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Computer and instructional technologies preservice teachers' attitudes regarding distance education

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Abstract

The purpose of this research is to analyze the attitudes of Computer Education and Instructional Technology Education Department 1., 2. and 3. grade students regarding the distance education (ARDE), in terms of gender, class level and knowledge level related to distance learning. As a data collection instrument, personal information form and Distance Education Attitude Scale have been used. According to analysis results, the attitudes of the preservice teachers regarding distance education are between undecided and positive. However, it has been determined that class level differentiates ARDE points and third grade students' ARDE points are significantly higher than first grade students.

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Keywords Distance Education, attitude, teacher candidates

1. Introduction

In the present day, reaching information, evaluating, organizing, using information and sharing it with other individuals have gained importance. Depending on this importance, it is necessary for individuals to use every kind of tools that will enable them to reach information in a learning-teaching environment, and use and share information (Karahana and İzci, 2001). In order to meet these necessities, computers that connect to each other via digital information processing and network systems provide us new opportunities in teaching and learning (Valenta, Theriault, Dieter and Mrtek, 2001). Perhaps the most prominent of these opportunities is distance education.

Distance education methods gained importance at the end of the 20. century. The need to provide the sustainability of learning, and technological innovations in communication that increase fast have featured distance education in educational applications (Garrison and Randy, 2000). The United States of America Distance Education Association defined distance education as an environment, which is realized in a way to include all types of technology and learning, in which teacher and student are in physically different places and in which the student gains knowledge and skills (Bower and Hardy, 2004). Yalın (2005) however, defined distance education as a system, in which teacher and student that are in different places physically interact (they realize teaching-learning activity) through technology (TV, video, computer, written materials, and etc.). According to another definition, distance education is a teaching form, in which the learner and teacher are in different time periods and places and the interaction between them is realized via written or electronic communication environments (Aydın, 2005).

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Moore and Thompson on the other hand, have stressed that the most important characteristic of all of the methods used in distance education is enabling the communication between student and teacher by written or electronic environment; and underlined that electronic environment can be network structure provided by television, cassette, cables or satellite, fiber communication, teleconference, video conference or different combinations of these. In short, distance education is a concept that defines an education application, in which student and teacher can be separated in environment, time or both. A large portion of the researches done have shown that distance education can be as effective as face-to-face education, besides easing learning effectiveness (Moller, 1998).

Developing technologies provide with a chance to individuals in very different locations to gain new professional skills through distance education and share their professional skills (Yıldırım and Bahar, 2008). The contribution that distance education brought to education cannot be denied. However, realization of change and development in education area depend on a number of factors. One of the most important factors is the teacher. For the teachers to perform change in education institutions, they need to accept change before everything (Oral, 2004). According to the researches done, it is being seen that the attitudes of preservice teachers towards distance education is in a level close to being undecided (Ağır, 2007; Ateş and Altun, 2008). In the generalization of distance education, Computer and Instructional Technologies Teachers have an important role. Because, CEIT teachers will be an agent of change, who will generalize usage of distance education technologies, in the institutions they are assigned. When viewed from this perspective, identifying the attitudes of CEIT preservice teachers towards distance education is important in terms of disseminating distance education.

2. Purpose of the Study

The general aim of this study is to analyze the attitudes of Computer Education and Instructional Technology Education (CEIT) preservice teachers towards distance education. Within the framework of this general aim, answers to the questions below have been searched.

1. What are the attitudes of CEIT preservice teachers regarding distance education?
2. Do the attitudes of CEIT preservice teachers regarding distance education change significantly according to gender?
3. Do the attitudes of CEIT preservice teachers regarding distance education change significantly according to class level?
4. Do the attitudes of CEIT preservice teachers regarding distance education change significantly according to their knowledge related to distance education?

3. Method

This study is a descriptive study, which is intended to locate the attitudes of CEIT preservice teachers regarding distance education and to determine from which factors these are affected from (Kaptan, 1998).

3.1 Data Collection Instruments

In the research, personal information form prepared by the researchers and distance education attitude scale developed by Ağır (2007) have been used. In the personal information form, questions about gender, class, knowledge level related to distance education and whether distance education was taken before or not take place. Distance Education Attitude Scale (DEAS) developed by Ağır (2007) determines the attitudes of teachers towards distance education (ARDE). In the scale, there are 14 positive, 7 negative, 21 items in total. Scale reliability coefficient of DEAS calculated by Ağır (2007) with Cronbach Alpha method was found to be 0,835. In the study done however, reliability coefficient has been calculated as 0,795. The lowest point that can be taken from the scale is 21, whereas 105 is the highest.

3.2 Research Group

Study group has been composed of first, second and third grade student, who receive education in Ahi Evran University Faculty of Education Computer Education and Instructional Technology (CEIT) department in 2010-2011 academic year. Distribution of participants in terms of class and gender is seen in Table 1.

Table 1: Distribution of the Study Group According to Class and Gender

Grade	Gender					
	Female		Male		Total	
	f	%	f	%	f	%
1	27	26,0	13	12,5	40	38,5
2	16	15,4	17	16,3	33	31,7
3	15	14,4	16	15,4	31	29,8
Total	58	55,8	46	44,2	104	100,0

4. Findings

Findings regarding four sub-problems about the purpose of the study are given below in order.

What are the attitudes of CEIT preservice teachers regarding distance education?

The average of CEIT preservice teachers attitude points towards distance education is shown in Table 2.

Table 2: Attitude Points of the Participants towards Distance Education

	N	Ranj	Min.	Max.	\bar{x}	Median	SD
UEYT	104	46	45	91	66.45	66.00	8.88

As seen in Table 2, average attitude point of the participants (n=104) is $\bar{x}=66,45$. As seen in Figure 1, when the average attitude point 66,45 is assessed over five, it has been calculated as point 3,32. According to this, attitudes of preservice teachers towards distance education are between undecided and positive, however in a level close to undecided.

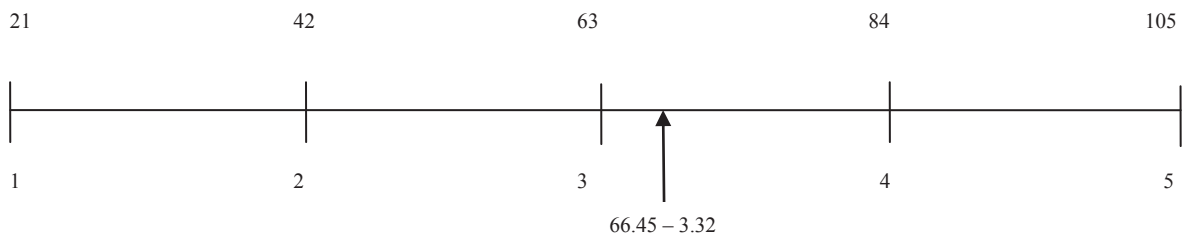


Figure 1: Presentation of Attitude Total Point Average

Do the attitude point averages of CEIT preservice teachers regarding distance education differentiate according to gender?

Distribution of CEIT preservice teachers' attitude point averages towards distance education according to gender, and t test results regarding whether the difference between point averages is significant or not have been given in Table 3.

Table 3: t-Test Results Regarding the difference between ARDE Point Averages According to Gender

Gender	N	Mean(x)	SD	t	Sig.
Female	58	66.25	9.13	0.248	.805 p>0.05
Male	46	66.69	8.65		

According to Table 3, attitudes of CEIT students that take place in the sample do not show a significant difference according to their gender ($p > 0.05$).

Do the attitude point averages of CEIT preservice teachers regarding distance education differentiate according to class level?

Distribution of ARDE point averages of CEIT preservice teachers according to the level of class, in which they receive education, has been submitted in Table 4.

Table 4: ARDE point averages of CEIT preservice teachers according to the classes that they receive education

Grade levels	N	X	SD
1	40	63.10	9.58
2	33	67.33	8.26
3	31	69.83	7.14
Toplam	104	66.45	8.88

According to Table 4, DEAS point average of CEIT first grade students is lowest ($\bar{x}=63.10$), DEAS point average of third grade CEIT students is highest ($\bar{x}=69.83$).

Variance analysis results regarding whether the difference between averages is significant or not are presented in Table 5.

Table 5: Variance test results of ARDE points according to class levels

	Sum of squares	df	Mean squares	F	Sig.	Mean Difference
Between groups	830.633	2	415.316	5.744	.004 p<0.05	1-3
Within groups	7303.127	101	72.308			
Total	8133.760	103				

According to Table 5, attitudes of CEIT students towards distance education differentiate according to the class, which they receive education. Analysis results show that there is a significant difference between the ARDE points of first grade and third grade [$F_{(2-101)}=5.74, p<.01$]. According to the results of the Scheffe test, which has been done in order to find between which group or groups the difference of classes is, it has been found that the ARDE points of third grade students ($\bar{x}=69.83$) is higher than first grade students ($\bar{x}=63.10$).

Do the attitude point averages of CEIT preservice teachers regarding distance education differentiate according to their knowledge levels related to distance education?

Distribution of ARDE point averages of CEIT preservice teachers according to their knowledge levels related to distance education is given in Table 6.

Table 6: ARDE point averages of CEIT preservice teachers according to Knowledge Level Regarding Distance Education

Knowledge Level Regarding Distance Education	N	X	SD
No Information	11	69.54	8.80
Moderate Level	59	64.62	8.88
High Level	34	68.61	8.38
Toplam	104	66.45	8.88

According to Table 6, ARDE point averages of CITE preservice teachers, who do not have knowledge about distance education, is highest ($\bar{x}=69.54$). ARDE point averages of those who have moderate level of knowledge

about distance education is lowest ($\bar{x}=64.62$), ARDE point averages of those who have high level of knowledge is in middle level ($\bar{x}=68.61$)

Variance analysis results regarding whether the difference between averages is significant or not are presented in Table 7.

Table 7: Variance Analysis results of ARDE points according to Knowledge Levels about Distance Education

	Sum of squares	df	Mean squares	F	Sig.
Between groups	461.206	2	230.603		.052
Within groups	7672.553	101	75.966	3.036	p>0.05
Total	8133.760	103			

According to Table 7, attitudes of CEIT students regarding distance education do differ according to their knowledge level about distance education ($p>0.05$).

5. Conclusion and Discussion

ARDE points of CEIT 1., 2. and 3. grade students have come out between undecided and positive, close to undecided. This situation overlaps with the results of the study done by Ateş and Altun (2008). The cause of this situation might originate from not being able to provide good samples regarding distance education to CEIT preservice teachers. Analyzing good distance education samples as part of field courses or realizing the courses with well prepared distance education environments may form a positive influence on the attitudes of the students.

When the variance analysis results are examined in order to analyze the relationship between attitude points of preservice teachers regarding distance education and their knowledge level about distance education; a significant difference between the ARDE points of preservice teachers could not be found. It can be said that preservice teachers not having knowledge about distance education forms a positive expectation towards distance education. However, it can be said that the usage or presentation of not good samples in some of the courses they took during their undergraduate education affect the attitudes of preservice teachers towards distance education negatively.

Attitudes of preservice teachers devoted to distance education differentiate according to the class level they receive education in. Analysis results have shown that ARDE points of third grade preservice teachers are significantly higher than first grade preservice teachers. It can be stated that the education CEIT preservice teachers received affect their attitudes towards distance education positively.

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