The Determining the Relationship between Turkish Language Teachers' Attitudes towards Computer Education and Technology

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ABSTRACT The purpose of this study is to examine the relationship between Turkish teachers' attitudes towards computer-based training and technology.In this study, descriptive model has been used. The data were collected with "Attitudes Scale towards Computer Assisted Education" and "Attitudes Scale towards Technology" in this descriptive study. The research' sample is composed of Turkish teachers who worked in Nigde in 2011-2012 Academic Years. The results of the study showed that Turkish language teachers' attitudes towards computer-based education and technology were positive. There is low level negative and non-significant relationship between the Turkish teachers' attitudes towards computer-based education and technology. Teachers' attitudes towards computer-based education and technology being positive can be interpreted as them perceiving technology and computers as necessity and tools during the educational process. This result of the study can be considered as an important finding in terms of using and dissemination technology in education.

INTRODUCTION

With the effective use of technology in the educational process, educators and printed materials are no longer the only source of Information. This student-centered approach necessitates the preparation of learning environments suitable to the needs and interests of the students.Enrichment of the learning environments with technological tools can provide great benefits to teachers during the learning process. Within the traditional teaching approach, instead of overseeing the learning environment in the classroom activities, the teachers oversee the students. Sasan (2002: 52) stated that during this process the teachers should organize the learning environment and take the role of a guide instead of merely distributing Information. Ozden et al. (1997) expressed that the most effective use of this system is only with the creation of educational environments where educators who are knowledgeable and well-trained in using technology play a guiding roles. But many studies

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results show that teachers' attitudes are not positive. For example, Graham et al. (2014) concluded from their study that Beyond word processing, the use of computer technology was absent from most middle school teachers class, as they never used computer software to grade students' assignments (85% of teachers), had students collaborate via the internet with others when writing (84% of teachers), asked students to share their writing with others via the internet (79%), or used computer software programs to teach writing (69% of teachers). Occasionally, teachers had students use the internet to help them locate Information for a writing assignment. The most common reasons teachers gave for their limited use of technology was lack of: (1) computers in their classrooms (62%), (2) software/ programs (32%), (3) computers in the school (29%), knowledge of technology and software (13%), and internet access (6%). Because the use of technology use was so limited, we did not examine if application differed by subject area. From this aspect, teachers have important roles to play in using technology in education and in the organization of learning environments according to this.

Technology Use and Attitudes

In the educational process, educators' attitude towards technology is directly related to

their technology use in education services. According to Tezbasaran (1997: 1), attitude is "the tendency to give learned positive or negative response to specific object, situation, concept or other people." Knowing the teachers' attitudes towards computer-based education and technology during the learning-teaching process carries important weight. Namlu (1998: 186-187) pointed out that "factors behind teachers' use of tools in the classroom is their beliefs, attitudes and how much value they give to technology." He also stated that "a teacher who does not believe in the necessity of instructional tools will be unwilling to use tools during a lesson."

Celik and Yesilyurt (2013) reported that attitude to technology, perceived computer self-efficacy and computer anxiety are important predictors of teacher candidates' attitude toward using computer supported education. In this respect, teacher candidates complete anundergraduate education that will enable them to have a positive attitude to technology, have no computer anxiety and heighten their perceived computer self-efficacy. Such an education will make it possible for them to acquire a positive attitude toward the application of computer supported education.

According to Teo (2006: 414), students' learning success with computer technology is largely dependent on teachers' attitudes towards technology. "While technology evolved rapidly, teachers' adaptation to this technology has generally been slow; teachers even play a slowing down role." What determine teachers' use of technology are their individual opinions, beliefs and attitudes. According to Hignite and Echternacht (1992), "to successfully integrate the classroom with technology, it is vital for teachers to have positive approach and sufficient computer skills." (Namlu 2002: 225-226; Karasakaloglu et al. 2011: 27).

In his study where he used Technology Fear Scale to examine teacher candidates' reservations towards technology, Namlu (2002) determined that candidates who did not have experience in computer usage had more anxiety compared to candidates who had experience. In many developed countries infrastructure for computer-based education was built in nearly all schools. "When computer-based education starts in schools, teachers' positive attitudes towards computers will become extremely important. One of the most important reasons for teachers to use computers

in education is that computer usage will be an important determinant in the future." (Myers and Halpin 2002: 135-136).

With the development of technology, rapid progress and changes have been happening in educational technology. Kosar (2003) stated that these developments and changes offer numerous opportunities to teachers and students. The most important obstacles in front of teachers developing positive attitude towards technology and computer-based education are lack of knowledge and skills, anxiety and prejudice. Varol (1997: 4) expressed that teachers who believe that technology has a facilitator side will achieve success in the system. For teachers to have positive attitude towards technology, they should have competencies in technology usage. "Today, teachers are both expected to demonstrate technological skills and integrate technology needed for modern education with learning environments (Odabasi and Gunduz 2004: 47).

One of the external factors developing attitudes is education. According to Albion (1993: 3), the use of technology and computers at the educational institutions, which have important roles in developing attitudes, should be extended. Teacher candidates who have positive attitudes towards computers and who trust themselves to use computers during the educational process are known to have more confidence in themselves to transfer these skills to their own students.

Computer-based Education and Teaching

Used in education services, computer is an indispensable tool used in education. According to Simsek (1998: 22), "computer is a learning assistant; it supports teaching and instruction". Baykal (1986: 30) sees computer not as an alternative to the teaching process but as a supplementary and reinforcing element to the system.

Computer-based education is, also, considered as a method including activities during the teaching-learning process. According to Ozatas (2007: 30), computer-based education is a teaching method where students interact with software that was written taking any kind of student reaction into consideration and where students can progress at their own pace. Computer-based education is a contemporary teaching style where other environments including teachers are used. In parallel with the developing technolo-

gy, many techniques related to teaching and learning has been introduced (Imer 2000: 13; Simsek 1998: 23; Gurdal et al. 2001: 105; Aydin et al. 2012: 102).

In the light of the aforementioned definition, it is possible to define computer-based education as "transferring activities related to teaching or learning to the learners through a computer". Apart from this, computer-based education encompasses all activities of education. According to Arslan (2003: 67), while computer-based education is a process that makes it possible for students to self-learn and is based on programmatic teaching methods, it also is a supplementary tool to the teacher to enrich teaching during activities and to improve teaching quality.

Computers will provide great benefits to both teachers and students in teaching difficult subjects and reinforcing the already learned Information. "Computer-based education is using computers to teach a subject or a concept or to reinforce the already attained behaviors" (Yalin 2001cited inAkcay et al. 2003:58).

Computer-based education (CBE) takes part in many activities of the educational process. "CBE is used in content delivery, research, management of educational services, measurement and evaluation, guidance, library services and teaching-learning activities" (Sahin andTosun 2006cited inAkcay 2011: 910; Kus 2005: 5). According to Odabasi (1998: 135), computer-based education is an application of computer technology in the teaching process. These applications deliver content directly, repeat what is already learned, problemsolves and practice. Odabasi (1998: 135) counted growing amount of Information and number of students, the complexity of content to be taught and individualization of education as some of the reasons that initiated computer-based applications.

With active use of computers in nearly every stage of teaching and learning process, many definitions have emerged. Most encountered ones are "Computer-based Teaching", "Computer-based Education". For Keser (1988: 108), what needs to be stressed is that "computers help education just like a book, laboratory, movie, etc." Keser (1998) points out that "while computer-based education expands the system by providing a flexible structure and improving the quality of education by using resources, it paves the way for individual learning by making time use in education flexible".

Alessi and Trollip (2001: 1-2) and Akpinar (1999: 41) stated "increased quality and effectiveness in education, fast interaction among people, overcoming the time problem encountered during activity management, teaching big quantities of Information in various forms, opportunity to store what was done, increased subject attractiveness and creation of flexible learning environment" as the reasons why computer-based education is preferred (cited in Avci 2010: 7).

One of the benefits of computer-based education is to minimize the differences among students. In traditional learning models teachers adjust the lesson to majority of the students; the students whose levels are low or high did not benefit from these models. Gulluoglu (2010: 2) stated that computer-based education can make even the most boring activities interesting since it allows interaction and makes learning effective through visual applications like color and graphics.

Teachers' Importance and Role in Computer-Based Education

One of the most important aspects of education is teachers. According to Aydin and others (2012), teachers are one of the most important factors that can help students attain a certain objective. When teachers do not have the necessary qualifications, buildings and administrators will not yield any results even if they are qualified. Freeman (1987: 21) stated that the teachers' role in computer-based education can be examined under four categories; these groups are educational, social, technical and educational (cited in Kaya 2008: 55).

*1.Teachers' Role Based on Teaching Activities:*taking administrative initiatives about computer usage in the school, participating in projects and courses related to computer-based education, following the relevant books and journals.

*2. Teachers' Social Role:*Raising awareness of the parents about computer education, preparing students for the future, increasing the status of the teaching profession, being computer literate.

*3.Teachers' Technical Role:*Knowing the computer's operating system, acquiring computer, using educational software, classroom management and organization.

4. Teachers' Educational Role: Adapting computers to educational programs and applying them in line with computer-based teaching models.

According to Tandogan (1998: 15), during the teaching-learning process "teacher" and "technology" form two important elements since these two elements have the most effect on students' learning?In today's educational system where teachers play different roles, they should use technology and also teach students how to use technology for learning.

According to Yolcu (2007: 37), when adequate resources are provided, education and teaching get easy on both the teachers' and students' side thanks to technology. "The teacher's task is to do all the work he/she can do needed to improve the learning of their students whom they are responsible for" (Aktepe 2005: 19). According to Imer (2000: 19-20), the success of using computers in education depends on the concerned parties' correctly understanding this innovation project and developing a positive understanding about the said project.

While drawing attention to the role of teachers in education in today's world where technology puts all its weight, Ozturk (2004: 76) stated that the common belief behind people saying teachers' role will decrease or increase is the idea that teachers' role in the education will definitely transform undergoing a big change. During the teaching process, technology taking the place of teachers should not expect. Varol (1997: 4) expressed that specifically senior teachers are afraid of losing their authority in the classroom because of new technologies. Heinich et al. (1993) pointed out that teachers' using educational tools does not mean that educational tools and materials will replace teachers. On the contrary, these will turn teachers into creative managers of the learning experience from mere distributors of Information (cited in Fidan 2009: 50).

Just like in other professions, technology has led to changes in the teaching profession. As education in every aspect of life steadily progresses, teachers should also educate themselves to be productive and successful in their work. According to Johanson (1998: 1), teacher's role is to organize the classroom environment so that students can access technology. As an "expert", an effective teacher creates suitable environments for student learning and facilitates student learning by designing activities in the curriculum. While teachers and materials are seen as the only source of Information in the traditional education approach, in the new education approach teachers have become guides instead of being Information resources. According to Kaya (2013: 10), teacher's role as student's guide to Information resources is at the forefront. What is expected of them is to stimulate the curiosity of the students, to direct them to research and to help them study systematically.

Bialo and Kachala (1995: 1) pointed out that recent studies show student success due to change in learning environments, technology usage and computer-based activities. They also pointed out that students' attitudes positively change when teachers use technology. A constant change and development is happening in education. Oral (2004:2) emphasizes that one of the most important factors behind this change and development is the "teacher".

Although teachers have tried to improve their computer skills with in-service training courses, etc., they cannot apply these in their classrooms since unused Information is quickly forgotten. Karatas and Yapici (2006:323) pointed out that teachers should allow themselves to update their Information and to refresh themselves. By using educational technologies in their classrooms teachers who update and refresh themselves will be more successful during the teaching process.

Research Problem

"What level is the relationship between Turkish language teachers' attitudes towards computer education and technology" is the problem sentence of the study.

The following are the sub-problems of the study:

1. Do attitudes towards computer-based education and technology show differences based on sex?
2. Do attitudes towards computer-based education and technology show differences based on seniority?
3. Do attitudes towards computer-based education and technology show differences based on monthly income?
4. Do attitudes towards computer-based education and technology show differences based on education?
5. Do attitudes towards computer-based education and technology show differences based on time spent on the computer?

6. Do attitudes towards computer-based education and technology show differences based on whether they own computer or not?

Research Purpose

The purpose of the study is determine the relationship between Turkish language teachers' attitudes towards computer education and technology in terms of sex, seniority, monthly income, education, time spent on the computer and whether or not owning a computer.

Research Limitations

The scales used in the study were sent to all the Turkish language teachers working at primary schools under the Nigde Directorate of National Education during the 2011-2012 academic years. At the end, 108 Turkish language teachers participated in the study by answering the scales. This study is limited by 108 Turkish language teachers.

METHODOLOGY

Research Model

In this study where the relationship between Turkish language teachers' attitudes towards computer education and technology is determined, descriptive model have been used. "Descriptive research is a research model that aims to determine any phenomenon about any subject. Descriptive studies do not explain why a phenomenon exists or why a relationship is built in a certain way; instead they explain what is in the phenomenon and what goes along with what" (Arslanohglu 2013: 4).

Study Sample and Universe

The universe of the study is made up of Turkish language teachers working in the city of Nigde during the 2011-2012 academic years. The study sample, on the other hand, consists of 108 Turkish language teachers who volunteered to fill out the scale.

According to Table 1, 51 out of 108 Turkish language teachers in the study sample were male and 57 of them were female. According to Table 2, 11 out of 108 Turkish language teachers in the study sample have been teaching for 0-5 years; 48 of them for 6-10 years; 37 of them for 11-15 years; 9 of them for 16-20 years; and 3 of them have been working more than 21 years. According to Table 3, 1% of the 108 Turkish language teachers in the study sample earned 0-1500 liras; 69% 1500-2000; 36% 2001-2500; and 2% earned more than 2500 liras. According to Table 4, 101 out of 108 Turkish language teachers in the study sample have B.S. degrees; 6 of them have M.A. degrees; and 1 of them has a Ph.D. According to Table 5, 43 out of 108 Turkish language teachers in the study sample spent 0-1 hours on computer; 43 of them 1-2 hours; 12 of them 2-3 hours, 8 of them 3-4 hours; and 2 of them spent more than 4 hours on computer. According to Table 6, 97 out of 108 Turkish language teachers in the study sample own a computer and 11 of them do not own a computer.

Data Collection Tools

In the study, two scales were used as data collection tools. These were: "Computer-Based

Table 1: Distribution of the study sample in terms of sex

Sex	f	%
Male	51	47.2
Female	57	52.8
Total	108	100

Table 2: Distribution of study sample in terms of seniority

Seniority	f	%
0-5 years	11	10.2
6-10 years	48	44.4
11-15 years	37	34.3
16-20 years	9	8.3
21+	3	2.8
Total	108	100

Table 3: Distribution of study sample in terms of income

Income	f	%
0-1500	1	.9
1501-200	69	63.9
2001-2500	36	33.3
2500+	2	1.9
Total	108	100

Table 4: Distribution of study sample in terms of education level

Education cell	f	%
B.S.	101	93.5
M.A.	6	5.6
Ph.D.	1	.9
Total	108	100

Table 5: Distribution of study sample in terms of time spent on computer

Time spent on computer	f	%
0-1 hours	43	39.8
1-2 hours	43	39.8
2-3 hours	12	11.1
3-4 hours	8	7.4
4+ hours	2	1.9
Total	108	100

Table 6: Distribution of study sample in terms of whether or not owning a computer

Owning computer	f	%
Yes	97	89.8
No	11	10.2
Total	108	100

Education Attitude Scale" and "Technology Attitude Scale"

Computer-Based Education Attitude Scale

In the study, "Personal Information Form" and "Computer-Based Education Attitude Scale" developed by Arslan (2006) were used as data collection tools. Information about teachers' sex, seniority, monthly income, education, and time spent on the computer and whether or not they owned a computer was included in the Personal Information Form. Computer-Based Education Attitude Scale was developed to determine Turkish language teachers' attitude towards using computer-based education. While Arslan was developing the scale, he had used 151 students. First, a trial scale with 41-items was developed. After the application, the items with low factor loadings and low item-total correlation coefficient were removed from the scale. As a result, a 20-item scale was developed. 10 out of 20 items are positive and 10 of them are negative. The Cronbach-Alpha reliability coefficient of the scale was found to be 0.93.

Data Related to the Validity and Reliability of the Computer-Based Education Attitude Scale

For the study, it was decided to do factor analysis to determine the validity of the scale. First of all, KMO and Barlett tests were done to determine if the scale was suitable for factor analysis. In this context, KMO test measurement results should be .50 and higher, and Barlett sphericity test results should be statistically significant (Jeong 2004: 70). As a result of these tests, KMO test result was found to be .81; and Barlett sphericity was found to be significant. Therefore, it was found that factor analysis could be done to the scale.

At the end of the factor analysis, the scale was evaluated over 19-items after removing the items that were not in any factor (item 20) or were under the .40 limit value. After the analysis, it was found that factor covariance was between .56 and .84. When the rotated factor loadings value examined, it was found that the scale was with five factors. The sum of the scale's factor scores explains the 68.23% of the scale. Based on this result, it can be said that the scale's validity is high. Cronbach alpha coefficient was calculated for the reliability of the scale and Cronbach alpha value for the whole scale was found to be .54. Based on this result, the scale can be called reliable.

Technology Attitude Scale

Technology Attitude Scale developed by Kiyici (2008) was also used in the study. After the validity works of the measurement tool was done, to provide the internal validity the measurement tool was used on 251 teacher candidates studying at the On Dokuz Mayis University as a pilot application. In the internal validity works, the scale's internal consistency coefficient (Cronbach Alpha) value was measured as .9798.

Data Related to the Validity and Reliability of the Technology Attitude Scale

For the study, it was decided to do factor analysis to determine the validity of the scale. First of all, KMO and Barlett tests were done to determine if the scale was suitable for factor analysis. In this context, KMO test measurement results should be .50 and higher, and Barlett

sphericity test results should be statistically significant (Jeong 2004: 70). As a result of these tests, KMO test result was found to be .85; and Barlett sphericity was found to be significant (P<0.01). Therefore, it was found that factor analysis could be done to the scale.

At the end of the factor analysis, the scale was evaluated over 76-items after removing the items that were not in any factor (items 17, 19, 20, 23, 24, 27, 28, 46, 49, 52, 54, 56, 58, 59, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80) or were under the .40 limit value. After the analysis, it was found that factor covariance was between .71 and .90. When the rotated factor loadings value examined, it was found that the scale was with eleven factors. The sum of the scale's factor scores explains the 81.43% of the scale. Based on this result, it can be said that the scale's validity is high. Cronbach alpha coefficient was calculated for the reliability of the scale and Cronbach alpha value for the whole scale was found to be .99. Based on this result, the scale can be called highly reliable.

Data Analysis and Interpretation

After transferring the data into the computer, "SPSS Package Program" was used to analyze the data taken from "Personal Information Form", Computer-Based Education Attitude Scale" and "Technology Attitude Scale". During the analysis, to measure the scores of the teachers' responses, the positive items in the scale were interpreted taking the 1-5 intervals as basis. The findings related to the sub-problems were analyzed with independent t-test, Mann Whitney-U test and Kruskal Wallis test.

RESULTS AND DISCUSSION

Results Related to the Research Problem

FromTable 7, it is observed that there is a negative low level and non-significant relation-ship between Turkish language teachers' attitudes towards computer-based education and their attitudes towards technology. Based on this, there is no relationship between Turkish language teachers' attitudes towards computer-based education and their attitudes towards technology. Teachers are not indifferent to constantly renewed technology; they can use personal computers, tablet computers, smart phones and so on.As a reflection of nearly every teacher using technological tools, teachers are expected to have positive attitudes towards computer-based education. The findings obtained in this study are similarto the findings of Karadag et al. (2008); Kus (2005); Celik and Bindak (2005); Choi (1992).

In their work where they examined teacher candidates' attitudes towards computer-based education, Sahin and Akcay (2011), Kutluca and Ekici (2010), Bindak et al. (2009) and Basarici and Ural (2009) found that teacher candidates had positive attitudes towards computer-based education. Also, in their work where they examined teachers' attitudes towards technology, Karasakaloglu et al. (2011); Pala (2006); Akbaba and Kurubacak (1999) and Choi (1992) found that teachers' attitudes towards technology were positive. In Ekici's study (2008) where teacher candidates' attitudes towards technology were examined, it was found that teacher candidates showed positive attitudes towards technology.

ResultsRelated to the First Research Sub-Problem

Table 8 presents that Turkish language teachers' attitudes (t(106)= .135, P>0.05) towards computer-based education do not show difference in terms of sex. On the other hand, Turkish language teachers' attitudes (t(106)= 4.893, P<0.05) towards technology show difference in terms of sex. When the means are examined, it is seen that the difference seems to be in favor of male teachers.

Table 7: Correlation table of the relationship between the Turkish language teachers' attitudes towards computer-based education and technology

Correlation		CBE	ATT
CBE	r	1	-.117
	p		.227
	n	108	108
ATT	r	-.117	1
	p	.227	
	n	108	108

Table 8: Independent t-test results showing differences in Turkish language teachers' attitudes towards computer-based education and technology in terms of sex

Scale	Sex	n	x	s	t	p
CBE	Male	51	2.98	.34	.135	.893
	Female	57	2.99	.24		
ATT	Male	51	4.06	.64	4.893	.000*
	female	57	3.4	.7		

When teacher attitudes towards computer-based education studied in some of the literature are examined, it was found that teachers' attitudes did not differ in terms of sex. Male and female teachers generally have positive attitudes towards computer-based education.

When Turkish language teachers' attitudes towards technology are examined in terms of sex, it is found that compared to female teacher male teacher had more positive attitudes towards technology. This may be the result of male teachers dealing with and using technological equipment more. The findings of the study show similarities with the study of Kus (2005).

The findings of this study, also, show similarities with the studies of Sahin and Akcay (2009), Bindak et al. (2009) and Basarici and Ural (2009). When Jackson et al. (2001) compared male and female teachers' attitudes towards computers; they determined that, compared to male teachers, female teachers had more negative attitudes towards computers. Ekici's study (2008) also found that, compared to female teachers, male teachers had more positive attitudes towards technology. In some studies, compared to female teachers male teachers showed more positive attitudes towards computers (Roussos 2004) and compared to male teachers female teachers showed more positive attitudes towards computers (Rugayah et al. 2004). The findings of these studies show similarities to the study findings of this study.

Results Related to the Second Research Sub-problem

According to the results of Kruskal Wallis H test, there was no significant difference between Turkish language teachers' attitudes towards computer-based education ($\chi^2_{(4)}$ =6.881; p>0.05) and their attitudes towards technology ($\chi^2_{(4)}$ =2.774; p>0.05) in terms of seniority (Table 9).

Accordingly, Turkish language teachers' attitudes towards computer-based education and their attitudes towards technology do not differ in terms of their seniority. Even though the teachers' seniority increases, they can use technology and as a result their attitudes towards computer-based education are positive. Studies in the literature support these findings. In Karasakaloglu et al.'s findings (2011), Turkish language teachers' attitudes towards technology do not differ in terms of seniority. Pala (2006), also, reached the conclusion that teachers' attitudes towards technology do not show any difference in terms of seniority.

Results Related to the Third Research Sub-problem

According to the results of Kruskal Wallis H test, Turkish language teachers' attitudes towards computer-based education ($\chi^2_{(3)}$ =2.922; p>0.05) do not show any significant difference in terms of monthly income. Based on this, regardless of the monthly income of teachers, they still own computers and they increase their experiences by using computers under the effect of internet technology. Increased computer experiences of teachers can be considered as a positive influence on their attitudes towards computer-based education (Table 10).

Turkish language teachers' attitudes towards technology ($\chi^2_{(3)}$ =8.675; p<0.05) show significant difference in terms of monthly income. The results of Mann Whitney U test, which was done to determine the source of difference, show a difference between groups 2 and 3 and groups 3 and 4. It also shows the difference is in favor of

Table 9: Kruskal Wallis test results showing differences in Turkish language teachers' attitudes towards computer-based education and technology in terms of seniority

Scale	Seniority	n	Mean rank	sd	χ^2	p
CBE	0-5 years	11	61.36	4	6.881	.142
	6-10 years	48	56.63			
	11-15 years	37	52.76			
	16-20 years	9	33.56			
	21 + years	3	79.67			
ATT	0-5 years	11	48.41	4	2.774	.596
	6-10 years	48	55.19			
	11-15 years	37	58.55			
	16-20 years	9	48.78			
	21 + years	3	33.00			

Table 10: Kruskal Wallis test results showing differences in Turkish language teachers' attitudes towards computer-based education and technology in terms of monthly income

Scale	Monthly income	N	Mean rank	Sd	χ^2	P	Source of difference (mwu)
CBE	0-1500 TL (1)	1	63.00	3	2.922	.404	-
	1501-2000 TL (2)	69	58.11				
	2001-2500 TL (3)	36	47.29				
	2500 üstü (4)	2	55.50				
ATT	0-1500 TL (1)	1	45.00	3	8.675	.034*	2-33-4
	1501-2000 TL (2)	69	50.67				
	2001-2500 TL (3)	36	64.53				
	2500 ustu (4)	2	11.0				

*P<0,05

people in group 3. In other words, attitudes of teachers with 2001-2500 TL monthly income towards technology are statistically different than the teachers in other groups. According to the study results, when Turkish language teachers' attitudes towards technology are examined, it is found that teachers with less than 1500 TL income have lower attitudes towards technology; this may be the result of them not having enough technological tools due to their lower income. While their income increases, their attitudes towards technology also increase. Indeed, it is seen that compared to other teachers, teachers with 2001-2500 TL monthly income have more positive attitudes towards technology. On the other hand, the reason behind why the attitudes of teachers with more than 2500 TL monthly income are not higher than the other teachers may be because they already have the most expensive technological tools and use them. However, according to Guthrie's learning theory, new things attract more attention and are easier to learn. On the other hand, people are not stimulated towards things they are already familiar with and this decreases the motivation (cited in Riza 2001:45-46). Teachers with high incomes obtaining and using the newest technological tools may decrease their interest in technological tools and their interest motivation towards technology.

Results Related to the Fourth Research Sub-problem

According to the results of Kruskal Wallis H test, there was no significant difference between Turkish language teachers' attitudes towards computer-based education ($\chi^2_{(2)}$ =1.791; p>0.05) and their attitudes towards technology ($\chi^2_{(2)}$ =2.798; p>0.05) in terms of education level (Table 11).

According to the findings there is no relationship between Turkish language teachers' attitudes towards computer-based education and their attitudes towards technology in terms of education level. Regardless of their education level, teachers use computers and technological equipment; as a result of their computer and technological experiences, it can be said that their attitudes towards computer-based education and technology are positive. Pala (2006), also, found that there was no significant difference between teachers' attitudes towards technology in terms of their years on service.

Results Related to the Fifth Research Sub-problem

According to the results of Kruskal Wallis H test, Turkish language teachers' attitudes towards computer-based education ($\chi^2_{(4)}$ =6.754;

Table 11: Kruskal Wallis test results showing differences in Turkish language teachers' attitudes towards computer-based education and technology in terms of their education level

Scale	Education level	n	Mean rank	Sd	χ^2	p
CBE	B.S.	101	53.59	2	1.791	.408
	M.A.	6	70.92			
	Ph.D.	1	48.00			
ATT	B.S.	101	54.50	2	2.798	.247
	M.A.	6	62.58			
	Ph.D.	1	6.00			

p>0.05) do not show any significant difference in terms of time spent on computer(Table 12). Based on these results, regardless of how many hours spent on computer, teachers' attitudes towards computer-based education do not show any differences; this may be because teachers may believe the necessity to use technology during the educational process due to the necessity of using technology under changing conditions and in every area.

Turkish language teachers' attitudes towards technology ($\chi^2_{(4)} =38.638$; p<0.05) show significant difference in terms of time spent on computer. The results of Mann Whitney U test, which was done to determine the source of difference, show a difference between groups 1 and 2, groups 1 and 3, groups 1 and 4 and groups 1 and 5. It also shows the difference is against teachers in group 1 and in favor of teachers in group 5 between groups 2 and 5 and groups 3 and 5. Based on the findings, it is seen that increase in time spent on computer will also increase the attitude towards technology. According to the study findings, increase in time using computer, that is increase in experience in computers, can be seen as a sign of positive attitude towards technology. Gokce (2004) examined the attitudes of teach-er candidates studying at elementary education department of the faculty of education towards computers. At the end of the study, Gokce (2004) found that teacher candidates' attitudes towards computers were positive and compared to less frequent computer users, the candidates who used computers "consistently every day" and "every day for several hours" had higher attitudes towards computers. These findings seem to support this study.

In Asan's study (2000), in which the attitudes of teacher candidates studying at karadeniz Teknik University towards computers were examined, and in Akbaba and Kurubacak's (1999) and Spiegel's (2001) studies it was found that duration of computer use had effect on attitudes towards computers. According to study findings of Bindak et al. (2009), experiences with computers have positive effect on teacher candidates' attitudes towards computer-based education.

Results Related to the Sixth Research Sub-problem

It is observed from Table 13 that Turkish language teachers' attitudes towards computer-based education (U=448.00, p>0.05) do not show any significant difference in terms of whether or

Table 12: Kruskal Wallis test results showing differences in Turkish language teachers' attitudes towards computer-based education and technology in terms of their time spent on computer

Scale	Time spent on computer	n	Mean	Sd rank	χ^2	P	Source of difference (mwu)
CBE	0-1 hours (1)	43	60.66				
	1-2 hours (2)	43	54.78				
	2-3 hours (3)	12	34.63	4	6.754	.149	-
	3-4 hours (4)	8	49.56				
	4 + hours (5)	2	55.00				1-2
	0-1 hours (1)	43	32.95				1-3
	1-2 hours (2)	43	64.09				1-4
ATT	2-3 hours (3)	12	72.00	4	38.638	.000*	1-5
	3-4 hours (4)	8	79.75				2-5
	4 + hours (5)	2	105.50				3-5

*P<0,05

Table 13: Kruskal Wallis test results showing differences in Turkish language teachers' attitudes towards computer-based education and technology in terms of whether they own computer or not

Scale	Owning a computer	N	Mean rank	Rank total	U	P
CBE	Yes	97	53.62	5201.00	448.00	.383
	No	11	62.27	685.00		
ATT	Yes	97	58.55	5679.00	141.00	.000*
	No	11	18.82	207.00		

not teachers own computers. Majority of the teachers are seen to own computers based on these findings. Also taking their time spent on computer into consideration, teachers seem too spent at least a few hours a day on the computer. As a result of increased computer experience, teachers' attitudes towards computer-based education can be considered as positively affected. The findings of this study are consistent with the study findings of Sahin and Akcay (2011), Kutluca and Ekici (2010) and Bindak et al. (2009).

Turkish language teachers' attitudes towards technology (U=141.00, p<0.05) show significant difference in terms of whether or not teachers own computers. When the mean ranks were examined to determine the source of difference, the difference is in favor of teachers who own computers. Celik and Bindak's (2005) study findings show similarities with the findings of this study. When Turkish language teachers' attitudes towards technology is examined in terms of whether or not they own computers, compared to teachers who do not own computers the teachers who won computers have more positive attitudes towards technology. Therefore, introducing teachers with computers and technological equipment as early as possible will enable them to develop positive attitudes towards computers and naturally towards computer-based education.

CONCLUSION

As to the research problem, Turkish language teachers' attitudes towards computer-based education and technology were found to be positive. There is low level negative and non-significant relationship between the Turkish teachers' attitudes towards computer-based education and technology. Teachers' attitudes towards computer-based education and technology being positive can be interpreted as them perceiving technology and computers as necessity and tools during the educational process. This result of the study can be considered as an important finding in terms of using and dissemination technology in education. In this case, it can be said that teachers are using or in favor of using technology for educational purposes.

Related to the study's first sub-problem of the study, Turkish language teachers' attitudes towards computer-based education do not show difference in terms of sex. On the other hand, Turkish language teachers' attitudes towards technology show difference in terms of sex. When means are examined, the difference seems to be in favor of male teachers. Related to the second sub-problem of the study, there was no significant difference between Turkish language teachers' attitudes towards computer-based education and their attitudes towards technology in terms of seniority.

Related to the third sub-problem of the study, Turkish language teachers' attitudes towards computer-based education do not show any significant difference in terms of monthly income. Turkish language teachers' attitudes towards technology show significant difference in terms of monthly income. The results of Mann Whitney U test, which was done to determine the source of difference, show a difference between groups 2 and 3 and groups 3 and 4. It also shows the difference is in favor of people in group 3. Ýn other words, attitudes of teachers with 2001-2500 TL monthly income towards technology are statistically different than the teachers in other groups.

Related to the fourth sub-problem of the study, there was no significant difference between Turkish language teachers' attitudes towards computer-based education and their attitudes towards technology in terms of their education level according to Kruskal Wallis H test.

Related to the fifth sub-problem of the study, Turkish language teachers' attitudes towards computer-based education do not show any significant difference in terms of time spent on computer. On the other hand, Turkish language teachers' attitudes towards technology show significant difference in terms of time spent on computer. The results of Mann Whitney U test, which was done to determine the source of difference, show a difference between groups 1 and 2, groups 1 and 3, groups 1 and 4 and groups 1 and 5. It also shows the difference is against teachers in group 1 and in favor of teachers in group 5 between groups 2 and 5 and groups 3 and 5. In other words, increase in time spent on computer also increases the attitude towards technology.

Related to the sixth sub-problem of the study, Turkish language teachers' attitudes towards computer-based education do not show any significant difference in terms of whether or not teachers own computers. On the other hand, Turkish language teachers' attitudes towards technology show significant difference in terms

of whether or not teachers own computers. When the mean ranks were examined to determine the source of difference, the difference is in favor of teachers who own computers.

RECOMMENDATIONS

It is possible to make the following suggestions based on the results of this study and findings in the relevant literature:

Similar studies can be done to test the validity of this study's results. Similar studies examining Turkish language teachers' attitudes towards computer-based education and technology in other cities can be conducted. This study is intended for Turkish teachers. Attitudes of teachers from other subjects towards computer -based education and technology can be examined. This study was conducted on teachers. A similar study can be done on teacher candidates. With the new 4+4+4 education system, the schools are named as primary school, middle school and high school. Attitudes of primary, middle and high schoolsteachers towards computer-based education and technology can be examined in terms of type of schools.

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