. In this respect, this difference among the opinions of the participants was significant in terms of the educational background of their fathers [$\chi^2(6)=31.86$ $p=0.000$, $p<.05$].

Likewise, concerning the educational backgrounds of the fathers, there was a significant difference among the opinions of the participants, who believe that there are harmful people on the Internet [$\chi^2(6)=16.48$ $p=0.011$, $p<.05$]. That is, 82% of the fathers of the participants, who believed that there are harmful people on the Internet, were university graduates. Similarly, it was observed that 71.1% of the fathers of the participants, who believed that Internet provides learning out-of-school, were university graduates. This difference was significant [$\chi^2(6)=49.88$ $p=0.000$, $p<.05$]. In the same way, 76% of the fathers of the participants, who believe that Internet improves computer literacy, were university graduates. This difference was also significant [$\chi^2(6)=62.58$ $p=0.000$, $p<.05$]. With reference to these findings, it can be claimed that the Internet awareness of

the students, whose fathers were university graduates, were higher than that of other participants, whose fathers have different educational background.

DISCUSSION

The Internet awareness of the primary school students (4 to 8 grades) were examined with reference to some variables. The findings of the study revealed that there were significant relationships between the opinions of the primary school students about their Internet awareness and the independent variables such as grade levels, gender, having Internet access at home, the location of Internet access, the purpose of the Internet use, the occupations of the parents, and the educational background of the parents.

With reference to the gender of the participants, it was found that the male students have higher Internet awareness concerning the favorable sides of the Internet, which were providing learning out-of the school, improving computer literacy and inquiring more information related to their course subjects. The Internet awareness of female students, on the other hand, were higher than that of the boys concerning the unfavorable sides of the Internet such as there might be harmful people and harmful content on the Internet. This finding can be explicated with the fact that male students use Internet more than female students do. Thus, several studies also revealed that the information technology use habits of people show differences with reference to their genders. Thus, it was also found that male users were highly keen on the information technologies (Kraut et al., 1998; Odell, Korgen & Schumacher, 2000; Schumacher & Morahan-Martin, 2001). Similarly, Cone (2001) stated that the schools and society usually encourage male students more than they encourage female students in terms of their computer use experiences (cited in, Madell & Muncer, 2004).

With reference to the grade levels of the participants, it was found that Internet awareness of the students show significant differences. For instance, it was observed that, when the grade levels of the participants become higher, the awareness of the participants, who considered Internet access as a right for themselves, ~~was~~ increased. On the other hand, when the grade levels of the participants become higher, the awareness of the participants, who believed that there might be harmful people on the Internet, decreased in the same way. The participants, who supported this idea most, were the eighth graders (14 years old). This finding can be explicated with the fact that Internet necessity, Internet awareness and the role of the Internet increased parallel with the increase in the ages of the teenagers. Furthermore, it was also confirmed by other studies that older children use Internet more than that of the younger children do (Turow & Nir, 2000) and older children are more aware of the positive and negative aspects of the Internet (The Council of Internet, 2002). It was observed that the lower grades were wiser in terms of knowing the source of help when they faced a threat on Internet and they were more satisfied with the publication of their homework on Internet. There might be several reasons behind expressing such opinions among the lower grades. First of all, the younger children usually ask for help whenever they faced a threat in any circumstances. Secondly, it is a fact that younger children were less experienced on using Internet than that of the older children do. Furthermore, it was stated by several researchers that the publication of the children's works on the Web increase their motivation (Dixon & Black, 1996; Schofield & Davidson, 2002). In this respect, the lower grades might be more satisfied with the publication of their homework on the Internet, which in turn, might provide a positive attitude among the lower grades towards Internet use.

It was observed that both the fourth graders (10 year olds) and eighth graders (14 year olds) shared almost the same opinions with some of the items in the questionnaire. For instance, both the fourth and eighth graders were the least agreed participants who believe that there might be harmful content on the Internet. This finding can be explicated with the experiences of participants on their Internet use. Since the fourth graders were not well-experienced Internet users, they might not have an idea about such circumstances or since they might not experienced such an unwelcomed threat on the Internet yet; they might state their opinions in this way. On the other hand, since the eighth graders were more experienced Internet users than that of other

grade levels and since they might experience with such circumstances on the Internet before, they might state their opinions in that way.

In terms of the location of Internet use of the participants, the Internet awareness of the participants, who have Internet access at their home, were higher in relation with some of the variables such as; knowing that there might be harmful people and harmful content on the Internet, knowing the source of help when they faced a threat on the Internet, thinking that Internet provides learning out-of-school, and thinking that Internet improves skills related to computer use. This can be explicated with the fact that children believe that Internet access at home is safer than that of accessing it in any other location. Similarly, Odabaşı (2005) found that parents believe that Internet access at home is safer for their children. However, Cranmer, Selwyn and Potter's (2009) study revealed that the children, who participated to their study, were not aware of the fact that there might be cyber-stalking, games with harmful content, and commercial exploitations on the Internet.

With reference to the purpose of the Internet use of the participants, it was observed that participants who regarded the Internet access as a right for themselves used the Internet mostly for fun. Regarding this finding, it can be claimed that these participants might associate the right of the Internet access with the right of access for fun instead of accessing to the information on the Internet.

In terms of the genders of the participants, when the opinions of the participants, who regarded the Internet access as a right for themselves compared with their purpose of Internet use, it was found that male students used the Internet mostly for playing games (86.6%), for checking/reading e-mails (30.8%), for chatting (58.7%), for reading news (22.6%) and for watching films (48.0%). On the other hand, it was found that the female students mostly used Internet for the purposes of listening to music (67.8%). In this respect, the finding of Aslanidou and Menexes' (2008) study is considerable since they found that male students used Internet mostly for playing games. Similarly, Cranmer, Selwyn & Potter (2009) found that children use home internet access mostly for playing games and reading/checking e-mails. It was found that the most (87.3%) of the participants, who inquire more information on the Internet related to their course subject, and the majority (72.5%) of the participants, who believe that Internet improves their skills on computer use, used the Internet for the purposes of playing games. Likewise, the studies conducted in the Turkish context (Ersoy & Yaşar, 2003; Ersoy & Türkkan, 2009; Orhan & Akkoyunlu, 2004) revealed that the primary school students mostly used the Internet for the purposes of playing games. Similarly, Aslanidou and Menexes's (2008) study, which was conducted in the Greece context, revealed that the students, who are 12 to 18 years old, mostly used Internet for the purposes of fun and communication.

The findings of the present study revealed that Internet awareness of the participants whose mothers were housewives were higher than that of the participants whose mothers have different occupations. That is, the participants whose mothers were housewives have a higher Internet awareness than that of other participants whose mothers have different occupations concerning the variables such as there might be harmful content for children on Internet, Internet provides learning out-of-school, Internet improves the computer literacy, and knowing the source of help when they faced a threat on the Internet. In this respect, it can be claimed that the mothers, who are housewives, concern more about their children's use of Internet habits than that of other mothers who have different occupations.

With reference to the occupations of the fathers of the participants, the participants, whose fathers were laborers, believed that there might be harmful content on the Internet, whereas, the participants, whose fathers were civil servants, mostly believed that internet provides learning out-of-school. On the other hand, the participants, whose fathers were tradesmen, mostly believed that Internet improves their skills on computer use and there might be harmful people on the Internet. In this respect, it can be claimed that the awareness of the participants, whose fathers were tradesmen, civil servants and laborers, is higher than that of other participants whose fathers have different occupations. In connection with the educational background of

the parents, it was found that Internet awareness of the participants, whose parents were university graduates, was higher than that of other participants, whose parents were graduates of other schools. In this case, it can be claimed that the Internet awareness of the parents increase when their educational backgrounds are higher. The studies in the literature (Vekiri, 2010; Vryzas & Tsitouridou, 2002) also indicated that the educational backgrounds of the parents play an important role in the use of the information technologies by their children. Concerning the findings of the present study, some suggestions were offered in the following section. First of all, in order to increase the Internet awareness of the female students, some school or home based activities which lead them to familiarize with the constructive features of the Internet can be organized. Additionally, both male and female students might be informed about the constructive features of the Internet and all of the students should be encouraged to make use of such characteristics of the Internet. It was observed that the Internet awareness of the students increased concerning the educational backgrounds of their parents. Therefore, it might be very facilitative when the parents are trained, informed and collaborated on the effective and efficient use of the Internet by their children. Especially, the mothers, who were housewives, might be trained on the Internet awareness issues. As for suggestions for further studies, researchers might conduct qualitative studies with a limited number of the students through observation and interview techniques.

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A COMPARISON OF COMPUTER ANXIETY AMONG INDIAN AND IRANIAN UNIVERSITY STUDENTS

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ABSTRACT

The purpose of this study was to compare computer anxiety among Indian and Iranian university students in relation to country, faculty and gender. A total of 800 post-graduate students of different faculties and departments of Panjab University (India) and University of Tehran (Iran) were the subjects of the present study. The data were collected through computer anxiety rating scale (CARS) validated by Embi (2007). 2x2x2 ANOVA design was employed to study computer anxiety of Indian & Iranian male & female university students belonging to different faculties. The results indicated that country type, faculty type and interaction between country and faculty had significant effect on university students' computer anxiety scores.

Keywords: computer anxiety, country, faculty, gender.

INTRUCTION

Computer anxiety is a concept specific anxiety type; that regularly occurs in a specific type of situation (Harris & Grangennet, 1997). Today the computer is a part of everyday life, and the case is same with college students. According to Rossen, Sears and Weil (1987), computer interaction will be, or already is, an integral part of most academic majors. In 1993, researchers Rosen and Weil reported that some type of technophobia now afflicts one third of college students (Deloughry, 1993), and the numbers have never been higher. In the move towards computerizing education and the workplace, a substantial number of students and workers who have been left behind are computer anxious.

Computer anxiety, defined by Raub (1981), is "the complex emotional reactions that are evoked in individuals who interpret computers as personally threatening". One study (Mcdonald, 1983) estimated that approximately 30 to 35% of all computer users experience some level of anxiety when they first encounter computer technology. Computer anxiety manifests itself in many forms and results in a number of common fears. Users are afraid that they will break the computer or destroy vital information. They feel awkward and fear looking stupid. Computers seem to have almost human characteristics and their speed can make people feel like the machine is smarter than they are. They feel overwhelmed by the technology and their lack of understanding is expressed as "if I'm so far behind already, how will I ever catch up? (Raub, 1981).

Research has established firmly that stress and anxiety reduce performance effectiveness. Elder et al., (1987), Howard and Smith (1986) and Igbaria and Chakrabarti (1990) suggested that computer anxiety and stress may cause some individuals to avoid using computers completely. The presence of computer phobic and anxious people in the work- place can lead to other serious performance problems, including sabotage, decline in motivation, work quality and moral; and increase in mistakes, absenteeism, interpersonal conflicts, and turnover (Morgan, 1990).

Literature on computer anxiety offers conflicting theories. Researchers (Loyd & Gressard, 1984; Howard & Smith, 1986; Glass & Knight, 1988; Necessary & Parish, 1996) support the theory that increasing computer

experience will decrease computer anxiety. Necessary and Parish (1996) found that college students with little or no computer experience have more anxiety than those students that have computer experience. The results of their study revealed that “increased levels of computer experience and balance of weekly computer usage were both related with reduced levels of computer related anxiety”.

It appears likely that students studying information systems and computer sciences will possess the lowest levels of computer anxiety due to their experience with technology and their interest in using technology. Sam, Othman & Nordin (2005) revealed that Undergraduates from the Faculty of Computer Science and Information Technology (FCSIT) had significantly better computer self-efficacy than undergraduates from Faculty of Applied and Creative Arts (FACA) (Ellis & Allaire, 1999; Sam, Othman & Nordin 2005).

Studies also suggest a discrepancy in computer anxiety levels among different demographic sectors, such as country type and gender. For example, studies by (Chua, , Chen and Wong ,1999 ; King , Bond and Blandford, 2002; Okebukola and Woda,1993 ; Todman , 2000) supported this idea that female university undergraduates are generally more anxious than male undergraduates, Earlier research has also indicated that computer anxiety is associated with country type . Rosen and Weil (1995) conducted a cross cultural comparison of university students in ten countries . Results indicated that each country possessed a unique culture-dependent model of computer anxiety. For two countries (United States and Australia), Interactive Computer Learning Anxiety included learning to operate a computer plus encountering computer problems. For the eight other countries, Interactive Computer Learning Anxiety captured only the aspect of learning to operate and program computers while a separate Computer Victimization factor dealt with anxiety surrounding computer problems. The Observational Computer Learning Anxiety and the Consumer Technology Anxiety factors also differed between countries.

Erkan (2008) also found that not only country type played an important role on computer anxiety scores but also gender differences was affected by different culture. His results indicated that Turkish students have significantly higher computer anxiety levels than the Dutch students. The students' computer anxiety levels do not differ depending on gender. However, post-hoc analysis revealed that Turkish female students have significantly higher computer anxiety levels than the Dutch female and Dutch male students. Brosnan and Lee (1998) investigated gender differences between university students of United Kingdom and Hong Kong. For the United Kingdom sample, there were no gender differences in computer anxiety. For the Hong Kong sample, males reported greater computer anxiety than females.

AIM OF THE STUDY

Above literature review provides a theoretical framework construct to find correlates of computer anxiety among Indian and Iranian university students. Because there is a general belief among people in developed countries that students in developing countries are in the high level of computer anxiety (Ede and Panigrahi 1998). By identifying the correlates of computer anxiety; researchers, managers, educators, and trainers may be better able to structure learning and training experiences to minimize deleterious effects of computer anxiety (Broome and Havelka , 2002) .

Thus, the present study was performed to study computer self-efficacy of Indian and Iranian university students in relation to :

Gender

Different faculties (science, Arts)

Interaction between country type and Gender

Interaction between country type and different faculties (Science, Arts)

Interaction between gender and different faculties (Science, Arts)

Interaction between country and different faculties (Science, Arts), Gender.

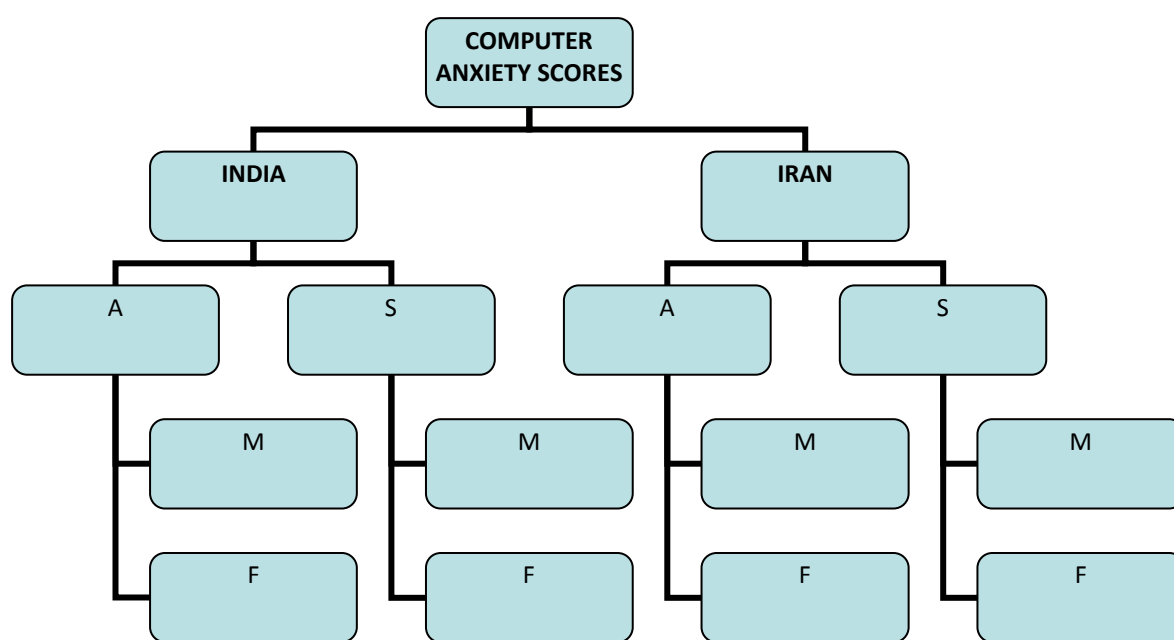
Hypotheses

- H1: There is no significant difference between computer anxiety scores of Indian and Iranian university students.
- H2: There is no significant difference between male and female university students' scores on computer anxiety.
- H3: There is no significant difference between Indian and Iranian students computer anxiety scores belonging to different faculties, Arts / Education and science.
- H4: There is no significant interaction between country type and gender with regard to students' computer anxiety scores.
- H5: There is no significant interaction between country type and faculty with regard to students' computer anxiety scores.
- H6: There is no significant interaction between gender and faculty with regard to students' computer anxiety scores.
- H7: There is no significant interaction among country type, faculty type and gender with regard to students' computer anxiety scores.

Design of the study

The study adopted a descriptive survey research design to find out the correlates of computer anxiety among Indian and Iranian students.

2x2x2 ANOVA design was employed to study computer anxiety of Indian and Iranian male & female university students belonging to different faculties.



A : Arts S : Science M : Male F : Female

Figure 1 Design of the study

RESEARCH DESIGN AND DATA COLLECTION

Sample design

800 post-graduate students of different faculties and departments of Panjab University (PU) and University of Tehran (UT), were the subjects of the present study.

Both Indian and Iranian students belonging to science and arts faculty were equally 50 per cent. Both Indian and Iranian students belonging to Computer science, biotechnology, statistics, physics, chemistry, education, mass communication, geography, psychology and political science departments were equally 10 percent.

About 46.5 per cent of the Indian students were male whereas 53 percent of Iranian students were male. Remaining 53.5 percent of the Indian students were female whereas 47 percent of Iranian students were female.

Instrumentation

There are many researchers who have developed scales to measure computer anxiety. This study used Computer Anxiety Scale by Embi (2007) who slightly modified the version of the Computer Anxiety Scale (CARS) developed by Hienssen Glass and Knight (1987). In the pilot test, questionnaire was distributed among 20 faculty members at UITM in Malaysia. The overall reliability coefficient of the scale was .74.

The instrument with 18 statements of which eight were positively and ten were negatively worded are based on a 4 point Likert type scale designed as: strongly disagree (1), moderately disagree (2), moderately agree (3) and strongly agree (4). The direction of item scores is reversed for negatively worded items, so that a response of strongly agree is given a value of 1, agree value of 2, and so on. All positively worded CARS response items (8 items) were reversed prior to analysis so that the higher scores on all items indicated a higher level of anxiety. The overall computer anxiety score varies from 18 to 72, showing the lowest level of computer anxiety to the highest level of computer anxiety.

Reliability

The reliability of the overall Computer Anxiety Scale and its domains have been derived by employing Cronbach's alpha for both Indian students (N=50) and Iranian students (N=50) separately by the researcher as demonstrated in Table 1.

Table 1
Cronbach's alpha reliability for different domains of computer anxiety

Country	Domain	Cronbach's alpha
India	General anxiety about ability to use computers	.70
	Confidence in ability to learn about computers	.68
	Motivation/necessity to learn about computers	.78
	Power and control of computers	.69

	Total computer anxiety scale	.81
Iran	General anxiety about ability to use computers	.78
	Confidence in ability to learn about computers	.67
	Motivation/necessity to learn about computers	.76
	Power and control of computers	.70
	Total computer anxiety scale	.84
Total	General anxiety about ability to use computers	.73
	Confidence in ability to learn about computers	.67
	Motivation/necessity to learn about computers	.77
	Power and control of computers	.71
	Total computer anxiety scale	.83

Further, in order to know the demographic characteristics of the university students, the tool also included the name of the country, the name of the faculty and gender.

Validation in Indian and Iranian Universities

The computer anxiety measures obtained from this scale have a close resemblance to the ratings given to the Indian and Iranian students on a 4 point scale: relaxed, generally relaxed, anxious and very anxious by students. The coefficient of correlation for Iranian students was .806 (N =50). The coefficient of correlation for Iranian students was .704 (N =50).

Data collection

Data were collected in 2009. It took about six months to collect data from 800 Indian and Iranian students. Before collection of the data selection of faculties and departments was done on the basis of randomization technique. It was necessary to take permission in some departments from the chairperson. Then, students of different sections of class in a particular department were selected randomly. It was also taken care to select both female and male students equally in each department. Rapport was established with them and standardized instructions were read out for each tool. Students were encouraged to give correct information and were assured that these are to be used only for research purpose and will remain confidential. Participants took between 15 and 25 minutes to complete the questionnaires. It was checked that they answered all the statements.

DATA ANALYSIS

1. The comparison of computer anxiety levels for Indian and Iranian university students

Total computer anxiety scores were computed by summing each respondent's computer anxiety values for all

18 questions. All positively worded statements (8 items) of the CARS were reversed scored prior to analysis so that the higher scores on all items indicated higher levels of computer anxiety. The possible total composite score of levels of computer anxiety ranged from 18 to 72 higher level of computer anxiety. The computed total computer anxiety scores were categorized as (a) very relaxed, 18 to 31; (b) generally relaxed, 32 to 45; (c) anxious, 46 to 59; (d) very anxious 60 to 72.

Table 2 displays that 85 per cent of the Indian and 90 per cent of Iranian respondents were categorized as either very relaxed or relaxed. Only 13.8 per cent of Indian and 10.5 per cent of Iranian respondents were categorized as anxious. None of the Iranian respondents and only 1 per cent Indian students fell under the category of very anxious.

Table 2
The percentages of levels of university students' computer anxiety in India and Iran

Country	Very Relaxed		Generally relaxed		Anxious		Very anxious	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
India	129	32.3	212	53.0	55	13.8	4	1.0
Iran	169	42.3	189	47.3	42	10.5	-	-
Total	298	37.3	401	50.1	97	12.1	4	.5

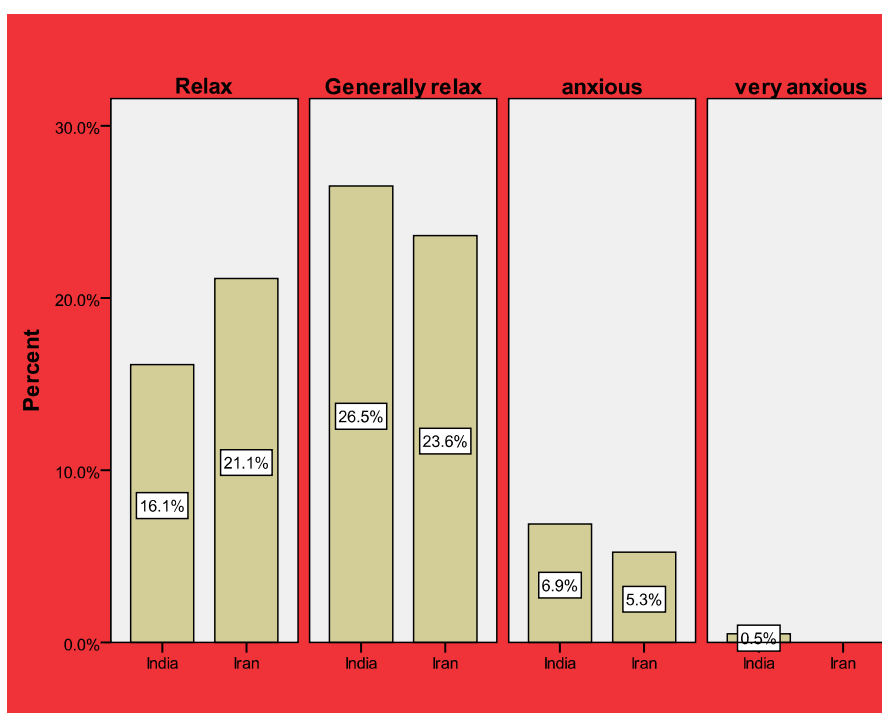


Figure 2 Bar diagrams showing the comparison levels of computer anxiety between Indian and Iranian university students.

2. Analysis of computer anxiety scores

2x2x2 ANOVA was employed for analyzing computer anxiety scores for the above mentioned hypotheses.

Table 4.15
Means and SDs of sub-samples of computer anxiety scores

Country	Gender	Faculty	Mean	Std. Deviation	N
India	Male	Science	36.3158	8.48686	95
		Arts	36.2857	8.60269	91
		Total	36.3011	8.52061	186
	Female	Science	36.0769	8.25879	104
		Arts	36.0818	9.59083	110
		Total	36.0794	8.94733	214
	Total	Science	36.1910	8.34809	199
		Arts	36.1741	9.13480	201
		Total	36.1825	8.74129	400
Iran	Male	Science	32.4727	8.26589	110
		Arts	35.5490	14.02517	102
		Total	33.9528	11.48160	212
	Female	Science	34.3736	9.11732	91
		Arts	36.5052	8.59763	97
		Total	35.4734	8.89357	188
	Total	Science	33.3333	8.69157	201
		Arts	36.0151	11.67942	199
		Total	34.6675	10.36148	400
Total	Male	Science	34.2537	8.56658	205
		Arts	35.8964	11.76017	193
		Total	35.0503	10.26022	398
	Female	Science	35.2821	8.68922	195
		Arts	36.2802	9.11942	207
		Total	35.7960	8.91625	402
	Total	Science	34.7550	8.63112	400
		Arts	36.0950	10.46541	400
		Total	35.4250	9.60962	800

Table 2
Summary of 2x2x2 ANOVA for computer anxiety scores

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Result
Country	430.682	1	430.682	4.717	.030	S
Gender	70.883	1	70.883	.776	.379	NS
Faculty	338.854	1	338.854	3.711	.050	S
Country * gender	131.944	1	131.944	1.445	.230	NS
Country * faculty	408.436	1	408.436	4.473	.035	S
gender * faculty	2.097	1	2.097	.023	.880	NS
Country * gender * faculty	11.016	1	11.016	.121	.728	
Error	72314.897	792	91.307			
Total	1077728.000	800				
Corrected Total	73783.500	799				
S - The mean difference is significant at the 0.05 level NS – The mean difference is not significant at the 0.05 level						

Main effects

Country

F-ratio for the difference in the computer anxiety scores of Indian and Iranian universities was found to be significant at 0.05 level of confidence. This suggested that the university students of the two countries were significantly different in respect to their total mean scores on computer anxiety. An examination of the means of the two countries revealed that Indian students (mean = 36.1825) were more anxious as compared to Iranian students (mean = 34.6675). Hence, H1 was rejected.

Gender

F-ratio for the difference in the computer anxiety scores of students of Indian and Iranian universities regarding to gender was found to be not significant even at 0.05 level of confidence. Hence, H2 was retained as both male and female university students in the two countries exhibited comparable computer anxiety scores.

Faculty

F-ratio for the difference in mean scores on computer anxiety of Indian and Iranian university students with respect to different faculties arts / education and science was found to be significant at the level of 0.05 level of confidence. Thus, H3 was rejected as students who belonged to science (mean = 34.7550) were less anxious about computers than students belonging to education /Art faculty (mean = 36.0950).

Gender x country (G X C)

F-ratio for the interaction between gender and country type was not found to be significant even at the 0.05 level of confidence. This suggests that gender and country type do not interact to yield significant difference on the students' computer anxiety scores. This study could not provide sufficient evidence to reject the null hypothesis H4.

Faculty x country (F X C)

F-ratio for the interaction between faculty and country type was found to be significant at the 0.05 level of confidence. Thus, H5 was rejected as faculty and country type interact to yield significant difference on the students' computer anxiety scores. Moreover, the observation of mean differences of two faculties regarding to two countries on computer self-efficacy scores show that mean differences of two faculties related to only Iranian students so that science students (mean =33.3333) had more self-efficacy than arts students (mean = 36.0151).

Gender x faculty type (G X F)

F-ratio for the interaction between gender and faculty type was not found to be significant even at the 0.05 level of confidence. This suggests that gender and faculty type do not interact to yield significant difference on the students' computer anxiety scores. This study could not provide sufficient evidence to reject the null hypothesis H6.

Country x Faculty x Gender (C X F X G)

F-ratio for the interaction among country type, faculty type and gender was not found to be significant even at the 0.05 level of confidence. Thus, H7 was retained as the three variables were independent of one another with regard to computer anxiety scores.

FINDINGS

The descriptive results of this paper showed that 85 per cent of the Indian and 90 per cent of Iranian respondents were categorized as either very relaxed or relaxed. Only 13.8 per cent of Indian and 10.5 per cent of Iranian respondents were categorized as anxious. None of the Iranian respondents and only 1 per cent Indian students fell under the category of very anxious.

Findings related to analysis of computer anxiety scores revealed that country, faculty and interaction between country and faculty had significant effect on university students' computer anxiety scores. In other words, Indian students exhibited more computer anxiety as compared to Iranian students. Students who belonged to science were less anxious about computers than students belonging to education /Art faculty.

EDUCATIONAL IMPLICATIONS

Results of the study indicated high computer anxiety for those students from Faculty of Arts and Education than students who belonged to Science faculty. E- skills training programs for teachers and students should be included in the curriculum from the school level so that anxiety towards computers specifically and technology in general is reduced.

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DETERMINING INTERPERSONAL ATTRACTION IN EDUCATIONAL ENVIRONMENT AND THE RELATION WITH MOTIVATION

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ABSTRACT

The main aim of this research is behaviors and motivations of the students on the instructor's social, physical and instructional attractiveness. This research is a descriptive work. 258 students (133 female and 125 male) who studied in 2008-2009 term at Anadolu University Communication Sciences Faculties Journalism, Cinema and Television, Public Relations, Advertising and Communication departments participated in the research. The instructor's social, physical and instructional attractions and motivations were determined by using 5-point Likert scale. The findings of this research will be additions for determining and arguing the instructor's responsibilities, besides educational ones as a communication director, for taking the students' participation and success levels to a higher degree. Existing perceptions of the students on interpersonal attraction will be introduced in this research. The participants are students enrolled in the courses of two professors, two associate professors, two assistant professors and two lecturers who are the staff of Communication Sciences Faculties and in both genders.

Keywords: Interpersonal attraction, motivation in education, instructor's qualities.

INTRODUCTION

One of the human behaviors that has been tried to be explained is that a particular person seems attractive to us while somebody else does not or that we seem attractive to some people while not to other people. The concept of attractiveness can be a determinant factor on the development and continuation of relations in social environments where interaction takes place.

The concept termed as "attractiveness" or "interpersonal attraction" in psychology is defined as the tendency of someone to have appreciation and positive feelings towards someone else (Turunç, 2009). McCroskey and McCain (1974) put forth two factors as important in their research about the place of attractiveness in interpersonal communication: (a) The more people find someone attractive, the more they can have communication with that person and (b) the more someone is found attractive, the more (s)he has an influence on them during communication. It is possible to explain interpersonal attraction through different theories. This study includes the Learning Theory and the Theories of Cognitive Balance and Class Generalization.

The understanding which explains interpersonal attraction through the Learning Theory benefits from theories of classical conditioning. According to this, if one is pleased with his environment, he shows a tendency to find people in that environment attractive and to get closer with those people. In the light of the Learning Theory, it is possible to note four factors determining interpersonal attraction. These factors comprise of closeness,

familiarity (being known or acquainted), beauty (physical appearance) and similarity in the environment. One who attributes one or several of these factors to someone can find him/her attractive (Gökdağ, 2004).

a) Closeness and Familiarity in the Environment

Closeness between people is pointed as one of the reasons why people find each other attractive. The fact that people sharing an environment have more potential to interact with each other and this closeness leads to a familiarity can be a guiding principle to explain the attractiveness attributed to people. What is important at this point is not the content of the interaction between two people but the feelings of appreciation and attraction invoked by familiarity formed through such closeness. Closeness leads us to get to know someone and to obtain information about him/her. Thus, one's chance to predict the known person's next behaviors is more than one who is totally a stranger to this known person.

In an experimental research carried out to determine the influence of closeness on interpersonal attraction, a woman entered into different classrooms and sat there without speaking to anyone. This woman who had never been seen by anyone in the classrooms was seen 15, 10 or 5 times in these classrooms. Then, among the students who were asked how attractive they found this woman, those who saw the woman longer found her more attractive and beautiful compared to the students who saw the woman for a shorter period of time (De Vito, 1989). People who are physically closer to each other are more accessible than those who are distant. Positive or negative interpersonal relations take place between people who know or frequently see each other (Kaypakoğlu, 2008).

b) Beauty (Physical Appearance)

Physical attractiveness comes to the fore in face to face communication. There are research which put that beautiful people are perceived to be more interesting, warm, extrovert and socially more talented than people who are not beautiful (Kaypakoğlu, 2008). Duran and Kelly (1988) note that attractive people are thought to be more successful, popular, sociable, persuasive and happy than unattractive people according to the belief "the beautiful is good."

In a research carried out to determine the influence of physical attractiveness on communication, students who were shown a persuasive presentation and video were asked to evaluate the presenters with the condition to take the verbal and non-verbal variables of communication into consideration. As a result of the research, it was demonstrated that the attractive speakers were found more fluent and persuasive than unattractive speakers (Duran and Kelly, 1988).

c) Similarity

The influence of attitudes on attractiveness should not be disregarded. There are different points of view on this matter. For example, similarity of attitudes increases attractiveness, which means that people who have common views, thoughts and values find each other more attractive. Another point of view is that people of opposite characteristics satisfy each other's needs and have features complementing each other and that this complementariness becomes determinant on interpersonal attraction (Ergin and Birol, 2000; Gökdağ, 2004; Turunç, 2008). Apart from some exceptions, people of similar national, racial background, common skills, similar physical features, level of intelligence and attitudes find each other attractive (DeVito, 1989). In his research in which he observed friend relationships of male university students staying in a dormitory, Newcomb handled the way students appreciated certain attitudes, values and other people at different intervals within a period of eight weeks. As a consequence of his research, similarity increases as attitudes are shared and students stay longer in the dormitory. Newcomb found a positive relationship between similarities of attitudes and finding each other attractive (Zanden, 1987).

It is also a fact that people find those who do not resemble to themselves attractive. For example, one can find features that (s)he does not have attractive. In this case, differences are taken into more consideration than similarities (Kaypakoglu, 2008).

The understanding which explains interpersonal attraction through the Theory of Cognitive Balance benefits from the views of Heider and Newcomb. According to the balance theory of Heider (1958) who tries to determine the ways people perceive and organize their relations with other people and their environment, one, in interpersonal relationships, has the tendency and the need to turn an unbalanced situation into a balanced one and to be consistent in his/her attitudes and behaviors towards and relations with other people. Inconsistency and unbalance will lead to an internal stress, and people will try to decrease this tension and to have harmony with others again (Dönmez, 1987). Within the scope of this approach, the relationship between the source, the receiver and the object of attitude is pointed out with the components of the communication period taken into consideration. The individual who becomes content reaching a balanced condition makes an effort to maintain the continuity of the communication (Secord and Backman, 1974).

Webster and Driskell (1983) put forth their views on the Theory of Class Generalization and physical attractiveness. To them, attractiveness is one of the widespread class features in the culture which determine cognition and behavior. People who are physically more attractive are perceived to be more intelligent than others (Jackson, Hunter and Hodge, 1995).

Apart from the factors above, prestige, money, power and certain personal characteristics can be determinant on interpersonal attraction (DeVito, 1989).

Attractiveness in Educational Communication

In the process of educational communication, the source is usually the instructor, and a good instructor should have certain educational and personal qualifications. The source should have certain personal qualifications to put his/her general knowledge, field information and an ability to teach into practice. These are reliability, attractiveness, patience, tolerance, regularity, being a good director and researcher and the symbols of body language. Among these symbols are body posture and movements, the style of dressing, facial expressions, eye contact and tone of voice (Şimşek, 2000). High reliability is one of the most important features that the source should have. In general, there is a positive relationship between the expertise, honesty and likeability of the source and his/her ability to persuade (Ergin and Birol, 2000; Dönmez, 1987).

Apart from his/her basic duties to plan, to introduce the information, to manage the class, to take the needs of students into consideration, to evaluate success, to do cooperation, to direct students and to motivate them for success, a successful educator should have the features of a source who inaugurates communication during the communication period (Şimşek, 2000). Travis and Giuliano (2007) note that while they have an evaluation of their instructor, students pay attention to his/her intelligence, sense of humor, politeness, being a role model, physical attractiveness, whether (s)he has anything in common with them and his/her personal intimacy.

In conclusion, it can be said that an instructor who shares more values with his/her students is found more intimate by his/her students. It is possible to express this case in the jargon of communication as that the extensity of a common living space leads to attraction and facilitates the sharing of messages (Şimşek, 2000).

In this study, the skills and abilities of the instructor in his/her social and emotional relationship with students are categorized as social attractiveness; his/her nice and elegant outfit and special care for his/her cleanness and dressing are categorized as social attractiveness; his/her effective use of class hours and technology, and realization of democracy in the classroom are categorized as instructional attractiveness. These categorizations

are performed under the umbrella of interpersonal attraction and the relationship between these factors and the learner's motivation is questioned:

The main goal of this study is to determine the attitudes and motivation of the learners towards the instructors' social, physical and instructional attractiveness during educational communication. In this respect, answers to the following questions were investigated:

1. Is there a relationship between attraction subgroups and title of academicians?
2. Is there a relationship between attraction subgroups and academicians?
3. Is there a relationship between attraction subgroups and motivation?

It is thought that the findings derived at the end of the research will help the teacher, who is a director of communication apart from his main educational responsibilities, to determine and discuss the main factors that will increase the students' participation and success.

METHOD

This study is a descriptive one which investigated the opinions of students studying at the Faculty of Communication Sciences, Anadolu University about the social, physical and instructional attractiveness of instructors. The study also investigated the relationship between these opinions and class motivation. The study, as a descriptive work, aimed to bring forth the original perceptions of the students.

The participants of the research were composed of 258 voluntary students who studied in Journalism, Cinema and Television, Public Relations, Advertising and Communication Departments of Communication Sciences Faculty in Anadolu University during the term, 2008/2009. Of the participants, 133 were female and 125 were male. These students were selected on voluntary basis by two professors, two associate professors, two assistant professors and two lecturers from the Communication Sciences Faculty among their officially registered students.

In the research, the instructor's social, physical and instructional attractiveness and motivations were determined by using 5-point Likert scale. The researcher used the scale by McCroskey and McCain (1974) to develop the questions regarding social and physical attractiveness while those regarding instructional attractiveness and motivations were developed using scale by Ellis (2000). Social attractiveness placed under the title of interpersonal attractiveness is explained through the social abilities and status of the person. The abilities of people in their social and emotional relationships can be an influential factor in their making friendship (Jones and the others, 2007, 267). In the scale developed by McCroskey and McCain (1974), such communicational capabilities as the evaluator's seeing the evaluated person as a friend, his/her getting acquainted with the evaluated and his/her patterning himself/herself on the evaluated, his /her not having problems in personal relationships are dealt within the scope of social attractiveness. In the category of physical attractiveness, the evaluated one's nice and elegant outfit and his/her care for cleanness and dressing were handled. The researcher added to these items propriety and fluency of the speech, and the tone of the voice. Within the context of instructional attractiveness, the lecturer's effective use of class hours and his/her realization of democracy in the classroom were handled. In respect of class motivation, the student was expected to assess the course and the content of the course.

The scale prepared was evaluated by two experts in terms of the clarity, cultural harmony, language and content of the items, and some corrections were made where necessary as a result of the criticisms. In the next stage, a student was asked to answer the questions in the scale. At the end of all these stages, a scale of 40 questions was prepared. The reliability coefficient of the scale was calculated to be 0,95 (Cronbach's alpha). Also, on the basis of sub-factors, the Cronbach's alpha values reached were 0,71 for social attractiveness, 0,88 for physical attractiveness, 0,89 for instructional attractiveness and 0,92 for motivation (Table 1).

Table 1
Reliability Analysis Results of Scale

Scale Subgroups	Alpha
(A) Social Attraction	0,71*
(B) Physical Attraction	0,88*
(C) Instructional Attraction	0,89*
(D) Motivation	0,92*
All Scale Items	0,95*

In the light of the explanation above, the results of the this study and the guide study, which was performed by McCroskey and McCain (1974), were nearly the same; 0,84 (Cronbach alpha) for social attraction and 0,86 (Cronbach alpha) for physical attraction. . The researchers who studied on the same issue had reached similar results. (Duran & Kelly, 1988; Wheelless, Frymier & Thompson, 1992).

RESULTS

Kruskal Wallis Test was performed to test whether there was a significant difference between the scale scores of faculty and faculty titles. The results of this analysis can be seen in Table 2. The results of the analysis indicates that there is a significant difference in the medians (For instructional attraction $p < .005$ and for other subgroups $p < .000$.) There is significant difference between the attraction subgroups and instructor title.

Table 2
Difference between the scale scores of faculty and faculty titles

	Social	Physical	Instructional	Motivation
Chi-Square	24,988	31,687	10,056	18,341
df	3	3	3	3
Asymp. Sig.	,000	,000	,018	,000

Table of mean ranks indicates that assistant professors have highest score for social attractiveness; professors have highest score for physical attractiveness (Table 3). For instructional attractiveness and motivation, professors have highest scores in all titles. Correlation test was performed to figure out relation between titles and subscale scores. The results of correlation analysis indicate that there is no significant relation between them.

Table 3
Mean ranks of titles for subscale groups

	Title	Mean Rank
Social	Instructor	120,13
	Assist.prof.	156,46
	Assoc.prof.	102,36
	Prof.	145,58
Physical	Instructor	97,48

	Assist.Prof.	152,44
	Assoc.Prof..	118,08
	Prof.	196,15
Instructional	Instructor	120,93
	Assist.Prof.	144,50
	Assoc.Prof..	117,88
	Prof.	170,23
Motivation	Instructor	115,03
	Assist.Prof.	150,42
	Assoc.Prof..	111,92
	Prof.	172,65

Kruskal Wallis Test was performed again to test whether there was a significant difference between the scale scores of academicians and their names. The results of this analysis can be seen in Table 4 (The names of the academicians are nicknames, not real). The results of the analysis indicates that there is a significant difference in the medians (For all subgroups $p < .000$.) According to these, there is a significant difference between academicians for attraction subgroups.

Table 4
Difference between the academicians for scale scores

	Social	Physical	Instructional	Motivation
Chi-Square	47,352	46,314	33,969	52,471
df	7	7	7	7
Asymp. Sig.	,000	,000	,000	,000

Table of mean ranks indicates that Ayşe has highest score for social attractiveness; Derya has highest score for physical and instructional attractiveness and motivation (Table 5). These results seem to be consistent with previous analysis result.

Table 5
Mean ranks of academicians for scale scores

	Faculty	Mean Rank
Social	Ayşe	169,48
	Yusuf	147,54
	Ekrem	68,32
	Selim	159,90
	Derya	145,58
	Emre	146,48
	İnci	96,42
	Nedret	138,34
Physical	Ayşe	179,32
	Yusuf	140,58
	Ekrem	95,93
	Selim	153,47
	Derya	196,15
	Emre	120,54
	İnci	76,73
	Nedret	141,49

Instructional	Ayşe	130,65
	Yusuf	154,45
	Ekrem	80,58
	Selim	140,41
	Derya	170,23
	Emre	142,98
	İnci	101,08
	Nedret	157,31
Motivation	Ayşe	140,62
	Yusuf	149,10
	Ekrem	84,93
	Selim	155,27
	Derya	172,65
	Emre	167,83
	İnci	67,50
	Nedret	140,44

In order to understand attraction concept in education process, we calculated a coefficient of correlation between the different subscales (Social Attraction, Physical Attraction, Instructional Attraction and Motivation). The results can be seen in Table 6.

Table 6
The relationship between subgroups

		Social	Physical	Instructional	Motivation
Social	Pearson Corr.	1	,558**	,624**	,638**
	Sig. (2-tailed)		,000	,000	,000
Physical	Pearson Corr.	,558**	1	,566**	,640**
	Sig. (2-tailed)	,000		,000	,000
Instructional	Pearson Corr.	,624**	,566**	1	,809**
	Sig. (2-tailed)	,000	,000		,000
Motivation	Pearson Corr.	,638**	,640**	,809**	1
	Sig. (2-tailed)	,000	,000	,000	

The results showed that instructional attraction scores were highly correlated with motivation scores (Pearson correlation, $r=0.80$, $p<0.001$). The students reported instructional attraction; they reported being motivated more with course and learning. Pearson correlation between social and physical attraction ($r=0.558$), social and instructional attraction ($r=0.624$), social attraction and motivation ($r=0.638$), physical and instructional attraction ($r=0.566$), physical attraction and motivation ($r=0.640$) were too high ($p<0.001$). There is strong relation among social, physical and instructional attraction and motivation. Furthermore, the relationship between instructional attraction and motivation was remarkable.

Regression analyses were performed in order to understand influence of attraction subgroups to motivation. The results are given in Table 7. The model refers to motivation when instructional, physical and social attraction used as predictors. R square is a measure of how much of the variability in the outcome is accounted for by the predictors.

Table 7
The power of attraction subgroups to explain motivation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,846 ^a	,715	,712	7,30503	1,757

R^2 value is 0.712, which means that instructional, physical and social attraction account for 71% of variance in motivation scores. According to the results, the power of motivation of three subscale groups (Social Attraction, Physical Attraction, and Instructional Attraction) is 71%.

Regression analyses were performed again in order to understand influence of every attraction subgroup to motivation. The results are given in Table 8. The Model 1 refers to motivation when instructional attraction used as predictor. The Model 2 refers to motivation when physical attraction used as predictor. And the Model 3 refers to motivation when social attraction used as predictor.

Table 8
The power of every attraction subgroup to explain motivation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,809 ^a	,655	,654	8,00395	1,640
a. Predictors: (Constant), Instructional b. Dependent Variable: Motivation					
2	,640 ^a	,410	,407	10,47393	1,854
a. Predictors: (Constant), Physical b. Dependent Variable: Motivation					
3	,638 ^a	,408	,405	10,49126	1,676
a. Predictors: (Constant), Social b. Dependent Variable: Motivation					

For Model 1 R^2 value is 0.655, which means that instructional attraction account for 65% of variance in motivation scores. The power of influence motivation of instructional attraction is 65%. The power of influence motivation of physical attraction is 41% ($R^2=.410$) and the power of influence motivation of social attraction is 40% ($R^2=.408$). According to results, instructional attraction is the most influent attraction subgroups to explain motivation.

The power of motivation of on social, physical, and instructional attraction subscale groups was 71%. When this value is compared with the power of instructional attraction to influence motivation (65%), it is seen that instructional attraction is an important quality to determine motivation.

CONCLUSION

The results of this study demonstrate that attraction subgroups change according to academicians' titles and academicians themselves but it depends on qualities of people. There is very strong correlation between social, physical, instructional attraction and motivation. Although the relation of all subgroups is strong, the relation between instructional attractiveness and motivation is striking.

The results of the study demonstrate that instructional, physical and social attractions explain 71% of motivation. On the other hand, instructional attraction explains 65% of motivation alone. It is a high rate and confirms the other results. These results alone imply that attractiveness determines motivation but instructional attractiveness is more important variable for motivation.

It should be noted that this is an independent study conducted in one faculty. Although the results seem to be consistent with the findings of previous research in related areas, further research should be carried out in other institutions of education to reach more powerful conclusions.

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A STUDY OF THE RELATIONSHIP BETWEEN HIGH SCHOOL PRINCIPALS' HAPPINESS AND EFFECTIVE INSTRUCTIONAL MANAGEMENT

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ABSTRACT

This study was focused on high school principals' happiness and effective instructional management and also the relation between them. The methodology of this research was descriptive and correlative. The two questionnaires employed here were "*The Oxford Happiness Questionnaire*" and "*Principal Effectiveness Measures*" with five component measures of effective principal. SPSS 15 was used to produce Mean; Standard Deviations; Pearson Product Moment Correlation (r); t -test; and ANOVA. The results of the study showed that the high school principals described their happiness in high level and also in overall marked high scores on effective instructional management and components of effective management: Organizational Commitment (OC); Sense of Community (SoC); Productivity and Effort (PaE); Job Satisfaction (JS); and Employee Morale (EM). There was relatively high positive correlation between principals' happiness and effective instructional management and components of effective management. The analysis of data showed that there were no significant differences on principals' happiness and effective instructional management in terms of their background, such as age, sex, marital status, teaching and management experiences.

Keywords: High school principals, Happiness, Effective instructional management, components of effective management.

INTRODUCTION

According to Honefelder (1986) happiness is a phenomenon that has taken on an almost mythical dimension for mankind. Philosophers such as Lao-Tse, Aristotle, Blaise Pascal, poet and author Thomas Mann, the Brothers Grimm or Henrich von Kleist, noted that happiness is relevant to most (if not all) people. In addition to philosophers, writers and poets have argued that in 20th century, along with scientists in psychology, sociology, education and economics, happiness plays a part in their fields.

Almost all people would like to be happy. Argyle (2001:1) believed that for most people, happiness is the main, if not only, "ultimate objective in life". Frey & Stutzer (2000a:148) stated that happiness can be understood as "lasting, complete and justified satisfaction with life as a whole". Argyle (2001) refers to three aspects which can be used to define happiness. Happiness can be understood as (1) a state of joy or other positive emotion, (2) as being satisfied with one's life, or (3) the absence of depression, anxiety or other negative emotions.

Most people would agree that happiness has some effects on behavior. For example, by displaying positive non-verbal communication, happy people have better social relations and deal with conflicts constructively. They also have better social skills (Berry & Wilingham 1997). Happy people also smile more often than others or are more optimistic (Myers & Diner, 1996).

Some researchers believe that happiness is equivalent to "pleasure", "well-being" and even "positive psychology". For example, Mill (1993: 144) wrote: "By happiness is intended pleasure, and the absence of

pain". Kahneman and Schwarz (1999) stated that, recognizing all the complications we've discussed so far, social scientists today often use well-being as a definition of happiness.

Currently, in organizational behavior, very few research has been initiated which delineate psychological wellbeing of employees from the perspective of happiness (Bohem and Lyubomirsky, 2008). Earlier, wellbeing was correlated to work performance and quality of work life. It was assumed that the greater the wellbeing at workplace, the greater the performance, productivity and commitment of employees.

In the present scenario, the term "wellbeing" has been defined from varied perspectives and it is now widely accepted that to measure the success of an organization, the wellbeing of employees must be considered in terms of "happiness" (Aristotle, 1947; and Deci and Ryan, 2008). Happiness indicates the highest of all goods achievable by human actions and the feelings accompanying behavior in the direction of, and consistent with, one's true potential. It also indicates whether and to what extent an individual is dealing with the existential challenges of life, focusing on self-realization and whether the person is fully functioning, leading to satisfaction in all aspects of life (Ryff, 1989).

According to Dean (2010) studies have shown that: Happy people are kinder and more helpful to others i.e. increased altruism; happy people are more successful and show more effective leadership; they have better physical health, adding up to nine years to life expectancy; they have better mental health, i.e. less depression, and a more healthy self esteem; happy people can think more effectively and expansively; happy people are more likely to change the world in a positive way than unhappy people; and instructor's happiness is correlated with high participation rates in school activities. Nadler et al. (in press) found out the people are with better mood [happiness] have better performance. Indeed they believe theories of mood and its effect on cognitive processing suggest that positive mood may allow for increased cognitive flexibility.

PRINCIPALS' HAPPINESS

Accordingly, the study on principals' happiness is of utmost importance, as the effective functioning of the educational system partially depends on it. Recent signals, however, report feelings of dissatisfaction, overload and workload among school principals (Devos & Vanderheyden, 2002; Vandenberghe et al., 2003). Principals are a part of a larger interpersonal system. Their people oriented job characterized by the art of working with teachers, gaining public approval, coping with rules and regulations imposed by governments, are situational and environmental conditions that affect their status of happiness. In McGrath's model (1976) two subsystems are distinguished, which help to explain the emergence of occupational happiness due to situational conditions. One of these subsystems involves the physical environment which provides the context within which the worker carries out his or her duties. This system can produce several sources of negative and positive happiness such as level of autonomy, skill variety, work load, task difficulty and task ambiguity. The second subsystem, social-interpersonal subsystem, defines the social framework within which the focal person interacts with superiors, subordinates and peers, and is characterized by role ambiguity, role conflict, role overload and support as potential antecedents of happiness. In sum, it is expected that school principals who get easily impatient or are very competitive focused will experience more negative happiness, whereas those who are achievement oriented will experience higher positive well-being.

According to Edgar (2005), caring for oneself and having a high sense of happiness is probably the most significant building block of the work/life challenge. Self-care is examined as part of a New Zealand study (Trenberth & Drewe, 2002) on the importance school principals give to leisure as a means of coping with stress. Whilst high rates of burnout were found, school principals also suggested that "being totally focused" was an important reason for engaging in active/challenging leisure (providing a total change from work) and passive leisure as a recuperative mechanism. Similarly, Burford (2004) emphasizes the importance of nurturing personal interests as a way of providing a sense of purpose and bring joy to life. Trenberth and Drewe (2002)

make the point that in part, leisure has a role to play in preventing and ameliorating stress and burnout. Fullan (2005) develops a concept called cyclical energizing, which reflects similar notions and emphasizes the importance of recuperation. Duke (1998) also contends that energetic, change-oriented leaders require "down time". They can better face the rigours of "turning a school around" if they know that a sabbatical or short-term job change awaits them. The finding of Prasad (2008) showed that happier principals are more likely to follow a humanistic leadership style and that the teams led by happier leaders would experience greater happiness at the work place.

HAPPINESS AND EFFECTIVE PRINCIPALS

It is very difficult to define "effective principals". They are individuals who pursue their leadership capabilities to foster the school's philosophy with farsighted horizons; they understand the diverse characteristics of their school and their stakeholders, and they promote a team building spirit to generate collaboration and commitment to fulfill their mission. O'Hanlon and Clifton (2004: vi) observed effective principals as individuals "who exhibit the principles of positive psychology in their everyday work, and bring to their school something extra that produces greater growth for all involved".

Effective principals begin with a clear understanding of their destination. They have a clear map in their mind about the position of the school, where it is heading, what the challenges are, and how to satisfy the stakeholders (Blackaby & Blackaby, 2001). They inspire the teachers and students by presenting a realistic vision for the school. They do future planning for the growth of the school, teachers, and students (Everard et al., 2004). They share their vision from the top to the bottom (teachers to students and parents). They can visualize the big picture and take initiative to face the upcoming challenges through problem solving skills (Marzano et al., 2005).

School Principals/leaders have a multiplier effect, they can put in place conditions that help or hamstring effective teaching. One reason for this, research shows, is that effective principals can attract and retain good teachers, while poor leadership has the opposite effect. Principals are the central figure of school organization. What they say, do or think has a significant effect on organizational performance (Spark, 2007). A principal's interaction and participation can increase learning climate, productivity, achievement and school reputation (Sergiovanni, 2007). The accomplishments of a school and even whether or not it achieves its goals and mission can be determined by the principal's effectiveness in their vision, both foresight and hindsight (Blackaby & Blackaby, 2001). A principal's effectiveness can have a positive effect on student academic achievement, organizational management, and staff development. Their leadership can promote human relationships, management motivation, collegial relationships, school improvement; and collaboration with stakeholders including students, teachers, parents, staff, and the community. A good principal envisions a mission for the school that accomplishes the needs of the community (Hoerr, 2008; Barth, 2006). Only effective principals can deal with the fast-paced changes and the demanding expectations of today's society (LaPointe & Davis, 2006). Without effective leadership, it is not possible to have "harmonious development" of each student. Only effective principals can excite the support of constituents, stakeholders, teachers, students, parents and community.

Much of the research on principal effectiveness focuses on measures of principals' dispositions and feelings of overall effectiveness. As one example, in a study of 96 principals, Leithwood and Jantzi (2008) find that the school principal's sense of collective self efficacy positively predicts the schools' achievement levels. Other studies emphasize management styles or orientations, as with the large body of work on instructional management and transformational management (e.g., Marks & Printy, 2003). Leithwood et al. (2004) and Hallinger (2005) similarly conduct reviews of the literature on how school principals impacts student achievement and conclude that leaders tend to impact student learning through their influence on school staff and structures.

In a recent meta-analysis, Robinson et al. (2008:636) use the results of 22 studies of these two approaches to compare the effects of instructional and transformational management on student outcomes. They estimate that the average effect of instructional management on student outcomes is three to four times greater than the effect of transformational management. In a second analysis, the authors analyze survey items from 12 of the studies and inductively identify five management dimensions: (1) establishing goals and expectations; (2) resourcing strategically; (3) planning, coordinating, and evaluating teaching and the curriculum; (4) promoting and participating in teacher learning and development; and (5) ensuring an orderly and supportive environment. They find the strongest effects on student outcomes from dimension (4), followed by dimensions (1) and (3). Combining the findings from the two analyses, the study concludes that "the more principals focus their relationships, their work, and their learning on the core business of teaching and learning, the greater their influence on student outcomes".

Effective principals concentrate on various management skills (Dessler, 2008). They engage teachers, parents and other stakeholders in planning, organizing, directing, coordinating and evaluating to advance the school and improve achievement (Bernardin, 2007; Everard et al., 2004). Effective principals ensure efficiency and take action if standards are not met. They follow "due process" to implement the policies of the governing board for recruitment, selection, appointment, ranking appraisal and disciplining the teachers and staff (Bernardin, 2007; Dessler, 2008).

Effective principals provide teachers with opportunities for professional growth and development by providing feedback (Sergiovanni, 2007). They use reward and recognition (intrinsic and extrinsic) to empower their teachers and staff (Blasé & Blasé, 1994; Sergiovanni, 2000). Effective principals provide training, seminar, conference, workshop, and other services for teachers and students to increase the organizational standards (Blasé & Blasé, 2004). They clarify the practices and reinforce positive interactions within the school (Mandel, 2006; Robbins, 2005).

Effective principals care for both people within the school and people outside the school by building caring relationships (Noddings, as cited in Reed & Johnson, 2000). Effective principals maintain and communicate with students, parents, colleagues, school leaders, supervisor, board members, and the community who are directly or indirectly related with the teaching profession. They nurture collegiality and collaboration among stakeholders to generate respect and credibility (Barth, 2006). They unite teachers to increase professional commitment and minimize doubt, competition, and uncertainties among teachers and other administrators (Blasé & Blasé, 2004).

Strong instructional leaders are described as hands-on with curriculum and instruction issues, unafraid to work directly with teachers, and present often in classrooms. While the focus on instructional management waned somewhat in the 1990s as transformational management received greater research attention, interest in instructional management in the literature has been invigorated by the accountability and school improvement movements, which have re-emphasized the role of the principal in facilitating instructional quality (Hallinger, 2005). Scholars also have argued for other approaches, such as Marks and Printy's (2003) "integrated management" approach, which combines instructional and transformational management. This research concludes that the most effective schools are the ones in which the two models coexist. As instructional leaders, principals can foster an understanding of the school vision, facilitate implementation of the mission, and establish the school climate. Ubben and Hughes (1992) stated that principals could create a school climate that improves the productivity of both staff and students and that the leadership style of the principal can foster or restrict teacher effectiveness.

In a follow-up book, Nanus (1992) described the process of, and the necessity, of principals' developing vision. Effective Principals were those who developed, communicated, and implemented a strong vision for their

organization. The best Principals were those who transformed their vision into a shared vision among the various stakeholders of an organization. As for education, Nanus stated that schools placed too much emphasis on the past and should provide for opportunities for problem-finding, not just problem-solving skills. Kouzes and Posner (2002) examined the field of leadership and identified five practices of exemplary management. The authors paid particular attention to the interpersonal relationships that they felt were at the heart of effective leadership. They acknowledged that most effective leaders possessed a sense of self-worth and morality, and they recognized the value of celebrating the accomplishments of others.

Happiness research in social and community psychology has identified sense of community as one aspect of a person's social relationships that is consequential for happiness (Davidson & Cotter, 1991; Farrell et al., 2004; Prezza et al., 2001; Prezza & Constantini, 1998). Sense of community (SoC) was defined by Sarason (1974:1) as "the sense that one was part of a readily supportive network of relationships upon which one could depend". This concept concerns community connections and the influence they provide in achieving personal and collective goals. In addition to well-being, research has reported associations between SoC and participation in one's community (Davidson & Cotter, 1989; Obst et al., 2002), the community's social and physical qualities (Kim & Kaplan, 2004; Kingston et al., 2000; Pretty, 1990; Puddifoot, 2003), and length of residence in the community (Tartaglia, 2006) among other things (see Fisher et al., 2002). In the studies concerning SoC and life satisfaction, Prezza et al. (2001) reported statistically significant zero-order correlations ranging from 0.22 to 0.52 in six samples. In an earlier study the statistically significant correlations were 0.23 and 0.38 in their samples of a small city and a small town, respectively (Prezza & Constantini, 1998). Other studies have shown that social relationship variables such as SoC have a complex relationship with well-being.

Davidson and Cotter (1991) showed that, while SoC and happiness were correlated, they had different determinants. Sense of community, but not well-being, was significantly associated with participants' evaluations of the quality of their community, neighborhood and local government. Further, Farrell et al. (2004) have shown that SoC can act to mediate the effects of other variables on well-being. In their study the quality of participants' neighboring behaviors had no direct effect on wellbeing, only an indirect one through SoC. On the basis of studies to date which have investigated the links between SoC and happiness, a model of happiness was developed combining economic and psychological approaches.

The links between productivity and human happiness are of interest to many kinds of social scientists. Argyle (1989, 2001) points out that little is understood about how life satisfaction affects productivity, but that there is (some) evidence that job satisfaction exhibits modestly positive correlations with measures of worker productivity. Wright and Staw (1998) find a significant and sizeable effect of long term happiness on productivity. More specifically, Boehm and Lyubomirsky (2008) preliminarily define a happy person as someone who frequently experiences positive emotions like joy, satisfaction, contentment, enthusiasm and interest. Then, by drawing on both longitudinal and experimental studies, they show that people of this kind are more likely to be successful in their careers.

Fritz et al. (2010) indicated that higher levels of self-reported detachment were associated with higher levels of significant other-reported life and job satisfaction as well as lower levels of emotional exhaustion. In addition, they found curvilinear relationships between psychological detachment and coworker reported job performance (task performance and proactive behavior). Thus, although high psychological detachment may enhance employee happiness, it seems that medium levels of detachment are most beneficial for job performance.

RESEARCH METHODOLOGY

The methodology of this research was descriptive and correlative. The two questionnaires employed here were "The Oxford Happiness Questionnaire" of the Hills & Argyle (2002) and "Principal Effectiveness Measures" with

five component measures of effective principal of the Amram (2009). Internal consistency reliability was estimated by Cronbach's alphas. For "The Oxford Happiness Questionnaire" an alpha of .87 and for "Principal Effectiveness Measures" an alpha of .95 was obtained. Of the 110 high school principals (69 female and 41 male) 86 valid samples (54 female and 32 male) were produced in each questionnaire by the targeted high school principals in Zahedan City (IRAN). SPSS 15 was used to produce Mean; Standard Deviations; Pearson Product Moment Correlation (r); t-test; and ANOVA.

RESULTS

The purpose of this study was to explore the current situation of high school principals' happiness and effective instructional management and also the relationship between them. The first focus was on the current situation upon principals' happiness, effective instructional management and components of effective management. Next, the researcher further investigated how principals' happiness and effective instructional management differ in terms of their background, such as age, sex, marital status, teaching and management experiences.

The figures at table 1 show that the high school principals described their happiness in high level and also in overall marked high scores on effective instructional management and components of effective management: Organizational Commitment (OC); Sense of Community (SoC); Productivity and Effort (PaE); Job Satisfaction (JS); and Employee Morale (EM).

Table 1
Mean and Std. D. of principals' happiness, effective instructional management and components of effective management (N=86)

Variables	Mean	Std. D.
Principals' Happiness	99.3782	13.01694
effective instructional management:	96.7409	17.63058
Organizational Commitment	28.0004	5.00162
Sense of Community	14.2674	1.89589
Productivity and Effort	11.3702	1.89142
Job Satisfaction	22.8762	3.83828
Employee Morale	15.8528	3.16298

There was relatively high positive correlation between principals' happiness and effective instructional management and components of effective management (Table 2).

Table 2
Correlation between principals' happiness, effective instructional management and components of effective management (N=86)

Variables	Principals' Happiness
Principals' Happiness	1
effective instructional management:	.217(*)
Organizational Commitment	.208(*)
Sense of Community	.276(*)
Productivity and Effort	.371(**)
Job Satisfaction	.323(**)
Employee Morale	.351(**)

*P < .05 **P < .005

In tables 3 and 4, the computation of t-test showed that there were no significant differences between sex, marital status and years of management experience groups, however, the principals who got the higher scores on happiness were those who were male, married and more than six years of management experience. Also the computation of ANOVA about age and years of teaching experiences groups showed that there were no significant differences between the groups, however, it seems that principals who got the higher scores on happiness in comparison with other groups were 36 to 40 years old and between 11 to 15 years of teaching experiences.

Table 3
Mean, Std. D. and T-test of principals' happiness by sex and marital status (N=86)

	Sex	N	Mean	Std. D.	df	T
Happiness	Male	32	101.6720	14.14452	84	1.262
	Female	54	98.0188	12.23374		
		N	Mean	Std. D.	df	T
Marital Status Happiness	Single	11	98.1907	14.34934	84	-.322
	Married	75	99.5523	12.90592		

P > .05

Table 4
Mean, Std. D., t-test and ANOVA of principals' happiness by age and years of teaching and management experience (N=86)

Age	N	Mean	Std. D.	df	F
31-35	22	93.7712	12.06164	3, 82	2.106
36-40	32	102.2460	13.00408		
41-45	19	101.3367	13.16045		
46 - Over	13	98.9450	12.77141		
Years of Teaching Experience	N	Mean	Std. D.	df	F
0 - 5	9	98.6915	14.03667	4, 81	.960
6 - 10	13	96.2270	10.52513		
11 - 15	18	103.4318	13.47892		
16 - 20	32	97.4086	13.09576		
21 - Over	14	102.0357	13.69932		
Years of Management Experience	N	Mean	Std. D.	df	T
0 - 5	30	99.0287	12.73703	84	-.181
6 - 10	56	99.5654	13.27479		

P > .05

In tables 5 and 6, about the effective instructional management, the computation of t-test showed that there were no significant differences between sex, marital status and years of management experience groups, however, the principals who got the higher scores on effective management were those who were male, married and less than five years of management experience, and also the computation of ANOVA about age and years of teaching experiences groups showed that there were no significant differences between the groups. However, it seems that principals who got the higher scores on effective management in comparison with other groups were 41 to 45 years old and between 11 to 15 years of teaching experiences.

Table 5
Mean, Std. D. and T-test of effective instructional management by sex and marital status (N=86)

Sex	N	Mean	Std. D.	df	T
Happiness	Male	32	100.7500	15.68850	84 1.639
	Female	54	94.3651	18.41453	
Marital Status	N	Mean	Std. D.	df	T
Happiness	Single	11	91.9740	16.11854	84 -.960
	Married	75	97.4400	17.83425	

P > .05

Table 6
Mean, Std. D., t-test and ANOVA of effective instructional management by age and years of teaching and management experience (N=86)

Age	N	Mean	Std. D.	df	F
31-35	22	94.6688	16.05405	3, 82	.281
36-40	32	97.4375	20.21966		
41-45	19	99.2105	17.53276		
46 - Over	13	94.9231	14.52849		
Years of Teaching Experience	N	Mean	Std. D.	df	F
0 - 5	9	97.5556	10.03881	4, 81	.868
6 - 10	13	90.4615	18.44187		
11 - 15	18	101.0952	18.70367		
16 - 20	32	95.1875	19.73606		
21 - Over	14	100.0000	13.66072		
Years of Management Experience	N	Mean	Std. D.	df	T
0 - 5	30	99.3667	16.24486	84	1.011
6 - 10	56	95.3342	18.31569		

P > .05

DISCUSSION

In this research paper researcher has argued that answers to the questions “does happiness influence effective instructional principals and to the contrary”, if so, how and how much? In fact, the focal point of this study was if the principal’s happiness influences his/her effective management in school and contrary. In general the happiness of school principals in Iran is rather high. Furthermore, researcher has found relatively high positive relationship between principal’s happiness and effective instructional principals and components of effective management (see tables 1 and 2). On the basis of the results, the factor ‘happiness’ plays an important role in effective management, so, other researchers have found that the hope, optimism, happiness, and resilience have positive influence in some important work attitudes e.g. organizational commitment (Blasé & Blasé, 2004; Lyubomirsky, 2008); sense of community (Hoerr, 2008; Barth, 2006; Mandel, 2006; Robbins, 2005; Davidson & Cotter, 1991; Farrell, Aubry, & Coulombe, 2004; Prezza, Amici, Roberti, & Tedeschi, 2001; Prezza & Constantini, 1998; Davidson and Cotter, 1991); productivity and effort (Wright and Staw, 1998; Ubben and Hughes, 1992); job satisfaction (Fritz et al., 2010; Argyle, 1989, 2001); and Employee Morale (Reitman, 2009; Mallick, 2009; Adiele, 2009). The results indicated that higher hopefulness impacted the ability to handle diverse situations at work. Consequently, more happiness would likely stay longer in the organization because they inherently felt

like it. The results of the analyses indicated that there were no significant differences between two variables by sex, age, marital status and job experiences.

Overall satisfaction with life (happiness) also contributed to feeling good towards the organization and work, reflected in positive affective and normative commitment and no relationship with continuance commitment. Happiness showed a strong relationship with job satisfaction (Judge & Watanabe, 1993) comparable to affective commitment. Brodbeck et al. (2007) and Luthans et al. (2006) have found positive but not significant relationship between generalized self-efficacy and job satisfaction. The results of this study also support the finding that happiness is positively and significantly related to job satisfaction (Judge & Bono, 2001). These findings establish that there is indeed a positive influence of positive characteristics on organizational commitment, job satisfaction and so on. Past research on the consequences of components of effective management found that these attitudes result in higher role performance in some contexts (DeCotiis & Summers, 1987; Shim & Steers, 2001; Satjkovic & Luthans, 1998). Thus organizations may be well-advised to look for positive people as employees. Though this appears common-sense in hindsight this study is among the first few to empirically establish this link.

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THE EFFECT OF COMPUTER-MEDIATED FEEDBACK ON SECOND LANGUAGE READING COMPREHENSION

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ABSTRACT

The purpose of this study is to assess the potential of computer-mediated feedback for improving second language (L2) reading comprehension. To fulfill the purpose of the study, 60 upper-intermediate learners of English were randomly divided into two groups as experimental and control groups. The subjects of the experimental group were asked to read 8 prose passages, which ranged between 280 and 310 words in length, and answer multiple-choice questions after they have read each passage. Participants received immediate feedback in the form of Answer-Until-Correct (AUC) feedback for multiple-choice items. Results indicated that the students who received the computer-mediated feedback improved their reading comprehension significantly compared to their peers in the control group who did not receive feedback.

Key words: Multiple-choice test, Answer-Until-Correct feedback, L2 reading comprehension.

INTRODUCTION

Feedback is an essential component in the learning and it explains the gaps in knowledge and understanding, providing for reflection and development. Feedback at its best is pivotal in the learning and assessment process (Orrell, 2006). Research on how students perceive feedback and what aspects of feedback are most valued by students, is providing insight into how best to provide feedback to maximize its usefulness in evaluation and in transforming learning (Orsmond et al., 2005).

For feedback to be most effective, it should be appropriate and timely (Ramsden, 1992). In the context of feedback on assessment tasks, this means within a timeframe that allows students to recall their responses and the understanding that informs their decisions. Shute (2008) defined feedback as the information communicated to the learner to modify his or her thinking or behavior for the purpose of improving learning, and then agreed that providing students with timely feedback is important.

Now, with our electronic age, most feedback is converted to digital and online environments. Feedback provided through online assessment programs offers several advantages over the feedback provided by instructors. Specifically, computer-mediated feedback can provide immediate feedback on individual responses regardless of class size or the time at which an assignment is completed, and this feedback can remain unbiased, accurate, and non-judgemental, irrespective of student characteristics or the nature of the response (Mandernach, 2005).

Despite the fact that models and guidelines recommending pedagogically sound practices for incorporating Internet-based materials exist (e.g., Brandl, 2002; Chun & Plass, 2000) major concern is that the number of such examples remains limited. Likewise, guidelines for offering a reading course via the Internet are similarly few. However, evidence exists to support the assumption that integrating reading with computer-mediated support improves ESL students' reading skills (e.g., Chun & Plass, 1996; Williams & Williams, 2000). Accordingly, this study attempts to bridge this gap by examining the impact of computer-mediated feedback on improving reading comprehension among upper-intermediate ESL students.

FEEDBACK IN CALL

Wager and Wager (1985) defined feedback in computer-based instruction as "any message or display that the computer presents to the learner after a response". Two commonly used feedback formats in CALL studies are verification feedback and elaborative feedback (Kulhavy & Stock, 1989). Verification is the simple judgment of whether an answer is correct or incorrect while elaboration is the informational component providing relevant cues to guide the learner toward a correct answer (Mandernach, 2005).

The verification feedback can be given in the form of knowledge of response (indication of whether the answer was received and accepted by the system), knowledge of results (KR) (information about correctness or incorrectness of the response), or knowledge-of-correct response (KCR) (presenting of the correct answers) feedback.

The elaborative feedback can address the topic and/or the response, discuss the particular errors, provide worked examples or give gentle guidance. In the elaborated feedback (EF) the system presents not only the correct answer, but also additional information – corresponding learning materials, explanations, parts of problem-solutions etc.

Answer-Until-Correct (AUC) is a common form of elaborative feedback which provides students with the correct response by having them continue responding until they select the correct answer. Answer until correct feedback is also known as multiple try feedback (MFT). MFT requires students to make multiple tries at answering the same item if and with the added knowledge that their previous or initial response was incorrect.

PREVIOUS STUDIES

There are a number of studies that investigated the effectiveness of computer-based feedback on L2 acquisition. Nagata (1996), for example, investigated the impact of intelligent computer feedback and paper-based feedback on developing learners' grammatical skill in producing Japanese particles and sentences. The results of the study indicated significant differences in the performance of students who received intelligent computer feedback in comparison to students who received paper-based feedback.

Research conducted by Persky and Pollack (2008) also found significant differences in performance (test scores) between students who received Elaborative computer-based feedback in the form Answer-Until-Correct for their errors in comparison to the students who did not receive feedback. However, Clariana's (2000) study in contrast to Nagata (1996) and, Persky and Pollack (2008), found no significant learning effect for students who received Elaborative computer-mediated feedback on their errors. Nevertheless, Ferris (2003) explains how indirect feedback, or Elaborative feedback from a CALL perspective, is generally thought to be conducive to long-term student development; it forces students to think about their own errors and self-correction, thereby leading to: "... increased student engagement and attention to forms and problems" (p. 52).

ANSWER-UNTIL-CORRECT METHODOLOGY

To gain a picture of readers' understanding of a text, researchers and instructors measure comprehension after the reading is complete, and some of the most widely used comprehension assessment measures are multiple choice questions, written recalls, close tests, sentence completion, and open ended questions. The most common comprehension test is multiple-choice questions (Brantmeier, 2003).

While most multiple-choice testing requires test takers to select one answer and move on to the next question, the answer-until-correct method forces learners to select answer choices until the correct answer is chosen. A positive aspect of this method is that the last answer the learner makes is the correct one and the ability to continue through the instruction may function as reinforcement. Also, the learner may engage in more effortful thinking before the first response because it avoids the item being re-presented and delaying progress through the program.

THE PRESENT STUDY

The present study is an attempt to investigate the effect of computer-mediated feedback on the reading performance of L2 students. The results of this study will be of crucial importance in ESL teaching by equipping teachers and students with computer-mediated feedback knowledge to promote learning process.

The research was designed to answer the following question:

RQ: What is the effect of computer-mediated feedback on the reading performance of L2 learners?

Experimental Design

Participants

The study was conducted in a foreign language education department at an Iran university. Sixty upper-intermediate students (60 females) participated in the study. They volunteered to participate in this study. The participants were randomly assigned either to the experimental group or to the control group. Each group consisted of 30 subjects. They ranged in age from 18 to 20.

Procedure

One week before the study, an Oxford Placement Test was administered to the volunteers. This test was administered to 98 ESL learners to indicate their English proficiency level of which 60 upper-intermediate ESL students were selected and divided into two groups (i.e., experimental group, $n=30$ and control group, $n=30$). A thirty minute session was held prior to the main research to familiarize the experimental group with the process of taking computer-based tests and receiving feedback. The treatment sessions were held twice a week.

During the treatment sessions, the participants in the experimental group were required to read 8 passages which were selected from GRE, TOEFL, and SAT study guides. Microsoft Word was used to display information about the reading level of the reading passage. Readability of the passage was administered in order to be able to determine the appropriate readability of the passage for the upper-intermediate level. The readabilities within the ranges of 30-49 were considered as appropriate for the participants on the basis of the readability level of their English book.

Each passage consisted of 280–310 words of text organized into four paragraphs. Four facts were identified in each passage (one fact per paragraph) to serve as the to-be-tested information. For testing purposes, each fact was transformed into a question and correct response and three plausible incorrect responses were developed

to serve as multiple-choice lures. The "eGrade On-Line Assessment System" was used to present all the materials and collect responses. Participants received immediate feedback in the form of answer-until-correct feedback for multiple-choice items. After 4 treatment sessions, for investigating the effect of computer-mediated feedback on the comprehension of the texts during treatment sessions, all students were given 15 minutes to complete a final comprehension test.

Immediately after the administration of the final test, a background questionnaire was administered to gather demographic information about the subjects. The questionnaire also had a section asking the subjects to rate the usefulness of computer-mediated feedback. Within 2 days after the administration, semi-structured interviews of 6–8 min were conducted with the subjects. The goal was to gather supplementary data about their experience with computer-based tests and receiving feedback. The researcher asked for clarification and elaboration when the subjects responded with short answers or nods.

Computer-mediated Feedback: Participants received immediate computer-mediated feedback in the form of AUC feedback for multiple-choice items. The AUC feedback treatment provided for an incorrect answer, "No, try again" and for the correct answer, "That's correct". This feedback was displayed at the bottom of the screen. After the third try, the learner was told "Right" if correct or "Wrong" if incorrect, and then the student was shown the correct answer by means of an arrow.

RESULTS AND DISCUSSION

Results obtained by participants in the final test were compared for the both experimental and control groups in order to determine the effect of computer feedback on reading comprehension outcomes. The final test scores, the means and standard deviations of the experimental and control groups were calculated and a t-test was used to test the significance of the difference between the performance averages of the groups.

Table 1
Means and Standard Deviation Obtained in Final Tests

	groups	N	Mean	Standard. Deviation	Std. Error Mean
Score	Group 1	30	7.73	1.50	.27
	Group 2	30	6.26	1.59	.29

Table 1. shows group statistics. From this we can see that $\bar{X} = 7.73$ and $SD = 1.50$ (experimental group), and $\bar{X} = 6.26$ and $SD = 1.59$ (control group).

Table 2
Independent Samples T-Test in final tests

Levene's Test for Equality of Variances					t-test for Equality of Means			
Score	Equal variances not assumed	F	Sig.	T	df	Sig (2-tailed)	Mean Difference	Std. Error Difference
		3.09	.95	3.66	58	.001	1.46	.40
	Equal variances assumed			3.66	57.81	.001	2.46	.40

The results of the t-test, provided in table 2, revealed the difference between groups was statistically significant at the significance level of .05. Since the two-tailed significance value of .001 is less than $\alpha = .05$, there is a significant difference between the two groups. This difference is graphically indicated in Figure 1.

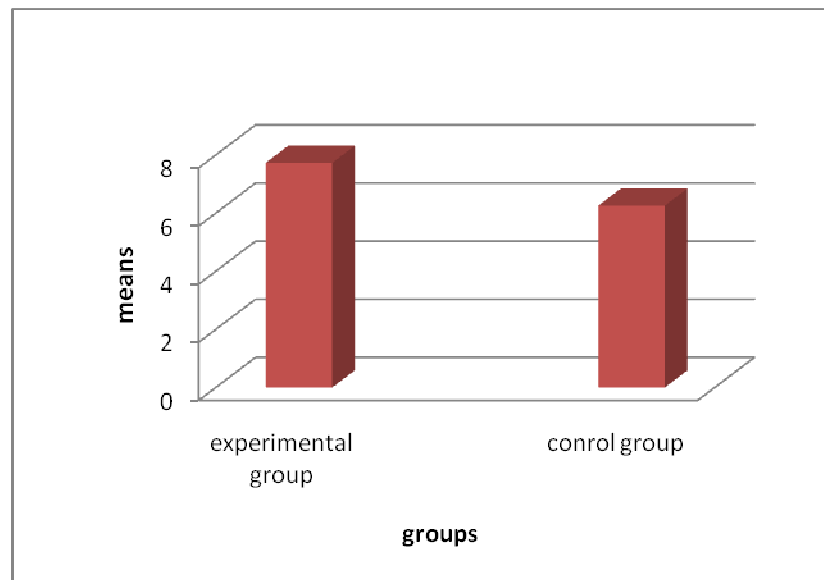


Figure 1: Comparison of means obtained in final tests by two groups

In sum, the quantitative analysis of the results in this research showed that the students who received the computer-mediated feedback improved their L2 reading comprehension significantly compared to students who did not receive any feedback. The results of the study confirmed previous research conducted by several researchers that providing computer-mediated feedback has a positive effect on the performance of students (e.g. Nagata, 1996; Persky & Pollack, 2008).

The findings of the study also suggest that feedback can be a valuable tool for supporting student learning when used properly. Research stresses the need to provide timely and appropriate feedback that can help a student improve reading comprehension. A computer, which allows instructors to provide immediate feedback in a variety of ways may be used to enhance instructor's ability to provide useful and timely feedback to students in future.

The qualitative analysis of data also suggested that the students preferred the immediate feedback format, and that they preferred it over almost every other testing method to which they had been exposed previously. The two main reasons cited for this preference was the immediate knowledge of success or failure and the ability to make multiple attempts to ascertain the correct answer. The students also indicated that the format of the examination forced them to rethink some problems and therefore increased their comprehension of topics for which they did not demonstrate initial mastery, that is, corrected any misinformation.

CONCLUSION

To conclude, the results of the study indicated that the group who received the computer-mediated feedback in the form of AUC feedback improved their reading comprehension significantly compared to the students in the control group who did not receive any feedback. The results also indicated that providing timely and

appropriate feedback was effective in student's L2 reading comprehension. Furthermore, through the study it became evident that the students preferred AUC method because it allows students to re-work or re-think their mistakes, potentially resulting in deeper learning.

Limitations and Suggestions for Further Research

This study poses several limitations; thus, the findings should be considered with caution. First, the target population of the study consisted of upper-intermediate level language learners of English. This study should be replicated in other learning contexts with students from different proficiency levels to generalize findings to a larger target population and to different learning environments. Second, this study was conducted with female students. A similar study could investigate the effect of computer-mediated feedback on L2 reading comprehension of male students. Third, the study only considered one type of computer-mediated feedback (AUC) and not other types of computer-based feedback. It is suggested that similar studies be conducted with other types of computer-mediated feedback. Finally, the present study was conducted with a small sample size and short duration of the experiment. Future studies are needed to replicate this study with larger sample size and longer periods of time.

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ROLE OF ASSIGNMENT WORK IN DISTANCE AND NON-FORMAL MODE OF EDUCATION

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ABSTRACT

The research article deals with the evaluation of the role of assignments in learning through distance and non-formal mode of education. The study was delimited to the students enrolled in M. Ed and M. A. Education programs (with the specialization of Teacher education, Distance and non-formal education, Science education, and Special Education) during semesters, spring 2006 to spring 2008 in Rawalpindi region of Allama Iqbal Open University Islamabad, Pakistan. The sample of the study consisted of 300 students of Rawalpindi district. A five-point Likert type rating scale was administered to collect the views about the role of assignments in learning through Open Distance Learning System. The four parts (22 items) of the instruments focused on learning through assignment work, beforehand instruction regarding assignments, evaluation and checking of assignments, provision of proper guidelines for writing the assignments by the tutors or the university.

The data were analyzed with mean score and SD, and the recommendations were made from the findings of the study. The study shows the dissatisfactory performance of tutors in most of the aspects.

For the purpose it looks imperative to introduce a separate new course entitled "Study skills" containing different units on study, reading, writing, evaluation skills etc. by the University which may be compulsory but non-credit for all levels of distance learning. It should be offered in the first semester of the program and all tutors should be bound to study and qualify the same course with all respects by writing the assignments and passing the exams etc. before getting the appointment as part time tutors.

Keywords: Assignment work, distance education, evaluation.

INTRODUCTION

The role of assignments in learning process is vital in both formal and non-formal systems of education. Assignments are considered as compulsory component especially in the non-formal and distance learning system. Along with the tutorial meetings, students write the assignments of same course. In this way the learning is managed and made possible through the compulsory component of assignment work. There is no permanent, regular and continuous interaction between teachers and students in distance and non-formal education. So there are no daily bases regular classes, homework assignments and assessment or evaluation of students' learning outcomes in distance and non-formal learning like a formal learning mode. Therefore assignments are the most important and effective component of non-formal learning which meet different ends e.g. a means to engage the learner to study and go through the contents and books while writing the assignments, enable them to search and find out the answers of the questions, enhance their writing power, and on the other hand a good source to judge their writing capabilities, expression skills and approach to

explain, describe and respond a question etc. Standards set for student support in Open Distance Learning (ODL) as stated by Iqbal and Huma (2007, pp.10-12) include as:

- Support is offered on a prompt, timely and wherever possible on personal basis.
- Support offered is appropriate to the level of the course.
- Learners are encouraged to complete their courses.

Progress is monitored, and learners are provided with prompt and helpful comments on their progress in relation to learning expectations and goals.

Support offered in ODL system regarding provision of tutorial schedule and assignment work is a valuable input by the program provider. Appropriate schedules for the submission and return of tutorial assignments are adopted and communicated to learners. Turnaround times are kept to a minimum.

Where tutor support is offered, a good tutor will:

- Communicate clearly, consistently, conscientiously, constructively and quickly with their students;
- Encourage their students at all times;
- Provide feedback on overall progress in relation to the agreed outcome of the course;
- Make effective use of feedback from learners to enhance their own performance as tutors. (Iqbal & Huma, 2007, pp.10-11)

Tutors' role in DNFE system is very important especially with reference to the assignment work. Student studies reading materials and writes the assignments, which are evaluated, marked and corrected by the tutors, and this is the interaction from the distance which ensures the maximum learning. Efforts to a maximum extent e.g. instructions for writing assignments, encouragement and reinforcement on good performance as well as remedial guidance on below average performance etc. are done to meet the successful end.

Allama Iqbal Open University follows the same system of distance and non-formal education in Pakistan. There are fifty seven objectives of MA. Education level course entitled "The Concepts and Methods of Distance Education" course code: 842 offered by AIU (1998, p. xii). Three are among these objectives, stated on serial No. 22, 23 & 24, which indicate the input, importance and contribution of assignment work in learning through distance mode of education. These are;

- Discuss the importance of marking the assignments.
- Identify the important steps in marking the student assignments.
- Appreciate the monitoring of assignments.

Such objectives should be achieved at the end of the course/study and it is the tutor who should take care of these objectives and maximize the input regarding the assignment work.

A study entitled "Focusing Student Support Services for Quality Assurance in ODL System" revealed that tutorials and tutor support were found to be completed in a week in both the regions (Rawalpindi and Islamabad) and majority of students showed dissatisfaction with it (Iqbal & Huma, 2007, p.17). The findings of this study justify the need and significance of new study to evaluate the role of assignment work in learning through distance education.

MODES OF EDUCATION

Formal, Non-formal and Informal are three modes of education in the prevailing set up in all over the world. Informal education starts with the very first day of a child life, the cradle is the first informal institution of a learner as it has been stated by the Holy Prophet of Islam Hazrat Muhammad (PBUH) "Seek knowledge from cradle to grave". Formal mode or system of education of a country is a very effective way to educate and bring up its youth when they are of the age of learning and they just study without doing any other permanent job as

a learning source. It runs from pre childhood or primary stage to the higher level of education. All the schools, colleges and universities established and are run under a regular, organized and scheduled program of learning are examples of the formal institutions.

DISTANCE AND NON-FORMAL MODE OF EDUCATION

It is also an organized, planned and proper system of education which differs from the formal mode in terms of regular and formal classes, time frame, and daily and regular student-teacher interaction. It is an effective and rapidly growing mode of education for those who could not continue their education in formal system. Distance education, Open and distance learning system, Correspondence education, University without walls, Adult education etc. are different further ways and approaches in the non-formal mode of education.

Gultekin (2006, p.1) states and quotes William and others in this regard as; Distance education is one of the speedily growing approaches in the world.

The possible result of this approach on the whole education system from primary to higher education has been emphasized through information and communication technologies (William, Paprock & Covington, 1999, p. 14).

Rashid (1992, p. 24) narrates the future of distance education as; governments are faced by the problems of the rising demand for education on the one hand and the insufficiency of resources to provide it on the other. They have therefore, been forced to adopt distance teaching as a means of bridging the space between what they can provide and what is required.

According to Dodds (1978, p. 246) "...this method/system provides education/courses by correspondence, broadcasting and occasional face to face learning".

THE ROLE OF TUTOR IN DISTANCE LEARNING MODE

The need to plan effective tutoring is necessary for a successful distance teaching and learning system. This is due to the fact that the instructional plan, the author, the tutor, and the student are often separated by distance and may never meet in person. This is an increasingly common situation as more students access international distance education tutoring. As much as possible, teaching by distance should stimulate the student's intellectual motivation and hold all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course/self-instructional material in distance system should contain all that which the course outline prescribes as well as the tutors should perform their duties regarding the guidance and counseling of individuals in a very effective, devoted and serious way, because the learner of this system needs it much more as compared to the learner of formal education system. Keegan (1990, p. 125) cited in Rashid (1992), has stated that distance education is compound enough to have an industrial base of operation. However, education has been a skill profession, with the teacher standing at the center of practice but most industrial operations need a division of labour.

Tutor plays a very important role in ODL System and he/she may show good results if he/she works as a supervisor, facilitator, guide and helper of the learner, if not then there is no way, most suitable source of guidance and helping the students. Although there are a number of responsibilities which should be/are practiced by the tutor of ODL system but a tutor should pay unusual attention to the following tasks while working as a part time tutor in ODL system. These indicators may be considered as tutor's performance parameters. In the same way tutors have to make best use of the students' learning through assignment work and will be possible only when tutors will appropriately handle the matters e.g. assessment/marking and monitoring the assignments, provision of proper guidance and beforehand instructions regarding assignments and reinforcement for doing better towards creativeness and appearance. The soul of distance and

correspondence education is personal dialogue between tutor and student, which appears through correspondence and considered very effective in the process of learning. There is the foremost channel of communication in this connection is assignment.

According to Pereira, E. (1978) cited in AIOU. (1998, p. 60) that; "The student's most important contact with the college is through the lessons which he submits from time to time and the question mark that he may be encouraged to make.... The tutor should correct the student's work as he would desire his work to be corrected".

It indicates that tutor should do more than just marking the assignments of the learners. He/she must try to know each student, his level of perception, problems, weaknesses, strengths, interests and requirements because such information are essential for proper guidance and counseling of the students. So there must be a close student-teacher association, which can be strengthened with the dialogue and written contribution by the tutor.

Rashid, states in unit four in AIOU. (1998, pp. 60-61) as; each day, the tutor may be correcting first answer from several different students. But each answer may an individual communicate to an individual student..... Conversation takes place as the tutor responds to the student's paper in a mixture of ways. Corrections alone are not enough. Reasons 'why' must be given. Questions may be asked to inspire thinking and additional facts or ideas be provided. Dialogue can also be stimulated by the use of Allama Iqbal Open University tutor's guide and student guide..... The tutor's objective (as he reads a paper or assignment) is to retain marking standards and to encourage his student at the same time. He should welcome new students and make tactful and heartening remarks. If the tutor has previous marks of the same student, he should use those marks as basis for comments on the assignment now being corrected. Such remarks should: "I am pleased to see that you are doing much better this time in organizing your paragraphs."

In short, it is the responsibility of the tutor to give confidence, stimulate, and facilitate the learners of distance education system by providing them proper guidance about writing and interpreting skills. For the purpose there may be written instructions in the study material provided by the university/institution about 'how to write the assignment'.

In the same way very clear and in advance instruction as well as remarks on the assignment works must be given by the tutors when it is returned to the learners after marking and evaluation. The learner of ODL system needs input in the following ways.

In Advance Instruction Regarding Assignments

The learners of this mode, either enrolled in SSC level or higher level of education, are needed to provide beforehand instructions for doing the assignment work by the university, institution and tutor.

Because there are no formal classes and direct interface between learner and teacher in this system, many students have no knowledge about how to do their assignment work? So it is the contractual obligation of the tutor to tell his/her students that how they will be required to do their work and a good tutor, an efficient communicator, tries the best to convey in advance instructions for maximum input/output.

Attending the Study Center and Providing The Guidance Regarding Assignment Work

It is very necessary for tutor to attend the tutorial classes in the study centers and provide proper guidance to the learners regarding how they should develop their study habits, how they can search for their answers as well as how they should write their assignments and express their viewpoints, ideas and feelings in response of the questions because there are no formal classes and direct interaction between learner and teacher in this

system. If a tutor does not take care of such tasks no doubt he/she is not contributing and not performing well as a guide and tutor in ODL system.

Evaluation And Checking of Assignments and Provision of Guidance

Assessment and scrutiny of assignments by the tutor is another parameter of tutor's performance. If a tutor evaluates the assignments with special attention and gives his/her remarks about each and every weak aspect of the work as well as gives written reinforcement on good involvement by the learners, then he/she is justifying well with his job. Provision of written guidance by the tutors enhances the learning of the students and it meets the objectives of changing attitudes, enabling the students to distinguish among right and wrong ways of analysis and keeping the learners on the right track of learning.

Learning Through Assignment Work

Assignments are very key components of ODL system. Students are anticipated to meet a variety of objectives through assignment work. Study habits development, learning through study and reading, understanding of the questions and ways of answering the questions, writing practices and way of writing and expression etc. are the targets which are met through the assignment work. So when a novice learns through this component, it shows that the system is going on the right pathway and the tutors of the system are fighting fit as they are estimated to do and as they should be.

THE STUDY

The study was conducted to evaluate the role of assignment work in learning through Open Distance Learning System and to give recommendations for improving the task and routine of course tutors in assignment work. The survey method was used to collect the data of the study with the help of five-point Likert type rating scale. The items of rating scale were constructed related to the following objectives of the study;

- To explicate the role of assignment in distance mode of learning.
- To uncover the tutorial and guidance practices of course tutors in distance and non-formal education system.
- To appraise the input of the University and performance of course tutors concerning the instruction for writing assignments and their evaluation.
- To present recommendation for improving the strategies regarding how to write the assignments and how to evaluate it in Open Distance mode of Learning.

Procedure of the Study

Population of the Study

Students enrolled in M. Ed/M. A. Education Program during Semester spring 2006 to spring 2008 were the population of the study.

Sample

Stratified random sampling technique was used to select the representative sample for the study. Three hundred male and female students were randomly selected as a sample of the study from the population of all Tehsils of Rawalpindi district. To make the sample really representative of the population, not more than twenty students were taken from the same Tehsil. The tabular presentation of the sample has been shown in annexure-1.

Instrument of the Study

A five point rating scale, consisted of 22 items presented in four parts, was developed and the experts validated it. The instrument was pilot tested and some of the items were modified to bring clarity.

Collection of Data

The data were collected through five point rating scale, and the researcher approached the respondents himself or through friends for filling the items of the instrument. A coding scheme was prepared and data were tabulated separately. Mean scores and SD were calculated and simple percentage formulae were applied for the analysis of the data.

ANALYSIS OF DATA AND FINDINGS OF THE STUDY

According to the data regarding the intimation and in advance instructions, calculated mean score i.e. 4.46 (SD was 0.92) indicates that the performance of course tutors is good regarding well in time intimation of their appointment as tutor, while there is below the average input both by the tutors and the University regarding in advance instructions for writing assignments. Mean scores are 2.15, 1.84 and 1.87 and SD was 1.09, 1.20 and 1.22 respectively. (Table-1, Annexure-2)

The majority (60.67%) of the respondents agreed with the statement that; Tutors just tick (✓) and mark the assignments. The mean score 3.40 indicates that the trend of giving written feedback on students' assignment work in prevailing practices is not common and tutors just tick mark the assignments instead of giving their comments about what is wrong and what is right. SD was 1.47.

When the respondents were asked that whether Tutors thoroughly study their assignments, 46.67% of the respondents disagreed with the statement, while 23.67% showed uncertainty in this regard. The mean score 2.74 indicates that the performance of course tutors is average in this regard. SD was 1.35.

When respondents were asked that whether Tutors seriously and minutely evaluate the assignments, 65% of the respondents disagreed with the statement. The mean score 2.44 indicates that the course tutors' contribution in this regard is below the average. SD was 1.93.

When the respondents were asked that whether they are satisfied with the evaluation of assignments by their tutors, 70% of the respondents disagreed with the statement. The mean score 2.31 indicates that the input of course tutors is below average in this regard. SD was 1.37.

77.34% of the respondents disagreed with the statement that tutors point out weaknesses in the assignments. The mean score (2.11) was below the average on the scale. SD was 1.1.29.

About the statement, whether Tutors give written feedback in the assignments, 73% of the respondents disagreed with the statement. The mean score 2.26 indicates that the course tutors' role in this regard is below the average. SD was 1.36.

One half (50%) of the respondents disagreed with the statement, that tutors return/post back the checked assignments well in time. The mean score was 2.96 and SD was 1.47.

About 56% of the respondents disagreed with the statement that learners get back their 1st assignment before the due date of 2nd assignment. The mean score 2.82 indicates that the performance of tutors in sending back the marked assignments well in time to the students is average on the minimum performance mean scale. SD was 1.51.

A great disagreement (by the 83.34% respondents) was shown about the statement that "whether Instructions are given in 1st assignment to write the 2nd assignment in improved form". The below average mean score

2.14 indicates that the students are not properly guided by the tutors for writing the assignments. SD was 1.06 (Table-2, Annexure-2).

The mean score 3.72 indicates that the involvement of the learners in doing their assignment work is good on the scale. SD was 1.45. But on the other hand, the mean scores i.e. 2.79, 2.32 and 2.42 respectively, are at minimum scale level, which indicate that the learners have not improved through their assignment work. SD was 1.45, 1.28 and 1.26 respectively (Table-3, Annexure-2). The 89% of the respondents agreed that there is a deficiency in the material given by the University/tutors regarding the instructions on how to write the assignments. Mean score was 4.21 and SD was 1.02.

Mean scores (4.32, 4.02 and 4.10) show a higher level of acceptance about "there should be a proper format and before hand guidelines for writing assignments." The SD was 1.02, 1.24 and 1.05 respectively. The majority (94%) of the respondents agreed that assignments should be written in the uniform pattern/style by adopting the format e.g.

- Introduction (in their own words).
- Definition of the terms used in question statement (with proper quotations, references and explanation).
- Comprehensive discussion about the question (with proper quotations, justification, to the point examples and explanation).
- Conclusions (in their own words).
- Bibliography (literature cited). Mean score (4.34) proves a higher level of acceptance to the proposed format for writing assignment SD was 0.92. (Table-4, Annexure-2).

CONCLUSIONS

The conclusions of the study are as the following;

The learners of ODL System are intimated well in time by their tutors regarding their appointment as part time tutor of the courses concerned.

Deficiency falls there regarding in advance written directions about the method, way and style of writing assignments, which is not a good indicator especially in distance learning system.

The performance of tutors regarding the evaluation of assignments and written feedback of right and wrong is below average. Tutors just tick (✓) mark the assignments, they do not read the assignments thoroughly and do not point out the mistake or shortcoming in the work presented by the learners. It indicates that tutors handle this key component as a formality. Remedial efforts and correction based reinforcement is missing there in existing practices performed by the tutors of ODL system.

The learners of ODL system are aware of the importance of assignment work and they consider it as a purposeful activity and good source of learning as well as they can learn much through assignment work but it depends upon the tutors' cares and their ways, approaches and style of doing work as part time tutor in ODL System. When tutors will not take care of providing proper guidance about 'how to write the assignment' and will not check the assignment work on the basis of predetermined and informed criteria as well as will not communicate their weaknesses and strengths through their assignments, they may not be able to qualify the level as it should be.

Students are missing proper guidance and instructions in respect of writing assignments from both sides 'the University and the tutors'; therefore they have warmly welcomed a uniform pattern/format about 'how to write the assignment'.

Recommendations

Following are the recommendations of the study made on the basis of findings for improving the performance of course tutors working with ODL system e.g. Allama Iqbal Open University at Master (of Education) level studies as well as enhance the learning level of the students through assignment work.

- Appropriate guidance, assistance, supervision and counseling are the basic demands of educating the learners especially in case of ODL system. Straightforward and comprehensive instructions by the course supervisor or tutor for doing the assignment work, studying the course materials, answering the questions, creative presenting, writing and making a sound, creative, critical, complete and to the point discussion etc. are the matters of focus and much significance. Tutors should be bound to provide such imperative tasks and services in the form of detailed instructions along with the first intimation letter of their appointment, so that the learners sitting away from the institution and teacher can get a written set of instructions for their assignment work and they can learn in an enhanced and more successful way.
- Tutors may be stood responsible to check the assignments minutely, and this evaluation should comprise of complete feedback, a set of written instructions regarding what is right and what is wrong in the work presented by the learner, written reinforcement, rectification of the mistakes and all types of guidance mandatory in distance learning scheme. Assignment checking as just tick marking (✓) the assignments, not reading the assignments painstakingly, not pointing out the mistakes or deficiencies falling in the work presented by the learners etc. are those indicators which make this important element a formality and matter of less significance on the part of tutors while causes ineffective and inefficient learning on the part of learners.
- A special training program may be launched to provide awareness to all levels' tutors about their duties and responsibilities in ODL system. In the same way there may be a set of unambiguous instructions regarding checking the assignments and then counter checking (by the senior tutors) of marked and evaluated assignments to see the level of acting upon the university directions given to the tutors for evaluation of assignment work. There may be a set of instructions such as 'tutor guide' or guide lines for writing the assignments in each course book which should be followed both by the learner and tutor while writing and evaluating the assignments.
- For the purpose it looks imperative to introduce a separate new course entitled "Study skills" containing different units on study, interpretation, writing, evaluation skills etc. by the University which may be compulsory but non-credit for all levels of distance learning. It is supposed to be offered in the first semester of the program and all tutors should be bound to study and qualify the same course with all respects by writing the assignments and passing the exams etc. before getting the appointment as part time tutors.

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ANNEXURE 1

Description of sample

S. No	Tehsil	Spring 2006		Spring 2007		Spring 2008		Total
		Male	Female	Male	Female	Male	Female	
1	Rawalpindi	4	16	4	16	4	16	60
2	Gujarkhan	4	16	4	16	4	16	60
3	Kahuta/Kallar	4	16	4	16	4	16	60
4	Murree/K.Stian	4	16	4	16	4	16	60
5	Taxila/Wah	4	16	4	16	4	16	60
	Total	20	80	20	80	20	80	300

ANNEXURE 2

Table 1
Analysis of Data Regarding the Intimation and in Advance
Instructions (Part. 1, Item 1-4)

Item.	Statements	SA	A	UND	DA	SDA	SD	Mean
1	I have been intimated in time by my tutors regarding their appointment.	188 (63%)	90 (30%)	04 (1.33%)	08 (2.66%)	10 (3.33%)	0.92	4.46
2	University gives me proper written guidelines about "how to write the assignments".	21 (7%)	23 (7.67%)	07 (2.33%)	179 (60%)	70 (23.33%)	1.09	2.15
3	Tutors send written instructions/guideline about "how to write the assignments".	21 (7%)	20 (6.67%)	10 (3.33%)	89 (29.67%)	160 (53.33%)	1.20	1.84
4	I have been provided instructions for writing my assignments in the form of a special letter other than the conventional/traditional intimation letter.	21 (7%)	22 (7.33%)	13 (4.33%)	85 (28.33%)	159 (53%)	1.22	1.87

Scale= Minimum performance Mean=2.6-3.5, Good=3.6-4.5, Best= Above4.6

Table 2
Analysis of Data Regarding Evaluation of Assignments and Provision of Feedback to the learners.
(Part. 2, Item 5-13)

Item.#	Statements	SA	A	UND	DA	SDA	SD	Mean
5	Tutors just tick (✓) and mark my assignments.	89 (29.67%)	93 (31%)	14 (4.67%)	58 (19.33%)	46 (15.33%)	1.47	3.40
6	Tutors thoroughly study my assignments.	43 (14.33%)	46 (15.33%)	71 (23.67%)	69 (23%)	71 (23.67%)	1.35	2.74
7	Tutors seriously and minutely evaluate my assignments.	38 (12.67%)	44 (14.67%)	23 (7.67%)	103 (34.33%)	92 (30.67%)	1.93	2.44
8	I am satisfied with their evaluation.	33 (11%)	44 (14.67%)	13 (4.33%)	103 (34.33%)	107 (35.67%)	1.37	2.31

9	Tutors point out my weaknesses in the assignments.	25 (8.33%)	36 (12%)	07 (2.33%)	113 (37.67%)	119 (39.67%)	1.29	2.11
10	Tutors give written feedback in the assignments.	37 (12.33%)	33 (11%)	11 (3.67%)	108 (36%)	111 (37%)	1.36	2.26
11	Tutors return/post back the checked/evaluated assignments well in time.	58 (19.33%)	83 (26.67%)	09 (3%)	90 (30%)	60 (20%)	1.47	2.96
12	I have received back my 1st assignment before the due date of 2nd assignment.	67 (22.33%)	50 (16.67%)	15 (5%)	98 (32.67%)	70 (23.33%)	1.51	2.82
13	I have found enough instructions in 1st assignment to write my 2nd assignment in improved form.	19 (6.33%)	23 (7.67%)	08 (2.67%)	182 (60.67%)	68 (22.67%)	1.06	2.14

Scale= Minimum performance Mean=2.6-3.5, Good=3.6-4.5, Best= Above4.6

Table 3
Analysis of Data Regarding Students' Learning and Improvement through Assignment Work.
(Part. 3, Item 14-17)

Item.	Statements	SA	A	UND	DA	SDA	SD	Mean
14	I have written my all assignments by myself.	122 (40.67%)	92 (30.67%)	09 (3%)	34 (11.33%)	43 (14.33%)	1.45	3.72
15	I have learnt much about writing techniques through my assignment work.	47 (15.67%)	76 (25.33%)	15 (5%)	93 (31%)	69 (23%)	1.45	2.79
16	I have improved my writing style through my assignment work.	24 (8%)	49 (16.33%)	17 (5.67%)	120 (40%)	90 (30%)	1.28	2.32
17	I improved my 2nd assignment in the light of instruction/directions given by the tutor.	23 (7.67%)	56 (18.67%)	22 (7.33%)	122 (40.67%)	77 (25.67%)	1.26	2.42

Scale= Minimum performance Mean=2.6-3.5, Good=3.6-4.5, Best= Above4.6

Table 4
Analysis of What is and What Should be? (Regarding the Assignment Work/Format) as Viewed by the Respondents. (Part. 4, Item 18-22)

Item.	Statements	SA	A	UND	DA	SDA	SD	Mean
18	I feel deficiency in the material given by the University and tutors regarding the instructions that how to write the assignments.	138 (46%)	129 (43%)	05 (1.67%)	15 (5%)	13 (4.33%)	1.02	4.21
19	There should be proper and clear-cut instructions for writing assignments.	142 (47.33%)	139 (46.33%)	02 (0.67%)	08 (2.67%)	09 (3%)	1.02	4.32
20	University should set an appropriate and uniform format/pattern/standard for writing the assignments.	122 (40.67%)	128 (42.67%)	00 (0 %)	34 (11.33%)	16 (5.33%)	1.24	4.02
21	University should set appropriate and uniform criteria for checking and evaluation of the assignments.	124 (41.33%)	133 (44.33%)	00 (0 %)	34 (11.33%)	09 (3%)	1.05	4.10
22	Proposed writing format.	144 (48%)	136 (46%)	06 (2%)	07 (2.33%)	07 (2.33%)	0.92	4.34

Scale= Minimum performance Mean=2.6-3.5, Good=3.6-4.5, Best= Above4.6