

Examining the Attitudes of Students from State and Foundation Universities in Turkey towards the Computer and WWW (World Wide Web)

Murat YALMAN¹
Dicle University

M. Alper TUNGA²
Bahçeşehir University

Abstract

Today, universities' investments in computers and Internet technologies used to process information and to present this information to students are increasing incrementally. In addition, it is seen that higher education institutions which could plan their students' education processes by integrating technology into these processes have increased the quality of education. Determining the university students' levels of knowledge about computer use as well as their attitudes towards the Internet and computer will help determine their technology use. The purpose of this study was to determine the computer experience of students at state and foundation universities and their attitudes towards the Internet and computer. For this purpose, in the study, the "Personal traits, Computer Use, Computer Attitude Scale and Web Attitude Scale" developed by Liaw (2002) was used. The participants of the study were students from Bahçeşehir University (n=645) and from Dicle University (n=1538) in the Spring, Winter and Summer Terms between the academic years of 2008–2010. In the study, the related attitudes of the students from state and foundation universities were observed. The results revealed that the difference between the attitude scores of the students from state and foundation universities regarding their attitudes towards the Internet and computer was significant at $p<0.05$.

Key Words: Internet attitude, computer, computer use, demographic backgrounds

Introduction

Today, the basic purpose of higher education institutions is to provide their students with good-quality education in their education fields. In line with this purpose, use of technological tools to increase the quality of education is becoming increasingly common in a number of institutions. The increasing use of technology in every field of education leads to the interrogation of university students' levels of related knowledge (Erkan, 2004). Conscious and appropriate use of Internet technologies that allow easy access to information increased the quality of related research and made it possible to interpret the information obtained. In this respect, use of computer and Internet technologies for educational activities at universities is of great importance to increase the quality of the education given (Köse et.al., 2007, p: 45; Akın and Bastuğ, 2005; Demirbaş, 2001). In addition, the compute experience of students taking higher education and their attitudes towards the Internet and computer are likely to differ depending on the current facilities of universities and on students' computer use skills (Yeşilyurt and Gül, 2007). Today, the development levels of countries cover a number of areas from their understanding of education to in-class and out-of-school learning activities and to the use of technological tools (Hızal, 1989).

Rapid developments in technology have caused the Internet and computer to be the focus of education. (With the help of their investments in technology, universities will be able to plan their current education system for the future professional lives of their students. In addition, with the use of Internet technologies for educational purposes, a number of individuals who can not take education

¹ Lecturer, Murat YALMAN, Dicle University, Ziya Gokalp Educational Faculty, Department of Computer Education and Instructional Technologies, Dicle University, mumanenator@gmail.com

² Associate Professor, M. Alper TUNGA, Bahcesehir University, Engineering Faculty, Department of Software Engineering, mumanenator@gmail.com

or those who are out of the current education system for various reasons will be able to use their knowledge and skills independently of the education given in schools (Tuncer and Taşpınar, 2008).

Education has been a need for humans since prehistoric times. Education that initially occurred as a master-apprentice relationship has been subjected to a total change with the appearance of schools. With the increasing human population, the need for education was restructured and changed. As a result, a new re-planning process occurred for education programs. The basic problems experienced by societies in this process of restructuring include "obligation to provide large masses of people simultaneously with education services; paying attention to individual differences; determining the amount of information that individuals need; failure to present the information with appropriate methods and techniques; and the transfer of information taking a long time" (Kaya, 2002).

The gradual increase in the need for trained manpower necessary for societies has led to a change in education policies. Internet- and computer-aided education programs that have achieved integration of technology into education are now used in all education institutions giving traditional or distant education as well as in many other training activities carried out for students or staff by public or private industries (Aydın 2001).

This situation has forced a number of rooted universities proud of themselves for giving traditional education to get involved in this process of change. Today, Maryland, one of the most well-known state universities in USA, presents several education alternatives by allowing students to choose among more than 70 certificates thanks to its website via the Internet (Lam, 2009). The most important limitation to such Internet-supported education, now regarded as an alternative to traditional education, is considered to be lack of face-to-face or physical interaction found in traditional education (Kirby, 1999; Sorensen & Baylen, 1999; Kruger, 2000; Sutton, 2001).

Researchers state that the Internet and computer now used in a number of areas of education are regarded as an educational tool and as a practical solution to the learning needs of students (Sun, 2008; Pierce, 2009). The spread of educational environments designed via the Internet has many benefits for access to information as well as for its preparation and transfer. Therefore, the contribution of the Internet to education could be said to be more than its contribution to other fields (Özmen, 2001).

The number of technological tools used at universities in Turkey and the need for such tools are gradually increasing. Supporting the educational processes with technological tools provides students with great facilities in reaching and processing the information (Greenhow & Robelia, 2009; Ersoy ve Türkan, 2009; Lazakidou & Retails, 2010). In addition, thanks to the proper use of technological tools, the current education system can be made appropriate to the present conditions (Yenice 2003). The primary goal of universities, where the number of platforms now used as educational environments designed with the use of the Internet and computer is increasing, is to design and apply course contents based on this method. Especially the Internet- and computer-use skills of students taking education given via the Web have direct influence on their success in courses that they have taken based on this method. Thus, studies conducted on the use of the Internet and computer, computer-based education, teachers' experience in computer-aided education and on teachers' experience in cognitive, affective and psychomotor aspects are considered to be prerequisite to the success of application of computer and technological tools in countries (Saracoğlu and Karlı, 2001).

Determining the university students' skills in and attitudes towards computer and Internet technologies involved in their education processes is important to make the education more productive. Therefore, determining these students' computer skills and their attitudes towards the Internet and computer in their higher education process could contribute to the planning of universities' technological investments. In this way, it could be possible to increase the efficiency of computer- and web-aided education processes that could be used as supplementary environments. Thus, in this global world, this could provide university students with equal opportunities in education.

Purpose

The purpose of this study was not only to reveal the computer-related experiences of students from state and foundation universities as well as their attitudes towards the Internet and computer but also to determine the relationships between their attitudes towards Internet and computer use with respect to certain independent variables (gender, class-grade, faculty and duration of computer use). Besides this basic purpose, the study also aimed at examining whether the students' attitudes caused significant differences between the students from state and foundation universities.

In line with these purposes, the following research questions were directed;

- What are the computer-related experiences of students at state and foundation universities and their attitudes towards the Internet and computer?
- What are the computer- and Internet-attitudes of freshman students at state and foundation universities? Is there a significant difference between their attitude scores in terms of their class-grades?
- Is there a significant difference between the Internet and computer attitude scores of the students from the state and foundation universities with respect to their faculties?

Method

With its many applications, survey research is a popular design in education. Survey research designs are procedures in quantitative research in which investigators administer a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviors, or characteristics of the population. In this procedure, survey researchers collect quantitative, numbered data using questionnaires (e.g., mailed questionnaires) or interviews (e.g., one-on-one interviews) and statistically analyze the data to describe trends about responses to questions and to test research questions or hypotheses. They also interpret the meaning of the data by relating results of the statistical test back to past research studies (Creswell, 2012).

Sample

The research universe was made up of higher education students from Bahçeşehir University and Dicle University found in Turkey. In the study, the research sample included 15,500 students attending the Institute of Science, Atatürk Health School, School of Physical Education and Sports, Diyarbakır Vocational School, Faculty of Law, Faculty of Economics and Administrative Sciences, Faculty of Dentistry, Medicine Faculty, Faculty of Agriculture, Ziya Gökalp Education Faculty, Faculty of Science and Literature, Faculty of Engineering and Architecture at Dicle University and 6,500 students attending Institute of Science, Faculty of Law, Faculty of Economics and Administrative Sciences, Engineering Faculty, Faculty of Science and Literature at Bahçeşehir University. Due to the large size of the sample, the questionnaires were applied to 10% of the total number of students from each of the faculties to represent the whole university. Accordingly, Table 1 presents the distributions of the students involved in the study with respect to their gender, schools, faculties and universities.

Table 1.

Distributions of the students responding to the questionnaire with respect to their gender, faculty and university

University	Faculty, School, Institute	Gender		f	%
		Female	Male		
<i>Bahçeşehir</i>	Institutes	33	73	106	16,43
	Science and Arts (SA)	29	44	73	11,32
	Law (L)	45	86	131	20,32
	Economics and Administrative Sciences (EAS)	70	36	106	16,43
	Engineering and Architecture (EA)	87	142	229	35,50
<i>Total</i>		<i>264</i>	<i>381</i>	<i>645</i>	<i>100</i>
<i>Dicle</i>	Institutes	22	26	48	3,13
	Science and Arts (SA)	63	89	152	9,88
	Law (L)	38	73	111	7,22
	Economics and Administrative Sciences (EAS)	29	44	73	4,75
	Engineering and Architecture (EA)	15	98	113	7,35
	Medicine (M)	15	52	67	4,36
	Ziya Gökalp Education Faculty (ZGEF)	276	231	507	32,96
	Agriculture (A)	22	10	32	2,08
	Diyarbakır Vocational School (DVS)	65	69	134	8,71
	Faculty of Dentistry (FD)	3	2	5	0,32
	School of Physical Education and Sports (PES)	91	71	162	10,53
	Atatürk Health School (AHS)	63	71	134	8,71
<i>Total</i>		<i>702</i>	<i>836</i>	<i>1538</i>	<i>100</i>

Table 1 demonstrates the distributions of the students responding to the questionnaire with respect to their gender, universities and faculties. Accordingly, of all the students participating in the study, 1538 of them were from Dicle University, and 645 of them were from Bahçeşehir University. As for the distributions of the students in terms of their schools, faculties and institutes: At Bahçeşehir University, 16,43% of them were students at institutes; 11,32% in Faculty of Science and Literature; 20,32% in Faculty of Law; 16,43% in Faculty of Economics and Administrative Sciences; and 35,50% of them were in Faculty of Engineering and Architecture, while at Dicle University, 3,13% of them were students in institutes; 9,88% in Faculty of Science and Literature; 7,22% in Faculty of Law; 4,75% in Faculty of Economics and Administrative Sciences; 7,35% in Faculty of Engineering and Architecture; 4,36% in Medicine Faculty; 32,96% in Education Faculty; 2,08% in Faculty of Agriculture; 8,71% in Vocational Schools; 0,32% in Faculty of Dentistry; 10,53% in School of Physical Training and Sports; and 8,71% of them were in Health School.

Data Collection Tools

In the study, in order to determine the computer-related experiences of the students from Dicle University and Bahçeşehir University as well as their attitudes towards the Internet and computer use, a questionnaire made up of "Your Computer Experience", "Computer Attitude Scale", and "Internet/Web Use Attitude Scale" introduced by Loyd, B. H. & Loyd, D. E. (1985) and developed by Liaw Shu-S. (2002) was used. The first part of the questionnaire form used as the data collection tool in the study helped reveal personal information about the participants. The second part was a Likert-type scale made up of five items regarding the computer experience of the students. The third part of the questionnaire was again a Likert-type scale including 16 items regarding the students' attitudes towards computer. As for the fourth part, there was a Likert-type scale with 16 items regarding the students' attitudes towards the Internet. Regarding the comprehensibility of the questionnaire form, field experts and linguists were asked for their views and suggestions. Accordingly, the necessary corrections were made in the questionnaire form. In addition, whether the items used in the

questionnaire form helped measure the current technological needs was tested. As a result of the preliminary findings obtained via the pilot application carried out with the students, it was seen that the questionnaire items would help determine the basic computer and Internet technologies and that it was easily comprehensible. The incomprehensible parts revealed in the pilot application were corrected by Turkish Language specialists. Within the scope of the present study, the Cronbach Alpha values were calculated as 0,86 for computer experience, 0,90 for computer attitude and 0,89 for Internet attitude.

Limitations to the Study

While determining the universities where the present study was conducted, the number of publications announced by the Higher Education Council in Turkey in 2008 was taken into consideration. Considering the number of the faculty members at Dicle University, the average number of publications was 0,58, while it was 0,31 for Bahçeşehir University. Therefore, when compared to Bahçeşehir University, one of the foundation universities in Turkey, Dicle University, as a state university, looks much better in terms of the number of publications made by the faculty members.

Table 2.

The number of publications of universities in SCI+SSCI+AHCI and its percentage to the number of faculty members

University	SCI	SSCI	AHCI	Total	Net Total	Faculty Member	Percentage
Dicle University	318	6	1	325	323	554	0,58
Bahçeşehir University	27	11	2	40	34	111	0,31

Data Analysis

For the analysis of the data collected via the questionnaire applied to the university students, the package software programs of SPSS and Ms Excel were used. The section of "Your Computer Experience" found in the original version of the data collection tool was scored as 'Very High' with a score of '5', 'High' with '4', 'Moderate' with '3', 'Low' with '2' and 'No Experience' with a score of '1'. As for the "Computer Attitude Scale" and "Internet/Web Attitude Scale", they were scored as 'Totally Disagree' with a score of '1', 'Disagree' with '2', 'Partly Agree' with '3', 'Agree' with '4' and 'Totally Agree' with a score of '5'. For the interpretation of the means of the attitude scores, the values ranging between 1,00-1,80 were regarded as 'Totally Disagree', those between 1,81-2,60 as 'Disagree', those between 2,61-3,40 as 'Partly Agree', those between 3,41-4,20 as 'Agree' and those between 4,21-5,00 as 'Totally Agree'. As the section regarding computer experience was a five-point Likert-type scale, for the interpretation of the mean scores regarding the frequency of use, the mean scores ranging between 1,00-1,80 were regarded as 'No Experience', those between 1,81-2,60 as 'Low', those between 2,61-3,40 as 'Moderate', those between 3,41-4,20 as 'High' and those between 4,21-5,00 as 'Very High'. These ranges were calculated by dividing the between the highest value of 5 and the lowest value of 1 assigned to the options into the number of options.

Findings and Interpretations

The findings obtained via the statistical analysis of the research data are presented in Tables with respect to the variables in the study. Table 3 presents the class distributions of the students participating in the study.

Table 3.

Class distributions of the students at Dicle and Bahçeşehir Universities

Class Grade	University	
	State (Dicle)	Foundation (Bahçeşehir)
Freshman	568	212
2 nd Grade	442	119
3 rd Grade	277	100
Senior	181	108
Those in their fifth, or higher, year of education at university	70	106
Total	1538	645

According to the distributions of the students with respect to the variable of class grade, there were 568 freshman, 442 second-grade, 277 third-grade and 181 senior students plus 70 students in their fifth, or higher, year of education at Dicle University. As for Bahçeşehir University, there were 212 freshman, 119 second-grade, 100 third-grade and 108 senior students plus 106 students in their fifth, or higher, year of education.

Table 4 presents the mean scores regarding the computer experience of the students from Dicle University (state university) and Bahçeşehir University (Foundation University) as well as their attitudes towards the Internet and computer.

Table 4.

Mean scores regarding the computer experience of the students from the State University and from the Foundation University and their attitudes towards the Internet and computer

Scales	State	State	Foundation	Foundation
	University (\bar{x})	University Sx	University (\bar{x})	University Sx
Computer Experience	2,978	4,709	3,496	3,597
Computer Attitude	3,990	10,523	4,412	6,796
Internet Attitude	3,946	11,067	4,353	6,731

The state university students' mean score regarding their computer experience was calculated as $\bar{x}=2,978$, while it was $\bar{x}=3,496$ for the students from the foundation university. The mean scores regarding the students' attitudes towards computer was $\bar{x}=3,990$ for those from the state university and $\bar{x}=4,412$ for those from the foundation university. As for the mean scores regarding the students' attitudes towards the Internet were $\bar{x}=3,946$ for those from the state university and $\bar{x}=4,353$ for those from the foundation university.

Table 5 presents the students' mean scores regarding their computer experience and their attitudes towards the Internet and computer in their first year of undergraduate education at university.

Table 5.

The mean scores of freshman students from state and foundation universities regarding their computer experience and their attitudes towards the Internet and computer

Scales	Dicle University (\bar{x})	Dicle University Sx	Bahçeşehir University (\bar{x})	Bahçeşehir University Sx
Computer Experience	2,692	4,539	3,167	3,280
Computer Attitude	3,945	10,717	4,270	6,600
Internet Attitude	3,864	11,393	4,287	6,501

The mean score of the freshman students from the state university regarding their computer use was $\bar{x}=2,692$, while it was $\bar{x}=3,167$ for those from the foundation university. The students' mean scores regarding their attitudes towards computer were $\bar{x}=3,945$ for those from the state university and $\bar{x}=4,270$ for those from the foundation university. In addition, the students' mean scores regarding their attitudes towards the Internet were $\bar{x}=3,864$ for those from the state university and $\bar{x}=4,287$ for those from the foundation university.

In order to determine whether there was a difference between their computer and Internet attitudes of the freshman students with respect to their university - state or foundation -, independent groups t-test was conducted. The results of this test can be seen in Table 6 and Table 7.

Table 6.

t-Test results regarding the computer attitudes of the freshman students from state and foundation universities

University	N	X	SS	Sd	t	P
Foundation	211	4,27	0,41	778	6,59	.000
State	568	3,94	0,66			

The research findings revealed that the computer attitude mean scores of the freshman students were 'Mean_F=4,27, Ss=0,41' for those from the foundation university and 'Means=3,94, Ss=0,66' for those from the state university. It was seen that the freshman students' mean scores regarding their attitudes towards computer demonstrated statistically significant difference with respect to their universities - state or foundation ($t_{(778)}=6,59$; $p>.05$). This significant difference was found to be in favor of the freshman students from the foundation university.

Table 7.

t-Test results regarding the Internet attitudes of the freshman students from state and foundation universities

University	N	X	SS	Sd	t	p
Foundation (FU)	211	4,28	0,40	777	8,09	.000
State (SU)	568	3,86	0,71			

According to the findings obtained in the study, the Internet attitude mean scores of the freshman students were 'Mean_F=4,28, Ss=0,40' for those from the foundation university and 'Means=3,86, Ss=0,71' for those from the state university. The Internet attitude mean scores of the freshman students demonstrated a statistically significant difference with respect to their universities - state or foundation ($t_{(777)}=8,09$; $p>.05$). This significant difference was found to be in favor of the freshman students from the foundation university.

In order to determine whether there was a significant difference between the Internet attitude scores of the students from the state and foundation universities with respect to their faculty, ANAOVA was conducted. For this statistical test, the faculties which were found in the foundation university but not in the state university were not included in ANOVA. Within the scope of this test, the institute and faculties found in the body of the foundation and the same institute and faculties found in the body of the state university were taken into consideration. The results obtained are presented in Table 8.

Table 8.

ANOVA results regarding the Internet attitude scores of the students from the state and foundation universities with respect to their faculty

Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Between groups	70,722	9	7,858	30,261	,000
Within groups	293,957	1132	,260		
Total	364,679	1141			

The results revealed a significant difference between the Internet attitude scores of the students from the state and foundation universities with respect to their faculty ($F_{(9, 1132)} = 30,261$, $p=0,000$). For the purpose of determining which groups caused this significant difference, Tukey HSD test was applied.

Table 9.

Tukey HSD Test results regarding the difference between the Internet/Web attitude scores of the students from the state and foundation universities with respect to their faculty

Group/Faculty	Mean	Std	P
FU Institutions – FU EAF	-0,31434	0,05986	0,000
FU Institutions – SU SAF	0,37082	0,06448	0,000
FU Institutions – SU LF	0,27968	0,06920	0,002
FU Institutions– SU EASF	0,35556	0,07551	0,000
FU SAF – FU EASF	0,26347	0,07551	0,024
FU SAF – SU SAF	0,49338	0,07256	0,000
FU SAF – SU LF	0,40424	0,07679	0,000
FU SAF – SU EASF	0,47812	0,08435	0,000
FU LF – FU EASF	0,33214	0,06657	0,003
FU LF – SU SAF	0,56205	0,06075	0,000
FU LF – SU LF	0,47091	0,06574	0,000
FU LF – SU EASF	0,54679	0,07443	0,000
FU LF – SU EAF	0,31004	0,06542	0,000
FU EASF – FU EAF	-0,45526	0,05986	0,000
FU EAF – SU SAF	0,68517	0,05331	0,000
FU EAF – SU LF	0,59403	0,05894	0,000
FU EAF – SU EASF	0,66990	0,06849	0,000
FU EAF – SU EAF	0,43315	0,05858	0,000
SU Institutions – SU SAF	0,47512	0,08437	0,000
SU Institutions – SU LF	0,38398	0,08803	0,001
SU Institutions – SU EASF	0,45986	0,09470	0,000
SU EASF– SU EAF	-0,25201	0,06330	0,003

The students' Internet/Web attitudes were significant with respect to whether they were students in a faculty or in an institution. It was found out that there was a significant difference between the students from the Foundation University Institutions and those from Foundation University Faculty of Engineering and Architecture ($p=0,000$) and that the difference was in favor of those attending an institution. Table 9 demonstrates which groups were found to have a significant difference and which group the difference was in favor of.

Table 10.

ANOVA results regarding the computer attitude scores of the students from the state and foundation universities with respect to the variable of faculty

Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Between Groups	68,083	9	9	29,921	,000
Within Groups	286,194	1132	1132		
Total	354,277	1141			

It was found out that there was a significant difference between the computer attitude scores of the students from the state and foundation universities with respect to the variable of faculty ($F_{(9, 1132)}=29,921$, $p=0,000$). In order to determine the level of significance and the groups that caused this difference, Tukey HSD test was conducted.

Table 11.

Tukey HSD Test results regarding the difference between the computer attitude scores of the students from the state and foundation universities with respect to the variable of faculty

Group/Faculty	Mean	Std	P
FU Institutions – FU EASF	0,27182	0,06907	0,003
FU Institutions – SU SAF	0,62438	0,06363	0,000
FU Institutions – SU LF	0,43145	0,06828	0,000
FU Institutions – SU EASF	0,35989	0,07647	0,000
FU SAF – FU EASF	0,28580	0,07647	0,007
FU SAF – SU SAF	0,63836	0,07160	0,000
FU SAF – SU LF	0,44543	0,07577	0,000
FU SAF – SU EASF	0,37387	0,08323	0,000
FU LF – FU EAF	-0,18305	0,05508	0,031
FU LF – SU SAF	0,55498	0,05994	0,000
FU LF – SU LF	0,36205	0,06487	0,000
FU LF – SU EASF	0,29049	0,07344	0,003
FU EASF – FU EAF	-0,38546	0,05907	0,000
FU EASF – SU SAF	0,35256	0,06363	0,000
FU EAF – SU SAF	0,73803	0,05261	0,000
FU EAF – SU LF	0,54510	0,05815	0,000
FU EAF – SU EASF	0,47354	0,06758	0,000
FU EAF – SU EAF	0,32797	0,05780	0,000
SU Institutions – SU SAF	0,49989	0,08325	0,000
SU Institutions – SU LF	0,30696	0,08686	0,015
SU SAF – SU EASF	-0,26449	0,07160	0,009
SU SAF – SU EAF	-0,41006	0,06246	0,000
SU LF – SU EAF	-0,21713	0,06719	0,042

The students' attitudes towards computer were significant with respect to whether they were students at a faculty or in an institution. It was found out that there was a significant difference between the students from Foundation University Institutions and those from Foundation University Faculty of Economics and Administration Sciences ($p=0,000$) and that the difference was in favor of those attending an institution. Table 11 presents which groups were found to have a significant difference and which group the difference was in favor of.

Discussion and Conclusion

Below is a discussion of the findings obtained in the present study conducted to investigate the computer experience of students from state and foundation universities and their attitudes towards the Internet and computer with respect to certain variables.

The computer experience levels of the students differed depending on whether they were from the state university or the foundation university. The students from the state university had a 'moderate' level of computer experience, while those from the foundation university had a 'high' level of computer experience. The students' mean score regarding their attitudes towards computer was at the level of 'I agree' for the students from the state university, while it was 'I totally agree' for those from the foundation university. The university students' mean scores regarding their attitudes towards the Internet were at the level of 'I agree' for the students from the state university and at the level of 'I totally agree' for those from the foundation university. It was found out that the students from both universities had a positive level of attitudes towards the Internet and computer and that the students from the foundation university had better knowledge in terms of computer use. Gerçek and colleagues (2006), in their study carried out to examine preservice teachers' attitudes towards computer in terms of certain variables, reported that the students had a moderate level of attitudes towards computer and that the preservice teachers' competencies in technology use should be increased and their attitudes towards computer be developed.

In a number of studies examining attitudes towards the Internet/Web and computer, students from one faculty, one department or one school were selected as the research sample (Usta et.al., 2007; Tekinarslan, 2008; Bahar et.al., 2009; Gündüz and Korucu, 2010). In addition, in several other studies conducted to examine students' attitudes, the research results obtained were interpreted by applying gender-based statistical analyses (Deniz et.al., 2006; Gerçek et.al, 2006; Köse et.al, 2007; Yıldırım and Bahar, 2008). In related studies, it was reported that the male students' attitudes were more positive than those of the female students (Deniz et.al., 2006; Köse et.al., 2007; Bahar et.al., 2009), while in some other studies, no significant difference was found between the female and male students (Gerçek et.al., 2006, Yıldırım and Bahar, 2008). On the other hand, it is obvious that there is a need for further research to be carried out to determine the difficulties and problems that students experience regarding technology use. Considering the fact that students' levels of computer experience have direct influence on their use of the Internet and computer, determining the students' levels of computer experience in their first year at university could help overcome the deficiencies in this field. The computer experience levels of the freshman students participating in the study were at 'low' level for those from the state university, while it was at 'moderate' level for those from the foundation university. The results of the statistical analysis conducted to reveal the effectiveness of the students' levels of computer experience on their attitudes towards the Internet and computer demonstrated that the attitudes of the students from the state university towards the Internet/Web and computer were at the level of 'I agree', while it was at the level of 'I totally agree' for those attending the foundation university. In addition, it was also found out that the difference between the freshman students from the state and foundation universities was significant ($p > .05$). However, the computer usage experience of the first grade university students is of a very low level according to the experiences of the respondents from both public and foundation-owned universities. Although the students have this low level experience, it is seen that there is no difference between the computer and www usage attitudes of students. In this case, it can be concluded that the computer usage experience of the students has no direct effect on their attitudes of computer and WWW usage. The works show that basic knowledge and capability about computer usage have a positive effect on individuals' perceptions of computer and WWW usage. The rapid changes in technology and the attitudes capabilities of universities have influence on attitudes towards the Internet and computer. Students should be encouraged to gain the culture of innovation by including innovation-related contents into their curricula (Odabaşı, 2007; Kılıçer, 2008).

When universities in Turkey are considered in two categories as state universities and foundation universities, it was seen that the students from Bahçeşehir University, a foundation university, had more positive attitudes towards the Internet and computer than the male students attending Dicle University, a state university. It was found out that with respect to the variable of faculty, there was a significant difference between the students' attitudes towards the Internet and computer ($p > .05$). The results of the statistical analyses conducted to determine the significant difference revealed that the students from the faculties and institutions giving technology-related education (engineering and architecture, M.A. and Ph.D.) had more positive attitudes towards the Internet and computer than those from other faculties (science and literature, law and economics and business administration). Yıldırım and Bahar (2008), in their study comparing the Internet attitudes of the students from the education faculty and from four higher education vocational schools at Erzincan University, found a significant difference between the Internet attitudes of the students attending the faculty and the vocational schools and stated that the cause of this difference could be the Internet use frequencies of the participants. In another study carried out to examine the higher education vocational school students' attitudes towards computer and Internet use, Köse and colleagues (2007) reported that 80% of the participants believed it was necessary to know how to use computer to find a job.

The present study revealed that in Turkey, students' approaches to technology and their reflection of technology use into their education were more positive at foundation universities, while it was limited in state universities. Today, students mostly aim at using the Internet for educational purposes (Usta et.al., 2007); thus, universities' approach to such use of the Internet has gradually gained importance. It was reported that when students have their personal computers at home during their secondary school and high school education, they have lower levels of anxiety regarding computer use (Tekinarslan, 2008; Teo, 2008). Trying to follow new Technologies and to learn how to use the Internet for learning causes individuals to develop more anxiety (Thatcher et.al., 2007). Examining the technology-related approaches of universities, which shape future professions, could contribute to the future of students taking education at these universities.

Referances

- Akın, M. ve Baştuğ, A., (2005). Erzincan Eğitim Fakültesi İlköğretim Bölümü Sınıf Öğretmenliği anabilim Dalı Öğrencilerinin Bilgisayar ve İnternet Teknolojilerinden Yararlanma Düzeylerin Belirlenmeye Yönelik Bir Ön Çalışma. *Erzincan Eğitim Fakültesi Dergisi*, 7, 1, 47-58.
- Aydın, C., H. (2001). Çevrimiçi (Online) Eğitimi Bekleyen Tehlikeler. *Sakarya Üniversitesi Eğitim Fakültesi Dergisi*, 101-108.
- Bahar, H. H., Uludağ, E., & Kaplan, K. (2009). İlköğretim Öğretmenlerinin Bilgisayar ve İnternet Tutumlarının İncelenmesi (Kars İli Örneği). *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 11(2).
- Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches*. Sage.
- Demirbaş, H. (2001). Eğitimdeki Değişimin Öğretmen ve Teknolojik Boyutu. *Bilim ve Aklın Aydınlığında Eğitim Dergisi*, 2, 14, 1-3.
- Deniz, S., Görgen, İ. ve Şeker, H., (2006). Tezsiz yüksek lisans öğretmen adaylarının teknolojiye yönelik tutumları. *Eğitim Araştırmaları*, 6 (23), 62-71.
- Erkan, S. (2004). Öğretmenlerin bilgisayara yönelik tutumları üzerine bir inceleme. *Kırgızistan-Türkiye Manas Üniversitesi Sosyal Bilimler Dergisi*, 12.
- Ersoy, A., & Türkkan, B. (2009). İlköğretim Öğrencilerinin Resimlerinde İnternet Algısı. *İlköğretim Online*, 8(1), 57-73.
- Gerçek, C., Köseoğlu, P., Yılmaz, M. ve Soran H. (2006). Öğretmen Adaylarının Bilgisayar Kullanımına Yönelik Tutumlarının Çeşitli Değişkenler Açısından İncelenmesi. *H.U. Eğitim Fakültesi Dergisi*, 30, 130-139, 2006
- Greenhow, C., & Robelia, B. (2009). Informal learning and identity formation in online social networks. *Learning, Media and Technology*, 34(2), 119-140.
- Gündüz, Ş., & Korucu, A. T. (2010). The study of the attitudes of the students at vocational training high school towards the internet through certain variables. *Procedia-Social and Behavioral Sciences*, 2(2), 4836-4841.
- Hızal, A., 1989. *Bilgisayar Eğitimi ve Bilgisayar Destekli Öğretime İlişkin Öğretmen Görüşlerinin Değerlendirilmesi*, Anadolu Üniversitesi Yayınları, Eskişehir.
- Kaya, Z. (2002). *Uzaktan Eğitim*. Ankara: Pegem A Yayıncılık.
- Kılıçer, K. (2008). Teknolojik Yeniliklerin Yayılmasını ve Benimsenmesini Arttıran Etmenler. *Anadolu Üniversitesi Sosyal Bilimler Dergisi*, 8(2), 209-222.
- Kirby, E. (1999). "Building interaction in online and distance education courses". *Paper presented at the international conference of the Society for Information Technology and Teacher Education*, San Antonio, TX.
- Köse, S., Gencer, S. A. Ve Gezer, K. (2007). Meslek Yüksekokulu Öğrencilerinin Bilgisayar ve İnternet Kullanımına Yönelik Tutumları. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, (1), 21.
- Kruger, K. (2000). Using information technology to create communities of learners, In B. Jacoby (Ed.), *Involving commuter students in learning. New Directions for Higher Education*, , 59-70.
- Lam, M. (2009). Effectiveness of web-based courses on technical learning. *Journal of Education for Business*, 84(6), 323-331.
- Lazakidou, G. & Retails, S. (2010). Using Computer Supported Collaborative Learning Strategies For Helping Students Acquire Self-Regulated Problem-Solving Skills in Mathematics, *Computers & Education*, (54), 1, 3-13
- Liaw, S. S., (2002). An Internet Survey for Perceptions of Computers and the Worl Wide Web: Relationship, Prediction, and Difference. *Computer in Human Behavior*, 18,17-35.
- Loyd, B., H. & Loyd, D., E. (1985). The Reliability and Validity of instruments for the Assessment of Computer Attitudes. *Educational and Psychological Measurement*, 45 903-908.

- Odabaşı, H. F. (2007). *Öğretmen eğitiminde bilgi ve iletişim teknolojileri*. Nobel Yayınları, Ankara.
- Özmen, Ş. (2001). "Eğitimde Sanal Sınıf Uygulamaları ve Sonuçları," VII. Türkiye'de İnternet Konferansı [Online] November 1-3. Available: <http://www.inet-tr.org.tr/inetconf7/bildiriler/89.doc>
- Pierce, T. (2009). Social anxiety and technology: Face-to-face communication versus technological communication among teens. *Computers in Human Behavior*, (25), 1367-1372.
- Saraçoğlu, A. S. ve Kaşlı, A. (2001). Öğretmen Adaylarının Bilgisayara Yönelik Tutumları ile Başarıları Arasındaki İlişki, *Ege Eğitim Dergisi*, (1):1, 110-126.
- Sorensen, C. & Baylen, D., M. (1999). "Interaction in interactive television instruction: Perception or reality". *Proceedings of the 1999 Conference of the American Educational Research Association-(AERA)*, Montreal, Canada.
- Sun, S. (2008). An examination of disposition, motivation, and involvement in the new technology context computers in human behavior. *Computers in Human Behavior*, (24), 2723-2740.
- Sutton, L. (2001). The principles of vicarious interaction in computer-mediated communications. *Journal of Interactive Educational Communications*, 7(3), 223-242.
- Tekinarslan, E. (2008). Computer anxiety: A cross-cultural comparative study of Dutch and Turkish university students. *Computers in Human Behavior*, 24, 1572-1584.
- Thatcher, J. B., Loughry, M. L., Lim, J., & McKnight, D. H. (2007). Internet anxiety: An empirical study of the effects of personality, beliefs, and social support. *Information & Management* (44), 353-363.
- Teo, T. (2008). Assessing the computer attitudes of students: An Asian perspective. *Computers in Human Behavior*, 24, 1634-1642.
- Tuncer, M., & Taşpınar, M. (2008). Sanal Ortamda Eğitim Ve Öğretimin Geleceği Ve Olası Sorunlar. *Sosyal Bilimler Dergisi*, 10(1), 124.
- Usta, E., Bozdoğan E, A. ve Yıldırım, K. (2007). Sınıf Öğretmeni Adaylarının İnternet Kullanımına İlişkin Tutumlarının Değerlendirilmesi, *Ahi Evran Üniversitesi Kırşehir Eğitim Dergisi (KEFAD)*, Cilt & Sayı 1,(2007), 209-222.
- Yenice, N. (2003). "Bilgisayar Destekli Fen Bilgisi Öğretiminin Fen ve Bilgisayar Tutumlarına Etkisi," *The Turkish Online Journal of Educational Technology*, October 2003, vol. 2 (4).
- Yeşilyurt, S. ve Gül, Ş. (2007). Bilgisayar Kullanma Becerileri ve Bilgisayarlara Yönelik Tutum Ölçeği (BKBBYTÖ): Geçerlik ve Güvenirlik Çalışması. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi*, 24, 79-88.
- Yıldırım, S., & Bahar, H. H. (2008). Eğitim fakültesi öğrencileri ile meslek yüksekokulu öğrencilerinin internete karşı tutumları (Erzincan üniversitesi örneği). *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 20, 653-663.
- Wijers, G. D. M. (2010). Determinants of the digital divide: A study on IT development in Cambodia. *Technology in Society*, 32(4), 336-341.